



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 washer-disinfector and cart washer supply, steam sterilizer feed, critical water pretreatment, and department utility 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 the meter — ahead of pretreatment and every ST108-managed system — it is outside sterilization validation and water quality management; no change is required. Complete technical documentation is provided to support your internal change control review.

DIAGNOSTIC CHECKLIST — SIX SIGNS YOUR METER IS OVER-READING

☐ **Utility water cost above department models**

Water and sewer costs persistently exceed facility demand models.

☐ **Sewer moves in lockstep with water**

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

☐ **Intake exceeds cycle count math**

Metered volume won't reconcile against washer cycles, sterilizer feed, and pretreatment demand.

☐ **Audits confirmed usage, not the source**

Facility audits confirmed high usage without finding leaks or an operational cause.

☐ **Pressure swings at cycle start**

Washer fills and sterilizer feed draw produce visible pressure swings — entrained air registers as billable volume.

☐ **Water treated as fixed overhead**

Water is budgeted as an uncontrollable facility expense rather than a correctable one.

WHERE OVER-READING HITS THE OPERATION

Facility Utility Economics

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

Ahead of the ST108 Boundary

The FCD installs immediately after the municipal meter, ahead of critical water pretreatment — meter correction with no effect on managed water systems.

Washer & Sterilizer Demand Events

Washer fills, cart washer cycles, and sterilizer feed create exactly the events that entrain air at the meter — every shift.

Change Control Simplicity

Complete technical documentation supports a straightforward, main-line change filing — no requalification of downstream systems.

ENGINEERING Q&A

Q: Will the FCD affect washer-disinfectors, sterilizer feed, or ST108 water quality?

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 pretreatment and every ST108-managed system. Feed pressures, cycle performance, and all water quality parameters are unchanged.

Q: What does this look like for our water management team?

A: A main-line plumbing modification just after the meter, outside the ST108 boundary. Complete technical documentation is provided to support your review — no downstream requalification is triggered.

Q: How does the FCD affect sewer charges?

A: Sewer charges are typically calculated from metered intake. When the meter over-reads washer and sterilizer 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, facility-specific projection suitable for a facilities 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: ANSI/AAMI ST108 (Water for Processing of Medical Devices) · ANSI/AAMI ST79 · The Joint Commission