

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 truck wash bays, driver shower facilities, restaurant and food service, and fuel island wash-down. 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 fueling operations and driver services — an overnight scheduled shutdown 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

- ☐ **Bills rising without traffic growth**
Water charges climb year over year with no corresponding change in traffic or services.
- ☐ **Sewer moving in lockstep with water**
Sewer charges follow the inflated meter reading — the over-read is billed twice.
- ☐ **Cost per location above comparables**
Water cost per location persistently exceeds comparable sites in the network.
- ☐ **Audits confirmed usage but no leaks**
Plumbing checks confirmed high usage without identifying leaks or a fixture cause.
- ☐ **Pressure swings at wash bay startup**
Wash bay pumps and shower surges produce visible pressure swings — entrained air registers as billable volume.
- ☐ **Water treated as uncontrollable**
Water is budgeted as a fixed cost of operations rather than a correctable line item.

WHERE OVER-READING HITS THE OPERATION

- Site Margin Impact**
Inflated intake flows into site operating cost — with sewer billed from the same meter, every over-read gallon hits margin twice.
- 24/7 Demand Events**
Wash bay cycles, shower surges, and restaurant draw create exactly the events that entrain air at the meter — around the clock.
- The Audit That Finds Nothing**
Plumbing audits count water that arrives; over-read volume never arrived and is invisible to them — the source is the flow conditions at the meter.
- Multi-Site Benchmarking**
Site-to-site cost comparisons are distorted when meters over-read differently — correction gives operations true numbers.

ENGINEERING Q&A

Q: Will the FCD affect wash bay pressure, showers, or restaurant service?

A: No. Pressure loss through the FCD is under 0.8 psi across all flow conditions, and it installs immediately after the meter, ahead of site distribution. Wash pressures, shower performance, and every service are effectively unchanged.

Q: What does installation involve for a site that never closes?

A: A licensed plumber installs the FCD at the meter in approximately one hour with water off — scheduled overnight during the slowest window like any brief maintenance task. No equipment is touched.

Q: How does the FCD affect sewer charges?

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

Q: How do I estimate savings for my sites before committing?

A: Use the Water & Sewer Bill Savings Calculator at waterflowinnovations.com for an instant projection, then request the free savings analysis — a documented, site-specific projection suitable for an ownership package.

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: EPA WaterSense · NATSO

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