

STARBUCKS COFFEE CASE STUDY

Starbucks Boosts Equipment Life and Cuts Energy Use with Filtration

How Starbucks Reduced Refrigeration Failures and Energy Costs by Integrating PreVent Filters into their Display Cases and Ice Machines.

Growing from one small coffee shop in Seattle during the 1970's to over 15,000 coffee establishments worldwide, Starbucks® Coffee has turned the once simple act of coffee drinking into an art form, offering more than 30 coffee blends and handcrafted beverages in a socially relaxing neighborhood setting. While older generations grew up thinking of coffee as a morning pick-me-up or after dinner drink, younger generations have grown up during the booming coffee shop culture and have made the local coffee shop their all day hangout. With this in mind, Starbucks began complimenting their beverages with fresh baked pastries, sandwiches and salads.

With a company focus on innovation and minimizing environmental impact, Starbucks partnered with manufacturer Structural Concepts to design and install top-of-the line energy efficient, self-contained refrigerated grab-and-go deli/pastry cases in each store to display their food offerings. Consistent temperature in refrigeration cases is the key to product shelf life and to profits. Fluctuations in temperature can compromise food safety and degrade eye appeal.

The refrigeration system was designed to artfully display food products at eye level, within easy reach, and house the critical refrigeration components inside the base of the unit. For ease of maintenance and repair within limited and valuable floor space, the unit contains a slide-out refrigeration system containing the compressor, evaporator and condenser fans, plus flexible synthetic hosing to reduce refrigerant leaks or blockages and an oversized condenser coil to increase air flow and consume less energy. These critical components and air intake fins, located at foot traffic level, are prone to suck in dust and debris along with necessary fresh air. In refrigeration cases, a dirty clogged condenser coil restricts airflow and makes the system work harder and consume more electricity to maintain its temperature.

William Miko, the regional facilities manager for Starbucks' metro New York found that clogged refrigeration coils were causing elevated case temperature problems in his stores. Encompassing the densely populated areas of

Manhattan, Staten Island, Brooklyn, Queens and Long Island, his job is to maintain smooth operations throughout 300 very busy stores. Without frequent cleaning, the clogged coils were causing costly compressor failures that led to loss of sales. Miko discussed filtration options with Structural Concepts and Permatron Corporation, who has been designing and manufacturing air filtration solutions since 1957. They concluded that Permatron's PreVent Equipment Protection Filter would provide an easy, user-friendly solution, as part of a preventative maintenance program that store partners could install and maintain themselves.

Permatron's steel framed filters contain washable electrostatic media capable of collecting high dirt loads but easily coming clean again with simple rinsing. A patented magnetic design allows the filter to stick to the outside of metal air intake louvers meaning they are accessible from the outside with no need to dismantle the case to retrieve filters for cleaning. Each store easily maintains the filters as part of their daily cleaning schedule by removing, rinsing and reinstalling the eco-friendly filters within minutes. The filters minimized previous maintenance requirements by eliminating the need for weekly coil cleaning with a shop vac and eco-friendly chemicals. With the PreVent air intake filters on their pastry display cases, Starbucks refrigeration maintenance technicians found the cases were running so much colder they were able to adjust the units to lower energy use to accommodate the clean running units. Looking for the same great results, Starbucks is now installing the filters on the air intakes of their Ice-O-Matic modular cube ice machines. A preventative maintenance solution, like PreVent air intake filters, is a very cost effective way to keep equipment running smoothly in busy food service environments.

