

Optimize production performance. Reduce chlorine use.

Introducing a new way to clean spiral-wound membranes in dairy: a holistic program designed to help improve productivity through increased throughput and reduced cleaning time, while helping protect product quality and extend membrane life. Ecolab ULTRASIL™ CONNECTED provides enhanced cleaning performance with innovative enzymatic chemistry, improved production visibility with an integrated digital module, and the support of an industry-leading team of membrane clean-in-place (CIP) experts.

With new innovative cleaning chemistries, digital technology and expert support, Ultrasil™ Connected will change the way you think about membrane cleaning.

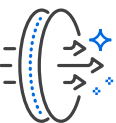


Why ULTRASIL™ CONNECTED?



Increase Productivity

The buildup of complex soil types during production reduces membrane performance over time. Armed with digital monitoring and a team of membrane experts, this comprehensive solution helps optimize your membrane cleaning program. A better clean helps increase product throughput, improve food safety, and reduce CIP time – enabling increased production and profit potential.



Increase Membrane Life

Reducing chlorine in the cleaning processes mitigates the oxidizer's corrosive and potentially membrane-damaging side effects. By delivering greater visibility into membrane performance, the digital module further contributes to improved membrane productivity, helping reduce product loss and extend membrane life.



Reduce Chlorine Use

New high-performing chemistries are formulated to allow for a reduction and potential elimination of chlorine from your membrane cleaning program. Minimizing chlorine use helps lower your risk of oxidizer-related equipment and membrane damage – and supports sustainability goals by mitigating wastewater contamination.



Enhance Labor Efficiency and Safety

Building from our industry-changing 3DT CIP platform, a new membrane-specific digital module turns data from existing sensors into meaningful, actionable insights that translate into faster troubleshooting and streamlined analysis and enable less frequent membrane replacement. What's more, eliminating chlorine improves employee safety by reducing the frequency of their exposure to concentrated chemistry.

A custom cleaning program that helps deliver results.

Membrane maintenance too often lacks clarity about how to achieve optimal performance. Ultrasil™ Connected is designed to fix that. Let advanced digital analysis (can be drawn from sensors your facility is already using) inform a proactive approach to membrane program management that optimizes performance and minimizes downtime.

Protease

Unlike chlorine, this fast-acting enzyme solution continues to break down protein soils throughout the wash step; thereby reducing the need for in-wash monitoring and chemistry top-ups.

Buffered alkaline chemistry

The alkaline system is formulated to maintain ideal conditions for enzymatic cleaners by maintaining optimal enzyme conditions throughout the wash. Such conditions maximize enzyme activity, reduce the need for boosting, simplify the process for operators and reduce recirculation hold time.

NPE-free surfactant

This low-foaming solution targets challenging fat soils and is compatible across membrane types.

Digital monitoring tool

Our digital monitoring tool analyzes key cleaning and production performance indicators over time, providing increased visibility and remote monitoring for faster troubleshooting when challenges arise.

CASE STUDY FOR ESTIMATED ANNUAL SAVINGS

October 2023 – September 2024



ENERGY

857 therms
across all systems
(\$840)



PRODUCTIVITY

360 hrs/year
returned on whey UF



GREENHOUSE GASES

1312 kg
of CO₂e



ASSETS

\$5,371
value from extension
of membrane life



CHLORINE REDUCTION

8.1
metric tons of chlorine

TOTAL VALUE FORECASTED

\$408,200/year

Because of factors outside of Ecolab's control, such as water conditions and facility cleaning processes, results to be obtained including but not limited to water and energy savings cannot be predicted or guaranteed by Ecolab. This site is a whey processing plant making protein concentrate with UF membrane applications.

The Support You Need

The membrane experts in our dedicated Center of Excellence maintain collaborative partnerships with renowned academic institutions, element manufacturers and OEMs. Our service specialists are here to solve your toughest membrane challenges.

The support of an industry-leading team of membrane experts deliver site-specific support and troubleshooting.

Customized training gets your team up to speed fast on both physical chemistries and the digital monitoring tool.

Analytical capabilities like membrane autopsies, soil ID and mapping, and water analysis augment your monitoring.



Ready to start cleaning smarter?

Contact your **Ecolab representative** today to learn more.

ecolab.com/ultrasil