



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 Beverage & Filtration System

The Flow Conditioning Device (FCD) installs between two pipe joints on the main water line immediately after your water meter — ahead of your store's espresso machines, ice makers, and water filtration systems. 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 equipment specifications, brew standards, and franchise operating procedures — no process change is required. Complete technical documentation is provided to support your internal review.

DIAGNOSTIC CHECKLIST — SIX SIGNS YOUR METER IS OVER-READING

- ☐ **Water cost per location above comparable stores**
Water and sewer cost per store persistently exceeds comparable-format locations.
- ☐ **Sewer moves in lockstep with water**
Sewer charges follow the inflated meter reading — the over-read is billed twice.
- ☐ **Intake exceeds equipment math**
Metered volume won't reconcile against espresso, ice, and filtration equipment demand.
- ☐ **Pressure swings during rush hour**
Peak service produces visible pressure swings — entrained air registers as billable volume.
- ☐ **Audits confirmed usage, not the source**
Facility audits confirmed high usage without finding leaks or an operational cause.
- ☐ **Water treated as a fixed store cost**
Water is carried as a fixed operating cost rather than a correctable line item.

WHERE OVER-READING HITS THE OPERATION

- Cost per Location & Franchise P&L**
Inflated intake flows into per-store water cost — with sewer billed from the same meter, every over-read gallon is billed twice.
- Espresso, Ice & Filtration Demand Events**
Boiler refill cycling, ice machine fill-drain events, and staged filtration create exactly the conditions that entrain air at the meter — every service hour.
- The Audit That Finds Nothing**
Facility audits count water that arrives; over-read volume never arrived and is invisible to them — the source is the flow conditions at the meter.
- Corporate Sustainability Reporting Isolation**
Espresso, ice, and filtration equipment run downstream of the meter — the FCD corrects billing accuracy with no effect on brand equipment specs or ESG reporting parameters.

ENGINEERING Q&A

Q: Will the FCD affect espresso machine pressure, ice production, or filtration performance?

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 store equipment. Espresso brewing pressure, ice production, and filtration performance are effectively unchanged.

Q: How does the FCD affect sewer charges?

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

Q: Does this affect our corporate sustainability or ESG water reporting?

A: Correcting meter over-reading typically improves the accuracy of water-use figures used in sustainability disclosures, since metered intake will more accurately reflect actual store consumption. It does not change store equipment or operations.

Q: How do I estimate savings 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, facility-specific projection suitable for an internal review 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 a new owner if the property or business 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

Industry & Standards References: National Coffee Association · Specialty Coffee Association · International Franchise Association