

See Your Whole Distribution System

Continuous water-quality and pressure monitoring, everywhere you need it

How the Halogen sensor network helps utilities protect water quality, meet new residual rules, and run leaner.

The bottom line

Most utilities only check distribution water quality a few times a month, at a handful of sites, by hand. Halogen puts continuous, self-powered sensors throughout your system and streams the results to the cloud, so problems show up as they happen, and you have the 24/7 record new state laws require.

The challenge today

Water leaves your plant in great shape. What happens to it over the miles of pipe, storage tanks and dead ends between the plant and your customers is much harder to see. Today that picture comes almost entirely from manual grab samples, taken periodically at a limited number of sites and sent to a lab.

That leaves real blind spots:

- Disinfectant residual can dip and recover between samples, and you would never know.
- Nitrification in chloraminated systems is usually caught only after it is well underway.
- Conditions that let bacteria grow - low residual and stagnant water in dead ends and tanks - go undetected.
- Contamination, backflow and pressure problems can come and go before anyone takes a reading.

Lab-grade online analyzers exist, but they are expensive, need power and plumbing, and typically sit at the plant, exactly where you already have good visibility.

New rules are raising the bar

Regulators are moving from "take a sample" to "prove it continuously." **New Jersey's S2188** now requires public water systems to hold a minimum residual - at least 0.3 mg/L free chlorine, or 1.0 mg/L monochloramine - throughout the distribution system, with a compliance deadline of August 1, 2026.

New Jersey is a model other states are weighing. And the direction lines up with rules already on the books: **federal drinking-water regulations** require a detectable disinfectant residual

throughout the distribution system. A weekly grab sample covers less than 0.1% of the year - not enough to prove that continuously. Continuous monitoring is the practical answer.

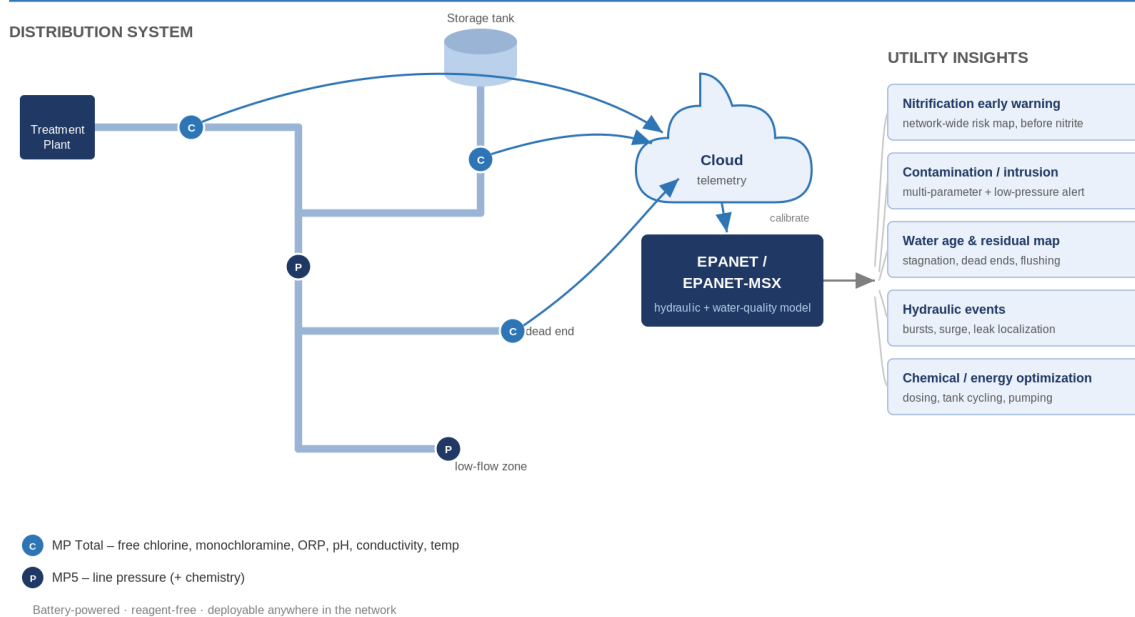
What Halogen adds to your network

Halogen sensors are small, self-cleaning, battery-powered, and need no reagents and no wiring, so they can go where the questions are: tank outlets, dead ends, and pressure-zone boundaries throughout your distribution system. Each one continuously measures the things that matter most:

- **Free chlorine and monochloramine** - the actual disinfectant keeping your water safe (MP5 and MP-TOTAL).
- **ORP, pH, conductivity and temperature** - the supporting signals that reveal what is really going on.
- **Line pressure** (MP5) - so water-quality and hydraulic events are seen together, in the same place.

Sensors are NSF-61 certified, install into a live main by wet-tap with no shutdown, and read accurately even at zero flow. Readings flow to a secure cloud dashboard automatically - and can feed compliance-reporting software - so scattered readings become a clear, system-wide view.

Distributed sensing to network intelligence



Sensors across your system report continuously to the cloud, turning scattered readings into insights you can act on.

What you can now see and do

What you get	What it is	Why it matters to you
Know your residual is holding, everywhere	Continuous free chlorine and monochloramine at points across the system	Catch a residual loss the day it starts, not weeks later at the next sample
Get ahead of nitrification	Combined trend of disinfectant, ORP, pH and temperature into a risk alert	An early warning before nitrite climbs, so you can flush or re-dose in time
Meet the new residual rule	24/7 in-pipe record of chlorine and monochloramine across the system	Documented proof for NJ S2188, without weekly grab samples
See contamination and backflow fast	A water-quality shift plus a low-pressure event at the same spot	Confidence to act, and the data to pinpoint and isolate the affected area
Find leaks, bursts and pressure problems	Pressure monitoring out in the network, not just at the plant	Faster response, less water loss, longer main life
Keep boil-water notices small	Pinpoint which district lost pressure, and when	Scope a notice to the affected area and lift it sooner, with data
Do more with less chemical and staff time	A live picture that guides dosing, tank cycling and crews	Lower chemical spend and fewer truck rolls for manual sampling

Keep boil-water notices small and short

When a main breaks or pressure drops, you often have to issue a boil-water notice. Because it is hard to prove exactly which neighborhoods were affected, the notice frequently covers the whole system and stays in place for days - disrupting customers and eroding trust.

With sensors throughout your districts, you can:

- Show exactly which zone lost pressure, and for how long - so the notice can cover just that area, not the whole town.
- Prove the rest of the system kept its pressure and chlorine - so you avoid precautionary notices where they are not needed.
- Confirm in real time when pressure and chlorine are back to normal - so you can lift the notice sooner, with data to back it up.

The result: fewer, smaller, shorter boil-water notices - less disruption for your customers and less cost and reputational hit for you.

What this means for your utility

- **Safer water and faster response.** Problems surface in hours, not weeks, so you can act before customers are affected.

- **Compliance you can prove.** A continuous record backs up your S2188 residual reporting and helps resolve complaints with data.
- **Lower cost to operate.** Right-size chemical dosing, target flushing and crew visits, and cut back on routine manual sampling.
- **Coverage where you never had it.** Because the sensors need no power or wiring, you can finally monitor the far corners of your system.

Getting started

Deployment is straightforward: place sensors at the locations where you most want visibility, and they begin reporting to your dashboard. There is no trenching, no reagent resupply, and no dedicated power to run. Start with your known problem areas - or your S2188 monitoring points - and expand coverage over time.

To scope a pilot or an S2188 site assessment for your system, contact Halogen Systems at halogensys.com.