

CLEAN-IN-PLACE: DAIRY



SUMMARY

Goals:

- Improve CIP process
- Maintain accurate temperatures
- Reduce cleaning time
- Decrease chemical usage

Accomplishments:

- Installed A110AL Sanitary (3A) Hydroheater
- Reduced CIP cycle time
- Reduced footprint
- Decreased chemical usage
- Instantaneous precise temperature control
- Eliminated need for condensate return system

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This customer was experiencing difficulties cleaning a separator in their plant. The existing CIP heat exchanger system was located in a remote area, which resulted in difficulty maintaining adequate temperature levels required to clean the separator, extended cleaning times, and increased chemical usage. Space limitations resulted in the Project Engineer considering other alternatives.

SYSTEM OPERATING RANGES

Fluid:	Water
Flow Rate:	180 GPM [49 m ³ /hr]
Inlet Temperature:	150°F [66°C]
Discharge Temperature:	190°F [88°C]
Steam Supply Pressure:	120 PSIG [8 barg]

SOLUTION

The solution was an automatic A110AL Sanitary Hydroheater. Utilizing the unit as the heat exchanger resulted in 100% efficient use of the steam, and it was suspended overhead resulting in a minimal amount of floor space being utilized. The system provided this company the ability to instantaneously reach their desired temperature level of 190°F [88°C] with extremely accurate temperature control of ±1°F [.5°C]

The 3A Hydroheater was installed in 1995 and has met the performance expectation of the customer. The unit eliminated the need for a condensate return system and the need for additional floor space that was not available. It provided energy savings to the customer by transferring heat from steam directly to the product rather than through an indirect heat transfer method. It also provided the ability for instantaneous precise temperature control. The most valuable result of using a Hydroheater in the system is that it allowed this company to complete the CIP cycle in less time and improved their process by giving them better control of system temperature and chemical usage.