



Bagel Maker Switches to Eaton DCF Filters to Improve Safety

Eaton's mechanically cleaned filters are believed to be one of the most efficient mechanically cleaned filters on the market.

Location:

Toronto, Ontario, Canada

Segment:

Food and Beverage

Problem:

The potential hazards to operators when manually changing filter bags while working with high water temperatures

Solution:

Eaton's mechanically cleaned DCF-800 filter

Results:

A safer work environment plus additional financial and environmental gains recognized by replacing filter media with automatic cleaning

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Background

Based on the harmless appearance of a bagel, it's hard to imagine that making these popular treats may, in fact, pose an occasional hazard. But it's true, according to officials at a Canadian bread manufacturing company based in Toronto, Ontario.

Used extensively in the bagel making process, highly pressurized hot water required during boiling offsets potential quality problems. The process also requires a filtration system to clean raisins, sesame seeds, bits of dough, corn meal, and other materials out of the hot water. And that's where the danger can occur.

The company was using duplex bag filters for several years and was concerned about employee safety because of the hazards of manually changing filter bags while working with the high water temperatures.

Challenges

The bread company planned to install a new bagel boiler in its Alberta, Canada plant and required a filtering system to clean the recycled boiler water of raisins, sesame seeds, bits of dough and corn meal. Corn meal can create water quality problems if the temperature falls, requiring an expensive and time-consuming water change. It is critical that the water in a bagel boiler remain at a high temperature, even as it is filtered and recycled.

With employee safety in mind, the maintenance supervisor at the company's Alberta plant wanted a filtering system that required less operator intervention than a bag system. High water temperatures used in the process can be a serious hazard to an operator changing filter bags, especially when pressed for time during the shutdown process when an operator may open up the filter housing while it is still pressurized.



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Solution

Decision makers at the Alberta plant wanted a filter they could count on, without the hazards occasionally associated with bag filter maintenance. Working with Eaton, the plant manager and maintenance supervisor determined that the Eaton DCF mechanically cleaned filter was the permanent solution to meet their business objectives.

The plant installed two Eaton DCF-800 filters on the boiler water recycle line at the Alberta facility. DCF filters successfully removed the raisins, sesame seeds, bits of dough, and corn meal that would adversely affect the final product. Uninterrupted filtering by the DCF also ensured consistently high water temperatures required to maintain boiler water quality.

The DCF performs a self-cleaning action by mechanically scraping collected debris from the filter screen with a disc that travels up and down the screen, parallel to the liquid flow. The collection chamber at the bottom of the filter automatically purges collected debris without halting production, in a process that takes less than seven-tenths of a second. Because the DCF continuously cleans the screen without interrupting production, it maintains a consistently high flow rate and provides the highest quality filtering.

Results

The Alberta facility has eliminated the risk of operator injury related to changing filter bags because there are no bags to remove and media cleaning is automatic.

The facility's supervisors were also impressed with the unsurpassed filtering of its bagel boiler water, the ability to maintain high water temperature, and avoid water quality problems.

Meanwhile, the plant is realizing financial and environmental gains by eliminating media, reducing worker exposure, and reducing labor and disposal costs.

In fact, the company was so happy with the performance of the DCF filters at its Alberta plant, the Langley, British Columbia facility also installed DCF filters on its bagel boiler systems – instead of previously planned bags.



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