

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 brewhouse supply and wort chiller feed, CIP systems, packaging line rinsers, boiler feed, and glycol system makeup. 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 TTB requirements and your brewing process documentation — typically no formula, process, or permit change is required; confirm with your compliance team. Complete technical documentation is provided to support your internal change control review.

DIAGNOSTIC CHECKLIST — SIX SIGNS YOUR METER IS OVER-READING

- ☐ **Cost per barrel above production targets**
Water cost per barrel or per case persistently exceeds production targets.
- ☐ **Spikes during high-production runs**
Bills climb disproportionately during brew-heavy weeks beyond proportional water use.
- ☐ **Sewer bill high relative to drain volume**
Sewer charges calculated from metered intake outpace actual drain volume.
- ☐ **Pressure drops when the wort chiller kicks on**
Observable supply pressure drop at chiller startup — the same demand event entrains air that the meter bills as water.
- ☐ **Costs rising faster than barrelage**
Water costs climb faster than production volume year over year.
- ☐ **Water treated as a fixed cost**
Water is accepted as a cost of brewing rather than a measured, controllable input.

WHERE OVER-READING HITS THE OPERATION

- Cost per Barrel & Margin**
Inflated intake flows directly into cost per barrel — at typical water-to-beer ratios, over-reading compounds across every brew day.
- Sewer & Surcharge Volume Basis**
Sewer and strength-based surcharges use metered intake as the volume basis — over-reading inflates the volume side of every surcharge calculation.
- TTB & Process Unaffected**
TTB permits, formulas, and brewing process documentation are untouched — the FCD sits just after the meter, ahead of the brewhouse entirely.
- Brewery Operations & Water Ratio**
Water-to-beer ratio tracking and efficiency projects start from a meter reading that includes volume that never arrived.

ENGINEERING Q&A

Q: Will the FCD affect water chemistry, wort chilling performance, or CIP effectiveness?

A: No. Pressure loss through the FCD is under 0.8 psi across all flow conditions, and it installs ahead of your internal distribution. Brewing water chemistry, chiller flow and heat exchange, CIP pressure, and packaging rinse are effectively unchanged.

Q: Why does the supply pressure drop when the wort chiller starts?

A: Chiller startup is a sudden high-velocity demand event — precisely the condition that entrains air and turbulence at the supply meter, which the meter registers as billable volume. The FCD's stable back-pressure reduces the conditions that create it.

Q: How does the FCD affect our sewer bill and surcharges?

A: Sewer charges — and the volume basis of strength surcharges — are typically calculated from metered intake. After installation, intake reflects actual consumption, reducing the volume side of both calculations. Strength concentrations are unaffected.

Q: Can documented savings improve our water-to-beer ratio reporting?

A: Yes, as cost documentation. Before-and-after utility bills verify the corrected billing. Because the FCD corrects the meter reading rather than reducing water use, confirm with your sustainability team how to report it for industry benchmarking and marketing.

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: TTB · EPA NPDES · Brewers Association Sustainability Benchmarking · CDP

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