TAIRONE

Why are we doing this?

- This machine will eliminate chemicals, reduces water, electricity and manpower.
- Exclusive distributor for Singapore, Malaysia, Indonesia
- Let's do our part for the environment.

AIRone ®

AI Smart Cooling Tower System
Automatic cleaning equipment for cooling tower

E.S.G Environmental Sustainability Business Responsibility

With E.S.G practice as the guideline
The last piece of puzzle in a environmentally-friendly green building

E	**S**	**G**
Environment Sustainable Care	**Social Responsibility Impact**	**Corporation Governance**

The practice of ESG principles can greatly improve the company's business stability and corporate image.

The "GREEN SUPPLY CHAIN" can further improve business interests.

Environmental Friendly – No Chemicals Used

AI Smart Water Tower through electrolysis technology removes calcium, magnesium and manganese from the water. The electrolysis of ions with low solubility is resolved. Through this process, the water quality of scaling is changed by the precipitation of metal ions in the water using electrolysis technology. The change in the concentration of metal ions allows the scale that originally existed in the pipe wall to be released. The scaling is automatically peeled off and removed through the circulating water. Scale reduction improves heat exchange efficiency, and with the use of AI Smart Water Tower system. It is energy-saving and carbon-friendly.

Cooling Tower Efficiency Optimization

5 Major Features

Environmentally Friendly 環保 (1)

- Replace traditional chemical dosing
- Environmentally friendly without chemical pollution

Healthy 健康 (2)

- Remove and prevent limescale effectively
- Destroy harmful bacteria in the human body
- Improved water quality in long term
- Improved ambient air quality

Eefficient 節能 (3)

- Operate without downtime
- Eliminate clogging / increase cooling tower efficiency
- Monitor water quality, temperature & maintaining efficiency

Economical 省錢 (4)

- Small investment / big savings
- Maintain good water quality / save electricity bills
- No-wash water tower / save labor / save water fee
- No risk of chemical lotion corrosion of the pipeline / extended pipeline equipment life

Safe 安全 (5)

- Product Safety – ISO 9001:2015 Quality Certification
- Staff Safety – No manual climbing / No noise
- Installation required no downtime / No cutting
- Intelligent descaling ensures that the air conditioner host operates safely without downtime

Smart System Advantages

Traditional Method	VS	AI Smart Water Tower System
Manual labour cleaning	Management Monitoring	24-hour automatic intelligent operation, APP real-time information mastery
Chemical descaling, manual cleaning of dead corners	Cleaning Methods	Circulating water purification treatment system, automatic sensing, descaling, silent operation
Breeding harmful bacteria, legionella, Escherichia coli, algae, biofilms	Human Health	Eliminate the environment for long-term pathogen breeding, and improve the purified indoor circulating air quality
Chemical agents acids, alkalis, toxicity	Environmental Protection	In line with the world's green environmental protection trend
Need to administer medicine, consume water, consume electricity, consume labor	Savings Efficiency	No need to administer drugs, save water, save electricity, save effort
High Costs	Equipment Efficiency	Lower Life Cycle Costs
Equipment and pipeline corrosion, service life shortening, function degradation	Cost	No equipment and pipelines corrosion, service life extension, optimal function maintenance

Waste = Cost Loss

The effect of scaling on the host

Fouling 0.1 – 0.7 mm,
Power consumption increased by 3%-34%

3%~34%

Energy Consumption

Traditional Cleaning

Time

- ▬ Conventional chemical water treatment
- ▬ Lost energy / cost
- ▬ Use Smart Water Tower System
- ▬ Minimum power consumption for equipment operation
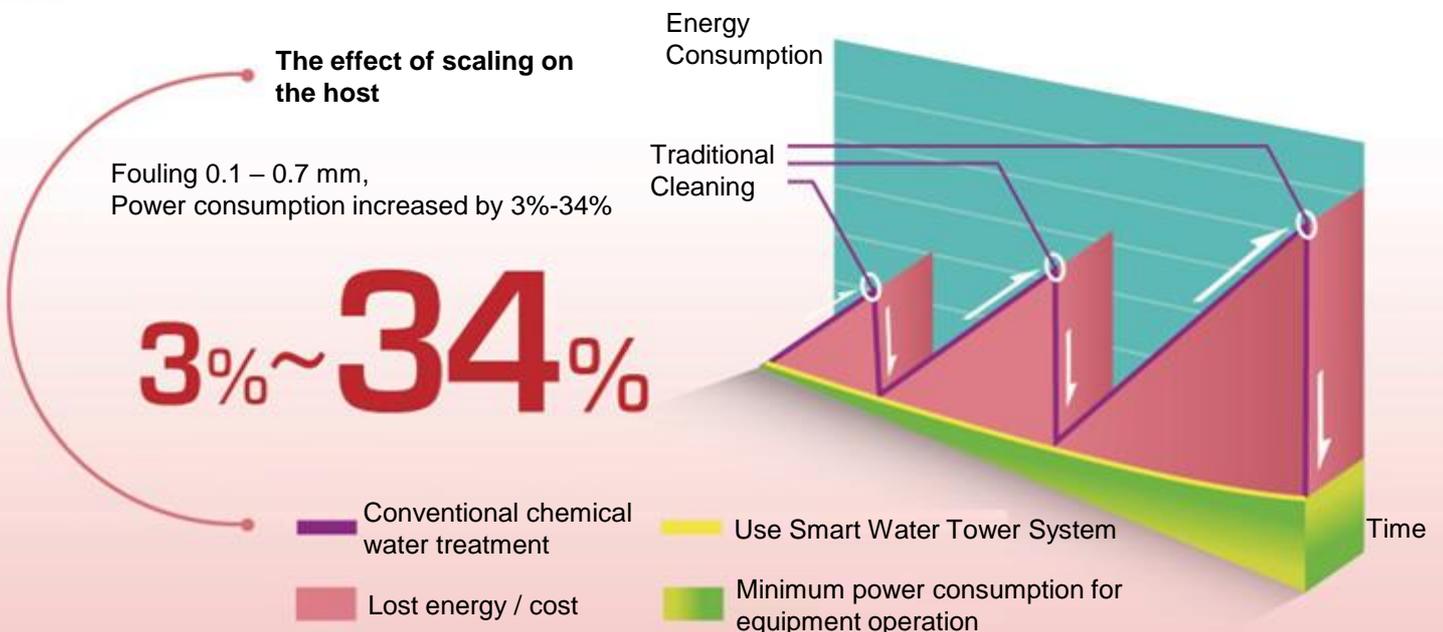
Health and Environmental Effects of Cooling Tower

Immune System

Respiratory Diseases e.g. Influenza, Asthma

Lung Function

Skin Allergies

Gastrointestinal Diseases

Cooling Tower

Air Conditioning

1 Cooling water breeds a large number of harmful bacteria, which are circulated and dispersed through the air conditioning system, posing a health threat to the surrounding environment!
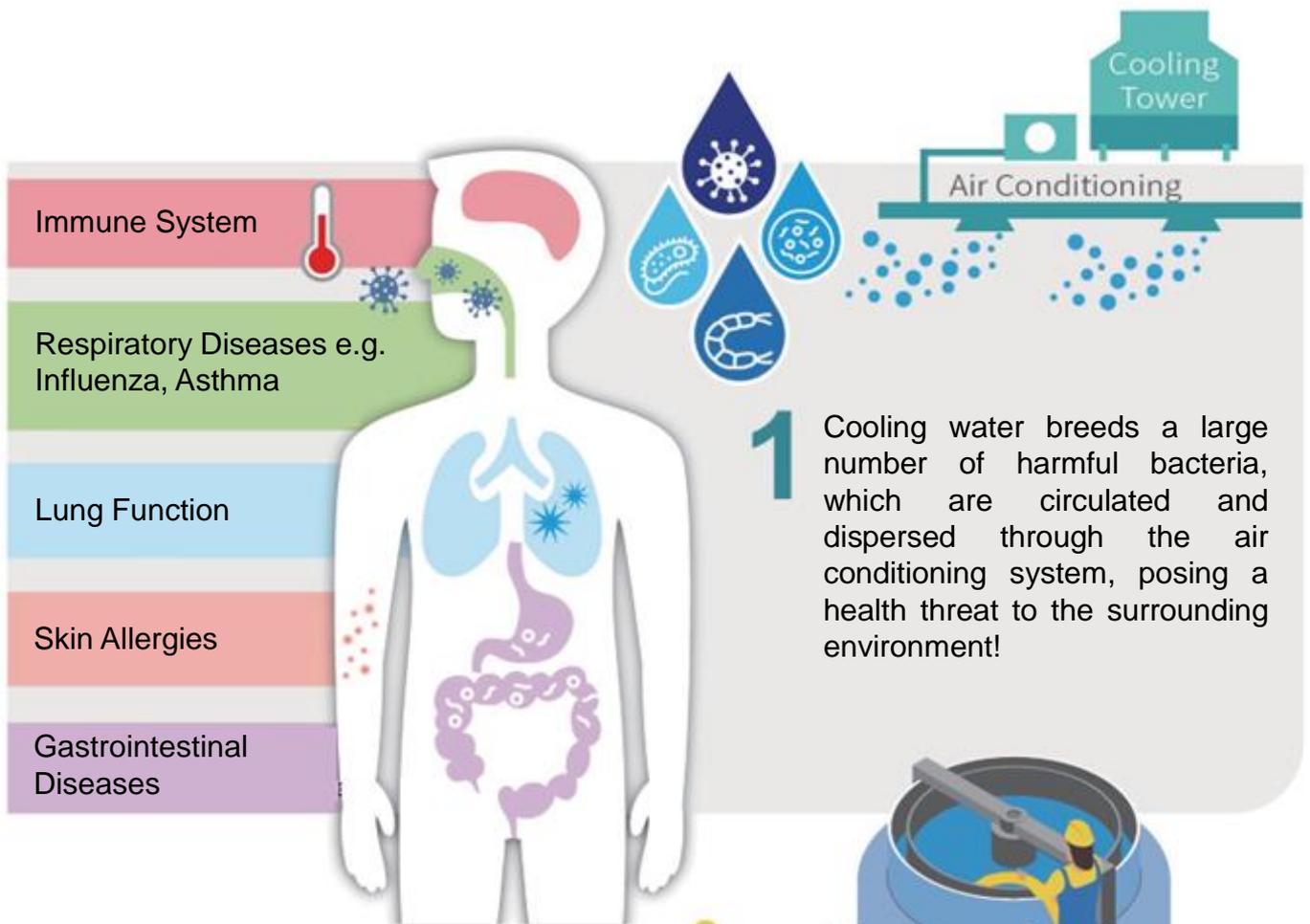
2 In the traditional cleaning process, chemical agents and bacteria are easily contact by the skin. It is also easy to be inhaled through the body due to splashing which endangers health!

3 The traditional use of chemical agents to remove scale, detergent with the wastewater discharge of acid, alkaline and toxicity which damages to the environment!
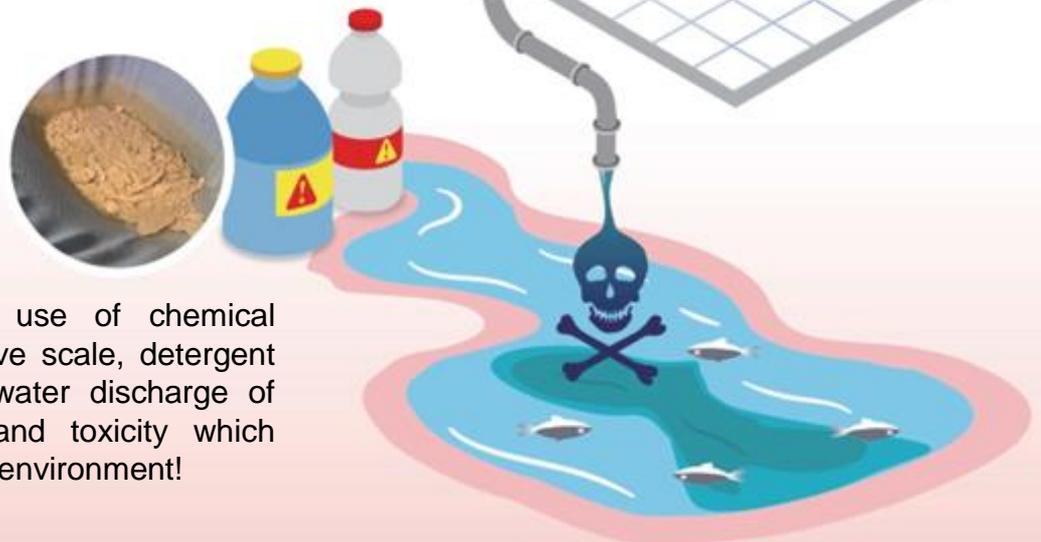
*The content is only a comparison of the difference between chemical dosing and non-chemical.

Industry 4.0 Intelligent Cloud Platform Benefits

IoT Intelligent Water Tower Monitoring System – Remote Monitoring

- The client does not need to install the server software and cloud service customers.
- Real-time water quality data analysis messages can be monitored via mobile APP or tablet.
- Water Tower monitoring points:
  - Ambient temperature and humidity – Water quality hardness – Water Tower intake water temperature
  - Outlet water temperature – Cooling water conductivity – Cooling water pH value
  - Water Tower tightening temperature
- Actively control / detect device operation.
- Support Modbus-TCP and supports the linking of data to the internet with NBIOT Technology.
- The platform is available in three languages: Traditional Chinese, Simplified Chinese, and English.

Conductivity pH Value

Exceptional Warning

Water Quality Hardness

Tightening Temperature

Temperature & Humidity

Intake/Outlet Water Temperature

AI Smart Tower System Specification

Machine Type (Cabinet)	Fully-automatic Economical (Single)	Fully-automatic Standard (Single)	Fully-automatic Exquisite (Single)	Fully-automatic Luxurious (Single)
Specification / Model	TR-W500S	TR-W1000S	TR-W2000S	TR-W3000S
Dimension (WxLxH)	760x760x1575mm	760x760x1575mm	760x760x1710mm	900x760x1845mm
Rated Voltage	2Ø 220 VAC			
Rated Current	5A	8A	10A	16A
Output Power (max)	600W	1000W	2000W	3200W
Direct Current (max)	12A / 48V	20A / 48V	30A / 48V	40A / 60V
Circulating Water	135 LPM	135 LPM	135 LPM	275 LPM
Pipe Diameter	1" Inch	1" Inch	1" Inch	1.5" Inch
Ozone Antibacterial System	Selective	Ozone Concentration 2 g/hr	Ozone Concentration 4 g/hr	Ozone Concentration 5 g/hr
Water Quality Detection System	Selective	◯ Standard	◯ Standard	◯ Standard
Platform Service Equipment	Selective	◯ Standard	◯ Standard	◯ Standard
One-to-many Intelligent Controller	Selective	Selective	◯ Standard	◯ Standard
Remote Monitoring System	Selective	Selective	Selective	Selective
Filtration System	X	X	Selective	Selective

*The company reserves the right to change specifications.

Benefits

1. Mainway blockage reduces from 37% to 2%

Channel Blockage — Before / After

Use for 6 months
2%

Mainway blockage rate

2. Improve Cooling Efficiency +15%

Original Efficiency
Improved Section

+15%up

Improve Cooling Efficiency
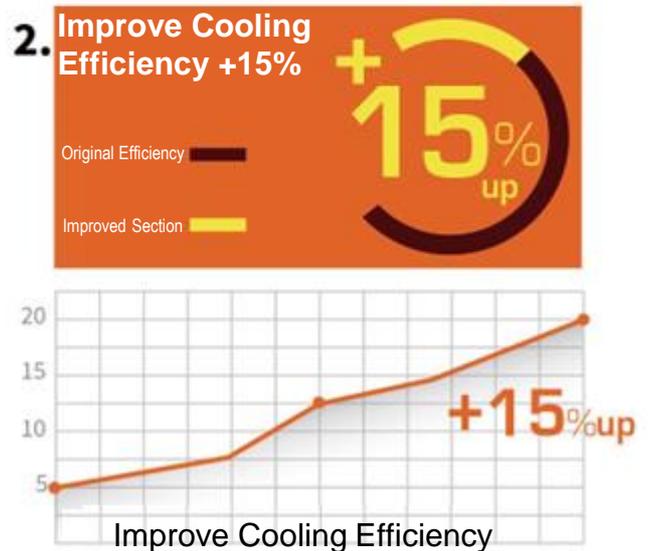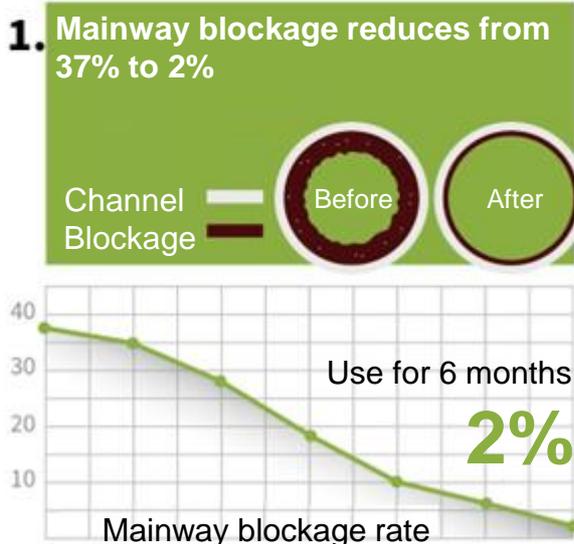
3. Energy-efficient and cost-effective

Water Saving **30%**

3%~ **12%** Energy Saving

Automatically measures these 4 parameters:

- pH
- Conductivity (TDS)
- Hardness
- Temperature

APP Monitoring System

Cooling Tower

Monitoring System

Disinfect according to specifications

Water Pump

Filter (Selective)

Scale Removal

Quality Testing

— Suction Pipe
— Return Pipe
— Sewage Pipe

WATCH WATER®
WATCH WATER
GERMAN PRECISION
ASIAN CONNECTION

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Benefits of Watch Water - <u>AI Cooling Tower</u>

Q1: Where is the main application of AI smart water tower system?
A1: As long as companies, factories, or buildings that use water-cooled central air conditioners, a cooling water tower will be installed. The AI smart water tower system is placed outside the cooling water tower to remove scale attached to the pipe wall and prohibit the formation of new scale.

Q2: Is the old cooling tower suitable for using the AI smart water tower system?
A2: Yes, the copper pipes, pipes and heat dissipation materials of old cooling towers usually have a lot of scale, which seriously affects the performance of the air conditioner, wastes electricity, and even crashes due to high voltage alarms. Using the AI smart water tower system can slowly reduce and remove the attached scale, improving the performance of the air conditioner and save electricity.

Q3: The newly installed air-conditioning system is clean regardless of the copper pipes, pipelines or heat dissipation materials. Do I still need an AI smart water tower system?
A3: Yes, the AI smart water tower system not only remove existing scale, but also prevent new scale from forming. The newly installed air-conditioning system can keep the copper pipes, pipelines and heat dissipation materials clean, so that the entire system can always run at its best.

Q4: We all maintain cooling water towers and hosts by dosing, why use AI smart water tower system?
A4: The AI smart water tower system can effectively maintain the cooling water tower. The sterilization method adopts the "oxygen" system sterilization technology (ozone, chlorine dioxide...), which completely replaces the unfriendly "chlorine" system dosing sterilization method (bromine chlorine Ingots, hypochlorous acid or hypochlorous acid water, etc.), this system uses environmentally friendly means to deal with water quality problems, and can improve COD/BOD at the same time to ensure sewage meet industrial discharge standards, environmental protection and energy saving benefits, in line with Industry 4.0 and E.S.G corporate sustainability Social responsibility, protect the environment.

Q5: Our cooling water tower is scheduled to be cleaned every year, and we don't usually add chemicals. Why do we need to use the AI smart water tower system?
A5: Cooling tower cleaning can only remove the scale and impurities deposited under the water pan, and has limited removal effect on the hard scale attached to the cooling material and pipelines. Therefore, the common phenomenon is that the cooling tower is cleaned regularly for many years, but the scale increases year by year. which means that the effect of cleaning the pipeline scale is still limited. After using the AI smart water tower system, the pipeline scale is automatically peeled off and removed, effectively improving the corrosion of the water pipes, and the performance of the chilled water is naturally gradually improved.

Q6: We have signed a maintenance contract for our cooling towers, when there is high pressure or the temperature is too high, the manufacturer will come to clean the copper pipes. Why do we need to use the AI smart water tower system?

A6: After using the AI smart water tower system for a period of time, the scale in the copper pipe will be removed, and the copper pipe will no longer accumulate scale. The AI smart water tower system is of great help in improving the average performance of the air conditioner for a long time, and the AI smart water tower system can lower the Life Cycle Costs through savings on water, chemicals, manpower and downtime.

Q7: We have 250RT, 500RT, 1000RT water towers, how many AI smart water tower systems will we use in total?

A7: The processing capacity of the 2000RT AI smart water tower system can be used on four cooling water towers at the same time, so 250RT+500RT+1000RT only needs one 2000RT AI smart water tower system.

Q8: What items are covered by the built-in automatic water quality testing of the AI smart water tower system?

A8: The basic items covered by our automatic water quality testing include: water tower approach temperature, PH value, electrical conductivity, TDS, cooling water inlet and outlet temperature, etc. Other items not listed can also be tested according to the needs of individual customers with a nominal fee such as copper ions, iron ions, etc.

Q9: Is it possible to harm the chilled water host by using the AI smart water tower system?

A9: Since the AI smart water tower system adopts the electrolytic descaling technology and the "oxygen system" has a fast sterilization and reduction speed and does not release any halogenated carcinogenic organic substances. In addition to solving the scale problem, it can improve the water quality and the efficiency of the water tower, and maintain the pH value and electrical conductivity of the water quality. The system installation is designed to be external, therefore will not affect the original air-conditioning system and pipelines...so there is no need to worry about endangering the normal operation of the air-conditioning equipment.

Q10: If it is a cooling water tower with serious fouling, will switching to the AI smart water tower system improve the condition of the water tower?

A10: Yes, but it will take time. You can see the scale removal effect of the AI smart water tower system within 3 months. The temperature of the chilled water host will drop or remain unchanged (power saving). The AI smart water tower system is an important feature in normal operations and maintenance.

Q11: When installing the AI smart water tower system for testing, what are the most obvious changes before and after installation that allow us to determine whether the product is effective?

A11: First of all, the change of scale can be clearly observed from the scale around the cooling material and cooling tower. Before installing the AI smart water tower system, the scale attached to the cooling material and around the water tower is hard and difficult to remove. After installing the AI smart water tower system for a period of time, the scale will be significantly less, and the water quality will usually be clearer, and the temperature will decrease.

Q12: How long does it take to achieve the effect of removing scale by using the AI smart water tower system?
A12: After installing the AI smart water tower system, the scale will start to reduce after 1-2 months, and after 3 months, there will be obvious reduction in scale and dirt on the pipes.

Q13: How does the AI smart water tower system save water?
A13: If the conductivity of the circulating water of the cooling water tower is too high, it is easy to generate scale and acid radical ions will remain in the evaporated and concentrated water... etc. It may be necessary to use forced discharge of circulating water to reduce the conductivity. The installation of the AI smart water tower system can remove the scale without forming hard scale on the pipes, so the conductivity can be controlled in the normal range for a longer time, reducing the frequency for blowdown.

Q14: Why is the AI smart water tower system classified as an environmentally friendly product?
A14: Traditional way in treatment of cooling water towers is based on chemical additives sterilization methods, which is a concern for environmental, health and safety. Cycles of Concentration (CoC) & Blowdown (BD) requires plenty of water and chemical dosing when discharged will cause environmental pollution. The AI smart water tower system adopts the "oxygen system" sterilization mode to effectively sterilize, therefore there will be no residual chemical components and issues of pollution.

Q15: How does the AI smart water tower system save electricity?
A15: The AI smart water tower system can remove the existing scale in the pipe wall, and at the same time prohibits the formation of new scale. The water flow pressure is reduced due to the clean pipe wall, which reduces the power consumption rate. At the same time, the heat exchange efficiency is improved after the copper pipe is cleaned. When the outlet water temperature decreases, the approaching temperature of the chilled water main unit will drop or remain unchanged. Effectively saving power consumption,

Q16: If the water tower uses soft water or pure water, there is little or no scaling problem, and the cooling water tower has serious moss and biofilm, what is the effective solution?
A16: Using soft water or pure water as cooling water does have less scale than those without scale, but the use of soft water or pure water has already filtered out the minerals in the water and loses the antibacterial ability (no resistance). It is easy to grow moss and other algae. The number of colonies Very high! Suggestion 1, use tap water or groundwater and use AI smart water tower washing system to effectively remove scale; Suggestion 2, strengthen the "oxygen" system to make the water have antibacterial ability, and install filters to filter algae spores according to the current situation prohibiting biofilm formation.