



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 cafeteria and kitchen service, restrooms and locker rooms, HVAC and boiler feed, and athletic field irrigation. 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 the instructional day — installation is scheduled over a weekend or break with minimal classroom 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 enrollment growth**
Water charges climb year over year with no corresponding change in enrollment or schedules.
- ☐ **Sewer moving in lockstep with water**
Sewer charges follow the inflated meter reading — the over-read is billed twice.
- ☐ **Cost per student above peer districts**
Water cost per student persistently exceeds comparable district benchmarks.
- ☐ **Audits confirmed usage but not the source**
Facility audits confirmed high usage without identifying leaks or a source.
- ☐ **Pressure swings at peak demand**
Passing-period restroom surges and kitchen draw produce visible pressure swings — entrained air registers as billable volume.
- ☐ **Water treated as uncontrollable**
Water is budgeted as a fixed utility cost rather than a correctable line item.

WHERE OVER-READING HITS THE OPERATION

- Budget Dollars Back to Classrooms**
Inflated intake flows into the utility budget — with sewer billed from the same meter, every over-read gallon costs the district twice.
- Building-by-Building Exposure**
Districts bill across a meter per building — each over-reading independently. Correction is prioritized building by building.
- Bell-Schedule Demand Events**
Passing-period surges, cafeteria service, and irrigation cycles create exactly the events that entrain air at the meter — every school day.
- Taxpayer-Defensible Savings**
Before-and-after bill verification gives the business office documented, board-ready savings — no operational change required.

ENGINEERING Q&A

Q: Will the FCD affect cafeteria service, restrooms, or athletic irrigation?

A: No. Pressure loss through the FCD is under 0.8 psi across all flow conditions, and it installs ahead of building distribution at the meter. Kitchen service, restroom pressure, and irrigation coverage are effectively unchanged.

Q: What does installation look like around the school calendar?

A: A licensed plumber installs the FCD at the meter in approximately one hour with water off — scheduled over a weekend, holiday, or summer break like any brief maintenance window. Minimal instructional impact.

Q: How does the FCD affect sewer charges?

A: Sewer charges are typically calculated from metered intake. When a building's meter over-reads peak demand, both charges are inflated. After installation, intake reflects actual consumption, reducing both line items.

Q: How does a district 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, building-by-building projection suitable for a board 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 · ENERGY STAR K-12 · ASBO International