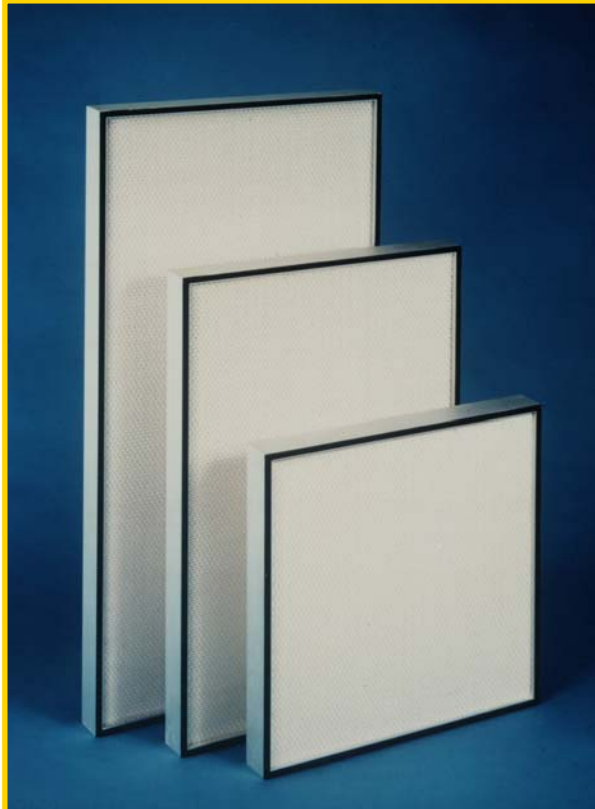


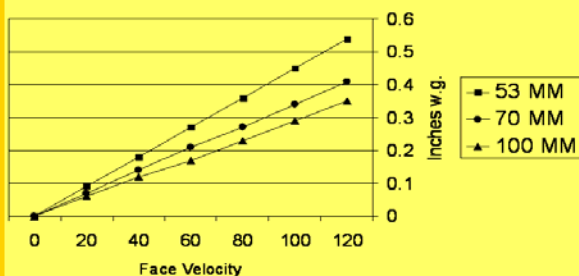
## HEPA/ULPA Mini-Pleat Panel Filters



Clean consistent performance throughout the life of the filter through the use of CMS<sup>™</sup>

CMS— Controlled Media Spacing

Pressure Drop Megalam HEPA



Camfil Farr Megalam<sup>™</sup> Panel Filters provide fine airborne particulate control to meet the requirements of today's high technology cleanrooms, clean benches, and clean air devices. With configuration and performance flexibility, the Megalam Panel will provide the highest level of protection for product processes and personnel. Each Camfil Farr Megalam Panel Filter includes:

- Micro glass fiber media in efficiencies from 95% @ 0.3 micron to 99.99995% @ MPPS<sup>1</sup>. The media is pleated using Camfil Farr's Controlled Media Spacing<sup>™</sup> technology. CMS<sup>™</sup> ensures optimized filter element depth and pleat spacing resulting in minimized configuration losses and low resistance to airflow.
- Continuous glass filament separators to ensure uniform pleat spacing and form a rigid self supported media pack. Media-to-media contact, and associated fiber break-off, is eliminated.
- A heavy-duty, lightweight anodized aluminum frame for high-strength and ease of installation. The frame corners are secured with Camfil Farr's exclusive Klip-Lok<sup>™</sup> mechanism for module durability and long-term integrity.
- A media pack that is potted on all four sides with Camfil Farr's CamPure<sup>™</sup> polyurethane sealant. CamPure is a fire-retardant, thermally/chemically stable, shock-adsorbing polyurethane elastomer sealant, assuring leak-free integrity and low-out gassing.
- Is manufactured in a ISO Class 7 (M 5.5, Class 10,000) cleanroom and tested in a ISO Class 5 (M 3.5, Class 100) clean space.
- Is tested using Camfil Farr's AUTO-SCAN<sup>™</sup> automated leak detection system. Filters are serialized, bar coded, and all data is provided on a label on the filter.
- Is available in pack depths that include 53mm (2.1"), 70mm (2.8"), and 100mm (4.0").



<sup>1</sup> - MPPS, Most Penetrating Particle Size



Camfil Farr	Product sheet
Megalam <sup>™</sup> Panel Filters	3216 - 0706
Camfil Farr—clean air solutions	

# The Clean Way

Welcome to Camfil Farr's ISO Class 7 cleanroom. Our Megalam® panel filters are manufactured in a clean environment (Class 10,000, M5.5) to ensure product cleanliness. Every Megalam is tested in a space that is maintained at ISO Class 5 (Class 100, M 3.5). Our manufacturing personnel are gowned in frocks and hoods and are trained in industry cleanroom protocol. All procedures are governed by our ISO 9001 certified quality system so that every filter produced is of the highest quality.



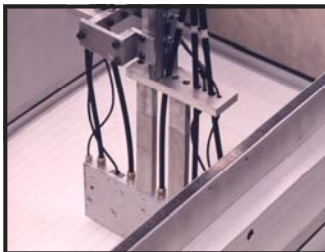
## Advanced Pleating Techniques

Basic performance of any high efficiency filter is a function of the pleated filter element. Pleat formation must be controlled with absolute precision and must be consistent throughout. Camfil Farr's pleating techniques eliminate media to media contact and associated fiber break-off common to other industry techniques. Camfil Farr designs and builds its own pleating equipment to ensure product consistency and performance.



## Advanced Sealing Techniques

The media pack to frame seal plays a vital role in filter integrity. Urethane must be mixed and dispensed with absolute precision in order to create a leak free seal that remains integral for long term usage. Camfil Farr's CamPure polyurethane is the industries lowest outgassing sealant. Every batch is subjected to rigorous quality assurance testing prior to use, assuring the highest degree of integrity and stability for the life of the filter.



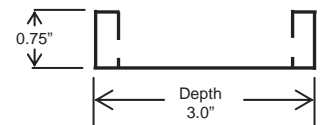
## Advanced Testing Techniques

Camfil Farr's exclusive Auto-Scan automated leak detection system provides a superior apparatus for filter performance evaluation. Precision, location and movement of the computer controlled robotic arm ensures that the entire filter face, including the media to frame seal, is scanned. When the filter passes this test, the test data is recorded to a master database. The filter receives a bar coded identification label complete with test flow rate, minimum efficiency, and pressure drop. After placement of Camfil Farr's "Scanned" label, indication of the highest quality filter, the Megalam is bagged for purity and sealed for shipment.

## Available Configurations

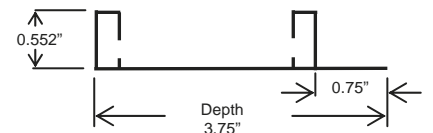
### Gasket Seal

The most common sealing technique is a gasket seal. Camfil Farr offers cleanroom grade cellular foam gaskets, applied to either the upstream or downstream flange. The gaskets are dovetailed at the corners to form an interlocking joint. The gasket is compressed between an opposing flange mating surface on the ceiling grid, housing or equipment.



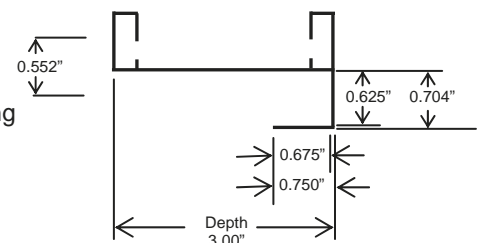
### Knife Edge Seal

Megalam panels are also available in a frame with an integral knife edge. The knife edge interfaces with a gel channel that is integral to the ceiling grid or equipment. This technique is frequently seen in common plenum applications where the weight of the filter and pressure from airflow is all that is needed to affect a positive seal — no mounting hardware is required.



### Gel Seal

A common optional sealing technique is gel seal. The filter frame is designed with an integral gel channel that is filled with a cleanroom grade low outgassing polyurethane based gel. The gel interfaces with an opposing knife edge integral to the ceiling grid, housing, or equipment. The gel offers a fluid seal integrity that makes it a good choice for filters that are difficult to install or frequently replaced. This technique is most often seen in "bottom loading" or "room side replaceable" applications.



## MEGALAM® PANEL PERFORMANCE DATA

### 53 mm Pack

Model Number	Actual Size (Inches)			Resistance @ 100 fpm (inches w.g.)			Unit Weight	Shipping Weight <sup>a</sup>
	W	L	H	95 DOP	HEPA	ULPA		
P * -12.00-24.00-4-03-00-00-00-0	12	24	3	0.21	0.49	0.68	8.8	9.4
P * -24.00-24.00-4-03-00-00-00-0	24	24	3				10.3	11.3
P * -24.00-36.00-4-03-00-00-00-0	24	36	3				13.8	15.3
P * -24.00-48.00-4-03-00-00-00-0	24	48	3				17.0	19.0
P * -24.00-60.00-4-03-00-00-10-0	24	60	3				22.6	25.1
P * -24.00-72.00-4-03-00-00-10-0	24	72	3				25.9	29.0
P * -30.00-36.00-4-03-00-00-00-0	30	36	3				15.8	28.4
P * -30.00-48.00-4-03-00-00-10-0	30	48	3				22.3	24.8
P * -30.00-60.00-4-03-00-00-10-0	30	60	3				26.0	29.0
P * -30.00-72.00-4-03-00-00-10-0	30	72	3				29.0	32.7
P * -36.00-36.00-4-03-00-00-10-0	36	36	3				21.3	23.5
P * -36.00-48.00-4-03-00-00-10-0	36	48	3				25.3	28.2
P * -36.00-60.00-4-03-00-00-10-0	36	60	3				29.5	33.1
P * -36.00-72.00-4-03-00-00-10-0	36	72	3				33.8	38.0

### 70 mm Pack

Model Number	Actual Size (Inches)			Resistance @ 100 fpm (inches w.g.)			Unit Weight	Shipping Weight <sup>a</sup>
	W	L	H	95DOP	HEPA	ULPA		
P * -12.00-24.00-8-14-00-00-00-0	12	24	3.54	0.17	0.38	0.48	10.3	10.9
P * -24.00-24.00-8-14-00-00-00-0	24	24	3.54				12.0	13.1
P * -24.00-36.00-8-14-00-00-00-0	24	36	3.54				16.3	17.9
P * -24.00-48.00-8-14-00-00-00-0	24	48	3.54				20.5	22.6
P * -24.00-60.00-8-14-00-00-30-0	24	60	3.54				26.8	29.4
P * -24.00-72.00-8-14-00-00-30-0	24	72	3.54				30.9	34.0
P * -30.00-36.00-8-14-00-00-30-0	30	36	3.54				18.8	20.7
P * -30.00-48.00-8-14-00-00-30-0	30	48	3.54				26.3	28.8
P * -30.00-60.00-8-14-00-00-30-0	30	60	3.54				31.0	34.2
P * -30.00-72.00-8-14-00-00-30-0	30	72	3.54				35.7	39.5
P * -36.00-36.00-8-14-00-00-30-0	36	36	3.54				24.7	26.9
P * -36.00-48.00-8-14-00-00-30-0	36	48	3.54				29.9	32.9
P * -36.00-60.00-8-14-00-00-30-0	36	60	3.54				35.3	39.0
P * -36.00-72.00-8-14-00-00-30-0	36	72	3.54				40.5	44.9

### 100 mm Pack

Model Number	Actual Size (Inches)			Resistance @ 100 fpm (inches w.g.)			Unit Weight	Shipping Weight <sup>a</sup>
	W	L	H	95DOP	HEPA	ULPA		
P * -12.00-24.00-B-17-00-00-00-0	12	24	4.83	0.14	0.29	0.36	16.5	17.3
P * -24.00-24.00-B-17-00-00-00-0	24	24	4.83				18.6	19.8
P * -24.00-36.00-B-17-00-00-00-0	24	36	4.83				25.9	27.6
P * -24.00-48.00-B-17-00-00-00-0	24	48	4.83				33.0	35.3
P * -24.00-60.00-B-17-00-00-60-0	24	60	4.83				43.3	46.1
P * -24.00-72.00-B-17-00-00-60-0	24	72	4.83				50.4	53.8
P * -30.00-36.00-B-17-00-00-00-0	30	36	4.83				30.4	32.4
P * -30.00-48.00-B-17-00-00-60-0	30	48	4.83				42.5	45.2
P * -30.00-60.00-B-17-00-00-60-0	30	60	4.83				50.9	54.3
P * -30.00-72.00-B-17-00-00-60-0	30	72	4.83				59.3	63.3
P * -36.00-36.00-B-17-00-00-60-0	36	36	4.83				39.4	41.8
P * -36.00-48.00-B-17-00-00-60-0	36	48	4.83				49.0	52.1
P * -36.00-60.00-B-17-00-00-60-0	36	60	4.83				58.5	62.4
P * -36.00-72.00-B-17-00-00-60-0	36	72	4.83				68.0	72.6

#### DATA NOTES:

Replace \* with "4" for 95% @ 0.3 micron, "5" for 99.99% @ 0.3 micron.

For 53 mm replace \* with "7" for 99.9995% @ MPPS.

For 70 and 100 mm replace \* with "X" for 99.9995% @ MPPS.

Maximum operating temperature 200° F (93° C). Maximum 99% RH.

Camfil Farr Megalam Panels are listed by Underwriters Laboratories as UL 900.

Recommended final resistance 2.0" w.g.

<sup>a</sup> Shipping weight based upon single pack.

Active face area should be exclusive of the filter frame. The gasket seal version of the Megalam has an extruded aluminum frame with an industry standard 3/4 inch flange that results in active face dimensions 1-1/2 inches smaller than overall face dimensions. An additional subtraction must be made if a center divider is present. Some manufacturers may base their calculations on overall dimensions which may provide misleading data. When comparing products make sure performance data is provided in a consistent format. Example:

$$Q = VA = ?$$

$$A = \{24 - (2 \times 0.75)\} \times \{48 - (2 \times 0.75)\} = 7.27 \text{ ft}^2$$

so:

$$\text{If } V = 100 \text{ fpm then } Q = 727 \text{ cfm}$$

Where:

Q = VA, Q= volumetric flow rate

V = filter face velocity

A = active face area

For more information ask for Camfil Farr technical bulletin on airflow.

## SPECIFICATIONS

### Air Filters—1.0 General

**1.1** - Air filters shall be high-efficiency, individually tested and certified panel filters consisting of aluminum enclosing frame, low-outgassing sealant, continuous filament pleat separators and micro glass media filter pack.

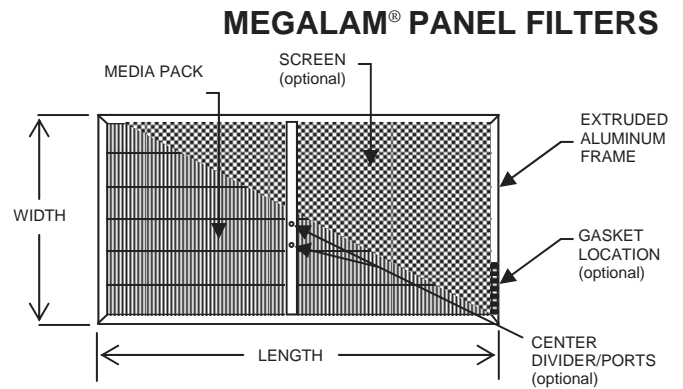
**1.2** - Sizes shall be as noted on drawings or other supporting materials.

### 2.0 Construction

**2.1** - Filter shall be manufactured in a Class 10,000 (M5.5, ISO Class 7) cleanroom and tested in a Class 100 (M3.5, ISO Class 5) clean space.

**2.2** - Filter media shall be one continuous pleating of micro glass fiber media formed into a uniform pack depth of (53, 70, 100)\* MM.

**2.3** - Pleat spacing shall be by continuous glass filament separators to prevent media-to-media contact and promote uniform airflow through the media pack.



Available Options:

- Various framing materials and additional configurations are available for mounting into a wide variety of ceiling grid, housings and equipment configurations.
- Center dividers and additional access ports.
- Gaskets, profile and materials.
- Face screens, various finishes and materials.
- Media, low boron micro glass fiber and PTFE.

Consult factory for availability and pricing.

**2.4** - The media pack shall be completely encapsulated in a polyurethane sealant creating a rigid self supporting pack. The sealant shall be low out gassing, fire-retardant and self-extinguishing.

**2.5** - The enclosing frame, of anodized aluminum profiles, shall be joined together with secure internal corner clips to form a rugged and durable enclosure. Overall dimensional tolerance shall be correct within +0, -1/8", and square within 1/4".

**2.6** - Gaskets, unless otherwise noted, shall be low outgassing cleanroom grade cellular urethane foam. Corners shall be dovetailed to form an interlocking joint and positive seal.

### 3.0 Performance

**3.1** - The filter shall be identified on a label indicating minimum efficiency, tested airflow and pressure drop. The unit shall be bar code serialized for individual unit identification.

\* Items in parentheses ( ) require selection.

*Camfil Farr has a policy of uninterrupted research, development and product improvement. We reserve the right to change designs and specifications without notice.*

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