

Why Your Fermentation Plant Pays More for Water Than It Should — and How to Fix It



Water Flow Innovations LLC

Flow Conditioning Device (FCD)
waterflowinnovations.com

Your fermenters, CIP systems, and cooling towers all draw from the same municipal supply — but your meter counts more than actually arrives. **Fermenter fills, CIP cycle surges, and cooling water demand create the conditions for air, gas, and turbulence to form in the line at your meter — and you're billed for it.** The FCD (Flow Conditioning Device) corrects the measurement. Your fermentation parameters and CIP protocols are unchanged. Your water bill drops — and so does your sewer bill, because sewer charges are calculated from the same inflated meter reading. One device. Two bills fixed.

WHY YEAST & ENZYME PLANT WATER METERS OVER-READ

The Core Problem: The FCD Installs at the Municipal Meter — Ahead of Every Fermentation and CIP System

Your fermentation water quality, pH, and CIP chemical concentrations are all controlled downstream of the municipal meter. The FCD corrects measurement at the meter — before water touches any fermenter or CIP circuit. Every culture condition, yield parameter, and food-grade protocol remains exactly as validated. Only the billing accuracy changes.

THE THREE OVER-READING SOURCES UNIQUE TO YEAST & ENZYME PLANTS



Fermenter Fill Events

Large-volume fermenter fills draw water at high flow rates — creating intense open-valve demand events that generate air, gas, and turbulence at the supply meter on every batch fill cycle.



CIP Cycle Surges

Clean-in-place system cycling between fermentation runs creates repeated high-velocity on/off demand events — each one generating air, gas, and turbulence at the supply meter throughout every production cycle.



Fermentation Cooling Water

Fermentation heat removal requires continuous cooling water cycling — creating variable demand events that compound over-reading from fermenter fills and CIP surges on every production run.



Your Water Intensity Per Kg of Yeast or Enzyme Is Better Than Your Meter Shows

If your Novozymes, AB Mauri, Lallemand, or DSM supplier sustainability scorecards, or your own CDP water disclosure, use metered municipal intake as the production water baseline, those figures are inflated. After FCD installation, your reported water intensity per kg of output becomes more accurate — documented from utility bills, no additional metering infrastructure required.

BEFORE & AFTER THE FCD

WITHOUT FCD

- ✗ Air, gas & turbulence billed as water volume
- ✗ Fermenter fills inflate meter on every batch
- ✗ CIP surges compound over-reading each run
- ✗ Water intensity per kg of output overstated
- ✗ Sewer charge tied to inflated meter



WITH FCD INSTALLED

- ✓ Metered volume reflects water actually delivered
- ✓ Fermenter fills read accurately
- ✓ CIP cycles measured correctly
- ✓ True water intensity per kg revealed
- ✓ Sewer charge based on real usage

5–30%

Average water & sewer bill reduction

46%

Highest documented single-site reduction

~1 Hour

Install time — water off about 1 hour

6-Mo

Money-back, no questions asked · install non-refundable

How the FCD Works — Four Steps

1

Installs between two pipe joints right after your water meter — water off about one hour

2

Creates a slight back-pressure that extends back through the meter, reducing air, gas, and turbulence

3

Delivers a laminar-like flow profile through the meter — the condition it was calibrated to read

4

Meter reads accurately. Bill drops. Every fermenter parameter, CIP protocol, and enzyme yield target is effectively unchanged.

FREE SAVINGS ESTIMATE

Instant estimate — takes 30 seconds, no contact info required.

waterflowinnovations.com/water-bill-savings-calculator

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CERTIFICATIONS

IAPMO NSF/ANSI/CAN 61 KIWA GMP SQF

316L Stainless Steel · Made in USA
Under 0.8 psi pressure loss
Lifetime Transferable Warranty