



Case Study

Corporate Headquarters | Cooling Towers & Chillers

HydroFLOW® improved operational efficiency by reducing scale, biofilm, and chemical use in HVAC systems at a Fortune 100 HQ in Texas.

Overview

A Fortune 100 company operating a LEED Gold-certified headquarters in Houston, Texas, faced ongoing maintenance and efficiency challenges related to their cooling tower and chiller systems. These systems were crucial to maintaining climate control and comfort across their extensive corporate campus.

To address the issue, the company partnered with a water management provider in 2016 and installed *HydroFLOW* technology as part of a Total Water Management (TWM) programme. This solution aimed to optimise performance, improve water quality, and extend equipment longevity through advanced non-invasive water treatment.

Challenge

Cooling towers and chillers are prone to scale formation and biofilm development, particularly in hard water regions like Texas. These conditions can significantly hinder heat exchange efficiency, drive up energy consumption, and accelerate wear on system components.

The corporate objective was to:

- Minimise scale and biofilm on internal surfaces
- Reduce reliance on chemical dosing
- Cut water and energy consumption
- Lower overall operational and maintenance costs

Solution

The solution involved deploying *HydroFLOW* electronic water conditioners across the cooling infrastructure. These devices emit a unique signal throughout the pipework, which treats mineral deposits and disrupts microbial growth without altering flow or pressure.

The installation was supplemented by:

- IoT sensors monitoring system parameters in real-time
- A cloud-based platform for data analysis and visualisation
- Monthly site visits for performance checks and water quality assessments

This integrated approach enabled precise tracking and control of the system's health and efficiency.

Results

Following implementation, the company saw measurable improvements within the first year, and sustained benefits through subsequent evaluations:

- **85% reduction** in blowdown water volume
- **75% decrease** in chemical usage
- **50% fewer** maintenance callouts
- **10% energy savings** in cooling tower and chiller operations
- Extended lifespan of fill material, piping, and heat exchange equipment

Due to the programme's success, rollout across additional corporate facilities is currently underway.

HydroFLOW® Installation



HydroFLOW Custom unit installed on large-diameter chilled water lines as part of the HVAC treatment solution.

Customer Testimonial

"HydroFLOW significantly improved the performance of our cooling systems—both in cost savings and reduced maintenance. The technology pays for itself with the monthly operational savings we've achieved." — Facilities Manager, Fortune 100 Headquarters

Summary

The deployment of *HydroFLOW* technology, as part of a broader water management strategy, delivered consistent performance gains across multiple system indicators—efficiency, sustainability, and reliability.

Key achievements:

- Significant reductions in water waste and chemical dependency
- Improved equipment protection and reduced downtime
- Enhanced environmental performance aligning with LEED goals

This case highlights *HydroFLOW* as a trusted, scalable solution for sustainable HVAC system management in high-demand commercial environments.



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 1500+mm OD pipe diameter

Would you like a free consultation?

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