MICROFILTRATION RINSE CASE STUDY

Microfiltration Rinse Analysis Case Study

Data-Driven Rinse Optimization Identifies Significant Water Savings

By evaluating microfiltration rinse cycle performance, Hydrite helped a dairy processor reduce water consumption while maintaining cleaning effectiveness and supporting sustainability goals.

Challenge

A leading dairy processor was seeking opportunities to reduce water consumption and support its sustainability initiatives without compromising cleaning performance or investing in new equipment.

The facility's microfiltration rinse cycle had been operating under established time settings for years. While effective, the processor wanted to determine whether rinse cycle parameters could be optimized using process data rather than relying solely on historical settings.

Solution

Hydrite worked with the processor to evaluate a microfiltration rinse cycle and identify opportunities for improvement.

The assessment focused on a 20-minute rinse cycle consisting of 14 stages. By monitoring conductivity and pH throughout the rinse process, Hydrite established a relationship between the two measurements and identified a reliable indicator of rinse completion.

Once both values consistently reached target levels, the data showed that the system had been adequately rinsed before the programmed rinse stage ended, creating an opportunity to reduce rinse time while maintaining cleaning effectiveness.

Using this data-driven approach, the team determined that rinse stages were consistently reaching their intended endpoint before the existing cycle time had elapsed. **Analysis showed that 20 seconds could be removed from each rinse stage without impacting cleaning quality.**

The customer implemented the recommended rinse cycle adjustments with no additional capital investment or equipment modifications required.

Results

The dairy processor made the decision to implement this optimized rinse cycle, which is projected to generate substantial water savings while maintaining cleaning effectiveness.

Projected annual savings include:

- 20 seconds removed from every rinse stage
- 6.1 million gallons of water saved annually per microfiltration unit
- 12.2 million gallons of water saved annually across two units
- No additional equipment required
- Continued support of cleaning quality standards
- Progress toward customer sustainability goals

Solutions for Dairy Processing

Helping Dairy Processors Improve Performance at Every Stage

Sanitation Chemicals: Promote food safety, product quality, and efficient operations.

Membrane Technologies: Maximize filtration performance and membrane longevity.

Ingredients: Enhance formulations and support consistent product quality.

Platform Products: Reliable access to essential processing chemicals.

Water Treatment: Optimize wastewater management and regulatory compliance.

Foam Control: Reduce foam-related challenges and improve productivity.

HYDRITE®

Providing Creative Solutions

FOR MORE INFORMATION:
HYDRITE
17385 GOLF PARKWAY
BROOKFIELD, WI 53045

WWW.HYDRITE.COM
262-792-1450
INFO@HYDRITE.COM

REV0826