



Why Your Metal Finishing Shop Pays More for Water Than It Should — and How to Fix It

Water Flow Innovations LLC

Flow Conditioning Device (FCD)
waterflowinnovations.com

Your rinse tanks, DI water systems, and cooling towers all draw from the same supply — but your meter counts more than arrives. **Rinse tank overflow, DI system pump cycling, 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. Your bath chemistry and every process parameter stay 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 METAL FINISHING WATER METERS OVER-READ

The Core Problem: Electroplating Rinse Tank Cascades Create Continuous High-Velocity Demand Throughout Every Production Shift

Multi-stage rinse tank cascades run at continuous overflow rates to maintain rinse quality — creating sustained high-velocity open-valve demand that generates air, gas, and turbulence in the line at the meter throughout every shift. DI system pump startups compound those events. Your bath chemistry and NADCAP process specifications are unaffected — those are controlled in the tanks, downstream of the meter.

THE THREE OVER-READING SOURCES UNIQUE TO METAL FINISHING & ELECTROPLATING



Rinse Tank Cascade Overflow

Multi-stage rinse tank cascade overflow running continuously to maintain drag-out removal creates sustained demand — one of the most consistent over-reading sources in any plating shop, running throughout every production shift.



DI Water System Cycling

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



Cooling Tower Makeup

Rectifier cooling and facility HVAC cooling tower makeup cycling with production load creates continuous variable demand — compounding rinse and DI over-reading throughout every operating day.



Your NPDES Permit Water Balance & NADCAP Audit Water Data Are Better Than Your Meter Shows

Metal finishing shops reference metered intake for NPDES permit water balance documentation and NADCAP environmental compliance audits. When the meter over-reads rinse and DI demand, those documents overstate intake. After FCD installation, metered intake more accurately reflects actual use — improving the accuracy of NPDES water balance and NADCAP audit data for aerospace and defense supply chain customers.

BEFORE & AFTER THE FCD

WITHOUT FCD

- ✗ Air, gas & turbulence billed as water volume
- ✗ Rinse cascade inflates meter all shift
- ✗ DI system cycling compounds over-reading
- ✗ NPDES water balance overstates intake
- ✗ Sewer charge tied to inflated meter



WITH FCD INSTALLED

- ✓ Metered volume reflects water actually delivered
- ✓ Rinse cascade reads accurately
- ✓ DI system demand 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. Bath chemistry, rinse quality specifications, NADCAP process parameters, and every plating requirement are effectively unchanged.

FREE SAVINGS ESTIMATE

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

[waterflowinnovations.com/
water-bill-savings-calculator](https://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