



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 domestic riser and booster pump supply, cooling tower makeup, pool, spa and amenity systems, and irrigation lines. 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 resident services and building operations — a one-hour scheduled shutdown coordinated by building engineering is the only impact. Complete technical documentation is provided to support your internal change control review.

DIAGNOSTIC CHECKLIST — SIX SIGNS YOUR METER IS OVER-READING

- ☐ **Costs rising faster than occupancy**
Water and sewer costs climb faster than occupancy or amenity usage explains.
- ☐ **Tower makeup doesn't reconcile with HVAC**
Cooling tower makeup consumption exceeds what HVAC records and load support.
- ☐ **Water in your top three expense lines**
Water sits among the top three operating expenses with no reduction path.
- ☐ **Benchmarked high against comparables**
Comparable-property benchmarking shows your building persistently high per unit.
- ☐ **Air or fluctuations at amenity systems**
Air or pressure fluctuation at pools, spas, and amenity systems — the same entrained air registers as billable volume.
- ☐ **Utilities treated as fixed**
Utility costs are treated as fixed in the operating budget rather than managed.

WHERE OVER-READING HITS THE OPERATION

- Operating Budget & Assessments**
Inflated intake flows into the operating budget and ultimately common charges — billed on both the water and sewer side.
- Booster Pump & Tower Demand Events**
Booster pump starts and tower makeup cycling create exactly the high-velocity events that entrain air at the master meter — around the clock.
- LEED & WELL Performance Data**
Building certification and performance data reference metered intake — over-reading overstates true water intensity per unit.
- Asset Value & NOI**
Utility expense reductions flow directly to NOI — a corrected meter is a permanent operating expense improvement.

ENGINEERING Q&A

Q: Will installation disrupt residents or building operations?

A: Installation requires a one-hour water shutdown at the master meter — scheduled and noticed by building engineering like any brief utility maintenance window. Pressure loss through the FCD is under 0.8 psi; residents notice nothing afterward.

Q: Will the FCD affect booster pumps, amenity systems, or riser pressure?

A: No. It installs ahead of building distribution. Booster pump operation, riser pressure, pool and spa systems, and cooling tower makeup are effectively unchanged.

Q: How does the FCD affect sewer charges?

A: Sewer charges are typically calculated from metered intake. When the master meter over-reads booster and tower demand cycling, both charges are inflated. After installation, intake reflects actual consumption, reducing both line items.

Q: Can documented savings support LEED, WELL, 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, WELL documentation, and portfolio ESG reporting.

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 · WELL Building Standard · ENERGY STAR · 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