



Why Your Rubber or Plastics Plant Pays More for Water Than It Should — and How to Fix It

Water Flow Innovations LLC

Flow Conditioning Device (FCD)
waterflowinnovations.com

Your mold cooling, extruder quench, and cooling towers all draw from the same supply — but your meter counts more than arrives. **Mold cooling water cycling, extruder quench demand, and cooling tower 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. Process temperatures and every production 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 RUBBER WATER METERS OVER-READ

The Core Problem: Injection Mold Cooling and Extruder Quench Systems Create Continuous High-Velocity Demand Throughout Every Production Shift

Mold cooling circuits cycling with injection and cure cycles create sustained high-velocity open-valve demand throughout every shift. Extruder quench systems compound that over-reading on every production run. Your process temperatures, cure times, and dimensional specifications are unaffected — all controlled downstream of the meter. The FCD corrects total intake at the municipal connection.

THE THREE OVER-READING SOURCES UNIQUE TO RUBBER & PLASTICS MANUFACTURING



Mold Cooling Water Cycling

Injection mold and compression mold cooling water cycling with production creates sustained high-velocity demand — generating air, gas, and turbulence at the supply meter throughout every production shift.



Extruder Quench Demand

Extruder strand or sheet quench water demand cycling with production rate creates variable high-velocity events — compounding mold cooling over-reading across every production run and shift change.



Cooling Tower Makeup

Central cooling tower makeup cycling with aggregate plant heat load creates continuous variable demand — adding a third compounding over-reading source on top of mold and extruder demand every billing cycle.

 **Your Water Intensity Per Kg of Product Is Better Than Your Meter Shows**

ISO 14001 environmental management, customer sustainability scorecards (automotive OEMs, consumer goods brands), and CDP water disclosure track water intensity per kg of manufactured product. When the meter over-reads mold cooling and quench demand, every figure is inflated. After FCD installation, metered intake reflects true use — improving the accuracy of all reported metrics without changing any process temperature, cure time, or dimensional specification.

BEFORE & AFTER THE FCD

WITHOUT FCD

- ✗ Air, gas & turbulence billed as water volume
- ✗ Mold cooling inflates meter all shift
- ✗ Extruder quench compounds over-reading
- ✗ Water intensity per kg overstated
- ✗ Sewer charge tied to inflated meter

→

WITH FCD INSTALLED

- ✓ Metered volume reflects water actually delivered
- ✓ Mold cooling reads accurately
- ✓ Extruder quench measured correctly
- ✓ True water intensity per kg 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. Process temperatures, cure times, quench rates, and every dimensional specification are effectively unchanged.