

Eco-Shield Water Dairy Processing Applications



ECO-SHIELD CHEMICAL FREE WATER SANITATION

Eco-Shield is our new concept for building a fortress of safety around your products, your plant and staff and our innovative Chemical Free Water Sanitation System is a foundation of this.

Key Diagnostics believes that protecting the health and safety of everyone, including our planet, is paramount.

Our desire isn't just to provide substitutes but to find solutions that are greener and safer whilst providing scalable improvements.

Our systems generate Slight Acidic Electrolysed Water (SAEW) which is a greener alternative to chemicals with superior performance.

Dairy Applications

- Potable & Grey Water Treatment
- Spatial & Container Disinfection
- General Chemical Free Sanitation
- Mid-process Sanitation - No Taint
- Surface & Spray Disinfection
- Safe for Product - Extends Shelf Life
- Brine Recycling
- Tank & Silo Disinfection
- CIP, Silo & Tanker Disinfection
- Immersion Bath Disinfection
- Halal, USDA FSIS, FDA & Organic Approved



Dairy Processing Applications - Planet Friendly

SAEW Applications in Dairy and Food Processing

Harness the advantages of Slightly Acidic Electrolysed Water (SAEW) - A safe, sustainable and effective solution for comprehensive hygiene management across dairy environments. SAEW provides an advanced approach to sanitation that eliminates the need for traditional harsh chemicals, reduces environmental impact, and supports operational efficiency.

Clean-in-Place (CIP) Systems

SAEW is a chemical free alternative to conventional CIP chemicals. Suitable for fast and effective disinfection of internal surfaces - such as processing tanks, pipelines and heat exchangers - without the risk of corrosion and hazardous chemicals. SAEW rapidly reduces microbial load, shortens rinse cycles and lowers water and chemical consumption. It is especially beneficial in reducing allergen and biofilm risks.

Truck and Tanker Cleaning

Ensure hygiene from source to factory with SAEW-based truck and tanker sanitation. SAEW can be used for both internal CIP of raw milk transport tankers and external surface cleaning of dairy trucks. Its non-corrosive, residue-free nature protects vehicle surfaces, minimises wear on cleaning systems whilst providing a 7 log microbial reduction. Eliminates the risk of chemical cross contamination in milk collections.

Brine Treatment and Recycling

SAEW can be directly applied to disinfect brine solutions used in cheese processing. By reducing microbial contamination, SAEW extends the usable life of brine, lowers the frequency of disposal and supports a closed-loop recycling process. Even heavily contaminated brine with fats and suspended solids can be effectively recycled in real time. This not only enhances the microbiological safety of cheese products but also contributes to cost savings and sustainable resource management.

Surface and Equipment Disinfection

SAEW can be used for daily cleaning of stainless steel tables, packaging machinery, conveyors, rubber fittings and plastic components. Unlike traditional disinfectants, SAEW leaves no harmful residues, does not require PPE for application and poses no risk of tainting food products. Its quick contact time and broad-spectrum antimicrobial activity make it ideal for routine sanitation between shifts or during scheduled cleanings. SAEW can be fogged or misted to control airborne microbes, improving air quality and surface decontamination - even on hard-to-reach areas. SAEW is particularly effective during clean breaks or shift changes, without risk to the product, plant or your staff.

Product Washing and Bioload Reduction

It can be safely applied to wash cheeses and other dairy items, helping to eliminate surface pathogens such as Listeria and Salmonella without affecting the product's flavour, texture or appearance. It is non-toxic, requires no additional rinsing and extends shelf life.

Water Recycling Systems

Water conservation is critical in modern dairy operations. SAEW can be integrated into greywater treatment systems to disinfect and recycle process water for secondary uses such as equipment rinsing, floor cleaning, or non-contact cooling. By enabling on-site water reuse, SAEW enable plants to recycle water. Waste water can be treated for safe disposal or added without risk to biodigestion water treatment systems. Advanced water recycling significantly reduce freshwater demand, comply with discharge regulations and achieve sustainability targets without compromising sanitation standards.

Add Up to Costs Savings

Cost saving potential is multifaceted - replacement of expensive sanitisers, lower water usage through recycling, extension of brine life, reduced down time due to shorter CIP cycles - all lead to lower inputs including electricity, especially if using hot water. Also, production times are extended with few cleaning shutdowns with the added bonus of extended shelf life. Plus it is also good for the planet, your staff and your bottom line - this is the **Eco-Shield advantage**.