

Process Aware Autonomy for Dairy Processing

Same Lines. More Product with Laminar.

Dairy products like milk, whey protein, yogurt, ice cream, and more require lines and processes that deliver agility, capacity, and sustainability. Get all three with Laminar.

Our Process-Aware Sensors retrofit easily into your existing dairy lines. Unlock hidden production capacity on Day 1 with our Clean-in-Place and Product Changeover models.

**Maintain quality as you turn
production backlog into revenue**

- Clean-In-Place overwash takes away from production time
- Product changeovers flush good product straight down the drain
- Chronic overdelivering on milk-fat drains margin in every batch
- Undetected inline contamination events cause quality risks and downtime

JOIN GLOBAL DAIRY PROCESSORS REDUCING UTILITIES AND GAINING AGILITY

20%

Time saved
from CIP cycles

\$115,000

Additional revenue recouped
per line per year

10-15%

Reduction in CIP water
& chemical usage

<1 year

Return on investment

TRUSTED BY GLOBAL LEADERS IN DAIRY PROCESSING INDUSTRY



Ice Cream



Nutrition



Ready-to-Drink (RTD)



Ice Cream



Foods

PRODUCTIVITY AND SUSTAINABILITY IMPROVE TOGETHER WITH LAMINAR



Dynamic Clean-in-Place

End cycles the moment residue clears — not when a worst-case timer expires.



Chemical Use Reduction

Spend less on chemicals when steps run to clean-condition. See and correct overdose.



Proactive Waste Water Routing Optimization

Keep BOD, COD, TSS, and FOG in compliance. Avoid penalties, clogs, and costly reprocessing.



Faster Product Changeovers

Recover product waste at both the tail and head of every batch transition and run faster changeovers.



Inline Product Specification Monitoring

Recover the lost margin to over-delivering milk fat. Know when your product is at the defined fat grade.



Instant Underwash and Contamination Detection

Catch underwash instances before they become costly batch losses. Instantly detect contamination events such as glycol contamination.

Laminar for Dairy Clean-in-Place & Changeovers

LAMINAR

LAMINAR PROCESS AWARE AUTOMATION

SENSE • REASON • ACT

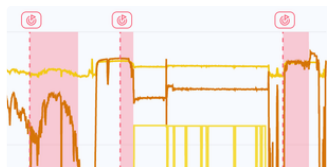
01 SENSE



Product-Agnostic Sensors See Real-Time Fluid Condition

Laminar Process-Aware Spectral Sensors continuously read and identify product flowing through the pipe.

02 REASON



ML Models Compute The Optimal Action

ML Models, grounded in chemistry, weigh the fluid-condition in the pipe and proactive decisions to optimize day-to-day operations.

03 ACT



Closed-Loop Automation Adjusts for Golden Batch

ML Models bidirectionally communicate with your factory control systems feeding continuous closed-loop automation.

BUILT ON MILLIONS OF OBSERVED CYCLES — LAMINAR ML MODELS ARE THE NEW INDUSTRY STANDARD REFERENCE SET. READY TO DEPLOY ON DAY ONE.

OUT-OF-THE-BOX FLAGSHIP ML MODELS

Laminar Clean-In-Place (CIP)

Automatically advances CIP steps when clean is achieved. Eliminates overwash and underwash instances. Reduces time spent on CIP cycles while meeting quality standards.

Laminar Product Changeover

Detects the exact product-to-product or product-water transition interface— reducing product loss at the tail and head of every run. Also reduces water and chemicals.

FULL ML MODEL LIBRARY

- Chemical Savings

Chemical Reclaim

Chemical Overdose

- Underwash Detection
- Inline Quality Monitoring
- Filtration

LAMINAR SENSORS



Clamps onto existing production lines, no plumbing changes. Reads liquid condition continuously and sends spectral data in real time.

LAMINAR PROCESS-AWARE MODELS



Our ML models live on the edge gateway on your factory floor. Sensor data is relayed to the gateway, ML models make step-advance decisions, then communicate them to the PLC for execution.

LAMINAR INSIGHTS PLATFORM

Automation is active

Water savings >
1,140 gal
1,140 gal actualized
8,563 gal projected

21%

Time savings >
3h 23s
3h 23s actualized
7h 21s projected

16%

Capabilities

- Total Savings Insights
- Inefficiency & Anomaly Detection
- Batch Records on Each Run & Line
- Trend Analysis for Savings Opportunities

Ready to save production time, chemicals, and water?

Talk to our team at runlaminar.com/contact

LAMINAR



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www.runlaminar.com