



Why Your Locomotive Wash Pays More for Water Than It Should — and How to Fix It

Water Flow Innovations LLC

Flow Conditioning Device (FCD)
waterflowinnovations.com

Your high-pressure wash arches, pre-soak systems, and reclaim operations all draw from the same supply — but your meter counts more than arrives. Arch startups, pre-soak surge demand, and reclaim makeup create the conditions for air, gas, and turbulence to form in the line at your meter — and you're billed for it. The FCD (Flow Conditioning Device) corrects the measurement. Wash quality and every operational parameter stay the same. Your water bill drops — and so does your sewer bill, because sewer charges are calculated from the same inflated meter reading. One device. Two bills fixed.

WHY FREIGHT LOCOMOTIVE WASH FACILITIES WATER METERS OVER-READ

The Core Problem: Locomotive Wash Arches Draw More Water Per Activation Than Any Other Vehicle Wash Operation

A locomotive wash arch draws water at sustained high volume across an entire consist on every wash event — creating the most intense open-valve demand of any commercial wash operation, generating maximum air, gas, and turbulence at the supply meter. The FCD corrects that at the municipal meter without affecting wash quality, pressure, or cycle time.

THE THREE OVER-READING SOURCES UNIQUE TO FREIGHT LOCOMOTIVE WASH FACILITIES



High-Pressure Arch Startups

Locomotive wash arch startups create the highest-volume open-valve demand events of any commercial wash operation — generating maximum air, gas, and turbulence at the supply meter on every locomotive activation.



Pre-Soak System Surge Demand

Pre-soak and chemical application system demand cycling before each wash creates high-velocity open-valve events — compounding arch startup over-reading on every locomotive processed throughout every operating shift.



Reclaim System Makeup Demand

Water reclaim system makeup demand cycling with wash volume creates variable open-valve events — adding a third compounding over-reading source on top of arch and pre-soak demand throughout every operating day.



Your Water Cost Per Locomotive Is Higher Than It Should Be — the FCD Fixes It Permanently

Locomotive wash operators track water cost per unit washed as a core operating metric. When the meter over-reads arch startups and reclaim makeup simultaneously, that cost is inflated on every consist, every day. After FCD installation, metered intake reflects true use — permanently lowering water cost per locomotive and improving operating economics for Class I railroad wash facilities, transit authority wash programs, and independent wash operators.

BEFORE & AFTER THE FCD

WITHOUT FCD

- ✗ Air, gas & turbulence billed as water volume
- ✗ Arch startups inflate meter on every consist
- ✗ Pre-soak demand compounds over-reading
- ✗ Water cost per locomotive inflated daily
- ✗ Sewer charge tied to inflated meter



WITH FCD INSTALLED

- ✓ Metered volume reflects water actually delivered
- ✓ Arch startups read accurately
- ✓ Pre-soak demand measured correctly
- ✓ True water cost per locomotive revealed
- ✓ Sewer charge based on real usage

5–30%

Average water & sewer bill reduction

46%

Highest documented single-site reduction

~1 Hour

Install time — water off about 1 hour

6-Mo

Money-back, no questions asked · install non-refundable

How the FCD Works — Four Steps

1

Installs between two pipe joints right after your water meter — water off about one hour

2

Creates a slight back-pressure that extends back through the meter, reducing air, gas, and turbulence

3

Delivers a laminar-like flow profile through the meter — the condition it was calibrated to read

4

Meter reads accurately. Bill drops. Wash quality, arch pressure, pre-soak chemistry, reclaim ratios, and every operational parameter are effectively unchanged.

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