



INCREASED PRODUCTIVITY THROUGH BETTER CLEANING

A Solution Story

Ultrasil™ MembraneCARE 2.0 helped a major Australian cheese manufacturer increase production capacity and shorten CIP cleaning time, while reducing the amount of water and energy needed to achieve the desired results

CHALLENGES

- › Increasing potential capacity of the existing Ultrafiltration (UF) membrane system
- › Removing chlorine from the whey UF CIP due to concerns for impact on membrane life
- › Reducing water consumption during membrane CIP due to constraints on process effluent

SOLUTION

Ecolab conducted a trial of its new **Ultrasil™ MembraneCARE 2.0** to replace the existing CIP wash regime. This next-generation cleaning program is designed for dairy manufacturers producing premium-quality products. The program expertly combines alkaline, acid and patent-pending enzyme cleaners, which improved cleaning results, reduced CIP cycle time and enhanced productivity, while saving water and energy. In addition, the chemistries are formulated without Chlorine, which helps extend membrane life.

RESULTS

**Ultrasil™
MembraneCARE 2.0**
helped
this
customer...



Reduce total CIP time by **8.5%**  which added **140 hrs** of production time annually

Reduce CIP rinse time by **15%**  saving **45^{KL}**  of water per wash

Increase peak production feed rates by **3.5%**  which increased peak whey production by **2,000 L/HR** on average

Achieve annual savings of **\$22,000^{USD}**  **\$4,200^{USD}** in water costs in energy costs



SOLUTION

Technology
+
People
=
EXPONENTIAL OUTCOMES

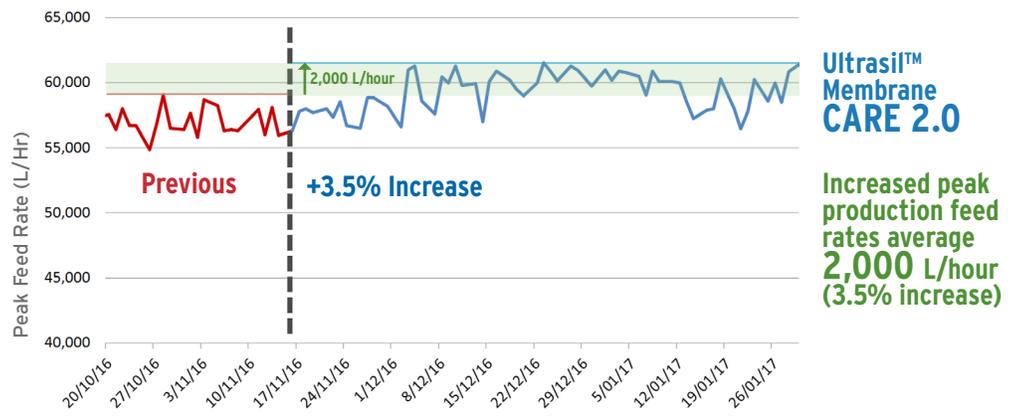
At this customer's UF whey processing plant in Australia, Ecolab's new **Ultrasil™ MembraneCARE 2.0** program significantly enhanced CIP cleaning results without the need for chlorine addition. Almost immediately after changeover, the membranes were more effectively rinsed in a shorter amount of time. In fact, the program was able to reduce each CIP cycle by 28 minutes, which increased production time by 140 hours per year. Ultrasil™ MembraneCARE 2.0 was also able to increase peak production feed rates by 3.5% and achieve nearly \$26,000 in annual savings related to water and energy usage.

Ecolab is the global leader in membrane cleaning and with a dedicated team of scientists working at the company's Center of Excellence for Membrane Technology in Monheim, Germany. They collaborate with Ecolab R&D and field technicians globally to ensure successful deployment of new innovations, and troubleshoot issues for customers. At this plant, Ecolab's technical specialists provided personalized service and on-site training to help ensure the safe and proper use of the chemistries and demonstrate how this innovative cleaning program can help achieve productivity goals and extend asset life, while saving time, energy, water and waste.

Membrane CIP Cleaning Comparison

	Previous	Ultrasil™ MembraneCARE 2.0	Total Saved
Total CIP Time	198 mn	170 mn	28 mn /cycle
Total Water Rinse Time	78 mn	57 mn	21 mn /cycle
Total Water Consumption	328KL	283KL	45KL /wash
Water Savings Value			\$22KUSD /year
Energy Savings Value			\$4.2KUSD /year

Average and Peak Feed Rates



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