



Case Study

Massive Texas Factory-USA

HydroFLOW® reduced chemical usage across a major Texas factory, delaying multimillion-dollar wastewater treatment plant upgrade, cutting operational costs, and improving heat transfer efficiency.

Before HydroFLOW®

Cooling towers required high chemical use and frequent cleanouts, with scale in chiller tubes and washer systems.

After HydroFLOW®

Chemical use cut by 75% and chiller operated at 4,500 $\mu\text{S}/\text{cm}$ with no scale or biofilm.

Overview

A 5.2 million sq. ft. manufacturing facility in Texas with over 7,000 employees was under pressure to reduce water use due to a depleting well and an overloaded onsite wastewater treatment plant. The company sought a solution to control scale, improve cooling efficiency, and cut chemical use across its critical systems.

Challenge

The customer's water source was being rapidly depleted, and their wastewater treatment plant was over capacity for 8 months of the year.

Challenges included:

- Heavy scale formation in cooling tower fill and chiller tubes
- Manual cleanouts in the sheet metal washer due to frequent scale
- Inefficient heat transfer leading to energy waste

The objective was clear: extend water cycles, improve system performance, and reduce maintenance and chemical costs without risking reliability.

Solution

In January 2023:

- A HydroFLOW® i14" Custom unit was installed on the chiller return line
- An i100 unit was installed on the sheet metal washer recirculation line

In May 2025:

- Seven additional i14" Custom units were installed on cooling tower and chiller loops
- A remote monitoring system was implemented

The installation required no system downtime or plumbing changes.

Results

After six months, significant improvements was seen across all systems:

- **Chemical use reduced by 75%** in cooling towers.
- Chiller operated at **4,500 $\mu\text{S}/\text{cm}$ with no scale or biofilm detected.**
- **Sheet metal washer required fewer manual cleanouts** and improved heat transfer.
- **ROI achieved in less than 1 year** on washer system.

HYDROPATH



Before HydroFLOW®



Severe scale accumulation in the chiller heat exchanger and mineral deposits in the sheet metal washer led to reduced thermal efficiency, frequent cleanouts, and increased water and chemical use across the facility.

HydroFLOW® Installation



HydroFLOW i14" on chiller return (left) and HydroFLOW i100 on sheet metal washer (right)

Summary

The implementation of HydroFLOW® technology at a large Texas manufacturing facility led to major reductions in chemical usage, improved thermal performance, and fewer maintenance interventions. The system's ability to operate at higher conductivity significantly reduced water waste and chemical dependency.

Most significantly, HydroFLOW® delivered measurable operational and financial results:

- **75% reduction in chemical usage**
- **Chiller efficiency maintained at high cycles (4,500 µS/cm)**
- **Manual cleanouts reduced in the sheet metal washer**
- **ROI achieved in under 12 months**
- **Multimillion-dollar wastewater system upgrade delayed**
- **7 additional units installed in 2025 to expand success sitewide**

The facility manager noted: *"The chemical company tried everything to convince me that this unit wouldn't work, but the results with HydroFLOW® speak for themselves."*



HydroFLOW® units are working all over the world on multiple applications, treating carbonate and non-carbonate scaling and filtration issues in a wide variety of industries.

- From homes to heavy industry
- From spas to steel mills
- Suitable for any pipe material
- From 15mm to 2700+mm OD pipe diameter

Would you like a free consultation?

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