



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 residence halls and dining services, central plant and boiler feed, athletics and irrigation, and laboratory demand. 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 each campus meter, it is outside academic and research operations — installation is scheduled over a break window with minimal campus 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 campus population.

☐ Sewer moving in lockstep with water

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

☐ Cost per student above peer campuses

Water cost per student persistently exceeds peer institution benchmarks.

☐ Audits confirmed usage but not the source

Campus audits confirmed high usage without identifying leaks or a source.

☐ Pressure swings at plant draw

Central plant makeup and residence hall surges 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

Utility Budget & Auxiliaries

Inflated intake flows into the utility budget — with sewer billed from the same meter, every over-read gallon hits twice.

Multiple Meters, Multiplied Effect

Campuses bill across many service meters — each over-reading independently. Correction is prioritized meter by meter, largest first.

Plant & Residence Demand Events

Boiler makeup, dining service, and residence hall surges create exactly the events that entrain air at the meter — all semester.

STARS & Sustainability Reporting

Corrected intake gives accurate water-intensity data for AASHE STARS and campus sustainability reporting — a data-accuracy correction, not reduced use.

ENGINEERING Q&A

Q: Will the FCD affect residence halls, labs, or central plant operations?

A: No. Pressure loss through the FCD is under 0.8 psi across all flow conditions, and it installs ahead of campus distribution at each service meter. Residence services, laboratory supply, and plant operations are effectively unchanged.

Q: We have dozens of meters — how does deployment work?

A: Meter by meter, prioritized by billed volume. The free savings analysis identifies which service meters carry the most over-read exposure, so the first installations target the largest returns.

Q: How does the FCD affect sewer charges?

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

Q: How do we 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, campus-specific projection suitable for a facilities committee 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 · APPA · AASHE STARS