



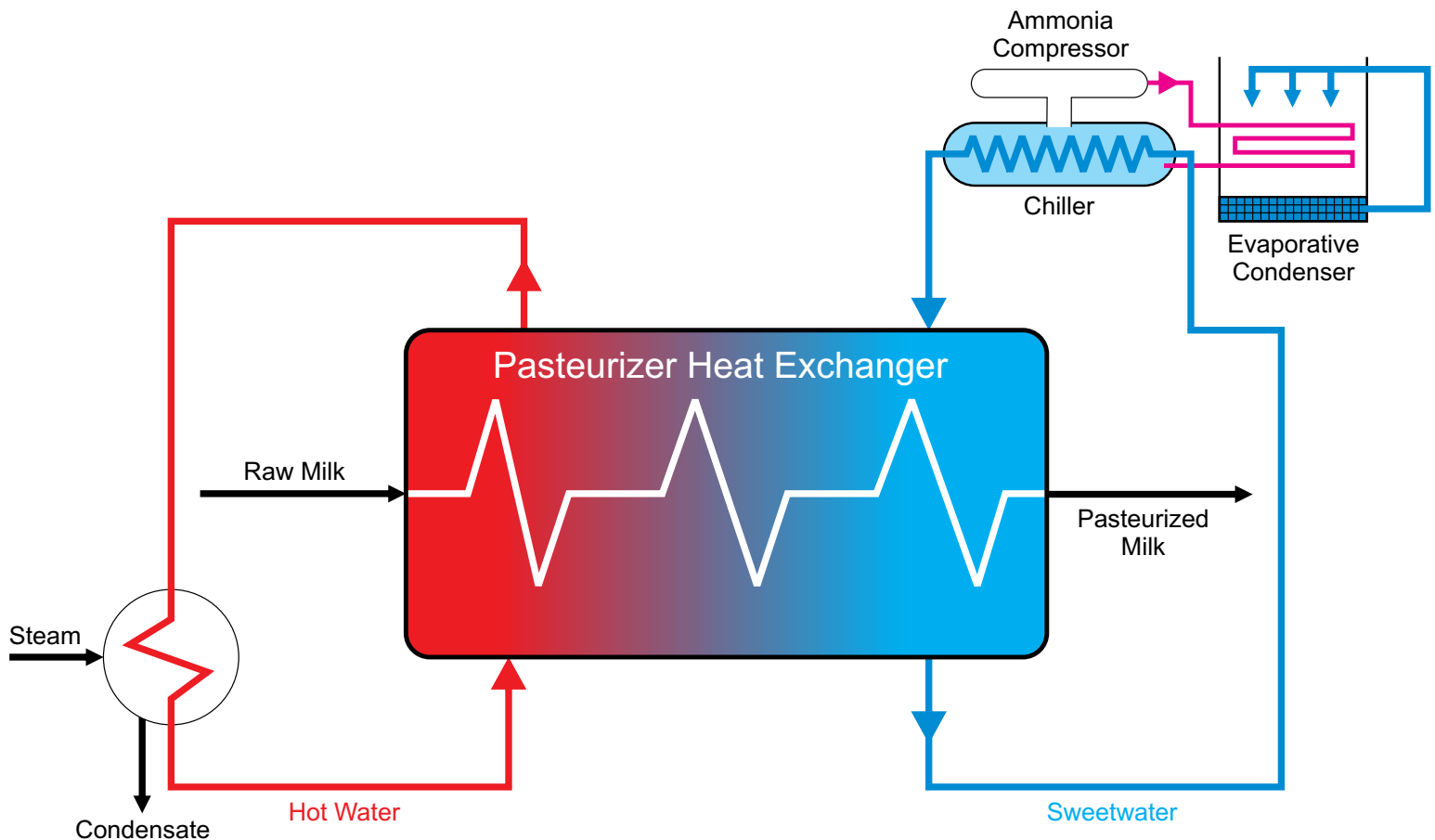
SWEET WATER PROGRAM

An optimized Sweet Water Program is critical to maximizing your milk processing production and protecting both your assets and your brand.

In milk processing plants, the pasteurization process eliminates pathogenic microorganisms found in raw milk. The plate heat exchanger is most commonly used for pasteurization. Milk is heated to 72°C (162°F) for at least 15 seconds, and then rapidly cooled by a coolant of 2°C (36°F). In the regenerative preheating

section, the cold untreated milk is pumped into the pasteurizer where this cool incoming milk is preheated with the hot pasteurizer milk. This significantly reduces the temperature of the hot pasteurizer milk to 8° or 9°C (46°F to 48°F).

To reach a milk storage temperature of 4°C (39°F), the milk is further cooled by cold water, commonly known as sweet water. The sweet water loop is a closed loop system.



WATER TREATMENT CHALLENGES

The sweet water loop is considered a critical closed loop because failure can either slow or stop production as well as impact food safety. Common challenges faced by dairy processors include:

- Systems that cannot tolerate high solids water
- Small systems with idle downtime or low flow rates
- High microbio levels & microbio fouling
- Water loss & leaks through normal wear & tear on the gaskets/seals
- The fact that systems are designed to operate very clean

OUR SWEET WATER PROGRAM

Nalco Water's Sweet Water Program is a comprehensive approach that combines proven chemistry, analytical services and automation to effectively minimize corrosion and microbiological growth within this critical closed loop.

PROVEN CHEMISTRY

This all-encompassing program will help to ensure food safety, drive reliable production and protect your assets.

A successfully treated sweet water critical closed loop requires two products; a corrosion inhibitor and a biocide. Our Sweet Water corrosion inhibitors are SW3220 and CL-50. Both of these products have received NSF/International certification under ANSI/NSF Standard 60. ANSI/NSF certifies that these products can be used in potable water applications such as sweet water systems.

Our Sweet Water Biocides are XY-12 or Chlorine Dioxide. These biocide programs are registered with the EPA for sweet water applications. In addition, these products have received NSF/International certification under ANSI/NSF Standard 60, certifying that they can be used in potable water applications.

The local Nalco Water Sales Engineer will make product recommendations based on specific application needs.

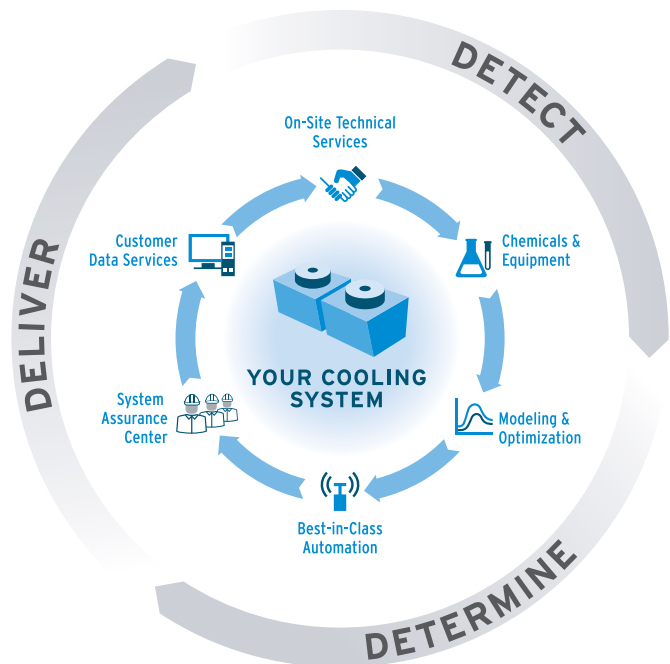
Type of Analysis		Test Codes/Shippers/Part Numbers	Frequency	Benefits
Water Analysis	Makeup Water	MAKEUP - PO211	Quarterly	Understanding System Baseline
	Recirculating Closed Loop Water	RECI RC - PO211	Quarterly	Monitors Potential System Corrosion & Contamination
	Particle Size	PSW_DF - PO211	Quarterly	Helps to understand the effectiveness of sidestream filtration which ensures system cleanliness
Microbio	DMA	BIO - P0228	Quarterly	Monitors & Identifies Potential Underdeposit Microbio
	Total Aerobic Dipslides	500-P1673.88	Monthly	Monitors & Control System Microbio
Corrosion Analysis	3/4" 2-Station Corrosion Coupon Rack	6042401	Quarterly	Monitors & Tracks System Corrosion
	Mild Steel Coupon	500-P5035A.88	Quarterly (if applicable)	Monitors & Tracks System Corrosion
	Stainless Steel 316L Coupon	500-P5036A.88	Quarterly (if applicable)	Monitors & Tracks System Corrosion

ANALYTICAL SERVICES

Nalco Water provides a full suite of Analytical Services with proven chemistry to our dairy customers.

AUTOMATION

Enhance your Sweet Water Program with online, real-time measurement and reporting of system critical parameters including pH, conductivity, temperature, makeup flow rate and online corrosion by using 3D TRASAR™ Technology for Cooling Water.



Sweet Water Best Practices

Our Best Practices suggest the use of a Makeup Flow Meter and Sidestream Filtration.

- A Makeup Flow meter is recommended to keep track of system leaks as well as control the feed of the corrosion inhibitor.
- Sidestream Filtration is recommended to remove iron oxides and system turbidity, which helps to minimize system deposition and fouling. Typically, a cartridge or bag filter is used.

Should your system require either a makeup flow meter and/or sidestream, your local Nalco Water sales engineer will make the appropriate recommendations.

Contact your Nalco Water Sales Engineer to get started with your Sweet Water Program today.



ASSETS



PRODUCTIVITY



SAFETY



Nalco Water, an Ecolab Company

North America: 1601 West Diehl Road • Naperville, Illinois 60563 • USA

Europe: Richtstrasse 7 • 8304 Wallisellen • Switzerland

Asia Pacific: 2 International Business Park • #02-20 The Strategy Tower 2 • Singapore 609930

Greater China: 18G • Lane 168 • Da Du He Road • Shanghai China • 200062

Latin America: Av. Francisco Matarazzo • n° 1350 • Sao Paulo – SP Brazil • CEP: 05001-100

nalco.ecolab.com

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