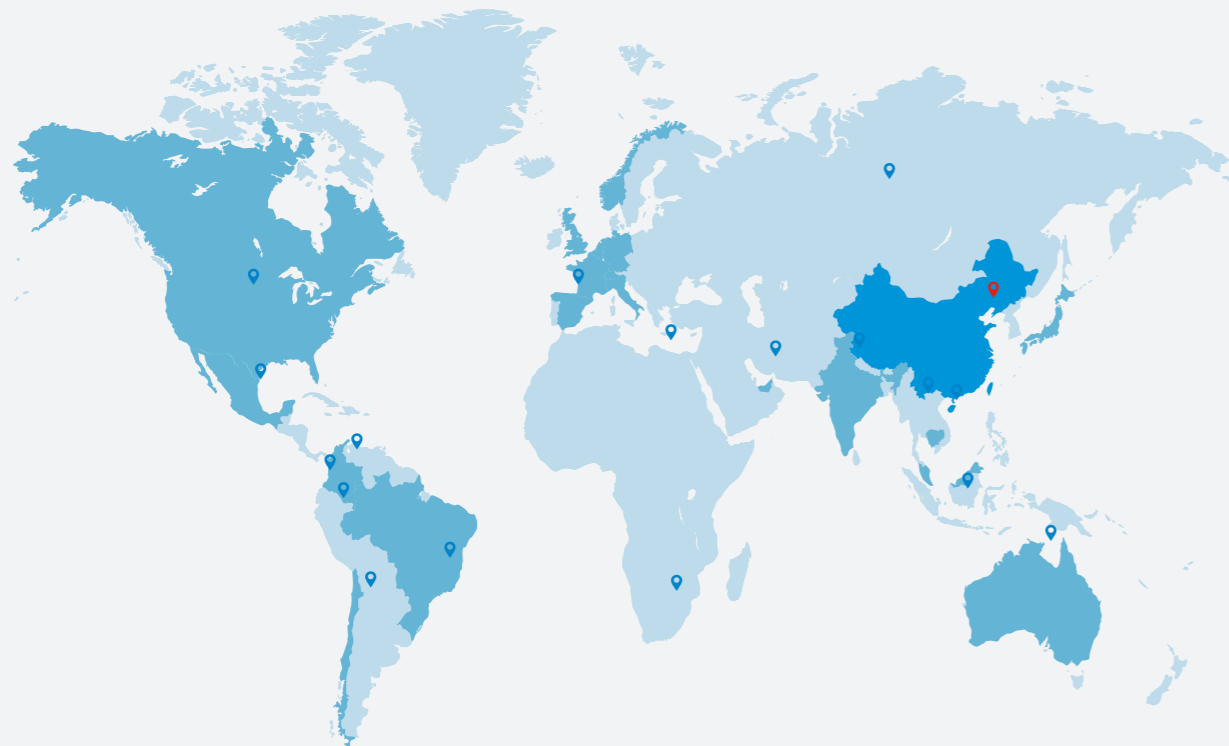


# EVAPORATIVE CONDENSER

PROFESSIONAL EVAPORATIVE CONDENSING EQUIPMENT MANUFACTURER



**Shandong Casen Heat Transfer Technology Co., Ltd**

Add: No.12166 of Lebushan Industrial Zone, Weifang City, China

Mobile: +86 15762539393

Email: [allen@casengroup.com](mailto:allen@casengroup.com)

[www.casencooling.com](http://www.casencooling.com)



Contact With WhatsApp

# About CASEN

- Professional evaporative condenser equipment manufacturer
- Serving in cold chain, cold room, brewery, ice plant, beverage, gas & chemicals
- Established in 2011
- Headquarters is located in Weifang City, Shandong
- Two manufacturing plants
- Sales offices in 12 countries around the world
- Serve customers in more than 50 countries around the world



## CASEN, NOT ONLY A MANUFACTURER OF INDUSTRIAL HEAT EXCHANGERS

Our commitment is to make our clients' jobs easier, their businesses simpler and more efficient, and their lives more sustainable. How we fulfill our promise is simple:

### Constantly innovating

At CASEN, innovative ideas are implanted in the hearts of every employee. We don't just talk about innovation; it actually runs through our entire workflow. In the past ten years, we have accumulated more than 60 invention and utility model patents.

### Design with heart

As a technology-based company, we pride ourselves on having the most experienced engineers and technical teams in the industry. CASEN is firmly committed to providing first-class heat exchange solutions and services to global customers.

### Made by our conscience

CASEN was always adhering to pursue the excellent quality in the past 10 years, our factory owns high-precision modern production equipment, and experienced industrial technicians' team. We have passed the ISO9001, implemented the 6S management system, created high-standard products to user.

### Performance guaranteed

Every CASEN solution undergoes rigorous research and testing to ensure its efficiency and reliability. CASEN design and production conform to international standard, and the products have passed CTI. You can proceed project confidently with our products.

### Protect the environment

CASEN takes environmental protection as its responsibility. From saving electricity and water to reducing noise and eliminating chemicals, we continue to optimize the structure and develop new technologies to contribute to the sustainable development of mankind!



# EVAPORATIVE CONDENSER INDUSTRY APPLICATIONS

## Unique Design

Evaporative condenser operates by rejecting condenser heat through the evaporation of spray water. CASEN evaporative condenser is an induced-draft evaporative condenser with patent-pending heat transfer technology. Its unique design reduces refrigerant charge and lowers energy consumption.

We offer a range of evaporative condensers designed to handle ammonia, freon and other chemicals. Our products cater to various refrigeration systems operating in varied climatic conditions. And CASEN will help you determine which is right for your evaporative cooling application.



## Provide Lower Condensing Temperatures

Evaporative condensers provide heat rejection service for many types of systems. We will choose the right item for client's project.

Compared to conventional air-cooled and water-cooled condensing systems, CASEN evaporative condensers provide lower condensing temperatures and can offer significant horsepower savings. The owner saves money while conserving natural resources and reducing environmental impact.

## Industry Applications

With refrigeration compressor, CASEN evaporative condenser can be used in cold room, cold chain, HVAC, brewery, ice cream plant, beverage plant, ice plant, meat processing, sea food, dairy, quick-frozen food, pharmaceutical and so on. And it also can be used for gas & chemical condensation.



Cold Chain



Cold Room



Brewery



Ice Plant



Beverage



Gas & Chemicals

CASEN is committed to make personalized professional plan for clients, now has successfully used in many fields and accumulated plenty experience. In the future, we will add research investment to expand our research advantages, to serve more fields and create a whole refrigeration kingdom.

# PRODUCT DESIGN FEATURES

## Sufficient heat transfer capacity, leaving a margin for selection

Our evaporative cooling is advanced in design, offering users a variety of operational and performance advantages. Evaporative condenser designed according to CTI Standard STD-201(21) and its performance is 100% up to standard. There is a margin for the selection of evaporative cooling to achieve 100% satisfaction of the user's cooling requirements.



## CASEN Efficient-Elliptic® Tube

- Effectively improve conversion efficiency
- Increase water load
- Effective cost savings
- Refrigerant charge
- The arrangement is tighter, the layout is reasonable, and the wind resistance is small



Optional: Efficient-Elliptic® Tube, Round tube, etc.

## Automatic control

Provide customized control cabinet  
More convenient and intelligent

- Identify the temperature signal to start or shut down the corresponding motor/fan to achieve economical operation and save energy.
- PLC intelligent control unit, automatic adjustment, intelligent alarm.



## Low power axial fan

Low power consumption

- Efficient axial fan design
- Corrosion resistant aluminum construction

Optional: Frequency / non-frequency conversion control



## Modular design

Compact structure / Light weight / Easy layout

- Structured box design reduces the amount of on-site engineering installations
- Assembled from standard parts under strict quality control conditions
- The new version of high-strength PosMAC 3.0 material casing is easy to disassemble and maintain



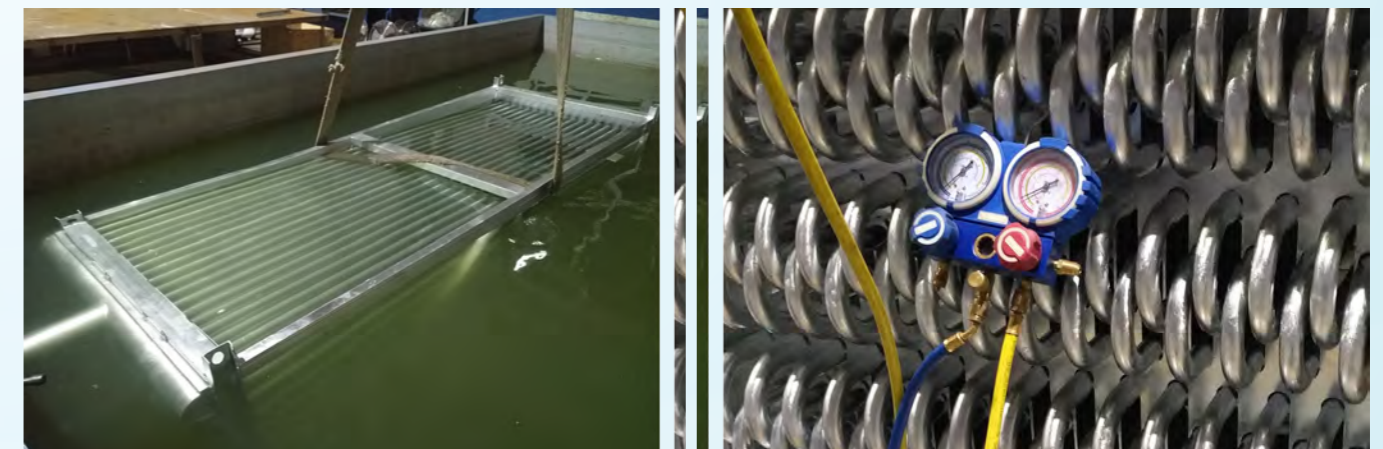
## Customized products according to field conditions

- Anti-freeze design
- Low noise design
- Antifreeze deicing
- Automatic control system
- Various material options for coils - HDG SS304 tube



## Strict factory inspection

- We strictly follow the ISO quality management system.
- Strict testing procedures are carried out before the equipment leaves the factory: condenser pressure test, electronic control system test, equipment trial operation, etc., to ensure that the equipment meets the standards.



# KEN- COUNTER FLOW TYPE EVAPORATIVE CONDENSER

As a typical counter flow evaporative condenser, KEN evaporative condenser offered excellent heat transfer ability. Compact structure design and lower power, make it easier for the confined space shipment and installation. KEN evaporative condenser can be used in all outdoor applications, especially in high temperature fluid process and dirty environment. And the unit can also operate in dry mode without water during low load and cold weather.

## Key Benefits

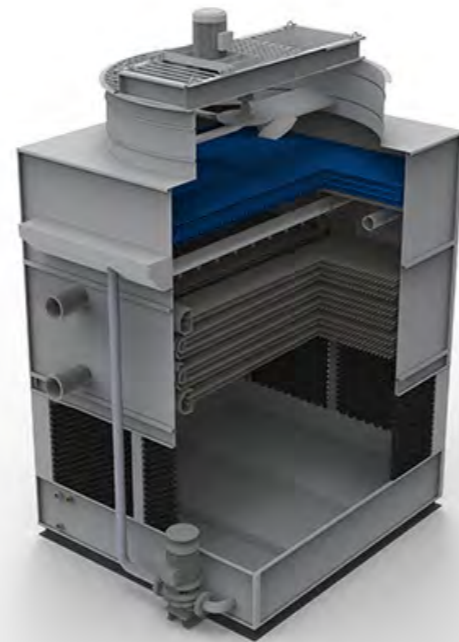
- 100% heat rejection guarantee
- Reliable
- Compact
- Anti freezing

## KEN Characteristics

- Counter flow, axial fan, induced draft
- CTI Standard STD-201(21) Coil Design
- Capacity range 100 - 3000KW (For single cell models, nominal R717 KW, suitable to container delivery)

## Typical Applications

- Tight enclosures, sandy and windy area installations
- Limited plan area installations
- Indoor installations
- Dry operation in winter time
- Anti-freezing in cold winter area

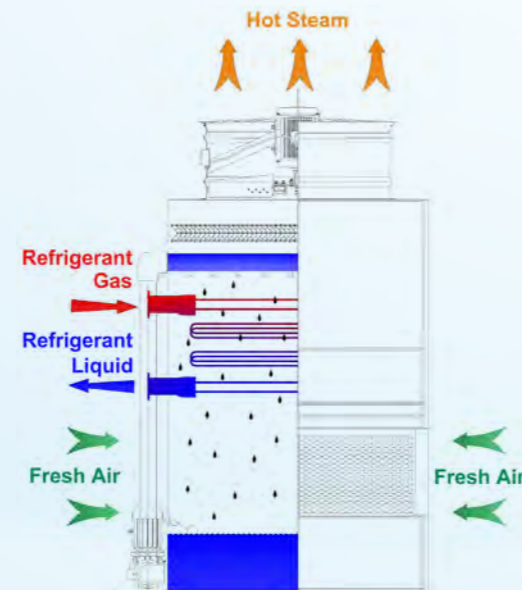


## PRINCIPLE OF OPERATION

The refrigerant gas discharges from the compressor into the inlet connection of the KEN evaporative condenser.

Water from the condenser's sump circulates over the condenser coil, while ambient air is simultaneously drawn the air stream.

The evaporative process cools the spray water, which in turn cools the tubes containing the refrigerant gas. The cool tube walls cause the refrigerant gas to give up heat and condense into a liquid. The condensed liquid flows out of the coil, to the high-pressure liquid receiver for return to the system. The hot, saturated discharge air is drawn through the drift eliminators and discharged into the atmosphere. The unevaporated water falls into the basin and recirculates to the water distribution system above the condensing coil section.



# KEF- CROSS FLOW TYPE EVAPORATIVE CONDENSER

KEF evaporative condenser is a combined flow evaporative condenser and the PVC fill can cool the industrial process fluid effectively.

A special coil design is utilized to reduce the air pressure drop through the unit while maximizing tube surface area and increasing its heat transfer capabilities.

## Key Benefits

- 100% heat rejection guarantee
- Reliable
- With fill cooling, cost effective
- Large maintenance space

## KEF Characteristics

- Cross flow, axial fan, induced draft
- CTI Standard STD-201(21) Coil Design
- Capacity range 100 - 3000KW (For single cell models, nominal R717 KW, suitable to container delivery)

## Typical Applications

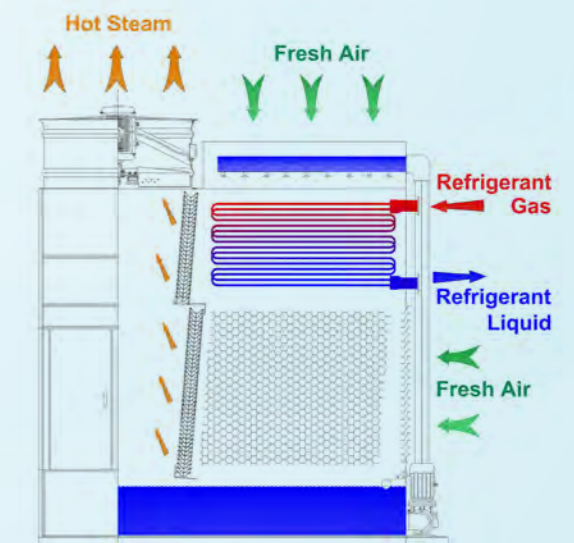
- Installation requires a single air inlet
- Indoor installations
- Hot ambient temperature area installation



## PRINCIPLE OF OPERATION

KEF evaporative condenser is a combined flow evaporative condenser and the PVC fill can cool the industrial process fluid effectively.

A special coil design is utilized to reduce the air pressure drop through the unit while maximizing tube surface area and increasing its heat transfer capabilities.



# KEH- HORIZONTAL FLOW TYPE EVAPORATIVE CONDENSER

KEH evaporative condenser is a horizontal flow type evaporative condenser with PVC fill above the heat exchange coil. It is suitable for large industrial refrigeration projects.

In the process of circulation, the spray water reduces the water temperature through the PVC heat sink (filler), and flows in the same direction with the fresh wind. The coil mainly relies on the spray water for heat exchange. The lower the spray water, the better the cooling effect. An important feature of such an operating principle is the maximum possible suppression of the coil volume. Thus, reducing costs.

## Key Benefits

- 100% heat rejection guarantee
- Reliable
- With fill cooling, cost effective
- Large maintenance space

## KEH Characteristics

- Horizontal flow, axial fan, induced draft
- CTI Standard STD-201(21) Coil Design
- Capacity range 100 - 3000KW (For single cell models, nominal R717 KW, suitable to container delivery)

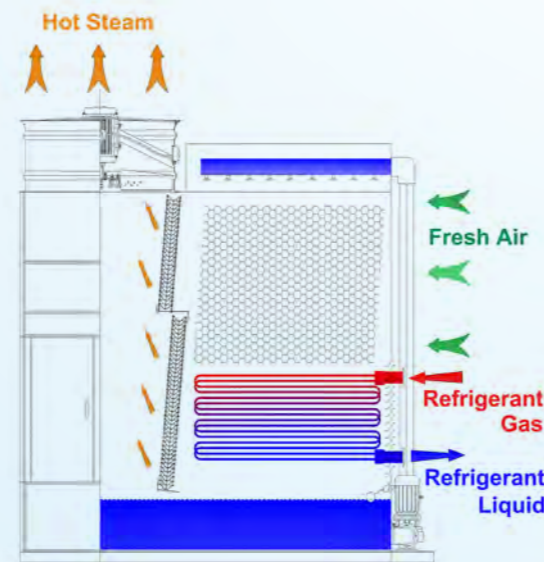
## Typical Applications

- Installation require a single Air inlet
- Indoor installations
- Suitable for large projects



## PRINCIPLE OF OPERATION

The hot refrigerant gas enters the condenser coil at the bottom of the unit. Cooled water from the unit basin is pumped and sprayed over the condenser coils, and ambient air is simultaneously drawn into the unit from both side of fill and coil, that is cross flow to the spraying water. With less wind resistance, the heat rejection can be increased significantly. KEH condensing process is similar to KEF type.



# KEG- FORCED DRAFT EVAPORATIVE CONDENSER

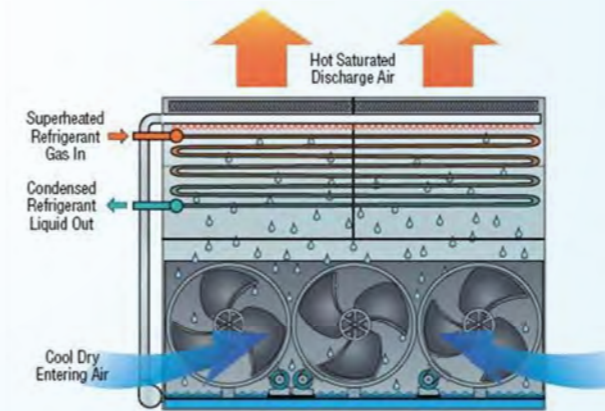
Forced Draft evaporative cooling is a mechanically ventilated condenser with a fan installed at the air inlet. Relying on the fan at the lower part of the tower, the cold air outside the tower is forcibly sent into the tower through the air inlet duct. Mainly used in small cooling towers or cooling towers where water is aggressive to fans.

## PRINCIPLE OF OPERATION

### Evaporative Mode

The refrigerant gas is discharged from the compressor into the inlet connection of the evaporative condenser. Water from the condenser's sump is continuously flooded over the condenser coil, while ambient air is simultaneously forced into the unit. As the ambient air moves up through the coil section, a portion of the spray water is evaporated into the air stream.

The evaporative process cools the spray water, which in turn cools the tubes containing the refrigerant gas. The cool tube walls cause the refrigerant gas to give up heat and condense into a liquid. The condensed liquid flows out of the coil's sloping tubes to the high pressure liquid receiver for return to the system.



The hot, saturated air is driven through the drift eliminators, where any entrained water droplets are removed. The hot saturated air discharges out of the top of the unit at a high velocity, where it can dissipate harmlessly into the atmosphere. The water which was not evaporated falls into the sump and is recirculated by the spray pump to the water distribution system above the condensing coil section.

### Dry Mode

The refrigerant gas is discharged from the compressor into the inlet connection of the condenser. Cool ambient air is forced into the unit and moves over the heat transfer coil. The air is warmed as the cool tube walls cause the refrigerant gas to give up heat and condense into a liquid. The condensed liquid flows out of the coil into a high pressure receiver for return to the system. The hot discharge air continues through the drift eliminators and where it can dissipate harmlessly into the atmosphere.

## Key Benefits

- 100% heat rejection guarantee
- Lower horsepower options
- Low sound fan
- Flexible design
- Significant water savings

## KEF Characteristics

- Individual fan drive system, super low sound axial fan, induced draft
- CTI Standard STD-201(21) Coil Design
- Capacity range 100 - 3000KW (For single cell models, nominal R717 KW, suitable to container delivery)

## Typical Applications

- Suitable for serious water shortage area
- Suitable for areas with strict noise requirements
- Limited plan area installations
- Indoor installations
- Dry operation in winter time



# PLATE TYPE EVAPORATIVE CONDENSER

The Casen Plate Type Evaporative Condenser are highly efficient condensers which are based on Pillow Plate technology. These condensers have obvious upper hand compared with the old coil-based technology, as they offered higher efficiency due to high heat exchange coefficient.

## ▶ Key Benefits

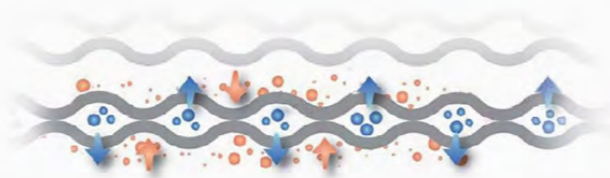
- Higher heat exchange coefficient.
- Lower energy consumption.
- Easy maintenance, pillow plate bank can easily be cleaned even by a layman.
- Longer equipment life.
- Easy to replace any damaged plate.
- Very slow scaling as compared to traditional technology.

## ▶ Typical Applications

- Highly suitable for sub-continent atmospheric condition.
- Limited plan area installations

## ▶ Key Characteristics

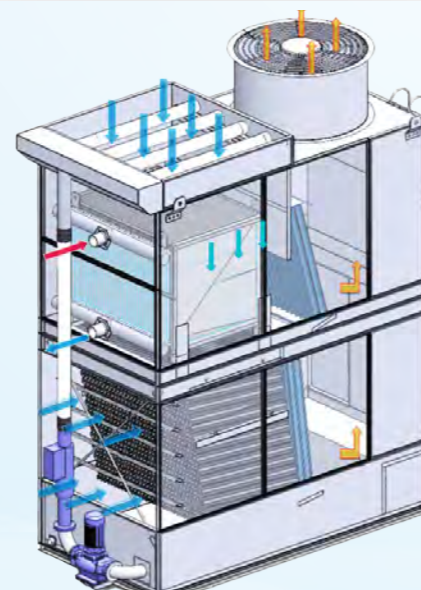
- Metal plate heat exchanger, individual fan drive system, axial fan
- CTI Standard STD-201(21) Coil Design
- Capacity range 100 - 3000KW (For single cell models, nominal R717 KW, suitable to container delivery)



## PRINCIPLE OF OPERATION

The cooling water is evenly sprayed from the upper part of the plate tube group to the outer surface of the plate tube to form a thin water film. After the water film absorbs heat, part of it is converted into water vapor. The fan at the top of the unit draws air into the unit, swept over the water film, strengthens heat exchange, and promotes the evaporation of the water film; Endothermic cooling, falling into the bottom sump. Then the fan discharges hot air and water vapor.

The water in the sump flows into the water tank and circulates as spray water through the cooling water pump. A water level regulator is set in the water collection tank to automatically supplement the cooling water volume.



# KEJ-HYBRID TYPE EVAPORATIVE CONDENSER

KEJ evaporative condenser is a hybrid type condenser with fin tube unit. It is designed for the water saving and plume abatement. And it can also reduce the evaporation to minimize the tendency of furring on the coil and following problems. It can operate under dry model while low load.

## ▶ Key Benefits

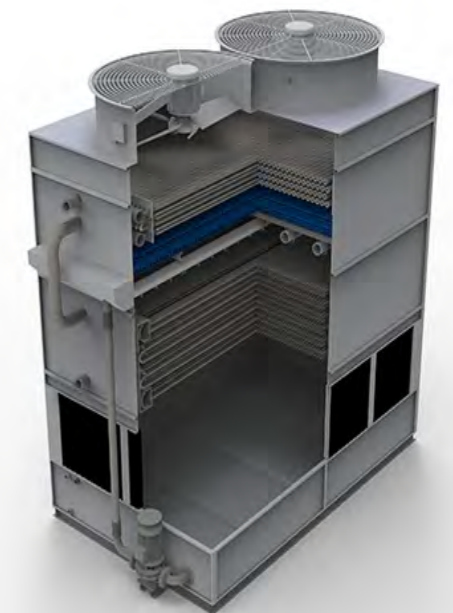
- 100% heat rejection guarantee
- High temperature resistance
- Reliable
- Compact
- Anti-freezing

## ▶ KEN Characteristics

- Precooling fin design, axial fan, induced draft
- CTI Standard STD-201(21) Coil Design
- Capacity range 100 - 3000KW (For single cell models, nominal R717 KW, suitable to container delivery)

## ▶ Typical Applications

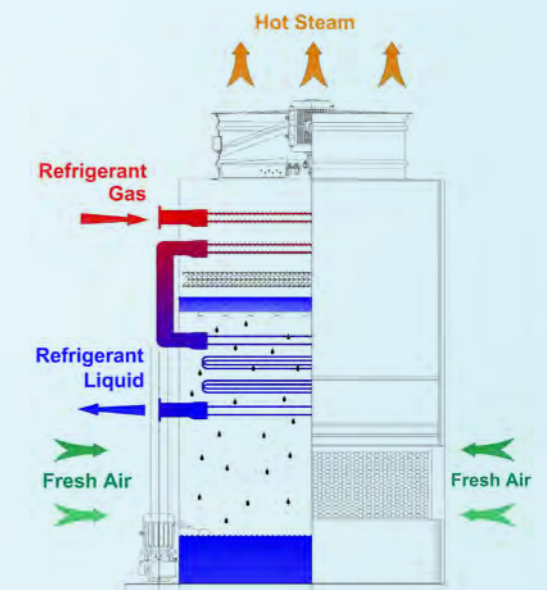
- Suitable for serious water shortage area
- Suitable for high temperature steam condensation
- Limited plan area installations
- Indoor installations
- Dry operation in winter time



## PRINCIPLE OF OPERATION

In the KEJ evaporative condenser, the fin tube unit is positioned above drift eliminator and under the fan. The process gas goes through the fin tube unit at first, then through the below coil part. A portion of the load is dissipated to the atmosphere through the tube walls and fins through sensible heat transfer at the fin tube unit, so less heat needs to be rejected at the coil part, that means less water evaporation. And the gas is condensed to liquid at this process.

Water is pumped from bottom basin and sprayed over the below coil. At the same time, ambient air is induced by axial fan to coil surface and fin tube surface. On the coil surface, enough latent heat and sensible heat is exchanged between air and water, that let process gas give up heat and condensed to liquid. Then the hot and saturated air is drawn through the drift eliminator and fin tube, and the possible plume will be abated by fin tube, then discharged into the atmosphere. The unevaporated water falls into the basin and goes to the recirculation again.

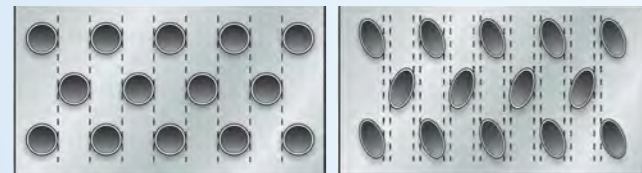


# PRODUCT DESIGN DETAILS

## 01. CASEN *Efficient-Elliptic*® HEAT TRANSFER TUBE

The oval coil used in CASEN's latest evaporative condenser. The elliptical tube design maximized the effective tube surface area while lowering airside pressure drop and allowing for higher water loading. The combination of the elliptical shape tube in the *Efficient-Elliptic*® orientation increased heat transfer efficiency and resulted in the most capacity per plan area of any evaporative condenser on the market.

Oval tube coil utilized the same material tube introduced in the original coil, but changed the orientation of the tubes to improve the tubes air to water interface for increased heat transfer efficiency.



Round Tube Coil Others

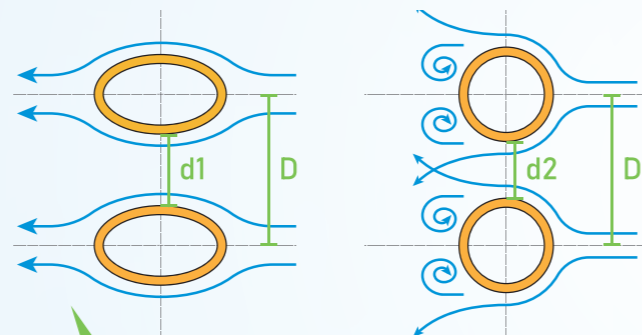
*Efficient-Elliptic*® Tube Coil

### Key Benefits

- Effectively improve conversion efficiency
- Low wind resistance
- High wind speed
- Low energy consumption
- Increase water load
- Use less refrigerant
- Reduce weight
- Reduce the cost
- Tighter arrangement

### K1: Low Wind Resistance

Under the same windward area, the net flow area of the elliptical tube heat exchanger is 17%~22% larger than that of the round tube heat exchanger.



No air escape, less turbulence

The air escape, more turbulence

### K2: High Wind Speed (3.2m/s No air escape)

For heat exchangers with the same air volume and windward area, the actual net flow passage of the elliptical tube reduces the wind speed by 15-18%;

No water droplets fall inside

Part of the water fall inside



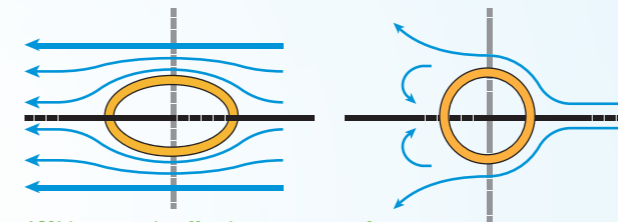
The wind speed on the heat exchanger: 3.2m/s



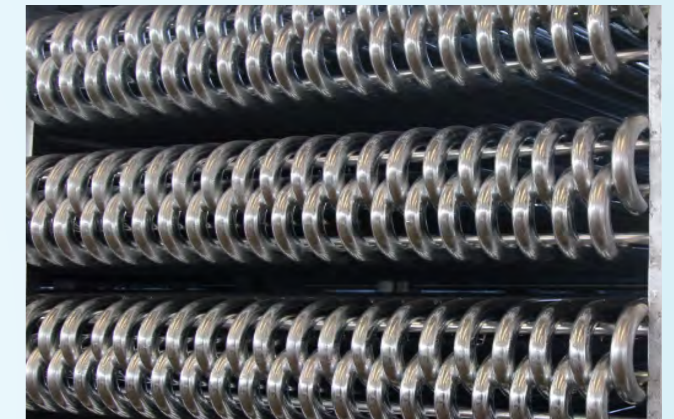
The wind speed on the heat exchanger: 3.5m/s

### K3: High Performance

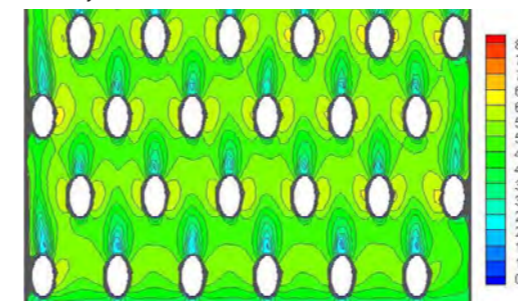
*Efficient-Elliptic*® heat transfer tubes have 40% more effective contact surface area than round tubes.



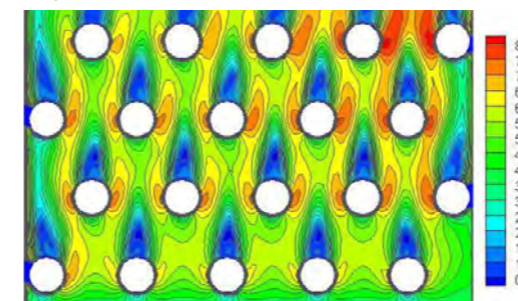
40% increase in effective contact surface area



Velocity distribution (circle, v=3m/s)

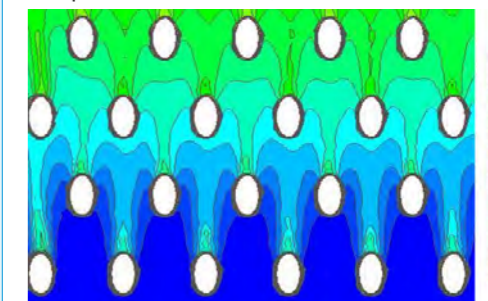


Elliptic Tube

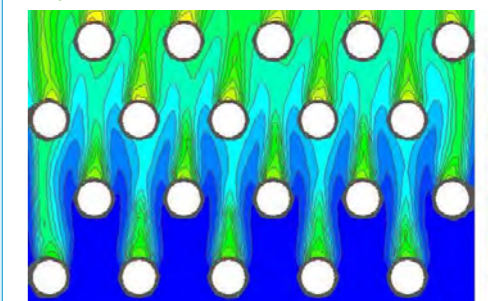


Round Tube

Temperature distribution (circle, v=3m/s)



Elliptic Tube



Round Tube

Airflow Direction



## 02. AXIAL FAN

Optional Antifreeze Design: Vibration Module, Heating Tube, Reverse Rotation

Particularly suitable for operation at high altitudes and extreme temperatures.

Direct drive axial fan with carbon fiber blade, angle index can be adjusted if needed.

- Siemens / WEG brand motor
- Protection class IP55/IP56, insulation class F
- Explosion- proof motor available



## 03. PosMAC3.0 CASING

Optional Material: PosMAC3.0, GL, Super Glum, SS304, SS316

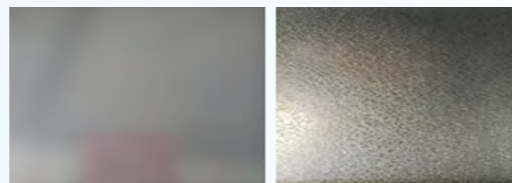
PosMAC3.0 (POSCO Magnesium Aluminum alloy Coating product) is a ternary alloy coated steel (Zn- 3%Mg- 2.5%Al) with high corrosion resistance developed with technology of POSCO Group Korea.

The steel casing is modular construction with galvanized bolt, PosMAC3.0, corrosion resistant, easier assembly and reduces site installation cost.

PosMAC3.0 is a corrosion resistant product that is 5 to 10 times stronger resistance than that of a normal hot-dip galvanized steel sheet (GI, GI(H)) with the same coating weight. PosMAC3.0 has an excellent cross-section corrosion resistance

Salt spray test: osMAC3.0 vs Ordinary steel plate

CCT	CCT															
	GI(H)				Galvalume				PosMAC3.0							
The coating weight on both sides	120g/m <sup>2</sup>	200g/m <sup>2</sup>	300g/m <sup>2</sup>	600g/m <sup>2</sup>	100g/m <sup>2</sup>	140g/m <sup>2</sup>	200g/m <sup>2</sup>	275g/m <sup>2</sup>	120g/m <sup>2</sup>	200g/m <sup>2</sup>	300g/m <sup>2</sup>	600g/m <sup>2</sup>	100g/m <sup>2</sup>	140g/m <sup>2</sup>	200g/m <sup>2</sup>	275g/m <sup>2</sup>
10 cycle (60hr)																
70 cycle (560hr)																
120 cycle (960hr)																



PosMAC3.0 Ordinary steel plate

PosMAC3.0 shows 5 to 10 times the corrosion resistance compared to galvanized steel sheet on flat surfaces.

In addition, PosMAC3.0e shows equal or greater corrosion resistance than galvalume on flat surfaces.

## 04. AIR INLET LOUVER

Air inlet louver is constructed of corrosion resistant PVC grill or steel louver, and the shape can minimize air resistance and prevent bacterial breeding caused by direct sunlight.

- Widely spaced to eliminate louver plugging and facilitate cleaning
- Removable for unhampered access



## 05. SPRAY WATER DISTRIBUTION SYSTEM

- One self-balance buffer chamber
- PVC water distribution branches
- ABS large orifice and 360 non-clog nozzles



## 06. FILL

Fills are designed to with the most suitable flame-retardant PVC material to give the best thermal performance, impervious to rot, decay and biological attack.

- Widest range of flute geometries PVC with 42% oxygen index, fire classification M2
- Working temperature 65
- Thickness: 0.3 -0.4 mm



## 07. DRAINAGE OUTLET

Drain the water basin when idle or changing the water.



## 08. PUMP

Close-coupled centrifugal pump equipped with a mechanical seal mounted on basin.

- Siemens/WEG motor
- Protection IP55/IP56
- Insulation class F
- One bleed line with metering valve



## 09. MAKEUP WATER SYSTEM

Water inlet pipe with filter screen. Stainless steel ball float valve can control a reasonable water level.



## 10. PRESSURE GAUGE

It can monitor the process fluid pressure all time, that can ensure a stable running.



## 11. AUTOMATIC CONTROL SYSTEM



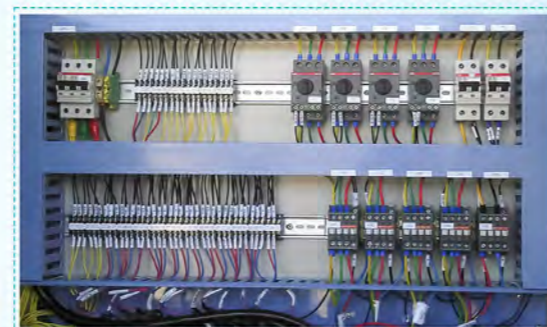
All-intelligent industrial control system, liberates labor, checks equipment operation status anytime, anywhere, equipment fault alarm, remote control, etc., intelligent operation balances the environment and the owner's requirements, intelligently controls the air volume, spray water volume and the system operation mode not only meets the owner's process requirements, but also makes the equipment more stable and efficient.

### Automatic Control Cabinet

Maximize the water or energy savings of your condenser with Automatic control cabinet! The Automatic control system operates the unit in a manner which maximizes water or energy savings, based on the client's water or energy savings priority. Identify the temperature signal to start or shut down the corresponding motor/fan to achieve economical operation and save energy.

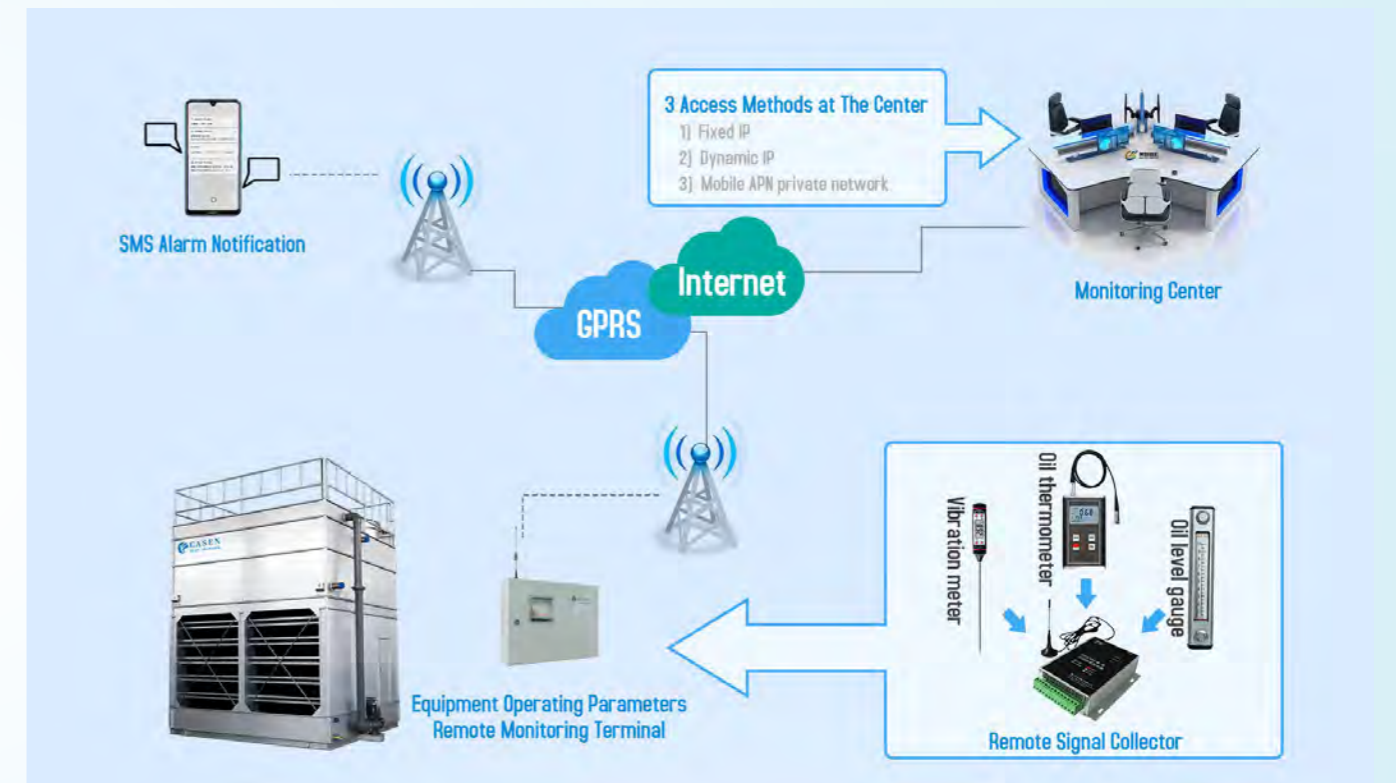
#### Control Features

- PLC intelligent control unit
- Manual operation of pumps and fans
- Ability to enable or disable make-up valve
- Power failure recovery timer
- Visual status display of all unit components and accessories
- Backup with user settings and factory settings
- Pump run time recorder
- Fan motor run time recorder



## CASEN "Intelligent Cooling Cloud" Management and Control System

CASEN "Intelligent Cooling Cloud" management and control system is committed to the intelligent management and online service of the circulating cooling system. It collects the operating parameters of the circulating cooling system equipment in real time through the industrial Internet of Things technology, transmits the data to the cloud through edge computing, develops an intelligent management APP based on the SaaS technology architecture, and provides online and offline integrated services for end users, in order to achieve more efficient The temperature control, water saving and energy saving solutions of the circulating cooling system provide the basis for diagnosis, and automatically adjust the operating status.



### CASEN "Intelligent cooling Cloud" Management

The technology includes three parts: industrial water big data cloud platform, industrial circulating cooling water big data cloud platform and industrial wastewater big data cloud platform. Manage cloud platforms. The cloud platform system has a built-in professional model to classify, cluster, compare, and analyze data, and automatically output analysis results (system operating status, pollution trend curve, report, early warning and alarm status, treatment plan, etc.) Real-time monitoring, operation management and optimization of industrial water treatment systems.

### "Expert" Troubleshooting

The so-called "expert" fault diagnosis is an intelligent computer program that can carry out "self-learning, self-simulation and inference" at the level of human experts. Its existence, through the collection of big data and the accumulation of operating status, comparative analysis of minor anomalies in the system, in order to determine the possible faults in the continued operation of the system in advance, and then transmit information to the upper computer until the problem or abnormality is solved. to avoid the loss caused by processing after the failure occurs.

# PRODUCT SOLUTIONS

## Automatic Control System

All-intelligent industrial control system, liberates labor, checks equipment operation status anytime, anywhere, equipment fault alarm, remote control, etc., intelligent operation balances the environment and the owner's requirements, intelligently controls the air volume, spray water volume and the system operation mode not only meet the owner's process requirements, but also makes the equipment more stable and efficient.



## Shock Absorption and Noise Reduction

Our evaporate condenser meets users' requirements for noise reduction through various technologies, such as installing noise reduction fans, fan mufflers, equipment noise reduction barriers, falling water energy dissipation and noise reduction materials, and water pump soft connections. We need to provide an effective solution that does not affect the operation of the equipment according to the actual operating requirements of the customer and the environment.



## Energy Saving

We make the equipment more energy-efficient by continuously improving the equipment structure, such as adding automatic control systems, use CASEN Efficient-Elliptic Heat Transfer Tube instead of round tube. The improvement of heat exchange efficiency can reduce greenhouse gas emissions and slow down global climate change. At the same time, improve user experience and reduce costs.



## Save Water

Depending on the ambient temperature, you can choose to run the device in dry mode, dry-wet mixed mode, and wet mode. CASEN has the research and development patent of dry adiabatic cooling technology, which can achieve efficient cooling while saving water, and catch up with the international advanced!



## Extend the Service Life

Extend the service life of the equipment: there are drains at all the folds of the equipment to ensure that the equipment is dry; different types of equipment are designed in different areas, for example, in hot and humid areas, downstream and cross-flow equipment are mainly used, and dry-cold counter-current equipment is Mainly, regular descaling and cleaning to ensure that the surface of the heat exchange coil is smooth and clean.



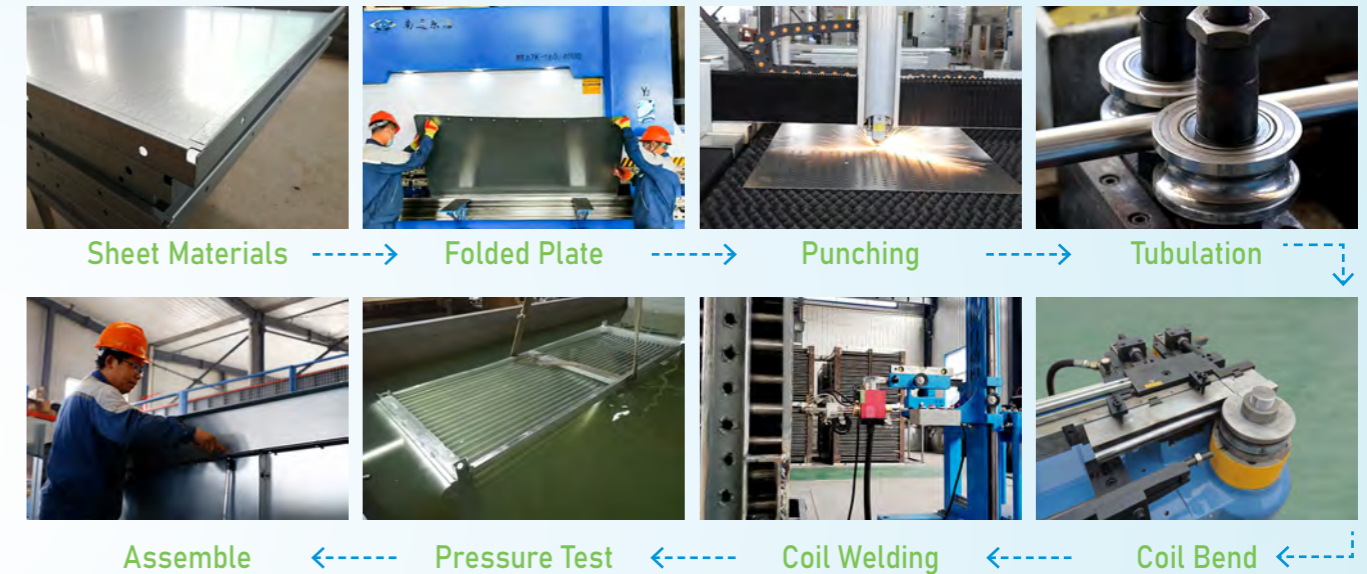
## Antifreeze Deicing

We provide a complete set of anti-freezing solutions: anti-freezing and de-icing of fans, built-in water pump heating device for circulating water pumps, built-in electric heating wires in water collecting trays, spray water pipes with insulation layers, anti-vibration cut-off switches, etc. Equipment for position guarding.



# QUALITY CONTROL SYSTEM

CASEN Evaporative Condenser is a standard unit constructed to provide many years of durable, dependable service with minimal maintenance requirements. Quality materials and workmanship are a key factor in meeting this objective. All units are completely factory assembled and tested to ensure a quick and easy installation and reliable operation.



## ISO Quality Management System

Quality and professional raw material supplier's control. Standard pressure test and thermal performance test before delivery.

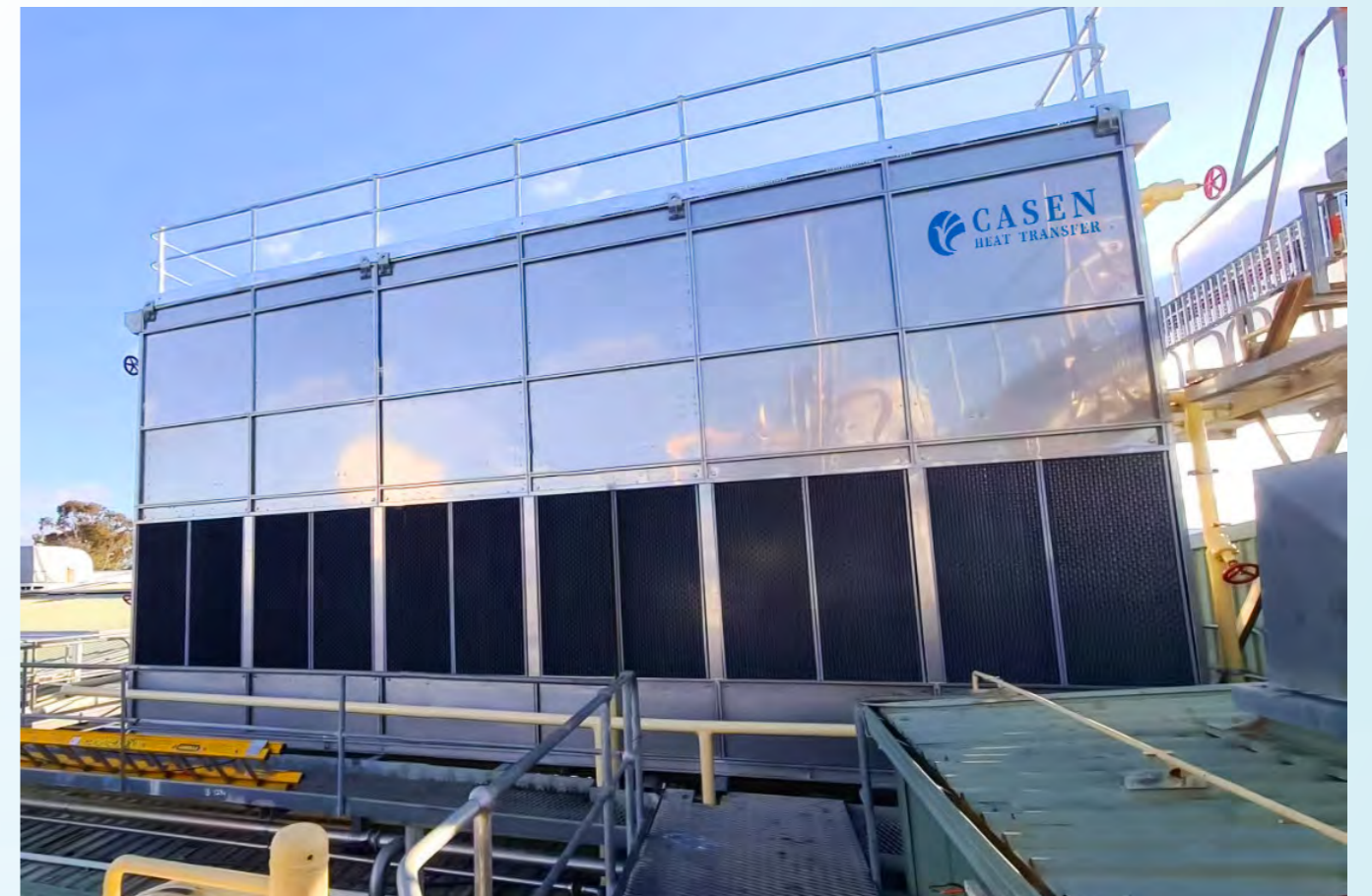
Set up a product quality control team led by engineers strictly control the production process and ensure the production process can be traced to person, and the production process responsibility is to person, too.

## Coil Pressure Test



## Overall Equipment Debugging





# SMART MANUFACTURING WORKSHOP

- 01 A corner of the workshop
- 02 Intelligent laser cutting machine
- 03 CNC folding machine
- 04 Independent coil production line
- 05 Finished condenser
- 06 Finished equipment condenser

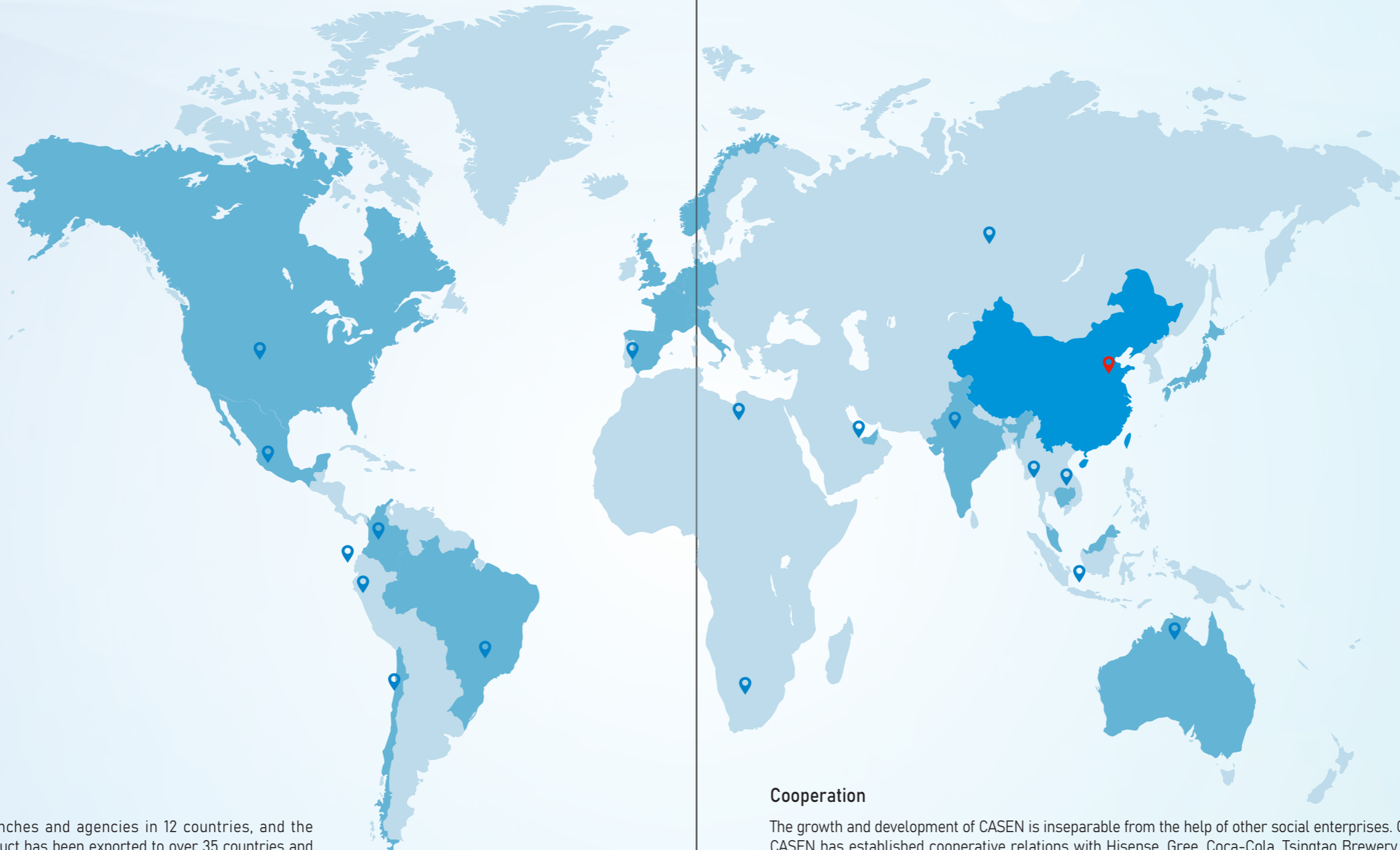


# PRODUCT QUALIFICATION

CASEN adheres to technological innovation and green development, and has successively obtained ISO quality management system certification, occupational health and safety management, environmental management and other system certifications, one-time through the cooling tower CTI certification, SGS, TUV, CE, EAC certification, won 54 patents, became ATLAS, Hisense Group, Gree Group and other supporting suppliers.



# GLOBALIZATION



## Globalization

CASEN has built sales branches and agencies in 12 countries, and the evaporative condensers product has been exported to over 35 countries and region, and served for more than 1200 customers worldwide. Wined a good reputation in market by their reliability and durability.

## Cooperation

The growth and development of CASEN is inseparable from the help of other social enterprises. Over the years of development, CASEN has established cooperative relations with Hisense, Gree, Coca-Cola, Tsingtao Brewery, Atlas Copco, Bitzer and other companies.

