



ICE CREAM MANUFACTURER

AIR FILTERS. TECHNOLOGICALLY ADVANCED AIR FILTERS SUBSTANTIALLY REDUCE ICE CREAM MANUFACTURER'S HVAC EXPENSES.

COMPANY PROFILE

U.S.-based ice cream company globally recognized for manufacturing, marketing, and distributing a full spectrum of ice cream and frozen snacks.

THE SITUATION

A high degree of outdoor contaminants in an agricultural area, caused ice cream manufacturing to experience higher than normal pressure drop development in their MERV 8 pleated filters and MERV 14 aluminum separated 12" box filters. Low cost pleated filters and final filters failed prematurely and gained resistance at an unacceptably high rate. As a result, the plant became a loyal Camfil customer. Although the customer was having positive results with Camfil 30/30® pleated filters and Camfil AeroPac® Rigid Filters, the process of changing filters still represented an ongoing maintenance problem — adding a significant cost burden in material, labor, energy and logistics. Discussions with Camfil National Accounts convinced the customer that they could achieve better results by updating their program to a more technologically advanced, higher performance Camfil product solution.

Faced with escalating energy costs and increased demand on maintenance personnel's time, the ice cream manufacturer understood the need to provide effective filtration; but realized they needed to do it at a reduced cost. They required a clean air solution that would reduce air filter lifecycle costs and reduce maintenance costs.

THE ACTION

Camfil, the corporate air filter contract holder, was invited to the facility to make recommendations. Camfil representatives recommended replacing the current combination of a 12" AeroPac box filter and 30/30 pleated filter with a single-stage Hi-Flo® ES bag filter. 22" deep Hi-Flo ES would be used whenever possible; however, 12" deep Hi-Flo ES filters would be used in areas where current housings could not accept 22" deep bags. Camfil agreed to testing resistance of sample filters in the Camfil CamTester midway through the trial and at the completion of the trial. Testing results and pictures were also provided.

THE RESULT

After one year, in harsh conditions, the new solution delivered substantial improvements. Net energy savings to the ice cream manufacturer was \$8,000, plus an additional \$8,600 filter cost savings. Lower frequency of filter changes and converting from 2-stage filtration to single-stage reduced waste by 70%. No prefilters meant two less visits to the roof, and the Hi-Flo ES design allowed staff to carry four times the amount of product per trip.



"Converting to the single-stage Hi-Flo ES solution saved 39% in total filter costs alone."

THE PROOF

22" Bag

In the areas capable of holding a 22" Hi-Flo® ES bag, the pressure drop reading increased only 0.20" w.g. after a full year in these harsh conditions. Readings over the same time period for the previous filter combination (30/30® pre-filter and Aeropac® final filter) typically showed an increase of 1.6" w.g. Therefore, switching to a single-stage 22" Hi-Flo ES bag filter resulted in a net reduction of 1.4" of w.g. The significant reduction in pressure drop resulted in an annual energy savings of

\$260 per filter opening – netting a total savings in excess of \$21,000 for all openings capable of holding a 22" filter.

12" Bag

In the areas capable of only holding a 12" Hi-Flo ES bag, a net INCREASE of 0.4" w.g. was observed – an increase in annual energy cost of \$80 per opening or \$13,000 for all 12" openings. Due to the longer service life provided by the 12" bag, much of the added energy expense was returned in the form of lower maintenance and disposal cost. The 12" bag required two

fewer changes per year, and the innovative packaging allowed a single maintenance worker to carry four times the amount of product, reducing installation and disposal expense.

Net Savings

For both the 12" and 22" bags, the total savings in product, installation and disposal costs compared to the previous solution was \$8,625. When the energy savings was included, the total cost of ownership for the new single stage bag solution resulted in a net savings of \$16,625.

COST SUMMARY	* NEW SOLUTION *	PREVIOUS SOLUTION	
	Camfil Hi-Flo ES	Camfil 30/30	Camfil AeroPac
Total # of Openings	250	250	250
Changes/Year	1	1	1
Filters Required Annually	250	750	250
Average Cost per Filter	\$55.00	\$6.50	\$70.00
Total Filter Cost	\$13,750.00	\$4,875.00	\$17,500.00
Total Filter Savings	\$8,625.00		
Energy Savings at \$0.065/kwh=\$24/0.01"	\$8,000.00		
Total Savings (Filters & Energy)	\$16,625.00		