COOLING TOWER

Cooling Tower Case Study
Hong Kong

*Hydro*FLOW® treatment removed remaining scale in condenser tubes within 12 months and reduced maintenance across over 50 shopping malls.

Client details have been anonymised at their request.

12 mo	100+	1500µS	1200µS
Scale Eliminated Time	Units Installed	Max Conductivity Level	Bleed-Off Stop Level

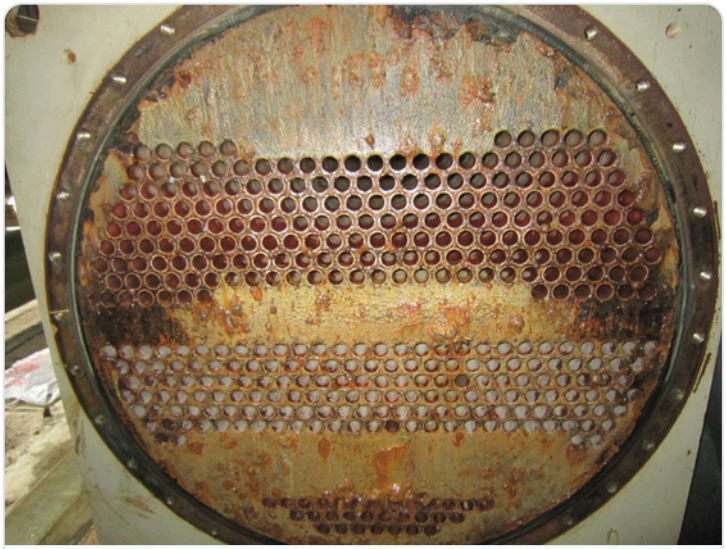
⇄ BEFORE & AFTER

BEFORE

- Annual condenser tube cleaning required
- Scale build-up affecting performance
- Continuous chemical dosing in use

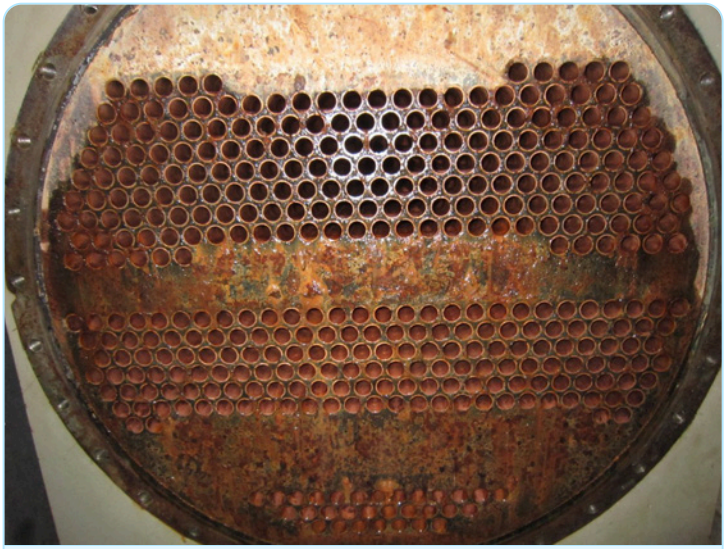
AFTER

- ✓ Scale fully eliminated after 12 months
- ✓ Cleaning only done when needed
- ✓ Improved chiller performance maintained



BEFORE

Scaled condenser tubes before



AFTER

Clean tubes after treatment

OVERVIEW

A commercial property group operates a large portfolio of retail and commercial properties. More than 50 sites use freshwater cooling tower systems for chiller plants. These systems relied on chemical dosing and annual condenser cleaning to maintain performance. A pilot study was carried out with the condenser tubes left uncleaned before *Hydro*FLOW® installation.

CHALLENGE

Cooling systems relied on chemicals and frequent maintenance to control scale and maintain performance.

- Scale build-up in condenser tubes affected chiller performance.
- Annual tube cleaning required for performance.
- Dependence on chemical dosing programmes.
- Bleed-off was required to control conductivity levels between 1500 µS/cm and 1200 µS/cm.

SOLUTION

*Hydro*FLOW® units were installed on cooling water systems during a pilot study and later rolled out across multiple sites to treat scale and improve system performance.

UNIT INSTALLED
100+ *Hydro*FLOW® units

INSTALLATION POINT
Cooling tower and condenser water pipes

INSTALL DATE
2013

TRIAL DURATION
12 months

INSTALLATION
HydroFLOW on pipework

SITE
Cooling system setup

INSTALLATION
HydroFLOW on pipe

RESULTS

Scale Eliminated
After 12 months of *Hydro*FLOW® operation, the remaining scale was completely gone.

Reduced Cleaning
Tube cleaning shifted from annual cleaning to an on-demand basis.

Performance Maintained
Chiller performance maintained without the need for frequent manual cleaning.

Wide Deployment
Units were installed across more than 50 commercial properties.

Successful Pilot
Initial pilot at the flagship mall led to full rollout across multiple properties.

Operational Efficiency
Systems operated effectively without prior tube cleaning before installation.

KEY TAKEAWAY

Summary

*Hydro*FLOW® pilot study in Hong Kong demonstrated complete scale removal in condenser tubes within 12 months, without prior cleaning. The success led to deployment of over 100 units across more than 50 shopping malls. Maintenance shifted from annual to on-demand, improving efficiency.

12 mo	100+	50+
SCALE ELIMINATED	UNITS INSTALLED	SHOPPING MALLS TREATED

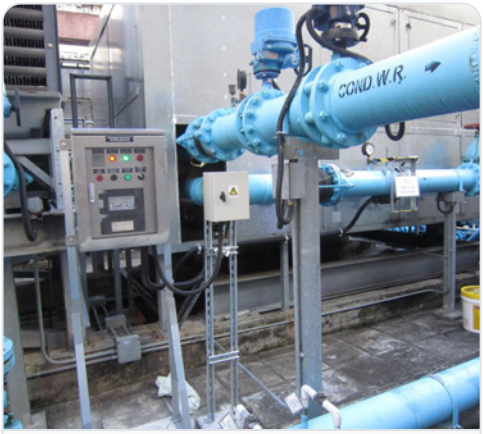
ADDITIONAL PHOTO EVIDENCE

INSTALLATION

HydroFLOW® installed beneath protective grating

INSTALLATION

HydroFLOW® unit with adjacent control panel



SITE

Chiller plant with connected pipework system

SITE

Cooling water pipework and control assembly

INSTALLATION

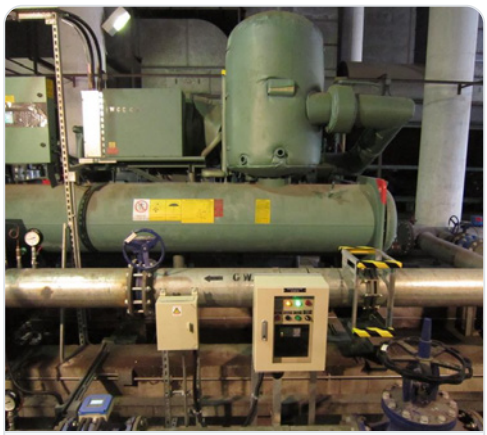
HydroFLOW® units installed on pipework

SITE

Control panels integrated within pipework system

SITE

Plant room showing full pipework layout



INSTALLATION

Chiller unit with connected system pipework

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+	30+	1M+
COUNTRIES	YEARS EXPERIENCE	UNITS INSTALLED

RELATED CASE STUDY

Cooling Tower Biofilm Control Case Study

Hong Kong

HydroFLOW® was installed at Hong Kong Town Hall to control biofilm in seawater-cooled chillers, restoring efficiency, reducing cleaning frequency and maintaining compliance with chlorine discharge limits.

17% Efficiency Increase
Chiller efficiency improved by 17% within six months of installation.

Biofilm Removed
Condenser tube surfaces were fully cleared of biofilm after installation.

Reduced Cleaning
Tube cleaning frequency reduced, lowering maintenance workload and costs.

HYDROPATH

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