

## ACHIEVING SEAMLESS PRODUCTION FOR 30 YEARS



Chief Ethanol Fuels is a dry mill ethanol production facility producing 70 million gallons of ethanol per year. The company, located in Hastings, Nebraska, opened in 1984. Besides ethanol, the company also produces more than 500,000 tons of feed every year.

With such high production, Chief Ethanol has a robust and continuous cleaning schedule. Clean-in-place (CIP) involves cleaning and sanitizing equipment throughout the facility, from stillage heat exchangers to metric coolers. Based on the equipment's location in the plant, Chief Ethanol needs the flexibility to adjust temperatures accordingly. While they tend to heat water to 185° F, [85° C] for equipment such as CO2 scrubbers they need to increase the water temperature to 205° F [96° C]. This is due to the significant distance from the CIP tanks to the scrubbers and because the scrubbers are not insulated, this results in substantial heat loss.

Previously, the company used an inefficient sparging system. Inefficient technologies such as heat exchangers and spargers have trouble reaching temperature, especially after being shutdown for a shift. If the correct temperature is not reached, equipment may not be properly sanitized, leading to contaminated batches and ultimately wasted product. Landyn Howell, Production Manager at Chief Ethanol Fuels, explained, "The sparger tended to rattle the tank to pieces." The rattling became a noise and maintenance hassle that led Chief Ethanol to invest in more advanced technology.

Nearly 30 years ago, Chief Ethanol decided to invest in a custom-designed K410 Hydroheater. The K410 heater gives Chief Ethanol the flexibility to adjust the water temperature depending on the type of equipment being

cleaned. It can be easily be changed to 185 or 205° F [85° or 96° C] without any problems. Located outside year-round, the Hydroheater has to withstand climate changes while maintaining the exact temperature. Howell is impressed with its capabilities. "The Hydroheater runs pretty much 24/7/365. Something is always being cleaned, day and night. It has been put to the test and has been very successful."

Howell is grateful for the equipment's reliability:

*"The Hydroheater is one of those pieces of equipment that work so well we tend to forget it is even there, which is a good thing. You don't want pieces of equipment that are constantly taking up your time. In fact, in 29 years, our maintenance supervisor only remembers replacing the stem plug once. That is the type of equipment we like to have out here – something that does its thing, is low maintenance, and works well. That is what the Hydroheater has done for us."*

The Hydroheater can heat a variety of liquids from water to slurries. Chief Ethanol also utilizes a Hydroheater to heat slurry mash. Regardless of the heating application, Chief Ethanol and other ethanol producers can be assured that the Hydroheater will contribute to seamless ethanol production.

**Need more information about Hydro-Thermal products?**

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