



The Flow Conditioning Device: Installation Point, Mechanism, and Meter Accuracy

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 RO system feed, fertigation and irrigation supply, HVAC and dehumidification support, and wash-down lines. 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 cultivation protocols, nutrient programs, and state compliance systems — no cultivation or tracking change is required. Complete technical documentation is provided to support your internal change control review.

DIAGNOSTIC CHECKLIST — SIX SIGNS YOUR METER IS OVER-READING

☐ Cost per pound above benchmarks

Water cost per pound of yield persistently exceeds cultivation benchmarks.

☐ Intake exceeds documented consumption

Metered intake exceeds documented irrigation, RO output, and HVAC consumption combined.

☐ Spikes during peak growth stages

Bills climb during intensive irrigation schedules beyond proportional applied water.

☐ RO reject doesn't reconcile

RO rejection discharge plus output doesn't reconcile against metered intake.

☐ Water a persistent top-three expense

Water sits in the top three operating expenses with no clear reduction path.

☐ Portfolio outliers per square foot

Portfolio benchmarking flags facilities with persistently high water cost per square foot.

WHERE OVER-READING HITS THE OPERATION

Cost per Pound & Facility Margin

Inflated intake flows directly into cost per pound — in a margin-compressed market, meter accuracy is a direct P&L line.

RO Water Balance Clarity

The gap between metered intake and RO output plus reject is often over-read volume from pump cycling — correction closes it.

Cultivation Unaffected

Fertigation recipes, irrigation timing, RO water quality, and plant health are untouched — the FCD sits just after the meter, ahead of everything.

Multi-Site Benchmarking

Facility-to-facility water cost comparisons are distorted when meters over-read differently — correction gives true numbers.

ENGINEERING Q&A

Q: Will the FCD affect irrigation timing, RO output quality, HVAC, or plant health?

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 all facility systems. RO feed pressure, output quality, fertigation delivery, and room environmental control are effectively unchanged.

Q: Why doesn't our metered intake reconcile with RO and irrigation accounting?

A: RO high-pressure pumps and fertigation cycling create repeated high-velocity demand events at the supply meter — generating air and turbulence billed as volume. The unaccounted gap is frequently the over-read itself.

Q: Does installation touch any state compliance or tracking system?

A: No. The FCD is a plumbing device installed just after the municipal meter — outside cultivation tracking, facility licensing scope, and security systems. Technical documentation is provided for your facility records.

Q: How does the FCD affect sewer and discharge charges?

A: Where sewer charges apply, they're calculated from metered intake. When the meter over-reads RO and irrigation demand, both charges are inflated. After installation, intake reflects actual consumption, reducing both line items.

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: State Cannabis Regulatory Frameworks · EPA NPDES · Resource Innovation Institute Benchmarks

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