



● COOLING TOWER

Cooling Tower and Chiller Case Study California Medical Center, USA

HydroFLOW® treatment improved cooling system performance, reduced chemical use and blowdown, and maintained clean chiller tubes during long-term operation.

75%

Biocide Reduction

65%+

Blowdown Reduction

0

Scale Chemicals After 4
Months

<2 yrs

Payback Period

⇒ BEFORE & AFTER

● BEFORE

- ✗ Conductivity kept low to limit fouling
- ✗ High chemical dosing required
- ✗ Risk of biofilm and scale formation

● AFTER

- ✓ System ran at high conductivity without fouling
- ✓ Chemical dosing significantly reduced
- ✓ Stable operation maintained

OVERVIEW

A California medical centre installed custom *HydroFLOW*® units across its cooling tower and chiller system to improve water treatment performance. The installation included units on condenser return lines and chillers, monitored over several months to assess fouling, conductivity, and chemical usage.

CHALLENGE

The cooling system relied on high chemical dosing and low conductivity operation to control fouling and maintain performance.

- System conductivity limited to ~1400 μ S due to fouling risk
- High chemical use for scale and biofilm control
- Risk of reduced cooling efficiency due to deposits

SOLUTION

HydroFLOW® Custom units were installed on condenser return lines and chillers, with side stream filtration and glass bead media filtration to support improved water quality and stable operation.

UNIT INSTALLED

HydroFLOW® Custom units

INSTALLATION POINT

Condenser return lines and chillers

SYSTEM TYPE

Cooling tower and chiller system

MONITORING PERIOD

Over 7 months



INSTALLATION

Custom unit on condenser return line



INSTALLATION

HydroFLOW® units installed on chiller system

RESULTS

75% biocide reduction

Biocide use reduced by 75% while maintaining CFU levels below 1,000.

65% blowdown reduction

Blowdown water usage was reduced by over 65 percent during operation.

Scale chemicals eliminated

Anti-scalant and anti-corrosive chemicals were discontinued 4 months after installation.

System maintained

Cooling towers and chillers remained within industry standards while reducing chemicals and blowdown.

High conductivity without fouling

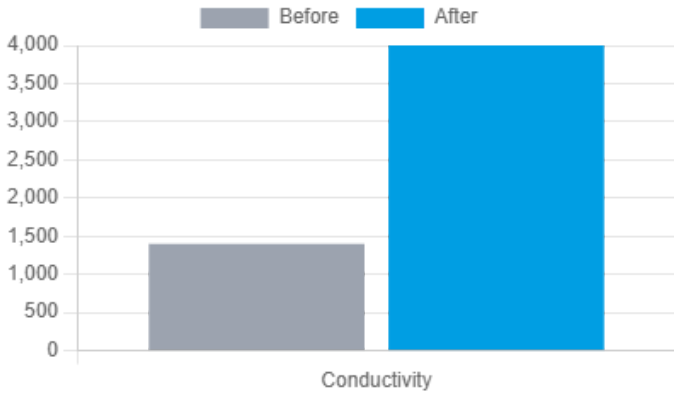
System operated successfully at up to 4000 μ S without signs of fouling.

Cleanest chiller tubes recorded

Maintenance team reported the cleanest chiller tubes observed.

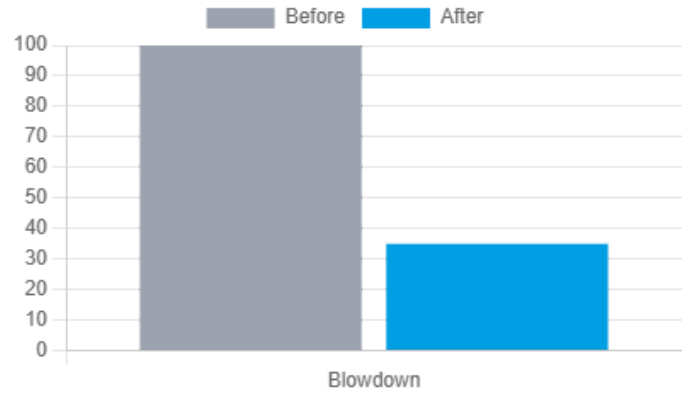
GRAPHS

Conductivity increased without fouling



Conductivity increased from 1400 to 4000 μS without fouling

Blowdown water reduction



Blowdown reduced by over 65% during operation

TESTIMONIAL

"This is the cleanest the chiller tubes had ever been."

— Head of Maintenance

KEY TAKEAWAY Summary

HydroFLOW® treatment enabled the California Medical Center cooling system to operate at higher conductivity while reducing chemical use and blowdown. Biocide use fell by 75%, blowdown by over 65%, and scale chemicals were eliminated after 4 months. The system remained clean, with maintenance reporting the cleanest chiller tubes observed.

75%

BIOCIDE REDUCTION

65%

BLOWDOWN REDUCTION

0

SCALE CHEMICALS

ADDITIONAL PHOTO EVIDENCE



AFTER

Chiller tubes after 7 months of operation



AFTER

Close-up of clean chiller tubes after treatment

HYDROPATH

The Forefront of Sustainable Water Treatment

HydroPath Technology is a world leader in sustainable water treatment solutions, providing chemical-free alternatives for industrial and commercial applications across more than 50 countries.

50+

COUNTRIES

30+

YEARS EXPERIENCE

1M+

UNITS INSTALLED

RELATED CASE STUDY

Commercial Building Cooling Tower Case Study

Honolulu, Hawaii

HydroFLOW® units installed on a commercial building cooling tower in Hawaii eliminated the need for chemical biocides while dramatically reducing water waste through blow-down reduction, delivering over \$121,000 in annual savings with a 3-4 month return on investment.

85% Biocide Reduction

Near-total elimination of chemical biocide dosing on the cooling tower system

50% Blow-down Reduction

Halved water waste by reducing blow-down cycles significantly

\$121K Annual Savings

Combined chemical, water and maintenance cost savings per year

HYDROPATH 

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