



The Flow Conditioning Device: Installation Point, Mechanism, and Meter Accuracy

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

INSTALLATION POINT & MECHANISM

Installed Just After the Meter — Ahead of Every Validated Process System

The Flow Conditioning Device (FCD) installs between two pipe joints on the main water line immediately after your water meter — ahead of your facility's internal distribution to HVAC cooling tower makeup, domestic riser supply, restroom and tenant demand, and irrigation headers. Each FCD is custom-built to the facility's exact specifications — pipe size, operating water pressure, and existing PRV configuration — and may include an integral check valve depending on the installation requirements. It requires no power and is installed by a licensed plumber or mechanical contractor with water off for approximately one hour.

Mechanically, the FCD creates a slight static back-pressure that extends back through the meter, reducing the air, gas, and turbulence that form during demand events and delivering a laminar-like flow profile through the measurement chamber. Municipal meters register volumetric displacement — entrained air and turbulent flow register as billable volume. Pressure loss through the device is under 0.8 psi across all flow conditions; downstream pressures, temperatures, and flow rates are effectively unchanged. Because the FCD sits just after the meter, it is outside building systems operation and tenant services — no operational change, tenant notice, or service interruption beyond the one-hour install is required. Complete technical documentation is provided to support your internal change control review.

DIAGNOSTIC CHECKLIST — SIX SIGNS YOUR METER IS OVER-READING

- ☐ **Bills rising without tenant increases**
Water charges climb year over year with no corresponding change in occupancy.
- ☐ **Cooling tower makeup seems high**
Tower makeup consumption runs above what load and cycles-of-concentration predict.
- ☐ **Audits found consumption but no source**
Water audits confirmed high consumption without identifying a leak or source.
- ☐ **Sewer charges tracking water up**
Sewer charges follow the inflated meter reading — the over-read is billed twice.
- ☐ **Cost per square foot above comparables**
Water cost per square foot persistently exceeds comparable buildings in the portfolio.
- ☐ **Water treated as fixed cost**
Water and sewer are budgeted as fixed, uncontrollable operating costs.

WHERE OVER-READING HITS THE OPERATION

- Operating Costs & NOI**
Inflated intake flows directly into operating expenses and net operating income — billed on both the water and sewer side.
- LEED & ENERGY STAR Data**
Building performance and certification data reference metered intake — over-reading overstates true water intensity per square foot.
- The Audit That Finds Nothing**
When audits confirm high consumption but find no source, the source is the flow conditions at the meter — over-read volume never appears in a fixture audit.
- Portfolio Benchmarking**
Building-to-building cost comparisons are distorted when meters over-read differently — correction gives true portfolio numbers.

ENGINEERING Q&A

Q: Will the FCD affect HVAC performance, domestic water pressure, or tenant services?

A: No. Pressure loss through the FCD is under 0.8 psi across all flow conditions, and it installs ahead of building distribution. Tower makeup, riser pressure, restroom fixtures, and every tenant service are effectively unchanged — tenants never notice anything but the install hour.

Q: Our water audit found high consumption but no source — how is that possible?

A: Fixture audits count water that arrives. Meter over-reading is volume that never arrived — air, gas, and turbulence from cooling tower valve cycling and pump starts, registered as billable water. It is invisible to every downstream audit by definition.

Q: How does the FCD affect sewer charges?

A: Sewer charges are typically calculated from metered intake. When the meter over-reads, both charges are inflated. After installation, intake reflects actual consumption, reducing water and sewer line items together.

Q: Can documented savings support LEED and ESG reporting?

A: Yes, as cost documentation. Before-and-after utility bills verify the corrected billing. Because the FCD corrects the meter reading rather than reducing water use, confirm with your sustainability team how to report it for LEED performance data, ENERGY STAR reporting, and portfolio ESG disclosure.

Q: How quickly do savings appear?

A: The meter reads accurately immediately after installation. Savings appear on the next full water and sewer billing cycle — no ramp-up period. 90% of installed customers reach full return on investment in under 12 months.

ENGAGEMENT PROCESS — FOUR STEPS

From Analysis to Verified Bill Reduction

1

Free Savings Analysis

We review your water and sewer bills and facility demand profile — no cost, no obligation.

2

Documented Projection

You receive a written savings projection specific to your facility before any commitment.

3

FCD Installation

Licensed plumber or mechanical contractor installs immediately after the meter — water off approximately one hour.

4

Verified Bill Reduction

Before-and-after bill comparison verifies the reduction on your next billing cycles.

GUARANTEE & WARRANTY TERMS

6-Month Money-Back Guarantee

If you're not satisfied within 6 months of installation, the FCD purchase is fully refunded — no questions asked. Installation labor is non-refundable.

Lifetime Transferable Warranty

The FCD carries a lifetime warranty, transferable to the new building owner if the facility changes hands (a transfer fee applies).

DEVICE SPECIFICATIONS

Construction, Certification & Installation

Custom-built to each facility's specifications — pipe size, operating pressure, PRV configuration · 316L stainless steel construction; titanium and specialty alloys available by special order for medical and other specialized applications · Configuration may include an integral check valve per installation requirements · No power required · Under 0.8 psi pressure loss · Certifications: IAPMO, NSF/ANSI/CAN 61, KIWA, GMP, SQF · Installed by licensed plumber or mechanical contractor

Regulatory & Standards References: LEED · ENERGY STAR · ASHRAE · EPA WaterSense

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