

## Air Filtration - Lifetime Efficiency

### Pharmaceutical Manufacturer Recognizes Filtration Expenses Relate to Entire Filter Life Not Just the Initial Cost

#### Company Profile:

\$22.5 billion, broad-based life sciences and pharmaceutical company headquartered in the Midwest with over 100 facilities worldwide and 65,000 employees globally. Products span the continuum from nutritional products and laboratory diagnostics through medical devices, to pharmaceutical therapies.

#### The Situation:

The company's headquarters and primary research center site were faced with air quality concerns and rapidly rising energy costs related to their HVAC systems. Camfil Farr informed the company that the highly-charged synthetic (fine fiber) medias in the final filters of the air handling units were likely causing early loss of contaminant removal efficiency and high pressure drop causing an energy cost premium. Camfil Farr offered to conduct an In-Situ test which by using particle counters and software analysis could determine the exact performance of their existing product versus the recommended solution by Camfil Farr to use a Durafil® 4V mini-pleat final filter. The Durafil incorporates a fine fiber media that has proven to maintain its efficiency the entire time in use.

#### The Action:

Two air handling units of equal airflow and close location were selected to test a number of the existing incumbent products, an Airguard Vari-Pak 95% efficiency final filter (24"x24"x12") with a charged synthetic media versus a Camfil Farr Durafil 4V with fine fiber media at the same rated efficiency of 95% (also 24"x24"x12"). The test was conducted according to Eurovent Standards for in-place filter testing. The competitor was invited to witness the test. Efficiency was tested at 0.4 microns – the most common size particle size in outside air.



#### The Result:

The conducted In-Situ test demonstrated Camfil Farr's Durafil required 25% less energy than the Airguard Vari-Pak at a 52% higher efficiency. This proving to the pharmaceutical company that filtration-related expenses encompass more than the initial costs of the filters. It is about the economics of the total cost of ownership. The right product is the one that delivers consistent air quality the entire life of the product with the benefit of energy savings and fewer filter changes.



“Field study test proves Camfil Farr Durafil filter requires 25% less energy than the competitor's filter and is 52% more efficient.”

**The Proof:**

After the test bank of new filters from Airguard and Camfil Farr were installed, an initial In-Situ test was run. The Airguard Vari-Pak had an initial pressure drop of 0.2" while the Camfil Farr Durafil® had an initial pressure drop of 0.15 or 25% lower energy usage.

After 16 weeks (only 4 months into the operation of a filter that should be in service 18 months or longer) a second In-Situ test was conducted. The Airguard Vari-Pak was at 25% efficiency versus 72% efficiency for the Camfil Farr Durafil; and the Camfil Farr recommended product was still operating at a pressure drop 20% lower than Airguard.



**IN-SITU TEST - 16 WEEKS**  
MERV 14 (90-95% DS)

	<b>MFR</b>	<b>Camfil Farr</b>	<b>Airguard</b>
35 Filters (100% outdoor air)	Type	Durafil 95	Vari-Pak 95S
	Media	fine	coarse
	Initial performance		
	$\Delta P$ (inWG)	0.15	0.20
	0.4mm Eff. (%)	67	72
Final performance	$\Delta P$ (inWG)	.17	.21
	0.4mm Eff. (%)	72	25/19

In an adjacent air handling unit where the Airguard product had been in operation for 52 weeks, an In-Situ test revealed an efficiency of only 19%. Thus the filter dropped its performance dramatically early after installation and never improved.

The company now knows that paying more up front for the right product means consistent air quality delivery the entire life of the product with the benefit of energy savings and fewer filter changes.

