



Camfil 'Farrma' Newsletter

© Published for our North American Customers & Representatives.

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Welcome

Welcome!

Our first publication was a great success. We received significant positive feedback from our Reps, Distributors & End Users. Our product offerings, technical support and most important the expertise within our organization are quickly establishing Camfil Farr as the 'vendor of choice' in the Bio-Pharma market in North America.

This 2nd Newsletter issue includes:

- A rep profile on our New England Representative Filter Sales & Service
- A technical article on 'bleed thru' by Andy Stillo, Camfil Farr's High Performance Products (HPP) Engineering Manager. This



Sean O'Reilly
Pharmaceutical Segment
Sales Manager

'phenomena' can take place primarily in Class A & B areas (fully filtered ceilings) or anywhere thermal generators are being used to field test & certify HEPA filters. It's very important that you take the time to read this article so you can be well prepared to answer our Bio-Pharma customers with confidence.

- The launch of the new Pharmaseal[®] Wall Mounted Housing. It has been common in the past to use a Pharmaseal (terminal housing) or for you, our reps and end user or design engineers & contractors to fabricate a specific type of housing locally to try and solve a particular low level return or exhaust application housing. Now NO

MORE, CF has designed a fully qualified and tested housing to all relevant standards to eliminate any risk to the end user. This product, with its many unique features, is another Camfil Farr 'first' in the industry. Please make sure you get this information to the end user and engineering houses as quickly as possible.

- As usual, we have an update on key Bio-Pharma projects both locally & internationally.
- We have also added a technical support section to the www.camfilfarr.info web site. You can assess this valuable & important information by clicking on 'Pharmaceutical' in the initial menu screen.

Enjoy!

Pharmaceutical Information on the Web

Camfil Farr has added a pharmaceutical section to our WWW.CAMFILFARR.INFO web site. Designed as a medium to transfer information, and assist in educating the viewer, the INFO site is one of the most popular air quality/filtration based sites on the web with hundreds of visitors per day. To automatically be informed of site updates, join our listserv by sending your email address to literature@camfilfarr.com and include pharma in your subject.



Company Profile

Filter Sales & Service, Inc. , New England, USA



The Filter Sales & Service family.

“Today our service department accounts for less than ten percent (10%) of our total sales volume but remains a cornerstone of our business and is actually a very key component in our market success.”

“Filters Sales & Service is the leading manufacturer’s representative and distributor of air filtration systems in New England.”

Filter Sales & Service, Inc.
A Camfil Farr
Representative and
Distributor

Filter Sales & Service, Inc. was founded in 1953 by Edward Ouellet. Over the past fifty-one years, the company has grown to meet the filtration needs in many market segments, in both the air and liquid filtration markets. Their company was founded as an air filter service business. This included washing and installing air filters for those companies that required refrigeration or air conditioning at the time. As disposable filters developed, and industry requirements expanded, Filter Sales and Service moved into the distribution of HVAC filter products. Today our service department accounts for less than ten percent

(10%) of our total sales volume, but remains a cornerstone of our business. It is actually a very key component in our market success. Our service department now offers not only filter service, and filter bank repair, but also cleanroom installations and testing.

In the early 1970’s, we began the sale of liquid filtration products for industrial process applications. In 1979, we ventured into the cleanroom market with the representation of Weber Technical Products. Weber provided us with extensive training in cleanroom design and technology. Weber was the leading supplier of terminal HEPA modules at that time. As Weber proceeded to withdraw from the cleanroom arena, especially turnkey work, Filter Sales and Service began

providing more cleanroom services directly. Today cleanroom and high purity process filtration account for a significant portion of our sales.

Filter Sales and Service currently operates two distribution and sales facilities, employing over 40 people. Our headquarters is in Burlington, Massachusetts and includes a 42,000 square foot warehouse and office facility. Our West Haven, Connecticut branch includes 20,000 square feet of offices and warehouse. Both facilities operate their own fleet of delivery and service vehicles, and are staffed with sales and customer support personnel. “Focusing on customer service has been the largest challenge but also the largest factor in our market success” says Alan Ouellet, Executive Vice President. “We are in an

Filter Sales & Service Profile Continued from page 2



ever changing market with increasing service expectations by the customer. The largest difference between companies is often not the products but the general service level and value added services provided." Camfil Farr's sales tools such as Life Cycle Cost software, the Mobile Media Tester and on-line catalog have added a great deal in this area. To further enhance our efforts we have developed "Contract Service Teams" to service large customers. Weekly in-house customer service and training meetings and the forming of "sales teams", a partnering of outside sales staff with inside customer service personnel.

In 1996 Filter Sales and Service became an ISO9001

certified company. This has helped us in developing quality and consistency in our internal systems. This includes quotations and order processing, to expediting and returned goods processing. Our larger customers have recognized the dedication and commitment the ISO registration takes. It was a significant undertaking but well worth the effort.

Today our customers include such companies as Astra Zeneca, Amgen, Genzyme, Whitehead Institute, Lonza Biologic, IBM, Fairchild, MIT, Yale, Harvard, Pfizer and Partners Healthcare. They have come to rely on a high level of service and programs such as "Total Filtration Management" that integrates all their filter purchases

through one competent source.

The Camfil Farr line of Comfort Air, Clean Processes and Safety and Protection products has market recognition and a reputation for quality. Our work in the "Plan and Specification" area, with architects and engineers, rely heavily on Camfil Farr's innovative products, knowledgeable staff and strong marketing tools. Through time and experience, we are convinced there are no better products to sell, and no better company to represent than Camfil Farr. While our long range strategic plan calls for continued product and service integration, Camfil Farr and their products will play a large role in our long term goals and marketing strategy.

"Through time and experience, we are convinced there are no better products to sell, and no better company to represent than Camfil Farr."



"Weekly in-house customer service and training meetings and the forming of "sales teams", a partnering of outside sales staff with inside customer service personnel" is a weekly event at the Filter Sales & Service headquarters.

Filter 'Bleed-Thru': Myth or Reality, the Solution

Filter "Bleed-Thru" is a condition existing primarily in the Bio-Pharm marketplace within Class A areas (fully filtered ceilings). Although a Band-Aid is not required, the outcome of such encounters, when dealing with end users that have a cleanroom off-line, can literally be "bloody" (possibly the real history for the term "Bleed-Thru"). Filter "Bleed-Thru" can be defined as: **the measurement of background filter penetration exceeding the leakage specification during field certification.**

For example: If the percentage (%) penetration over the entire face of a filter measures 0.02% and the maximum percentage (%) penetration leakage specification is 0.01% , you are experiencing "Bleed-Thru". This is extremely troublesome to end users where down-time can very quickly translate into tens of thousands of dollars in lost production.

There are several key factors that can have an effect on and/or result in filter "Bleed-Thru":

- Inappropriate Filter Specifications
- Filter Face Velocity
- Test Particle Size

There are misconceptions within the industry concerning the true cause of filter "Bleed-Thru". This article will review these misconceptions (myths), provide insight on the true mechanisms resulting in "Bleed-Thru" and recommend solutions.

Filter 'Bleed-Thru': the Myth

There is a general opinion, within the industry, that filter or media manufacturers have made a substantive change that has caused "Bleed-Thru". In most cases, the blame is directed towards the media. The claims being made are:

- The filter manufacturers are using cheap media
- New medias are thinner than MIL-SPEC media resulting in higher penetration.

Certainly, the newer standard medias are less expensive and thinner than MIL-SPEC media. The standard media grades utilized by Camfil Farr typically have the same percentage (%) penetration specification as the MIL-SPEC media grades *(Remember: percentage (%) penetration is percentage (%) penetration regardless of how you measure it). In identical configurations, these different media grades would perform the same, with respect to percentage (%) penetration. Therefore, media thickness, in this case, has no impact on penetration performance. It does, however, have an impact on pressure drop and its capability to stand-up to very harsh conditions.

As a consequence of higher tensile strength, MIL-SPEC grade media has a pressure drop penalty of nearly 20%!

Filter 'Bleed-Thru': the Reality

What is the reality or true causes of filter "Bleed-Thru"? As mentioned earlier, the primary causes are related to Inappropriate Filter Specifications, the Filter Face Velocity and/or the Test Particle Size. Let's explore each of these possibilities to understand how they impact filter "Bleed Thru":

Inappropriate Specifications: This is the start or origin of most filter "Bleed-Thru" problems. The typical Face Velocity specified to filter manufacturers for HEPA filters being used in Class A application areas is 90 or 100 FPM. These specifications do not usually set the **maximum utilization velocity** that the filters will be subjected to in their actual application (in-situ). Since velocity has a significant impact on penetration, the **maximum utilization velocity** should be the actual test velocity used at the filter manufacturer to guarantee compliance to field testing conditions. Another specification issue is attributed to the efficiency and leakage specification. Most specifications are written referring to industry recommended practices such as IEST (Institute of Environmental Science and Technology) or utilizing the verbiage contained within such a document. Most, if not all Bio-Pharm facilities specify a "type C" or performance indicative of a "type C" filter. The performance level hence specified is a minimum global efficiency of 99.99% on 0.3 micron particles and a fully leak tested (scanned) filter with a maximum leakage rate of 0.01% (which is identical to the global efficiency minimum penetration). The

recommended practice of IEST recommends laskin nozzle generated aerosols for leak testing due to this issue of the maximum leakage penetration value being identical to the minimum efficiency value. This helps because the mass mean particle size diameter of a laskin nozzle generated oil aerosol is in the order of 0.7 micron in diameter. This eliminates problems with background penetration and allows you to look only for leakage *(Note: a leak is not particle size selective). If thermal aerosols are utilized, the mass mean particle size becomes much smaller resulting in potential filter "Bleed Thru" problems by design. Since more of these 'smaller' challenge aerosol particles will 'penetrate', the filter will, therefore, have a lower filter efficiency versus these smaller particles when tested in-situ.

Specifications do not address this issue and leave the field testing requirements up to the certifier. The reality is such that in many cases, field testing requires the use of thermally generated aerosol (which generate smaller challenge aerosol particles by design) to achieve sufficient concentrations which in turn will lead to a higher penetration/lower efficiency filter when tested in the field.

Filter 'Bleed-Thru': the Reality

Filter Face Velocity: As stated above, Filter Face Velocities are typically specified at 90-100 FPM in Bio-Pharm applications. However, the actual velocities in-situ are usually significantly higher. It is not unheard of to see Filter Face Velocities at 120, 140, 150 or even as high as 180 FPM in the field. This upward shift in velocity has a rather dramatic negative impact on filter efficiency.

As an example, on the following chart:

Filter Type	Efficiency @ 0.3 Micron			
	100 FPM	120 FPM	140 FPM	150 FPM
2" Media Pack - 99.99%	99.9945%	99.992%	99.989%	99.987%

As you can see in the table, if the in-situ application subjects the filter to a higher than specified velocity, the filter efficiency drops below the 99.99% level and the result is "Bleed-Thru" in the field. Keep in mind, that if a laskin nozzle generated challenge aerosol is utilized, the possibility of "Bleed-Thru" due to a high application velocity is greatly diminished!!

Test Particle Size: As stated previously, most, if not all Bio-Pharm facilities specify a "type C" or performance indicative of a "type C" filter. The performance level hence specified is a minimum global efficiency of 99.99% on 0.3 micron particles and fully leak tested filter with a maximum leakage rate of 0.01% (which is identical to the global efficiency minimum penetration). The "type C" requirements specify efficiency testing with 0.3micron diameter thermal DOP *(Note: MIL-STD-282 is a discontinued standard). In Class A areas (fully filtered ceilings), field certifiers utilize portable thermal generators in order to achieve sufficient upstream concentrations. The problem with these generators, is that they are generating a particle size in a size range very close to or at a typical filter's MPPS (Most Penetrating Particle Size). If a factory tested filter just meeting the 99.99% @ 0.3 micron efficiency specification is then tested with thermal aerosol in the field, it will likely exhibit "Bleed-Thru" since the efficiency in the field tested MPPS range will always be lower than at the 0.3 micron factory efficiency testing *(likely in the range of 99.996% -99.98%). This is typically not a problem for Bio-Safety Cabinets or Terminal Housings since a laskin nozzle generator is utilized.

***NOTE:** you significantly compound the "Bleed-Thru" issue when testing in-situ at higher face velocities utilizing smaller sized (MPPS range) particles.

Filter 'Bleed-Thru': the Solution

The solution is quite simple. The filter specified/purchased by end users should be rated at an efficiency/particle size and maximum velocity to guarantee acceptance when tested with a thermal generator in the field. Simply stated, Camfil Farr would recommend a filter efficiency purchasing specification of H14 per EN1822 (a minimum efficiency of 99.995% @ MPPS). This performance level would be specified at the maximum velocity to be encountered in-situ. The leakage threshold would be set at a maximum of 0.008% at the factory to guarantee 0.01% scanning results in the field.

Filter 'Bleed-Thru': Summary

Although filter "Bleed-Thru" has been thought of as a mystery caused by Media and/or Filter Manufacturers, it is evident that the root of such a problem stems from many possibilities. It is clear that a key factor for filter "Bleed-Thru" is related to particle size. The particle size issue stems from the use of portable thermal generators. The use of these generators is typically restricted to Class A areas to achieve sufficient concentrations. "Bleed-Thru", therefore, generally occurs in these applications and not in applications such as Terminal Housings or Bio-Safety Cabinets. It is vitally important that both end users and filter manufacturers develop an appropriate filter specification, as proposed in the solution section, to guarantee that all filters purchased will meet the field testing requirements.

Filters are and will remain a critical part of the installation to maintain the cleanliness required in Bio-Pharm manufacturing and packaging facilities. Camfil Farr is proud to be the leading manufacturer supplying 'clean air solutions' to this industry. For further detailed information on the products utilized in the Bio-Pharm industry, visit our web site, www.camfilfarr.com

CEN EN 1822-1:1998				
High efficiency air filters (HEPA & ULPA). Classification, performance testing, marking.				
Filter	Efficiency % @ MPPS		Penetration % @ MPPS	
Classification	Overall Value	Local Value	Overall Penetration	Local Penetration
H10	= > 85	-	15	-
H11	= > 95	-	5	-
H12	= > 99.5	-	0.5	-
H13	= > 99.95	99.75	0.05	0.25
H14	= > 99.995	99.975	0.005	0.025
U15	= > 99.9995	99.9975	0.0005	0.0025
U16	= > 99.99995	99.99975	0.00005	0.00025
U17	= > 99.999995	99.9999	0.000005	0.0001

Notes:

- 1) Filters in the class H10, H11 & H12 do not require verification of local penetration.
- 2) Filters in the class H13 & H14 may, as an alternative, be verified with the visual oil-smoke test previously known as DIN 24.184).
- 3) U17 is an exception to the rule. IN this case local penetration may NOT exceed 20 times the overall penetration value.

ISPE Mailing

Camfil Farr performed a mass-mailing of over 6000 Camfil Farr catalog CDs to members of the ISPE, (International Society of Pharmaceutical Engineers) in May. Our 'INFO' site registers the information of catalog downloaders, and based upon the ISPE members who downloaded their catalogs, the response to the mailing was tremendous.

The information has been transferred to the Camfil Farr follow-up system. This information will be distributed through our call follow-up program says Hud Benson, Camfil Farr's Director of Marketing and Business Development.

Camfil Farr introduces the Pharmaseal Wall-Mounted Housing & Wall-Mounted Bag-in/Bag-out Housing

The Pharmaseal wall mount and wall-mounted bag-in/bag-out housing are simple, yet highly effective solutions for exhaust and recirculation applications in pharmaceutical and biotechnology facilities, hospitals, surgical suites, neonatal care units, animal labs, BSL Level 3 and 4 environments, sterile manufacturing areas and the food service processing and packaging areas. Conventionally, many of these applications utilized heavy-duty containment housings or custom fabricated plenums which were not engineered or manufactured to comply with industry standards. The Pharmaseal wall mount and wall-mounted bag-in/bag-out housing are engineered in a variety of configurations that allow for customization to specific customer requirements while meeting industry standards and practices.

The Pharmaseal wall mount is designed to be installed through the wall, and features integral perimeter trim upstream that provides flush installation. The unit is constructed with an integral downstream flange, which, depending on the facility construction and system configuration, may be left open or bolted to a plenum. With the addition of the optional exhaust collar, the return may be easily attached to round ductwork. Consistent with our industry-leading performance testing on the Pharmaseal Ceiling Modules, each Pharmaseal Wall Mount is visually inspected, tested for filter fit, and then leak tested to 3.0" w.g. to ensure that the return does not leak under normal operating conditions.



The Pharmaseal wall mount:

- is available in four configurations:
 - 100mm HEPA/ULPA version w/ prefilter
 - 100mm HEPA/ULPA version w/o prefilter
 - Filtra 2000 version w/prefilter
 - Filtra 2000 version w/o prefilter
- Is manufactured from 16-gauge 304/304L or 316/316L stainless steel. It is also available in aluminum construction with permanently attached stainless steel trim
- Is designed to be flush-mounted in walls, including sheet rock, plaster, and conventional aluminum and stainless steel honeycomb panels. Its permanently attached strut channels allow simple and efficient installation requiring no housing penetrations
- Includes a stainless steel hinged grille that is removable. The grille has 40% open area to ensure uniform airflow, and features ¼-turn fasteners for easy access and quick filter replacement
- Includes a downstream flange that has bolt holes for connection to exhaust ductwork or plenum. Optional exhaust collars are available for connection to round ductwork
- Includes filter guides with ¼-turn filter retainers that align the knife edge in the gel track of the filter and firmly secure filter to the housing
- Includes a static pressure port with a quick-disconnect connection
- Is factory leak tested to +3" w.g. static pressure. After acceptance, each unit is serialized. Test reports are available.



Stainless steel models feature perimeter trim, housing body and knife edge constructed from a single piece of material, thus eliminating joints and seams which create potential leak paths. Housing corners and the filter-to-housing interface are welded construction to ensure leak-tight operation.

Application areas include animal labs, hospitals and bulk powder dispensing room in Pharmaceuticals.

Wall-Mounted Bag-in/Bag-out Housing

The wall-mounted bag-in/bag-out housing has been designed and engineered to solve particulate control problems by providing a “package solution”. It incorporates components which are selected to specifically address the problem at hand. The wall-mounted bag-in/bag-out housing is available in four standard configurations. They:

- Are manufactured from 14 and 11-gauge 304/304L stainless steel with a 2B finish. 316/316L are also available for highly corrosive applications
- Include a downstream filter-to-housing seal to eliminate the difficulties associated with attempting to scan test upstream seals
- Include access doors with replaceable silicone gaskets
- Include continuously welded joints and seams to eliminate potential leak paths
- Include a filter sealing surface that is tested at +10" water gauge with a maximum allowable leak rate of 0.0005 cfm per cubic foot of housing volume. The overall system pressure boundary shall be tested at +15" water gauge (to a maximum leak rate of 0.0005 cfm per cubic foot of housing volume).

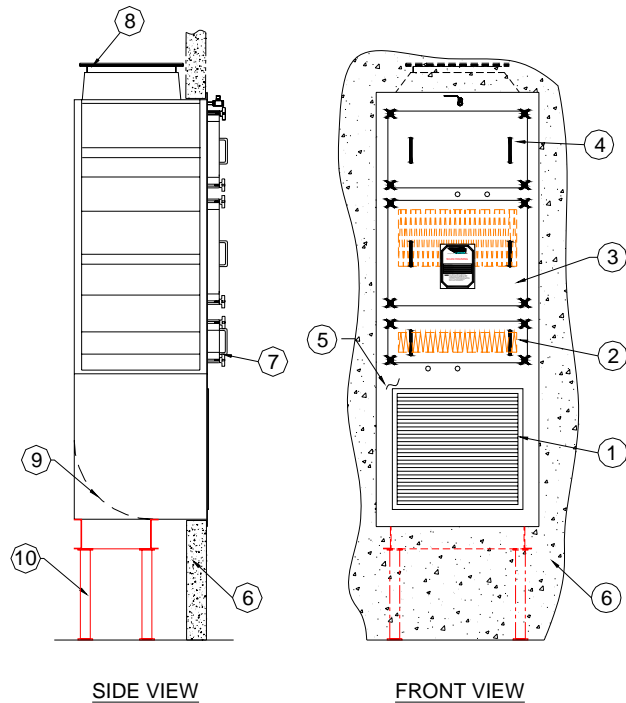
Due to the wide variety of applications, there are many possible configurations, which may include the following components:

- **Isolation Dampers:** Used to isolate a portion or section of the system from the room or other portions of the system. This may be required during change out of filters, when it is critical to ensure that a clean room does not become contaminated by a dirty plenum area
- **Upstream Test Section:** These test sections are designed for aerosol injection and sampling upstream of the filter and ensure adequate mixing and uniform distribution of the aerosol challenge to the filter (s)
- **Downstream Test Section:** Designed to ensure accurate concentration measurements of the aerosol challenge downstream of the filters. These are generally used in conjunction with the upstream test sections to measure the overall efficiency of the filter components
- **Housing:** Housings are available to hold HEPA filters behind a single access door, a prefilter and a HEPA behind a single access door, or a prefilter and a HEPA behind individual access doors. HEPA filters may be gasket or fluid seal. The housings may be either bag-in/bag-out or non bag-in/bag-out. There are many available configurations depending on space constraints, customer application, or Standard Operating Procedures (SOP) for testing and validation, etc.
- **Accurate Scan Test Section:** Allow personnel to perform a scan test of the HEPA filter and filter-to-housing sealing surface. This is generally used in conjunction with an upstream test section
- **Decontamination Ports:** These are used to conduct decontamination prior to servicing, in order to ensure that clean rooms and other clean areas are not exposed to contamination from the modules. Decontamination ports may be supplied with ball valves, butterfly valves, sanitary fittings, cam-lock fittings, etc.
- **Transitions:** Round, square, or other transition types may be provided upstream and/or downstream for ductwork or plenum connections
- **Inlet Grilles:** Many combinations of inlet grilles are available including a fixed or removable perforated type, a fixed or removable fixed blade type, etc.
- **Finishing:** The exterior and/or interior of unit may be finished to #3 or #4 finish depending on the application and requirements
- **Blower:** Blower and controls are available
- **Instrumentation:** Magnehelic and photohelic gauges are available to measure pressure differential across the filter (s) and/or the overall system.

This custom wall-mounted bag-in/bag-out housing features an integral perimeter flange around the front face of the housing to allow the unit to be recessed into a cleanroom wall (the face of the unit becomes flush with the wall). This configuration conserves floor space for production, but still allows the unit to be serviced and tested from within the room.

This particular configuration features:

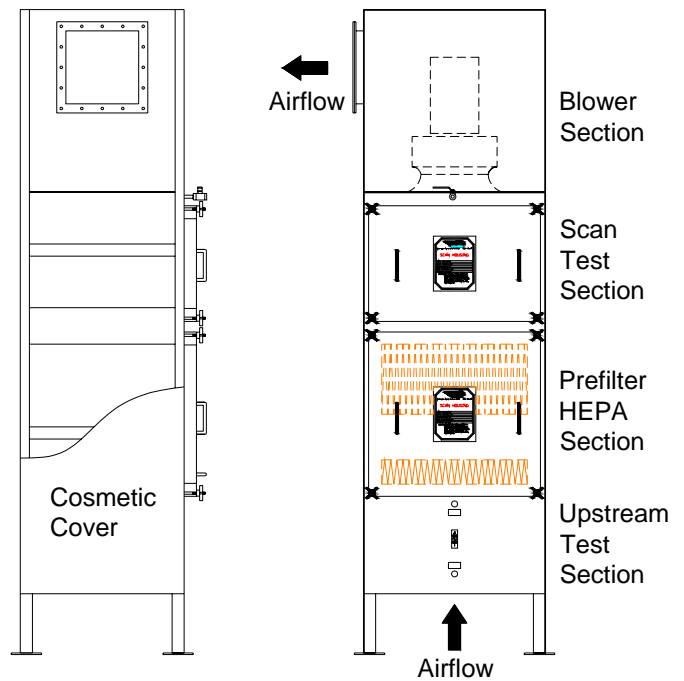
1. Inlet with stainless steel fixed blade grille
2. Prefilter section for 24" x 24" x 2" filter
3. Bag-in/bag-out HEPA section for a 24" x 24" x 11.5" HEPA or ULPA
4. Accurate Scan Test Section for manual scan testing of the filter
5. #4 polished finish on entire face of housing
6. Cleanroom wall
7. Individual access doors with swivel latches
8. Outlet transition with bolt hole connections for ductwork attachment
9. Internal turning vane. Internal surfaces polished to #4 finish
10. Stainless steel base



This wall-mounted bag-in/bag-out housing is a free-standing high efficiency filtration system with a bottom inlet and top left discharge. It features an upstream test section, a HEPA filter housing, a scan test section and a blower. This unit is designed to collect particulate from a process and recirculate cleaned air back into the room. Designed for areas with limited space, a blower is incorporated into the unit to provide a package solution for the customer. As shown in line art to the right, a cosmetic cover is installed on the side of the unit to conceal the structural members of the housing. This provides a smooth, flush surface that is easy to clean and also to reduce the surface area for contaminants to collect.

This type of unit may also incorporate an airflow measuring station, a variable frequency drive, and a control package that can be integrated to provide continuous volumetric airflow as the filter loads with particulate.

Other configurations are available. Additionally, the blower may be supplied separately for installation in remote locations, and small units can be mounted on casters to allow portability in laboratories or hospital applications. Square or round outlet transitions or flanges are also available.



Applications include animal labs, isolation rooms in hospitals, and bio-pharmaceutical critical exhaust applications (biosafety levels 3 & 4).

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North American Project News

Bristol Myers Squibb (BMS), one of the top ten Pharmaceutical manufacturers in the world, recently expanded production at their Syracuse, NY plant. This BMS facility is one of, if not the largest, Penicillin production plants in the world. John Helm, President of RP Fedder, coordinated the design with ASM Engineers for a successful delivery of a large order of bag-in/bag-out systems.

Amgen in Puerto Rico, continues to use Camfil Farr as the vendor of choice for terminal filter housings. *Thermal Resource Sales (TRS)* working with Flour Daniels in NC, *General Aire* coordinating with Jacobs Engineering in Pennsylvania & *Engineered Products*, our Puerto Rico representative, worked closely together to win an order for 400 Pharmaseals in the second quarter of this year.

Cory Lock from *General Aire* along with Phil Chearmonte, Camfil Farr's Northeast Regional Sales Manager, worked particularly hard in winning an order for a further expansion at the Aventis Vaccine facility Swiftwater, PA. Ewing Cole were the design engineers who specified the unique features of the Camfil Farr Pharmaseal, resulting in an order for over 200 Pharmaseals and a number of bag-in/bag-out systems.

Wyeth continues to aggressively expand globally. Integrated Project Services (IPS) located in PA designed and specified a Class A area for Piperacillin production for the Wyeth manufacturing facility located in Carolina, Puerto Rico. *General Aire* worked closely with the Wyeth Global Engineering staff in Collegeville, PA to ensure that over 250 CF Megalim HEPA filters were utilized in a Huntair laminar flow ceiling for this critical process area.

Mike Fink, one of the Principals of *Fluid Air*, Camfil Farr's new Representative in Indianapolis, was instrumental in winning a substantial order for a sizable quantity of Pharmaseals & bag-in/bag-out systems for Building 103 at Eli Lilly/Indianapolis in May.

Additional orders were received over the past few months for various projects at Merck PA & NJ, American Pharmaceutical Partners in NY, Teva in NJ, & Abbott's new Biotech Facility in Worcester, MA to mention just a few.



International Project News

Chris Larger (Ketchum & Walton - Ohio Representative) & Paul Jacobs (Camfil Farr's Managing Director in Belgium) worked very closely with Michael Newman (Camfil Farr Washington, NC) to win an order for approximately 200 Pharmaseals. This 'fast track' project had specific design requirements for top & side entry housings due to the configuration restrictions of the existing building. Jacobs Engineering in Cincinnati, OH were the design engineers for this Genyme project in Belgium.

Abbott Labs recently made a substantial investment at their new facility located in Dartford near London. Mike Vinson & Neil Orrill from Camfil Farr/UK, worked closely with Bovis Lend Lease on the design and specification resulting in a huge order for Containments systems, Pharmaseals & Sofdistri's (European manufactured Terminal Housing).

Norgine, located in South Wales/UK, expanded their existing facilities to deliver product to USA marketplace. White Young Green & Project Management (Ireland) did the design. 50 Terminal Housings were delivered for this particular project.

Camfil/UK has won a contract to supply all of the filters from pre to HEPA filters for three of the largest Astra Zeneca manufacturing facilities in the UK. The plants located at Macclesfield, Alderley Edge & Avonmouth "have undergone surveys and we have now started to deliver product" states Neil Orrill, Camfil Farr/UK Cleanroom Sales Manager.

GE Health (formally Amersham International) a government run facility for production Diagnostics has contracted Camfil Farr/UK, to supply, install & test all high efficiency filters. Camfil/UK has a full time testing division to offer this service as "more end users want a 'one stop shop' and reduction in vendors" states Mike Vinson, Camfil/UK's Cleanroom Technical Support Manager.

Additional Recent Newsworthy

At the end of May we launched a 'Pharmaceutical' section on our www.camfilfarr.info website where you can read about 'bleed thru', selecting filters, International & Pharmaceutical related standards, etc... As we further develop this site, we will add further content such as High Temperature filters & Bag-In/Bag-Out systems.

Wyeth is in the process of evaluating their current specifications and their overall strategy of purchasing for both pre & final filtration products. We were honored to host a large group of key Wyeth personnel from manufacturing sites throughout the USA & Puerto Rico at our Riverdale, NJ & Washington, NC facilities in April. We continue to win numerous new construction orders for Wyeth in sites around the world.

Our FARR APC Dust Collection Division also 'went on the road' with an innovative design for a new dust collector with bag-in/bag-out capability specifically designed for the Pharmaceutical Industry.

Lee Morgan who heads up Sales and Management of this division & Doug Holzherr (Director of Key Account Sales, HVAC/HPP division) took a dust collector to Wyeth's Corporate HQ in PA and had a large group of engineers view & discuss application and specific requirements for their manufacturing needs.

For more information on dust collection go to www.farrapc.com

We continue to have significant contact & activity with numerous Bio-Pharma manufacturers at a corporate level. During May & June we had high level meetings with senior staff at both Eli Lilly & Abbott Laboratories. Steve Devine, CF's Technical Director, Tom Rumpler, CF's National Account Manager, John German, CF's Central Regional Manager & Sean O'Reilly presented the latest technology both from a product & in-situ testing capabilities and addressed current 'industry issues' such as filter bleed thru, and gel & urethane concerns.

Working with end users & engineers is key to our fore market success. Presentation and lunch & learns are carried out almost weekly through you our Reps supported by CF sales/technical staff. Two of the larger A&E firms who took the time to either visit and/or received major presentations were Lockwood Greene (NJ division) & Jacobs Engineering in Indianapolis, IN.

7th CLEANROOMS Europe a Success for Camfil Farr

This previous month Camfil Farr exhibited at the Stuttgart Exhibition Centre as a vendor in Cleanrooms 2004, Europe.

With multiple cleanroom facilities located within that geographic area, the 430 square foot newly designed Camfil Farr booth was crowded with visitors all three show days.

Of particular interest was the CAM-NEBULA filter rig, which demonstrated the poor performance of an electrostatically discharged, coarse fiber filter compared to a new one and to the standard of the industry, the Camfil Farr Hi-Flo. This filter testing rig is an excellent tool to show the drastic decrease of filter efficiency, simulating just a few weeks in real conditions.

For years, industry visitors from numerous sectors – pharmaceuticals, food processing, biotechnology, cosmetics and semiconductor technology – have taken advantage of the many opportunities offered by CLEANROOMS Europe. Manufacturers, dealers and service companies exhibiting their products and services in Halls 7 and 8 of the Stuttgart Exhibition Centre. The range of services extended from setting up simple clean production environments in accordance with hygiene standards, to using sophisticated semiconductor production equipment, and of course, our high performance Camfil Farr air filters.

This year, the focus of the trade fair, forum and accompanying conference was "Hygienic aspects at Hospitals". Camfil Sweden has produced a new flyer which was made available at the show. Also available was their new microelectronic flyer.

CLEANROOMS Europe has grown from modest beginnings, limited to sales and information, into an event of importance to a wide range of industry sectors. Specialists from commercial enterprises, clinics, research institutes, trade organizations and universities, with interests including every aspect of contamination control technology, clean production and hygiene, rubbed shoulders with newcomers and experts.

Whether it is people or products that must be protected, there will be concrete solutions offered for anyone involved in planning, designing or fitting cleanrooms, and for anyone concerned with measurement engineering, clothing, accessories, services or requirements related to specific products. The market for cleanroom technology is expanding into more and more sectors. In food production, pharmaceuticals and cosmetics – not to mention hospitals, the aerospace industry and semiconductors – guidelines and quality standards are steadily becoming stricter. Thanks again to all Camfil staff for a good and successful fair. **Camfil Farr air filters – they keep what they promise, clean air!**

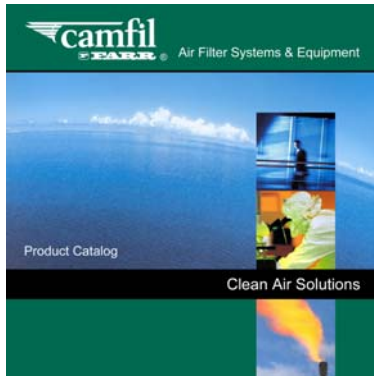
Submitted by

Dirk Lauderbach



Segment specific brochures created
interest in Camfil Farr product
(not available in North American format, contact
literature@camfilfarr.com if you would like a copy)

Camfil 'Farrma'



Camfil Farr Catalog CD will be updated August 30, 2004. For your copy, contact literature@camfilfarr.com or download at www.camfilfarr.info.

Camfil Farr

Do you have your own copy of the Camfil Farr Catalog CD?

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For your copy.

The screenshot shows the Camfil Farr website interface. At the top is the Camfil Farr logo and navigation links: Login, Home, Rep/Dist Locator, Catalog, IAQ Calculator, Literature Library, and Product Registration. The main content area is titled "Air Filtration in the Pharmaceutical Industry, Cleanroom Filtration". It features an image of pharmaceutical vials and text explaining the importance of cleanroom filtration in pharmaceutical manufacturing. A sidebar on the left lists "Site Features" such as Air Quality, Anthrax, Current Events, Fiber Size, Health Care, IAQ Analysis, MERV, Mold, Pharmaceutical, SARS, and School IAQ. At the bottom of the page, there is a footer with "Camfil Farr Corporate Site Home | Contact Us | Privacy Policy".

Camfil Farr has placed pharmaceutical information, including educational data on www.camfilfarr.info. Just choose Pharmaceutical from the selections on the first page.



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Next edition will include:

- Next Issue: Technical article on gel & urethane from Steve Devine's, CF Technical Director
- Another Rep Profile
- North American Industry & Project News

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