

Why Your Data Center Pays More for Water Than It Should — and How to Fix It

Your cooling towers, chiller plant, and adiabatic cooling all draw from the same supply — but your meter counts more than arrives. **Cooling tower makeup, chiller demand shifts, and adiabatic pre-cooling events 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. Server inlet temps and every cooling setpoint 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 DATA CENTER WATER METERS OVER-READ

The Core Problem: Data Centers Run Cooling Infrastructure 24 Hours a Day at Densities No Other Commercial Building Approaches

A data center cooling system draws water from the municipal meter continuously — cooling towers, chillers, and adiabatic systems all cycling with IT load around the clock, every day of the year. Each demand variation generates air, gas, and turbulence in the line at the meter. The FCD corrects that measurement at the meter without changing server inlet temperatures, cooling system setpoints, or any uptime-critical parameter.

THE THREE OVER-READING SOURCES UNIQUE TO DATA CENTERS



Cooling Tower Makeup Cycling

Cooling tower makeup water cycling with IT load creates the most sustained meter over-reading of any data center source — running continuously at maximum demand 8,760 hours per year.



Chiller Plant Demand Variation

Chiller plant load variation with server utilization creates high-velocity demand changes at the supply meter — generating air, gas, and turbulence on every significant IT load transition throughout every operating day.



Adiabatic Pre-Cooling Events

Adiabatic cooling system activation during peak ambient temperature events creates sudden high-volume demand surges — generating air, gas, and turbulence at the supply meter on every activation during hot weather periods.



Your WUE Score Is Better Than Your Meter Shows — and It Matters for Every Tenant SLA and ESG Disclosure

WUE is the defining sustainability metric for data centers — reported in colocation tenant SLAs, REIT ESG filings, and tracked by the Green Grid, Uptime Institute, and EPA ENERGY STAR for Data Centers. When the supply meter over-reads cooling demand, your WUE is worse than actual performance. After FCD installation, metered intake reflects true use — improving the accuracy of WUE, tenant SLA transparency, and investor ESG accuracy.

BEFORE & AFTER THE FCD

WITHOUT FCD

- ✗ Air, gas & turbulence billed as water volume
- ✗ Cooling tower cycling inflates meter all day
- ✗ Chiller variation compounds over-reading
- ✗ WUE score worse than actual performance
- ✗ Sewer charge tied to inflated meter

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WITH FCD INSTALLED

- ✓ Metered volume reflects water actually delivered
- ✓ Cooling tower makeup reads accurately
- ✓ Chiller demand measured correctly
- ✓ WUE score reflects true performance
- ✓ 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. Server inlet temps, cooling setpoints, uptime SLAs, and every IT-critical system are effectively unchanged.