

MAYONNAISE STARCH BASE COOKING



SUMMARY

Goals:

- Acquire 3A heater for slurry heating
- Maintain accurate temperature control
- Reduce cleaning time

Accomplishments:

- Installed Sanitary (3A) Hydroheater
- Precise temperature control
- 100% thermal efficiency
- Cut cleaning time by 1/3
- Increased cost control with less starch usage
- Eliminated need to remove heater for maintenance

The producer of a starch base for mayonnaise needed a 3A approved product for cooking starch slurries used in-line. They were currently using a non-sanitary competitive direct steam injection heater to heat the starch slurry used to process various starch-based products. It was challenging to control temperatures and had to be taken out of line to be cleaned adequately.

SYSTEM OPERATING RANGES

Fluid:	34% Starch Slurry
Flow Rate:	7 GPM [2 m ³ /hr]
Inlet Temperature:	140°F [60°C]
Discharge Temperature:	198°F [92°C]
Steam Supply Pressure:	24 PSIG [2 barg]
Viscosity:	75,000 cP

SOLUTION

The company installed a 3A Sanitary Hydroheater®. It has no moving parts in the product contact area, is self-draining, and is sealed for external washdown. It provides precise temperature control to ±1°F [0.5°C], produces instant heating of the product, and is 100% thermal efficiency. The Hydroheater injects a precise amount of steam through the nozzle at a constant velocity, resulting in a more homogeneous blending of the starch base, while also eliminating the risk of plugging fouling. The instant heat transfer causes the steam to quickly disperse the product, eliminating hammer and vibration associated with other similar type devices.

Installation of the Hydroheater in this application resulted in reduced maintenance, cut the CIP cleaning time by a third, and produced a better cookout of the starch; this contributed to better cost control by utilizing less raw starch in the process. The Hydroheater eliminated the need to shutdown the production line to remove the heater for cleaning.

Need more information about Hydro-Thermal products?

Go to www.hydro-thermal.com or contact us at info@hydro-thermal.com

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