



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

Water Flow Innovations LLC

Flow Conditioning Device (FCD)
waterflowinnovations.com

Your plate washing, DI water systems, and cooling towers all draw from the same supply — but your meter counts more than arrives. **DI system cycling, plate wash surges, and cooling tower makeup 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. Process chemistry stays the same. 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 BATTERY PLANT WATER METERS OVER-READ

The Core Problem: DI Water Systems and Plate Wash Lines Are Among the Highest-Intensity Demand Events in Any Manufacturing Plant

DI system pump startups create sudden high-velocity demand — exactly the open-valve conditions that generate maximum air, gas, and turbulence. Plate washing adds high-volume demand cycling on top. Your electrolyte concentrations, formation protocols, and BCI specifications are unaffected. Only the metering accuracy at the municipal connection changes.

THE THREE OVER-READING SOURCES UNIQUE TO LEAD-ACID BATTERY PLANTS



DI Water System Cycling

Deionized water system pump startups and pressure cycling create high-velocity demand events — generating air, gas, and turbulence at the supply meter on every DI system activation throughout production.



Plate Wash Surges

Battery plate washing creates large, high-velocity water demand events — exactly the open-valve conditions that drive the most significant meter over-reading per event in any battery manufacturing facility.



Cooling Tower Makeup

Formation charging area cooling tower makeup cycling with production load creates continuous variable demand — compounding DI system and plate wash over-reading throughout every operating shift.



Your NPDES Permit Water Balance & ISO 14001 Water Intensity Data Is Better Than Your Meter Shows

Battery plants reference metered intake for NPDES water balance documentation. When the meter over-reads, filings overstate intake. After FCD installation, metered intake more accurately reflects actual use — improving the accuracy of NPDES and ISO 14001 water intensity for EnerSys, Clarios, and Crown Battery operations.

BEFORE & AFTER THE FCD

WITHOUT FCD

- ✗ Air, gas & turbulence billed as water volume
- ✗ DI system cycling inflates meter each shift
- ✗ Plate wash surges compound over-reading
- ✗ NPDES water balance overstates intake
- ✗ Sewer charge tied to inflated meter



WITH FCD INSTALLED

- ✓ Metered volume reflects water actually delivered
- ✓ DI system demand reads accurately
- ✓ Plate wash measured correctly
- ✓ NPDES water balance closes accurately
- ✓ 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. DI water quality, plate wash volumes, formation protocols, and every BCI specification are 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