

CASE STUDY / FLUID TRANSFER

Cheese Plant Wastewater pH Dosing

125,000 GPD, 50% sulfuric acid and 45% KOH dosing, 24%
chemical savings with zero compliance violations in 12 months.

SITUATION

125,000 GPD, production can't stop for chemistry problems

A major U.S. cheese plant needed stable pH control on its industrial wastewater stream without interrupting production – dosing 50% sulfuric acid and 45% potassium hydroxide (KOH).

THE PROBLEM

Batch flow swings combined with delayed sensor feedback made pH correction unstable. Fouled probes eroded operator confidence in the readings. Manual adjustment was running 18–25% chemical overuse to compensate for the uncertainty – and every swing outside permit range was a compliance risk.

The chemical overuse wasn't a dosing-rate problem – it was an information problem. Operators were correcting for what they couldn't see clearly, not what was actually happening.

EQUIPMENT SPECIFIED

Component	Manufacturer	Model / Notes
Dosing pump	Graco	QUANTM i30 – electric diaphragm, no traditional mechanical seal
Pulsation dampener	Griffco	Smooths discharge flow
Gauge guard	Plast-O-Matic	Isolates corrosive fluid from instrumentation
Automated valve	Asahi	Series 19, thermoplastic, chemical-service compatible
Process piping	Asahi	ChemProline™, chemical-resistant routing
Storage tanks	Poly Processing	SAFE-Tank®, double-wall containment
Controls	Site-integrated	PLC + SCADA, closed-loop dosing

THE SPECIFICATION RULE

Electric diaphragm dosing, not manual batch correction

Acid/caustic dosing against a variable batch flow calls for an electric diaphragm dosing pump paired with inline pH sensors and closed-loop PLC control — not manual batch dosing driven by periodic readings. The QUANTM's sealless design removes the mechanical-seal failure mode that acid/caustic service is hardest on, and running electric rather than pneumatic keeps the dosing precision tight enough that flow swings stop translating into chemical waste.

RESULT

24% chemical savings

Zero safety incidents or compliance violations in the 12 months following installation. Real-time closed-loop feedback replaced probe-fouling guesswork — operators now trust what the system reports, because the system reports what's actually happening.

NEXT STEP

Every dosing application has a different flow pattern, chemistry, and permit threshold. A spec review starts with your actual process data — not a generic dosing skid.

[Request a spec review](#)

NEXT STEP

Send LibertyCES the process data, not a part number.

Fluid, chemistry, concentration, temperature, flow, pressure, and current equipment — that's what a real spec review needs to start.

Request a spec review

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