



Steam Filters Help Weetabix Maintain Highest Possible Quality Standards



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Introduction

The use of steam filters on the feed line for a pressure cooker provides Weetabix Canada with an extra level of quality assurance in producing over 90 brands of breakfast cereal. The filter removes 98+% of 0.01 micron particles and 100% of all visible particles, helping the company comply with Current Good Manufacturing Practices (CGMP) regulations by virtually eliminating the possibility of contamination in process steam. A critical factor in selecting the filters was the desire to reduce maintenance to minimal levels while assuring the highest possible level of filtration. “We selected Balston steam filters because they have performed very well in a variety of other applications in our plant,” said Al Cane, Engineering Project Coordinator for Weetabix Canada, Cobourg, Ontario. “Their performance on this application has been just as excellent, running without any maintenance or problems except for occasional media changes. We are proud of the fact that we can assure our customers that regardless of any eventuality, the product that we deliver is cooked with steam whose purity exceeds all regulations.”

Weetabix of Canada Ltd. was incorporated in 1975 and is the subsidiary company of Weetabix Ltd., the leading British cereal manufacturer. The company has over 200 employees in Cobourg alone. The Weetabix brand is the single largest selling ready-to-eat cereal brand in the United Kingdom where it has been manufactured since the 1930s. The company was originally established by three Seventh Day Adventists to produce their version of a

South African cereal. From its Cobourg, Ontario manufacturing and R&D facilities established in 1978, Weetabix Canada manufactures over ninety brands of cereals for the Canadian, American and British markets. In addition to the company’s own popular brands of Weetabix, Alpen and GrainShop, it is the cereal manufacturer of choice for some of its sister companies’ brands and those of major grocery retailers throughout North America.

Living quality at Weetabix

Weetabix takes its obligation to ensure the quality of each item that it makes very seriously. The company’s quality team lives the GMP philosophy by critically examining every activity relating to making food. Rather than waiting for something to go wrong, the team is continually scrutinizing every aspect of the company’s operations looking for something that could possibly go wrong and providing a solution ahead of time. The quality staff is responsible for ensuring all food related commodities meet the specifications, complying with all relevant legislation, and continual improvement of the company’s quality processes. They coordinate and provide technical support while ensuring the capability of the company’s quality systems. The quality staff also maintains a current perspective on the legal requirements applicable to packaging disclosures by creating and enforcing policy on nutrition and ingredient declarations.

The quality staff systematically measures and investigates every variable in processing that may influence the quality or legality of the company's products. They monitor all food and packaging raw materials, conduct factory trials, audit supplier performance and compliance with specifications, and scrutinize and match to specification all changes to packaging. To ensure that each package of cereal meets the company's exacting standards, incoming shipments are carefully evaluated to make sure that the ingredients meet demanding specifications. All ingredients are carefully checked when they arrive and only those that pass further in-house testing are used. Every aspect of manufacturing is carefully monitored to ensure that each carton of cereal is as delicious as the one before it.

Proactively ensuring steam purity

"It was the consideration of various what-if scenarios that led us to the idea of filtering the steam feed to the pressure cooker," Cane said. "Of course the quality of the water that we use to make the steam is carefully controlled and we also take great care to ensure the cleanliness of the steam making equipment and associated lines. But we spend a lot of time considering worst-

case situations, such as what if there was a failure in the water treatment plant. We decided that filtering the steam just before it entered each of our pressure cookers would provide an added safety measure to ensure that we are providing food grade steam to our cooking process." Weetabix operates two lines with two pressure cookers each. One set of cookers rated at 50 pounds and used to cook short cycle products such as Weetabix biscuits. The other cookers run at 25 pounds and cook long cycle products such as cereals.

Cane and other engineers researched the steam filters available that meet the demanding requirements of food processing operations. "We started thinking about Balston right in the beginning because we have had such good success with their liquid filters." Balston high-efficiency liquid filters provide filtration to 0.22 microns with exceptional life even for very dirty liquids. Balston also makes gas and liquid sample filters, coalescing compressed air filters, high flow rate compressed gas filters, vacuum pump exhaust and inlet filters, and sterile air filters. "Our experience with Balston filters is that they hold up very well and that Balston provides excellent support for them. We looked into and discovered that Balston



offers a line of steam filters designed for food processing. After considering a wide range of competitive offerings, we concluded that the Balston filters fit the needs of our application perfectly. We ordered a bank of six filters for one processing line and four filters for the other. The filters can be rotated into and out of operation on the fly, making it possible to change media or perform other maintenance while continuing to operate the line.”

Filters prevent contamination

Balston steam filters that permit direct steam contact with food are available to handle flow rates of up to 3,000 lbs/hr. These filters reduce steam condensate mixing with the food products when steam is used for agitating, mixing or cooking. They significantly reduce carryover of boiler feedwater chemicals into the food product, eliminating any impact on taste or order. They also can greatly reduce maintenance requirements for valves, cookers, heat exchangers, and other equipment. Balston steam filters are in full compliance with the requirements of the US Food, Drug and Cosmetic Act. They meet the regulations for Indirect Food Additives used as Basic Components for Repeated Use Food Contact Surfaces as specified in 21 CFR Part 177, and Current Good Manufacturing Practices, 21 CFR Part 110. Balston Steam Filters have also been accepted by the USDA for use in

federally inspected meat and poultry plants. They are also in full compliance with the 3A Accepted Practices for producing steam of culinary quality, and they are in full compliance with the requirements of the Health Protection Branch of Health and Welfare Canada.

The steam filters can be rotated so that only half are working at any given time. Cane said that the filters are included in the company’s regular preventive maintenance program. “Every month we inspect the filters and measure the pressure drop by examining gauges upstream and downstream of the filters. In the vast majority of cases, nothing needs to be done. If the filters are starting to plug up, then we change the media. We also change the media on all of the filters during our annual plant shutdown. Beyond that, these filters have not required any attention or effort on our part. They are a very trouble-free and easy to maintain addition that provides an extra level of assurance that helps support our other quality control efforts. At Weetabix quality is the driving force behind every aspect of our manufacturing operations. The implementation of these steam filters provides an excellent example of how we live quality at this plant.”

