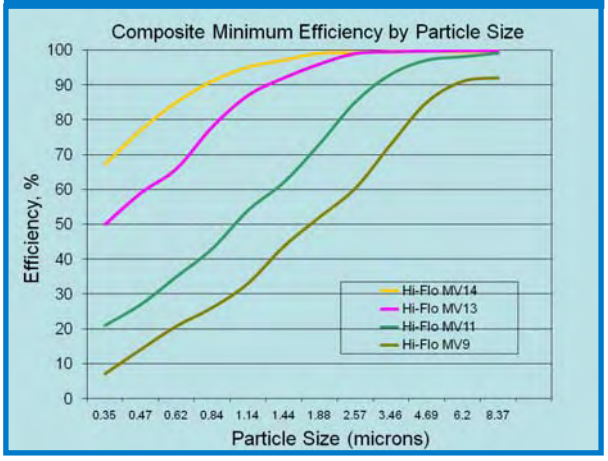
Hi-Flo®

Extended Surface Multi-Pocket Air Filters

Extended surface filter with controlled media spacing (CMS) for longer life and the lowest life cycle cost of any pocket filter



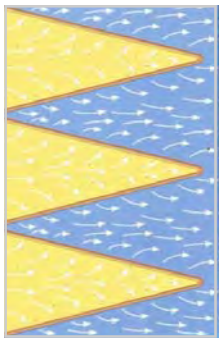
The above chart shows relative efficiency values at various particle sizes when tested in accordance with ASHRAE Standard 52.2-2007. When tested in accordance with Appendix J of that Standard the Hi-Flo maintains these efficiency values throughout the life of the filter.

The Camfil Farr Hi-Flo® offers high efficiency ASHRAE grade filtration to address today's indoor air quality problems. The Hi-Flo can remove contaminants such as fumes, smoke, bacteria, fungi, and virus-bearing droplet nuclei. The Hi-Flo is also the filter of choice for the removal of nuisance contaminants such as pollens, paper dust, and other atmospheric impurities. Hi-Flos are available in efficiencies of MERV 9, MERV 11, MERV 13 and MERV 14 when evaluated per ASHRAE Standard 52.2-1999 and have a respective MERV-A value of 9, 11, 13 or 14 when tested using the conditioning step as specified in Appendix J of the same Standard.

High Lofted Air Laid Media

The Camfil Farr Hi-Flo incorporates high lofted air laid micro fiber glass media to ensure reliable efficiency throughout the life of the filter. Its small fiber diameter and uniform lofting results in consistent sub-micron particle capture and a low resistance to airflow throughout the life of the filter. A synthetic micro mesh media backing ensures media protection and support in turbulent or varying airflows. The Hi-Flo's particle capture performance and filter configuration are unaffected by dust loading and/or humidity.

Controlled Media Spacing



Camfil Farr is the only manufacturer to offer controlled media spacing to minimize pocket-to-pocket contact, ensure uniform airflow and allow full utilization of the media area. The effect results in the lowest life cycle product cost for your facility. Your selection of the length and number of pockets should be based upon the required airflow through the system.

A 5-star rating indicates that this filter performs in the top 20% of all products of similar construction in the HVAC industry. Factors of consideration include maintained efficiency, energy usage and resistance to air flow. Detailed evaluation information is available from your Camfil Farr sales outlet or on the web at www.camfilfarr.com.

Camfil Farr	Product sheet
Hi-Flo®	1203 - 0808
Camfil Farr clean air solutions	

Controlled Media Spacing (continued)

Typical bag filters allow pocket-to-pocket contact, causing loss of effective media area, non-uniform airflow and an excessive pressure drop over the life of the filter. Camfil Farr's variable length pocket stitching, through the use of continuous thread filaments, helps keep as many as 12 individual pockets in a perfectly aligned V-shaped configuration. This tapered pocket effect equalizes the media entrance and exiting areas. Air travels evenly through the filter at an even media velocity for uniform dust loading and a maintained low pressure drop. The benefits include:

- Increased filter life
- Reduced maintenance costs
- Minimized fan horsepower requirements
- Reduced energy expenditures.

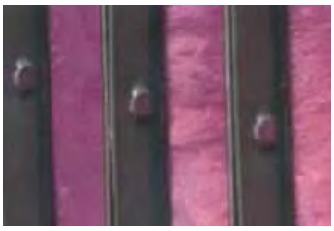
Stitch Sealant & Adhesive Bonding

Camfil Farr completely seals pocket stitching to eliminate the possibility of air leakage through the stitching penetrations. This unique sealant maintains a flexibility that is unaffected by varying airflows. The media is also bonded around the pocket retainers to ensure a strong pocket-to-retainer seal and minimizes potential for pocket failure.

Sure-Clench Crimp

Each galvanized steel pocket retainer is fastened with Camfil Farr's exclusive Sure-Clench Crimp, creating a positive lock between pockets and eliminating the possibility of air bypass. The pocket retainers include rolled edges to prevent damage to the media area and minimize sharp edges that may create a hazard to filter installers. Four retainer clips assist in securing pocket retainers to the header frame.

Galvanized Steel Header



A box-channel header, of one-piece corrosion resistant galvanized steel, includes rolled edges to prevent damage to the filter media. When combined with the Sure-Clench Crimp and galvanized pocket retainers, a rigid and durable assembly is created. Camfil Farr manufactures the Hi-Flo to be capable of withstanding up to 5.0" w.g. in normal HVAC application.

Leak-Free Filter Performance

Every Camfil Farr Hi-Flo includes a gasket on the vertical edge of the filter header. In a side-access housing, filters are mated header-to-header. The gasket prevents air bypass and ensures that the air filter will clean all of the air moving through the system.

Performance

Hi-Flo filters are manufactured from microfine glass fibers for consistent and long-term high efficiency performance. They are available in fractional efficiencies from 40% to 95% on particles as small as 0.3 micron in size. MERV values range from 9 to 14 when evaluated under ASHRAE Standard 52.2-2007. The respective MERV-A values for each efficiency are the same as their reporting value indicating the Hi-Flo will maintain particle capture efficiency throughout the life of the filter.

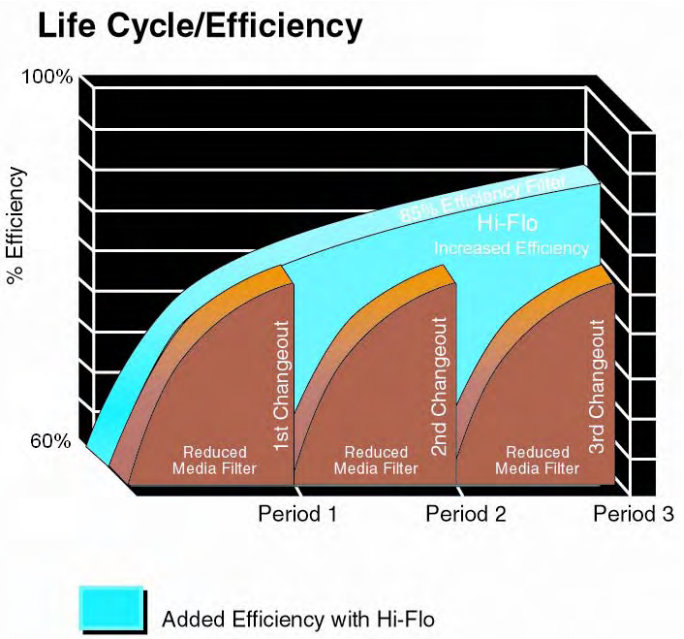
Configurations for any Application

Camfil Farr Hi-Flos are available in a variety of configurations to suit your air movement requirements. Common configurations include from 3 to 12 pockets, depths of 15" to 36", and up to 129 square feet of effective media area.

When selecting a Hi-Flo for your system, you should select a filter with the greatest effective media area within the airflow parameters and space limitations for your system. This will ensure a long filter life and a consistent low resistance to airflow over the life of the filter. Fewer filter changes will be required, thus reducing replacement, labor and disposal costs. An additional benefit includes reduced system horsepower requirements, thus lowering the facility's energy expenditure.

Lowest Life Cycle Cost

All of these components combine for the lowest life cycle cost, the lowest average pressure drop (energy savings), and consistent high efficiency particulate filtration throughout the life of the filter.



Camfil Farr Hi-Flo® Selection Chart

Model Number (precede with HF and insert efficiency for *)	Number of Pockets	Dimensions[a] (nominal size) (inches) H x W x D	Airflow Capacity[b]			Initial Resistance to Airflow (inches w.g.)[c]												Media Area (sq. ft.)
						MERV 14 (14-A)			MERV 13 (13-A)			MERV 11 (11-A)			MERV 9 (9-A)			
			Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High	
*/24/24/32/12	12	24 x 24 x 32[d]	2000	2500	3000	0.40	0 54	0.72	0.30	0.40	0.54	0.20	0.27	0.36	0.16	0.21	0.29	129
*/24/20/32/9	9	24 x 20 x 32[d]	1500	1875	2250													97
*/24/12/32/6	6	24 x 12 x 32[d]	1000	1250	1500													65
*/20/20/32/9	9	20 x 20 x 32[d]	1250	1575	1875													81
*/24/24/15/12	12	24 x 24 x 15	1000	1500	2000	0.29	0.49	0.70	0.20	0.34	0.48	0.13	0.21	0.30	0.09	0.15	0.21	58
*/24/20/15/9	9	24 x 20 x 15	750	1100	1500													44
*/24/12/15/6	6	24 x 12 x 15	500	750	1000													29
*/20/20/15/9	9	20 x 20 x 15	650	950	1275													37
*/24/24/30/10	10	24 x 24 x 30	2000	2400	2800	0.54	0.69	0.84	0.36	0.46	0.56	0.23	0.29	0.36	0.17	0.22	0.27	101
*/24/20/30/8	8	24 x 20 x 30	1600	1900	2250													81
*/24/12/30/5	5	24 x 12 x 30	1000	1200	1400													50
*/20/20/30/8	8	20 x 20 x 30	1350	1625	1875													68
*/24/24/22/10	10	24 x 24 x 22	1500	1750	2000	0.45	0 54	0.64	0.30	0.36	0.43	0.18	0.22	0.26	0.13	0.15	0.18	73
*/24/20/22/8	8	24 x 20 x 22	1200	1400	1600													58
*/24/12/22/5	5	24 x 12 x 22	750	875	1000													36
*/20/20/22/8	8	20 x 20 x 22	1000	1175	1350													49
*/24/24/36/8	8	24 x 24 x 36[d]	2000	2400	2800	0.54	0.69	0.84	0.36	0.46	0.56	0.23	0.29	0.36	0.17	0.22	0.22	97
*/24/20/36/7	7	24 x 20 x 36[d]	1600	1900	2250													85
*/24/12/36/4	4	24 x 12 x 36[d]	1000	1200	1400													49
*/20/20/36/7	7	20 x 20 x 36[d]	1350	1625	1875													71
*/24/24/30/8	8	24 x 24 x 30	1600	2000	2400	0.46	0.60	0.77	0.30	0.40	0.51	0.19	0.25	0.32	0.14	0.18	0.23	81
*/24/20/30/7	7	24 x 20 x 30	1400	1750	2100													70
*/24/12/30/4	4	24 x 12 x 30	800	1000	1200													40
*/20/20/30/7	7	20 x 20 x 30	1150	1450	1750													59
*/24/24/22/8	8	24 x 24 x 22	1500	1750	2000	0.48	0 57	0.68	0.32	0.38	0.45	0.20	0.24	0.28	0.14	0.17	0.20	58
*/24/20/22/7	7	24 x 20 x 22	1300	1500	1750													51
*/24/12/22/4	4	24 x 12 x 22	750	875	1000													29
*/20/20/22/7	7	20 x 20 x 22	1100	1300	1450													43
*/24/24/36/6	6	24 x 24 x 36[d]	1500	1750	2000	0.45	0 54	0.64	0.29	0.35	0.42	0.18	0.21	0.25	0.13	0.15	0.18	76
*/24/20/36/5	5	24 x 20 x 36[d]	1300	1500	1700													63
*/24/12/36/3	3	24 x 12 x 36[d]	750	875	1000													38
*/20/20/36/5	5	20 x 20 x 36[d]	1050	1225	1400													53
*/24/24/30/6	6	24 x 24 x 30	1500	1750	2000	0.47	0 56	0.67	0.31	0.37	0.44	0.19	0.23	0.27	0.13	0.16	0.19	63
*/24/20/30/5	5	24 x 20 x 30	1300	1500	1700													52
*/24/12/30/3	3	24 x 12 x 30	750	875	1000													31
*/20/20/30/5	5	20 x 20 x 30	1050	1225	1400													44
*/24/24/22/6	6	24 x 24 x 22	1500	1750	2000	0.60	0.71	0.85	0.39	0.46	0.55	0.23	0.28	0.33	0.15	0.18	0.22	45
*/24/20/22/5	5	24 x 20 x 22	1300	1500	1700													38
*/24/12/22/3	3	24 x 12 x 22	750	875	1000													23
*/20/20/22/5	5	20 x 20 x 22	1050	1225	1400													32

HF / **MV14** / **24** / **24** / **22** / **8** / **1**

HF = Hi-Flo
SF = S-Flo

Efficiency
MV14 = MERV 14
MV13 = MERV 13
MV11 = MERV 11
MV 9 = MERV 9

Height (nominal)

Width (nominal)

Depth (nominal)

Number Of Pockets

Options
1 = UL Class 1
W = 1 1/8" header

Consult factory for additional options.

DATA NOTES:

[a] Standard Hi-Flo includes 0 88" (1" nominal) header. For 1.12" (1¼" nominal) header add a W to the end of the model number.

Contact factory for lead times.

[b] Select 100% for constant volume systems and 80% of maximum design airflow for VAV systems. Hi-Flo filters perform satisfactorily over listed CFM range. Rated capacity is medium on chart.

[c] Recommended final resistance is 1.0" w.g. The Hi-Flo may be operated to 1.5" w.g. without affec ing performance.

[d] Pocket loops are recommended for 32" & 36" deep filters.

The Hi-Flo is classified by Underwriters Laboratories as UL Class 2. Maximum operating temperature 158° F (70° C).

20" by 24" header size available, consult factory for pricing and availability. System resistance is he same as 24" by 20" listed in above chart.

Performance tolerances conform to Section 7.4 of ARI Standard 850-78.

Extended Surface Pocket Filter Options

Hi-Flo®

UL Class 1 Hi-Flo

The Hi-Flo is also available in an Underwriters Laboratories UL Class 1 configuration. It is important to note that both classes of filters will burn when attacked by flames, and both will self-extinguish when clean. Consult factory for pricing and availability.

UL Class 1 - Air filters which, when clean, do not contribute fuel when attacked by flame and emit only negligible amounts of smoke.

UL Class 2 - Air filters which, when clean, burn moderately when attacked by flame, or emit moderate amounts of smoke, or both.

Cambridge-Style Header

Standard Hi-Flos include a 0.88" header for filter installation into a nominal 1" deep filter track. The Cambridge Air Filter Company manufactured side-access housings that required a 1.12" header to fit in a nominal 1¼" filter track. To order Hi-Flos for these housings, add a 'W' to your model number or seek factory guidance.

Synthetic Media Option

Camfil Farr also offers an electrostatically enhanced synthetic media extended surface pocket filter. Available in efficiencies of MERV 9, MERV 11, MERV 13 and MERV 14, the Camfil Farr S-Flo offers an additional economical choice for less demanding applications. Consult Camfil Farr Bulletin 1205.

SPECIFICATIONS

1.0 General

1.1 - Air filters shall be high efficiency ASHRAE extended surface pocket style filters consisting of high loft air laid microfine glass media, a galvanized steel header, galvanized steel pocket retainers, and bonding agents to prevent air bypass and ensure leak free performance.

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

2.0 Construction

2.1 - Filter media shall consist of high-density air laid lofted microfine glass media that is chemically bonded to a permeable media support backing forming a lofted filter blanket.
2.2 - Individual pockets shall contain a minimum of 40 stitching support points per square foot of media area. All stitching centers shall be sealed through the use of a foam based sealant that shall remain pliable throughout the life of the filter. The sides and ends of each pocket shall be sewn with a chain-link over lock stitch.
2.3 - Pockets shall be formed into tapered pleats, supported by controlled media space stitching, to promote uniform airflow across the surface of the media. At any point, the sizes of the upstream and downstream passages shall be proportional to the volume of filtered air.
2.4 - Support members shall include a galvanized steel header and galvanized steel pocket retainers. The header shall be bonded to the media to prevent air bypass. Individual pocket retainers shall be fastened with a mechanical crimp to lock individual pockets together. The media pockets shall be bonded to the pocket retainers to prevent air bypass. The frame shall form a rigid and durable support assembly.
2.5 - A filter-to-filter sealing gasket shall be installed on one of the vertical members of the filter header.

3.0 Performance

3.1 - The filter shall have a Minimum Efficiency Reporting Value of MERV (9, 11, 13, 14) when evaluated under the guidelines of ASHRAE Standard 52.2-2007. It shall also have a MERV-A rating of (9, 11, 13, 14) when evaluated under ASHRAE Standard 52.2-2007 Appendix J.
3.2 - The filter shall be capable of withstanding 5.0" w.g. without failure of the filter.
3.3 - The filter shall be classified by Underwriters Laboratories as UL Class 2.
3.4 - Manufacturer shall provide evidence of facility certification to ISO 9001:2000.

Supporting Data - Provide product test reports for each listed efficiency including all details as prescribed in ASHRAE Standard 52.2-2007 including Appendix J.

Items in parentheses ( ) require selection.

HI FLO
POCKET AIR FILTER

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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