



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 Refrigeration & Dispensing 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 walk-in coolers, fountain beverage dispensers, and ice machines. 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 refrigeration system specifications, brand 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 store above comparable locations**

Water and sewer cost per store persistently exceeds comparable-format, comparable-traffic locations.

☐ **Sewer moves in lockstep with water**

Sewer charges follow the inflated meter reading — the over-read is billed twice.

☐ **Overnight meter activity despite minimal traffic**

At a 24-hour location, overnight meter readings that don't match actual overnight customer counts point to entrained air, not a leak.

☐ **Intake exceeds equipment math**

Metered volume won't reconcile against refrigeration, dispensing, and ice equipment demand.

☐ **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 Store & Multi-Site P&L

Inflated intake flows into per-store water cost — with sewer billed from the same meter, every over-read gallon is billed twice, 24 hours a day.

Refrigeration & Dispensing Demand Events

Walk-in cooler cycling, fountain dispensing, and ice machine fill-drain events create continuous entrained-air conditions with no natural overnight pause.

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

Refrigeration and dispensing equipment run downstream of the meter — the FCD corrects billing accuracy with no effect on brand equipment specs or sustainability reporting parameters.

ENGINEERING Q&A

Q: Will the FCD affect walk-in cooler, fountain, or ice machine 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. Refrigeration performance, fountain dispensing, and ice production 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 refrigeration, dispensing, and ice demand, both charges are inflated. After installation, intake reflects actual consumption, reducing both line items.

Q: Will installation disrupt a 24-hour operating store?

A: No. Installation takes about an hour and is typically scheduled during a low-traffic overnight window, so it doesn't interrupt customer service at a continuously operating location.

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 Association of Convenience Stores (NACS) · International Franchise Association

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