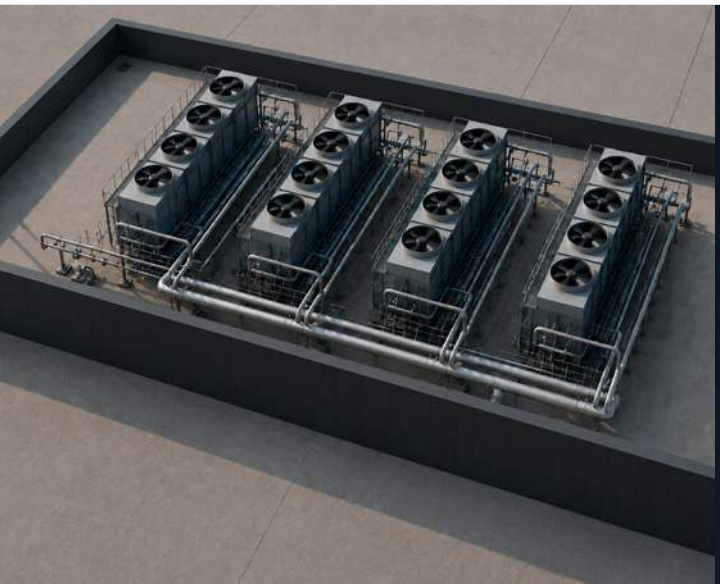

COOLING TOWER

Trane Cooling Tower Success Story Phoenix, Arizona

*Hydro*FLOW® treatment enabled high conductivity operation without chemicals while keeping the cooling tower and chiller system scale free during a real-world trial.

Client details have been anonymised at their request.

150%	0	9 mo	✓
Conductivity Increase	Scale Deposits	Chemical-Free Operation	Approach Temperature Maintained

⇄ BEFORE & AFTER

BEFORE

- ✗ Chemical treatment required continuously
- ✗ Risk of scale at high conductivity
- ✗ Cooling tower blowdown limited

AFTER

- ✓ System operated without chemicals
- ✓ Chiller tubes remained scale free
- ✓ Conductivity raised to 10,000 µS/cm

OVERVIEW

A large medical device manufacturer in the Phoenix Metro Area wanted to reduce cooling tower blowdown and improve water savings without risking scale formation. Trane Building Advantage worked with HydroFLOW® Southwest to evaluate Hydropath treatment on the cooling tower condenser loop. The objective was to operate at higher cycles while maintaining cleanliness and chiller efficiency.

⚠ CHALLENGE

Higher conductivity levels increased the risk of scale and reduced chiller efficiency.

- Cooling towers depended on chemical treatment
- Lower cycles used to avoid scale
- Blowdown levels limited water savings
- Scale threatened chiller efficiency

SOLUTION

A *Hydro*FLOW® unit was installed on the cooling tower condenser loop between the pump and chiller to evaluate scale control at high conductivity levels.

UNIT INSTALLED	INSTALLATION POINT
1x *Hydro*FLOW® unit	Cooling tower condenser loop

INSTALL DATE	TRIAL DURATION
March 2017	3 month initial trial

RESULTS

Reduced Blowdown
Higher conductivity operation reduced cooling tower blowdown demand

No Scale Formation
Tower and chiller tubes remained free of scale deposits

9 Months Chemical-Free
System operated for 9 months without chemical treatment

Stable Approach Temperatures
Chiller approach temperatures remained within industry standards

Existing Scale Breakdown
Existing scale deposits gradually broke down during operation

Clean Chiller Inspection
Annual inspection confirmed clean and scale-free tubes

TESTIMONIAL

> *"The trial clearly showed that the HydroFLOW® device was superior to chemicals in keeping the chiller/tower system clean and scale-free"*
>
> — George Kotselas, Trane Southwest District

KEY TAKEAWAY

Summary

*Hydro*FLOW® enabled the Phoenix cooling tower system to operate at significantly higher conductivity levels without chemicals while remaining scale free. During nine months of operation, chiller tubes remained clean, approach temperatures stayed stable and cooling tower blowdown was reduced. Annual inspection confirmed the effectiveness of the system under demanding operating conditions.

150%	0	9 mo
CONDUCTIVITY INCREASE	NEW SCALE FORMATION	CHEMICAL-FREE TRIAL

HYDROPATH

Ready to reduce chemical dosing?

Get a free consultation for your facility.

sales@hydropath.com +44 (0)115 986 9966 hydropath.com