Flanders® PRECISIONAIRE
FOREMOST IN AIR FILTRATION

PrecisionCell II

Extended Surface Mini Pleat Filters
Incinerable/Shredable With No Metal Components

PB1005-1106

General

PrecisionCell II extended surface minipleat rigid filters are a nominal four inches deep. They are designed for use in most commercial and industrial HVAC systems where medium to high efficiency filtration is required. They are available in average efficiency ranges of 60-65%, 80-85% and 90-95% per ASHRAE Standard 52.1 atmospheric dust spot test methods and MERV 11-14 per ASHRAE 52.2.

PrecisionCell II filters are especially suitable for variable air volume systems and are designed to operate at face velocities up to 625 fpm. Two styles are available: standard box style and an optional headered (top and bottom) version that are manufactured with a header for use with existing side access housings (see Optional Model). PrecisionCell II filters are UL 900 Class 2 listed.

Optional Model

Optional headered version PrecisionCell II filters are the same size and have the same functional design as the standard model. The filter is built with a metal-reinforced header on the top and bottom of the filter near the air entering side. The header allows the filter to fit over the standing flanges of the primary filter channel in existing side access housings. Headered PrecisionCell II filters are furnished with a 1/2" wide polyfoam gasket on their vertical sides to provide a filter-to-filter seal.

In-Line Space-Saving Design

PrecisionCell II filters dramatically reduce in-line space requirements when compared to 12" to 36" deep filters. Their nominal 4" depth makes a convenient "fit" for most installations. High efficiency filtration, that is often required for acceptable Indoor Air Quality, may now be selected by the design engineer without having to compromise space.

Installation Considerations

PrecisionCell II filters may be installed in Flanders Astr Holding Frames and Surepleat Side Access Housings or similar existing hardware. Astr Holding Frames are riveted together to form a bank and may be installed for upstream or downstream service. Smaller systems and systems with minimum upstream access space are best served using Surepleat Side Access Housings.

Physical Data

Frame: Double-wall, moisture-resistant beverage board

Media: Water-laid microfine fiberglass with a water-repellent binder

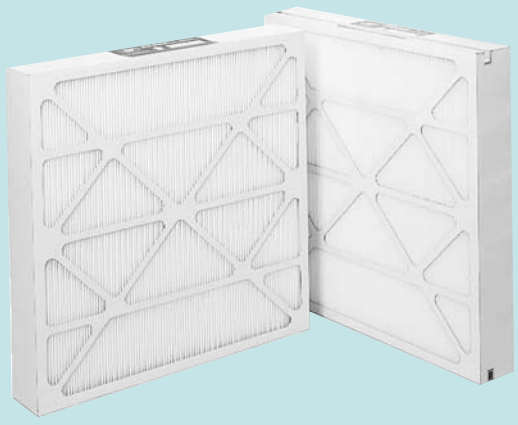
Media Support: Adhesive-bead pleat separators

Face Grid: Horizontal and diagonal supports bonded to the media pack

Operating Limits: 160° F and 100% RH

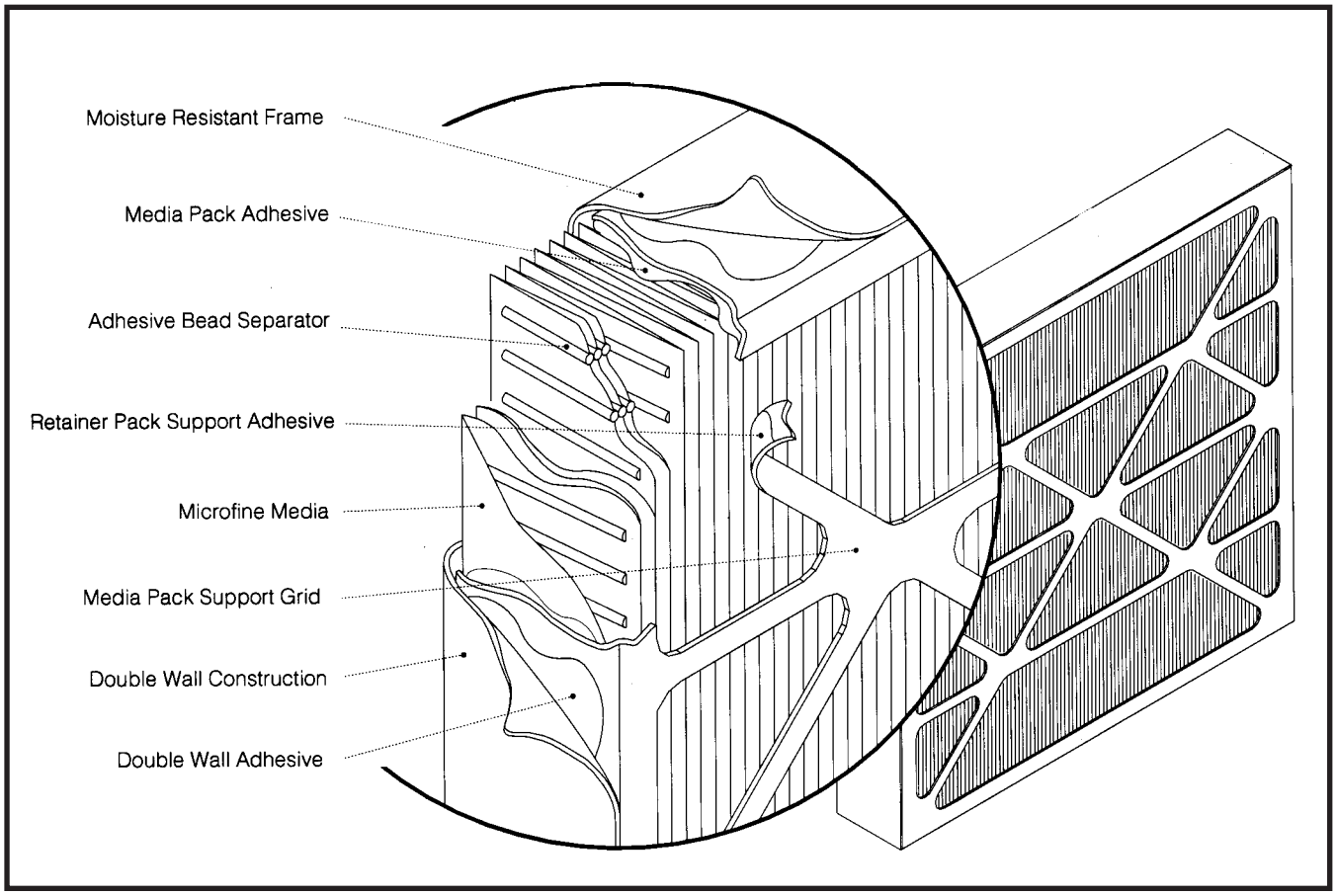
Important Features

- Available in nominal 65%, 85%, and 95% ASHRAE efficiencies
- Space-saving 4" thickness for installation flexibility
- Rugged moisture-resistant bonded frame and unitized pack for rigidity
- Cartridge design is ideal for VAV systems or turbulent flow conditions
- Lightweight and easy to store and handle



Construction

In the Flanders tradition of state-of-the-art technology, PrecisionCell II filters are built with a minipleat media pack to achieve a rugged, compact lightweight, high efficiency filter.



Surepleat Side Access Housings

Use a Surepleat Side Access Housing as a convenient and space-saving method of installing PrecisionCell II filters. SP2/4 housings have two gasketed extruded aluminum tracks to accept 2" pleated prefilters and 4" PrecisionCell II final filters.

The adjacent photo shows a Surepleat Side Access Housing with 2" Prepleat 40 pleated prefilters and PrecisionCell II final filters.

Prefilters

Prefilters are always a wise choice for the protection of minipleat filters no matter what the efficiency or brand. The closely-spaced pleats are subject to face-loading (bridging) by lint and coarse particles, thus reducing their usual long life. A minimum 25-30% ASHRAE efficiency pleated panel filter such as the Flanders Prepleat 40 is recommended.

Save In-Line Space

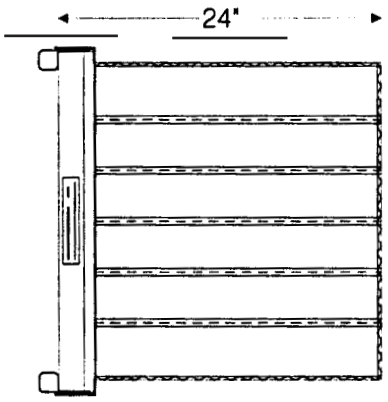
Compare the airway lengths of 22” PrecisionPak bag filters and 12” Rigid-Air filter to a 4” PrecisionCell filter when they are installed with 2” prefilters.

VAV Systems

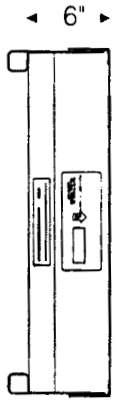
Filter banks should be sized so that the face velocity at maximum design conditions is 625 fpm or less. PrecisionCell II filters may be applied at any capacity between 0 and 625 fpm. Operating a filter bank at reduced flow will greatly increase expected filter life.

Save Storage Space and Shipping Costs

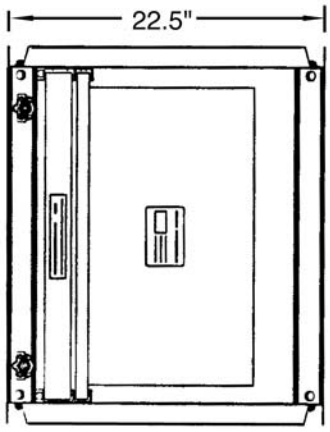
Using the 24” x 24” size as an example, a carton of four PrecisionCell II 4” filters has a volume of 5.3 cubic feet and a weight of 26 lbs. Compare this to four 12” deep rigid separator-type filters packed in four cartons with a total volume of 16 cubic feet and total weight of 80 lbs.



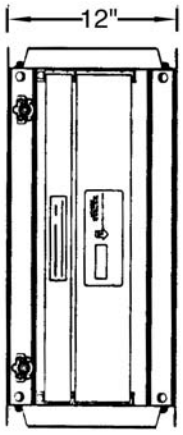
Astr Holding Frame with PrecisionPak and Pre Pleat 40



Astr Holding Frame with PrecisionCell II and PrePleat 40



Sureseal Housing with 12” Rigid-Air and PrePleat 40



Surepleat Housing with PrecisionCell II and PrePleat 40

Application Guidelines

PrecisionCell II filters should be selected for new installations with 24” H x 24” W and 24” H x 12” W face sizes. These are the most widely used and stocked sizes. This allows for 12” increments in height and width of the filter bank and insures that replacement cartridges will be readily available.

PrecisionCell II filters should be installed with the pleats vertical wherever possible. It is permissible to install 24” H x 12” W face size filters with pleats horizontal if necessary to meet the size requirements of the filter bank.

HEPA Prefilters

PrecisionCell II filters are ideal as prefilters for Alpha Cell HEPA filters. Their light weight and 4” depth make them an excellent choice for installation in the optional Prefilter Frame Assembly for the Alpha Cell HEPA Filter Holding Frame or in Surelock Side Access HEPA Housings.

Specify the Surelock housing with an optional 4” wide prefilter track for the PrecisionCell II filters, in lieu of the 2” wide prefilter track for pleated panel filters. We recommend the selection of 80-85% PrecisionCell II filters as HEPA prefilters.

Capacities and Dimensions													
	Nominal Size W x H x D (inch) Note 3	125 fpm		250 fpm		375 fpm		500 fpm		625 fpm		Media Area (sq. ft.)	Weight Each (lbs.)
		cfm	PD	cfm	PD	cfm	PD	cfm	PD	cfm	PD		
90-95%	24 x 24 x 4	500	.11	1000	26	1500	.42	2000	.68	2500	.95	120	6.5
	24 x 12 x 4	250	.11	500	.26	750	.42	1000	.68	1250	.95	60	3.5
80-85%	24 x 24 x 4	500	.08	1000	.21	1500	.36	2000	.58	2500	.80	120	6.5
	24 x 12 x 4	250	.08	500	.21	750	.36	1000	.58	1250	.80	60	3.5
60-65%	24 x 24 x 4	500	.06	1000	.13	1500	.25	2000	.40	2500	.58	120	6.5
	24 x 12 x 4	250	.06	500	.13	750	.25	1000	.40	1250	.58	60	3.5

Other Standard Size PrecisionCell II Filters

Nominal Size W x H x D (inch) Note 3	Nominal Capacity (cfm)	Pressure Drop			Media Area (sq. ft.)	Weight Each (lbs.)
		60-65%	80-85%	90-95%		
20 x 20 x 4	1400	.40	.58	.68	84	4.0
20 x 16 x 4	1100				66	3.5
24 x 20 x 4	1850	.40	.58	.68	105	5.5
24 x 18 x 4	1500				93	5.0
25 x 20 x 4	1750	.40	.58	.68	105	6.0
25 x 16 x 4	1400				84	4.0

Notes

1. PD represents clean pressure drop in inches w.g. Recommended final pressure drop for all models is 1.5 inch w.g.
2. Operation down to zero air flow is satisfactory for all models.
3. Actual filter face size of 24" x 24" and 24" x 12" is 5/8" undercut on height and width. All other sizes are 1/2" undercut on height and width. Actual filter depth is 3-3/4"
4. Efficiency is average and is based on ASHRAE Standard 52.1 test methods and ASHRAE 52.2 MERV 11-14.
5. Performance tolerances conform to Section 7.4 of ARI Standard 850.
6. PrecisionCell II 24" x 12" filters are available with notches on the 24" horizontal sides. Contact factory.
7. Perfmormance values shown in this publication may be averages or estimates intended to generally represent product styles. Always contact factory for latest actual test data on specific Flanders models.

Guide Specifications

1.0 General

1.1 Medium and high efficiency extended surface filters shall be PrecisionCell II minipleat panel filters as manufactured by Flanders.

1.2 Filter sizes, efficiencies and capacities shall be as scheduled on the drawings.

1.3 Filters shall be UL 900 Class 2 listed.

2.0 Filter Construction

2.1 The filter pack shall be constructed of water-laid microfine fiberglass media containing a water-repellent binder formed into closely-spaced pleats held in position by adhesive bead separators.

2.2 The filter pack shall be strengthened on the air entering and air exit sides with horizontal and diagonal support members.

2.3 The enclosing frame shall be double-wall water-resistant beverage board sealed between the walls and to the filter pack with adhesive.

3.0 Performance

3.1 Initial and final resistances shall not exceed the scheduled values.

3.2 Media area must equal or exceed that of the specified filter

3.3 The average efficiency shall be as determined by ASHRAE Standard 52.1 test methods and ASHRAE 52.2 MERV11-14.

3.4 The manufacturer shall guarantee performance as stated in the literature within tolerances as outlined in Section 7.4 of ARI Standard 850.