

Precision Dispensing System for Membranes

AN ACCURATE AND CONSISTENT DISPENSER THAT HELPS TO DRIVE PRODUCTIVITY AND IMPROVE WORKER SAFETY FOR WHEY PROCESSORS

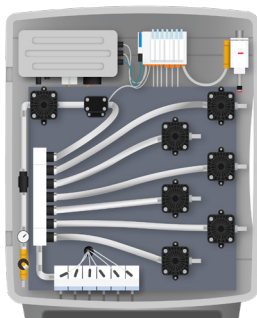
Reduce Costs, Improve Outcomes by Automating Membrane Cleaning

Walk into any whey plant and you'll likely see completely manual or slow, semi-automated dispensing systems for cleaning membranes. In manual dispensing, workers carry 5-gallon jugs of chemistry and may have to climb stepladders to dump that chemistry into the balanced tanks or the end-point location to clean membranes. It's an imprecise process that often leads to problems in worker safety, cleaning inconsistencies and a longer cleaning cycle, resulting in shorter production time. Semi-automated on the other hand may address the safety concern, but can be very costly due to labor costs and process inefficiencies.

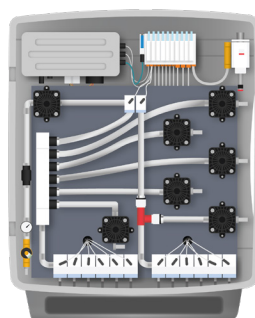
Ecolab offers a chemical dispensing approach built exclusively for whey processors. Our Ecolab® Precision Dispensing System for Membranes addresses whey processors' current concerns – from labor cost and worker safety to food quality and asset protection. Our system delivers precise amounts of the right chemistries to your membranes. This new technology replaces your existing buckets, stepladders and guesswork with the benefits of automated precision.

How the System Works

Our technology utilizes advanced flow-based sensors to accurately dispense membrane cleaning chemicals. The system is comprised of separate dispensing modules for acid and alkaline chemistry to ensure maximum safety for the associates and the plant. Innovatively designed to dose cleaning chemicals for up to 5 membranes systems in a plant, the state-of-the-art dispensing technology ensures that right chemicals are being dispensed with utmost accuracy (+/- 20 ml variation) to maximize cleaning performance with minimal labor intervention. Additional features include the ability to configure recipes with volume and wash sequence as well as out-of-spec alarms using an Excel program on the computer, consumption reports and optional PLC integration.



ACID + SURFACTANT CABINET



ALKALINE + CHLORINE CABINET

COMPREHENSIVE MEMBRANE PROGRAM – TECHNOLOGY, INSIGHTS, EXPERTISE

Ecolab gives you more than a great dispensing system. We offer a comprehensive membrane program that helps you deploy quickly and keep operations running efficiently and safely. Membrane program components include:

Innovation: Our automated membrane dispensing system ensures effective cleaning, best-in-class sanitation, cost-saving automation and increased worker safety.

Insights: Included in the program, is an online, web-based consumption reporting dashboard that provides visibility and control to your process.

Expertise: We work side-by-side with academic institutions, industry associations and cheesemakers of all sizes to bring you new ideas for plant sanitization, water assessment, regulatory compliance and more. Our onsite experts can help you with system design, deployment, optimization and training.

Improving Outcomes that Matter Most – Quality, Cost & Safety

We understand the needs of whey processors because we work side-by-side with them every day. You want to optimize margins and product quality while protecting your brand, your reputation and the health and safety of your employees. These goals inspired the design of the Ecolab membrane dispensing system.

Benefits for Whey Processors

IMPROVE WORKER SAFETY

In some whey plants, workers carry buckets of chemistry and climb stepladders for membrane cleaning. Automating the process greatly reduces the need for your employees to handle chemicals manually, thereby eliminating worker safety incidents. It also means workers no longer have to lift chemistry buckets over their heads while standing on stepladders.

REDUCE OPERATING COSTS, DRIVE PRODUCTIVITY

Automation not only brings precision and control to your operations, it helps reduce operating costs. In addition to less manual labor, our automated dispensing system shortens CIP time, which means more productivity and less downtime for cleaning. Additionally, the system can boost the chemicals after a wash is done in case more chemical is needed to achieve optimal cleaning.

EXTEND MEMBRANE LIFESPAN AND ACHIEVE REGULATORY COMPLIANCE

With an automated process, you get the benefit of repeatability – that means all the operators are running the washes in a consistent manner – every day, every shift. Our web-based consumption reporting system remotely tracks key regulatory and compliance data, showing who dispensed, the location dispensed to and how much chemical was used to reduce variability and optimize usage.



Reduce safety hazards

- ◆ Eliminate manual handling of chemicals
- ◆ No risk of non-compatible chemicals interacting
- ◆ Water push after every chemical dispense ensures no chemicals left in overhead piping

Save time and money

- ◆ Dispense to multiple membrane systems simultaneously
- ◆ Reduce system cleaning downtime with fast dispensing
- ◆ Increase flexibility with the ability to easily configure and change steps or recipes

Produce consistent results

- ◆ Improve cleaning performance and membrane integrity with accurate chemical dispensing

Gain visibility and control

- ◆ Weekly reports provide verification that the right amount of chemistry was dispensed to the right membrane system
- ◆ Visibility into the number of complete washes
- ◆ Visually track chemical usage over time
- ◆ Quickly identify irregularities in chemical use

About Ecolab Food & Beverage Processing

Ecolab is the global leader in water, hygiene and energy technologies and services. Every day, we apply fresh thinking and best practices to help businesses like yours create clean and safe environments. We offer a broad portfolio of solutions that provide smart, new ways to improve worker safety, enhance product quality and elevate plant efficiency. We understand how much you value your brand, your reputation and the products you bring to market. We surround you with the technology, services and expertise you need to build the business you envision.

Looking to improve worker safety, reduce operating costs and enhance product quality in your cheese plant? Contact us today. Visit <https://www.ecolab.com/solutions/membrane-solutions>

Our Team of Membrane Experts are Ready to Assist:

1,600 RD&E ASSOCIATES

7 Global Centers
SPECIALIZING in Membrane Diagnostics

40+ Years
of MEMBRANE EXPERTISE

PARTNERED WITH renowned
**academic institutions, element
manufacturers and OEMs**



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