

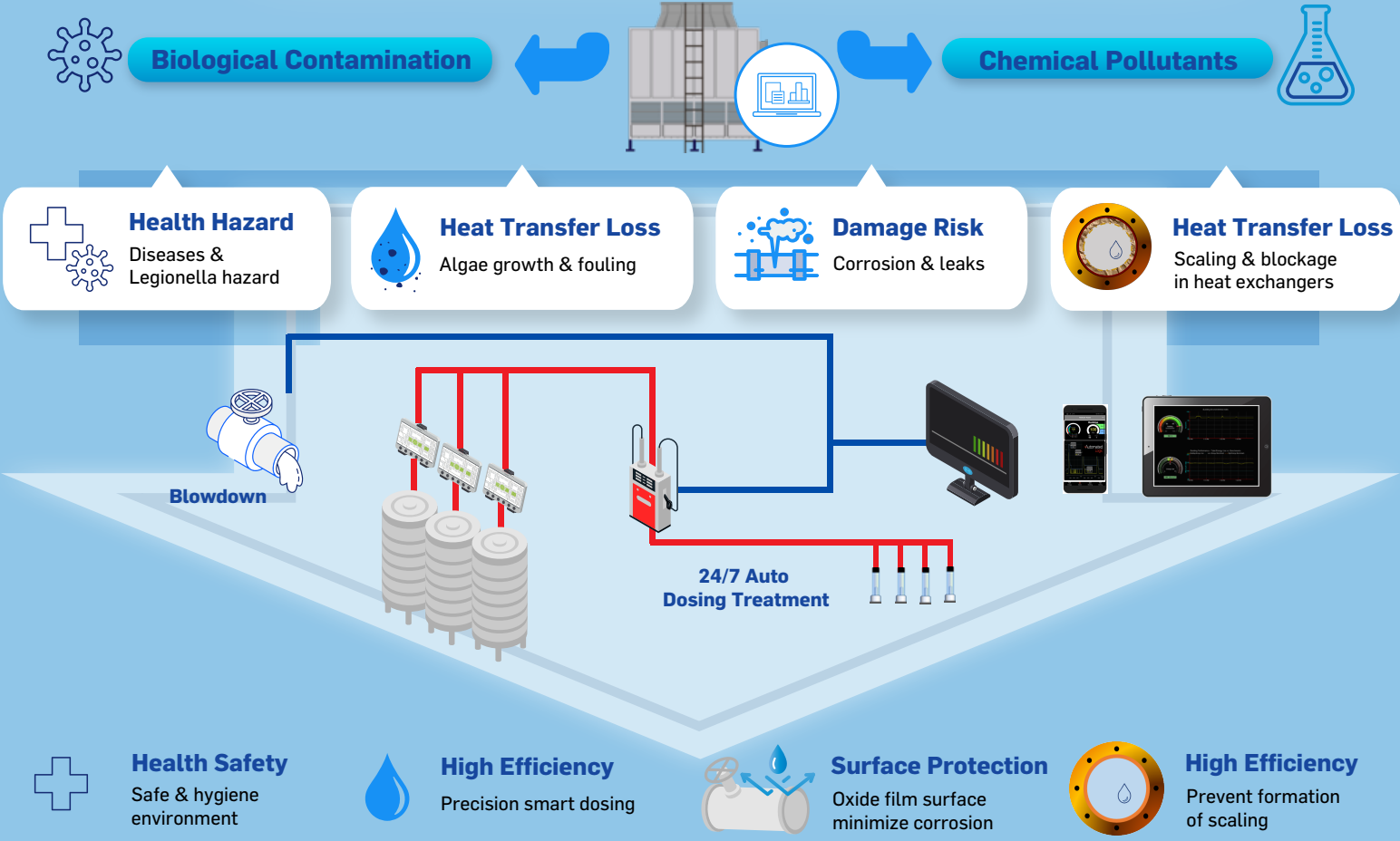


# Green Maintenance of Cooling Tower

Water treatment is widely deployed in cooling tower system to control tower water quality. Traditional water treatment dosing system were reviewed through monthly water analysis result, which often fails to match with the changing building loads and Hong Kong seasonal weather. Now, with Auto Dosing System and Building Management System, you can deploy water treatment online and in real time.

## Online Real Time Monitoring Water Treatment System and Carrier Automated Logic Building Management System

Keep a constant eye on your tower water quality and actively response in real time



### How BMS System Helps in Saving Energy Through Cooling Tower Controls

#### Optimized multiple towers controls

- ✓ Lower entering condensing water temperature (ECWT)
- ✓ Reduce chiller power consumption by resetting the chiller water supply temperature
- ✓ Chiller & tower performance algorithm to determine optional operating sequence

#### Maintain heat exchangers in high efficiency

- ✓ Control the level of fouling in water
- ✓ Prevent build-up of scale in heat exchangers surface
- ✓ Monitor and track heat exchangers performance

#### Control and regulate multiple towers system water flow to balance flow distribution

- ✓ Active control through balancing valve operations
- ✓ Ensure even flow distribution to multiple towers
- ✓ Maintain all towers in optimal performance
- ✓ Reduce operating cost

### How BMS System Prevents Operational Issues in Cooling Tower System

#### Monitor and control cooling tower operation

- Prevent chiller operation issues from extreme condenser water temperatures
- Avoid refrigerant slugging and oil return issue
- Minimize condensing temperature cut out

#### Maintain desired water quality

Keep track of conductivity, acidity and level of inhibitor

Hospital E					
Setting	Trend	Item	Current Value	Status	Setting
		Conductivity	1195.96 $\mu$ S/cm	✓	
		Acidity	8.75 pH	✓	
		Oxidation Reduction Potential	564.96 mV	✓	
		Residual Chlorine	0.91 PPM	✓	

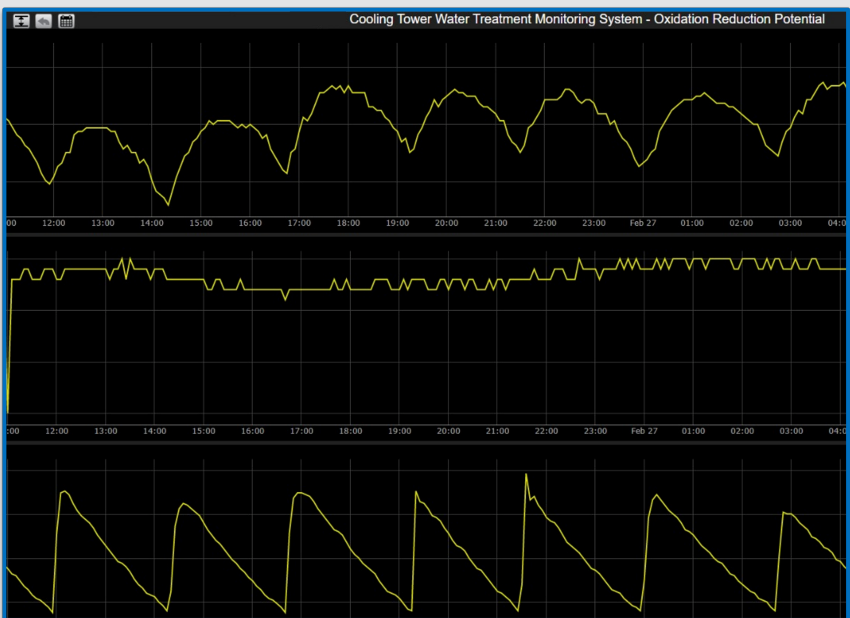
  

Hospital F					
Setting	Trend	Item	Current Value	Status	Setting
		Conductivity	347.28 $\mu$ S/cm	✓	
		Acidity	9.37 pH	✓	
		Oxidation Reduction Potential	428.54 mV	✓	
		Residual Chlorine	1.41 PPM	✗	



Alarm through SMS/ email

Visualise trend and historical data  
No. of build-up of fouling and corrosion  
Prevent blockage of heat exchanger



#### Cooling tower basin level control and alarm alerts

- Detect and monitor basin level
- Diagnostics to determine proper valve operations
- Morning start up and evening shut down sequence
- Maintain correct water level and minimize water usage

#### AI analytics tool

- Legionella risk indicator through AI correlation analysis
- Auto blowdown control using multiple water sensors
- Determine excessive loss of water in system

To find out more, contact your Carrier representatives or email [Chk.service@carrier.com](mailto:Chk.service@carrier.com) for enquiries.

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