INDUSTRY LEAVE-BEHIND · OPTICAL LABS

Why Your Optical Lab Pays More for Water Than It Should — and How to Fix It

Water Flow Innovations LLC
Flow Conditioning Device (FCD)
waterflowinnovations.com

Your fining, polishing, and edging lines all draw from the same municipal supply — but your meter counts more than actually flows. **Continuous slurry cycling, water-cooled edging bursts, and RO/DI makeup draws create the conditions for gas and vapor to form inside your meter — and you're billed for all of it.** *The FCD (Flow Conditioning Device) corrects the measurement. Your lab operations don't change. 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 OPTICAL LAB WATER METERS OVER-READ

The Core Problem: Optical Labs Run Continuous, High-Frequency Water Demand Across Dozens of Stations

Optical labs draw metered water for fining and polishing slurry systems, water-cooled edging, and RO/DI final-rinse makeup — all from the same supply meter, often across dozens of simultaneous stations. Each high-frequency demand event generates gas and vapor inside the meter. That registers as water volume. You pay for it on every bill, every month, across every system running simultaneously in your lab.

THE THREE OVER-READING SOURCES UNIQUE TO OPTICAL LABS

Fining & Polishing Slurry Systems

Dozens of fining and polishing spindles run continuously, each cycling water and abrasive slurry per lens — creating high-frequency demand events that generate gas and vapor at the supply meter throughout every shift.

Water-Cooled Edging

Edging wheels cut each lens to frame shape using continuously flushed water coolant, cycling on and off rapidly as lenses load and unload — compounding fining and polishing over-reading during every operating hour.

RO/DI Makeup Water

Reverse osmosis and deionized water systems feeding final rinse and pre-coating stages draw variable makeup water tied to production load — adding a third compounding over-reading source on top of fining and edging demand.

Every Phantom Gallon Is Billed Twice

Municipal sewer charges are calculated as a percentage of metered water consumption. Every phantom gallon your meter over-registers generates a sewer charge alongside the water charge — even though that volume was never actually delivered. At an optical lab with fining, polishing, edging, and RO/DI systems all contributing to over-reading simultaneously, the sewer multiplier compounds the cost of every over-read event across every billing cycle. The FCD corrects the water meter reading, which automatically corrects the sewer charge on the same bill.

BEFORE & AFTER THE FCD

WITHOUT FCD

- ✗ Gas and vapor counted as water volume
- ✗ Fining & polishing spindles inflate meter constantly
- ✗ Edging bursts compound over-billing every cycle
- ✗ Sewer charge tied to inflated meter reading
- ✗ Problem persists even after meter replacement

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WITH FCD INSTALLED

- ✓ Metered volume reflects water actually delivered
- ✓ Fining & polishing demand reads more accurately
- ✓ Edging water use measured correctly
- ✓ Sewer charge based on real water consumption
- ✓ Lab operations & output see no practical change

Up to 30%	46%	~1 Hour	90%
Typical water & sewer bill reduction	Highest documented single-site reduction	Install time — water off about 1 hour	Of customers reach full ROI in under 12 months

How the FCD Works — Four Steps

1. Installs immediately after your water meter, ahead of the PRV — water off about one hour
2. Creates a small, controlled back-pressure that extends back through the meter
3. Holds pressure up through the meter during demand surges, so far less gas and vapor form
4. Meter records closer to the water delivered. Bill drops. Generating, fining, polishing, edging, and coating operations are unaffected.

FREE SAVINGS ESTIMATE

Models your building's 24-hour flow profile. No contact info required.
waterflowinnovations.com/water-bill-savings-calculator

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CERTIFICATIONS

IAPMO · NSF/ANSI/CAN 61 · KIWA · GMP · SQF

Patented (AquaFlow Technologies, Inc.)
316L Stainless Steel · Made in USA
Under 0.8 psi pressure loss