

# Get Your Water Free of Debris



ABOVE: Tekleen's 6" model, ABW6LP-800GPM, at Bruce Foods' cooling tower. RIGHT: Tekleen's ABW3.



**C**ool, clear water is the life force in manufacturing operations. It cools, cleans, and can be counted on to run pure and steady -- unless it becomes contaminated with dirt and other pollutants. Then, it can gum up a system, impede operations, and even impair the quality of the products being made.

Water filtration is one of the most effective and least expensive ways to solve equipment fouling and scaling problems caused by dirty water. Heat exchangers, molds, pipes, tubing, sensors, monitors, and other parts become fouled when dirt particles in the water settle out on warm surfaces. Calcium and magnesium are the bonding elements that cement the dirt onto the equipment. Chemical analysis shows that the calcium and magnesium are less than 2 percent of the fouling material - the rest is made up of airborne particles, rust, sand, biological organisms, and other contaminants. Scale formation reduces the heat transfer rate and increase the water pressure drop through the heat exchanger and pipes. In fact, one study from the Carrier Corp., Syracuse, N.Y., has shown that 0.002" fouling will increase pumping needs by 20 percent.

Not all water filtration systems are alike. Carbon and sand filters require regular maintenance that can result in downtime and higher labor costs. A continuous-cleaning filter that requires no maintenance might be an alternative for your processing plant. As dirt particles collect on the screen the line pressure at the filter outlet drops. When the pressure reaches a preset differential, the backwash cycle begins. Within seconds and without interrupting the main flow, vacuum nozzles aggressively suction the dirt from the inside of the screen. This inline full-flow automatic filter is one solution for cleaning dirty water and preventing unscheduled shutdowns for maintenance and cleaning.

This automatic, self-cleaning filter is suitable for a range of applications. Bruce foods, New Iberia, La. plant manufactures Cajun and Tex-Mex foods from four locations within the United States. The company's Wilson, N.C. plant manufactures canned yams. During the canning process, the yams must be sterilized to 240°F (166°C) and then cooled to 105°F (41°C) using water that is pumped through the system at a rate of 800 to 1,000 gal/min. As part of Bruce Foods' water conservation

program, the cooling water is recycled.

Without filtration, the water would pick up dirt, dust, and other impurities that could stain the exterior of the container.

To solve this problem, the plant installed an automatic, self-cleaning water filter with a 100 µm screen, a size that is adequate to filter out the impurities without causing an excessive amount of backwashing.

No matter what type of processing application you have, automatic, self-cleaning water filters might be the way to help reduce downtime and labor by eliminating the need to clean and replace cartridges, bags, screens, and spray nozzles. Rinsing lasts a few seconds and can use as little as two gallons of water, all without interrupting the main flow, to help increase your bottom line.

**PCE**

For more information ...

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