



CASE STUDY

INDUSTRY: FOOD & BEVERAGE

CUSTOMER: International Foods Products

LOCATION: Kansas City, Kansas, USA

BACKGROUND: International Foods Products delivers custom formulations for food, beverage, and dairy industries throughout the U.S., Canada, Mexico, Central America and the Caribbean. The Kansas City plant delivers liquid sugar by suspending granulated sugar in hot water and transferring it via tank truck. After returning, the trucks require a washing procedure using hot water tempered at 195°F (90°C) to meet sanitation and kosher requirements. Previously, International Food Products relied on a large heat exchanger with a digital mixing valve to produce hot water for tank cleaning, which required a softener, as well as unsoftened process water. Problems occurred because the single heat exchanger could not provide a simultaneous supply of hot water to the process and tank cleaning.

SCOPE OF WORK: Hughes Machinery, International Food's local Armstrong representative designed and specified a hot water system to provide the customer a tank cleaning solution. The system included an Armstrong Flo-Direct® Complete Thermal Exchange (CTE) gasfired water heater, heat exchanger, storage tank and pumps, condensate return pump, and a control valve. An integrator was also included to develop a control system to automate the cleaning process. The Flo-Direct® supplies hot water at 180°F (82°C) to a storage tank. When tank washing is required, the storage tank water travels through a small plate and frame heat exchanger to boost the water temperature to 195°F (90°C). Once the appropriate temperature is achieved, the control system times the wash cycle and provides a record of each process.

BENEFITS: The plant now produces hot water at 99.7% efficiency with the Flo-Direct® and has eliminated the boiler demand required from the tank cleaning operation. Armstrong provided a complete system solution that not only generates and controls hot water, but also monitors and records cycle data for International Foods Products' tank cleaning process. The old heat exchanger is now dedicated to process needs where varying temperature requirements are controlled by an Emech digital mixing valve.

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