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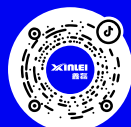
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Xinlei official website



Xinlei Wechat subscription



Xinlei Tik Tok enterprise

XINLEI COMPRESSOR CO.,LTD.

XINLEI REFRIGERATION (HEATING) COMPRESSOR

- High efficiency and energy saving
- Stable and Reliable
- intelligent control
- low carbon and environmental protection



Xinlei Group is a professional manufacturer of intelligent HVAC equipment

The company was established in Taizhou, Zhejiang, and was listed on the main board of the Shenzhen Stock Exchange on January 19, 2023. As a leading enterprise in the industry, Xinlei's independent research and development and production products span the piston, screw magnetic levitation centrifugal all-fluid sector.

All kinds of magnetic levitation central air conditioning, air energy central heat pump and other air energy products in continuous innovation to achieve high energy efficiency breakthroughs, access to more than 300 authorized patents, was named the national "specialized, special and new" small giant enterprises, up to now, Xinlei has more than 800 distribution outlets in more than 100 countries and regions around the world, our energy-saving equipment and intelligent solutions have been widely recognized by the market and customer partners.

Over the years, the company has been providing customers with a comfortable, energy-saving, environmentally friendly and convenient indoor environment, with the service tenet of "innovation reflects value", and serves every customer attentively. The company has many experienced pre-sales, in-sales, after-sales service personnel, and strong team technical capabilities, creating a new world of "energy saving, environmental protection and intelligence" in the aerodynamic city.

1876

The world's first air conditioner was born in the United States

In the 20 years since the invention of air conditioning, it has always been machines, not people, that have enjoyed air conditioning

1996

Xinlei brand was founded in the era of the national "Ninth Five-Year Plan" economic take-off

2000

Xinlei's self-developed and self-produced aerodynamic products entered the European and American markets

2006

Faced the "EU anti-dumping" lawsuit and won the preliminary ruling

The daily output is 12,000 units, accounting for more than 56% of the customs export data

2017

Comprehensively layout the air/magnetic levitation centrifuge market and has made the first breakthrough

2020

It has increased production by 30% and saved energy by 50% for Sinopec, which has taken a major step on the road of "domestic substitution" of high-end air energy manufacturing

2022

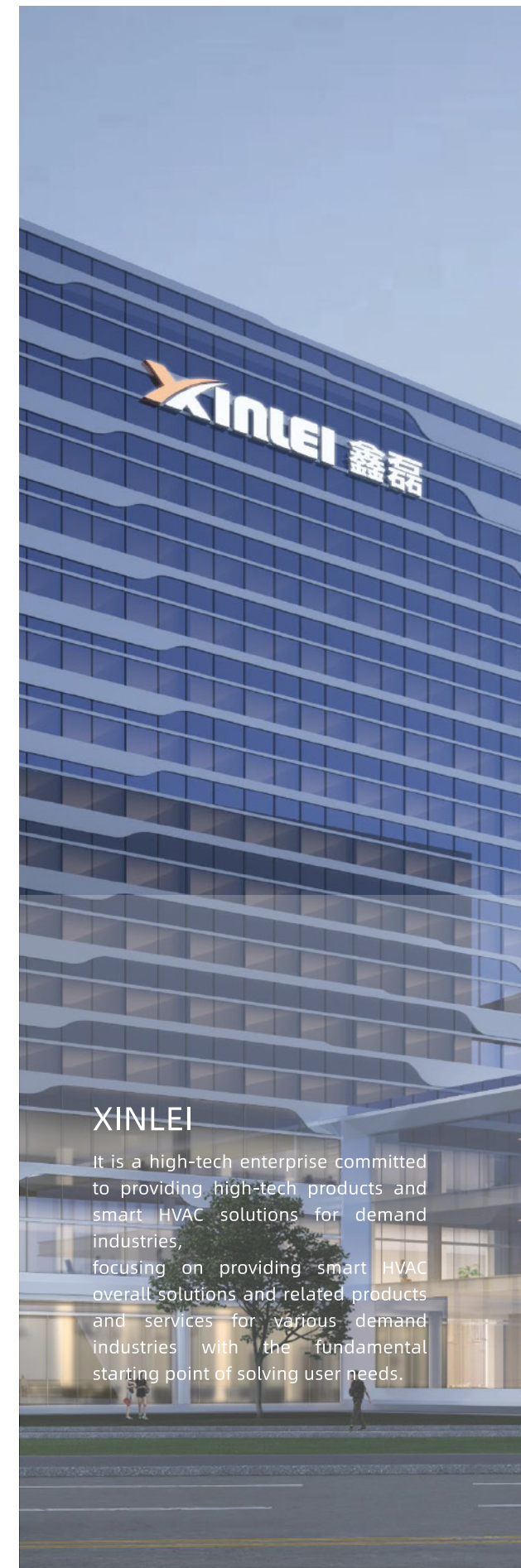
Xinlei's first maglev inverter centrifugal chiller (heat pump) unit was launched, with an energy-saving rate of up to 50%, triggering a new revolutionary journey in the industry

2023

Xinlei was successfully listed
Stock code 301317

Xinlei heat pump has achieved a breakthrough in high energy efficiency in continuous innovation

The 300RT and 1000RT water-cooled chilled water (heat pump) unit test benches have passed the certification of the National Testing Center



XINLEI

It is a high-tech enterprise committed to providing high-tech products and smart HVAC solutions for demand industries, focusing on providing smart HVAC overall solutions and related products and services for various demand industries with the fundamental starting point of solving user needs.

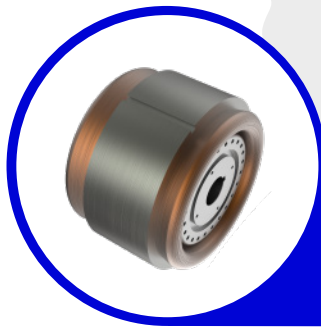
SCD single-engine two-stage screw compressor

One-stop solution

SCD single-engine two-stage screw refrigeration compressor series is developed by Xinlei and Xi'an Jiaotong University cooperation, relying on Xi'an Jiaotong University's strong academic research platform, the development of a new generation of 5 : 7 asymmetric new efficient patented tooth shape, innovative use of double motor direct connection design, with double VI content product ratio adjustment technology, efficient permanent magnet synchronous motor design, etc. Thus, the energy saving, high efficiency and stability of the compressor are realized.

5:7 rotor profil

-The 5 : 7 bilateral asymmetric tooth shape design greatly reduces the area of the leakage triangle, **reduces** the **leakage** between the rotor teeth, and achieves higher energy efficiency;
-It can fully realize the sealing of "surface to surface", which helps to **form an oil film** to reduce the transverse leakage of the contact line, and further improve the volumetric efficiency and reliability.



Permanent magnet synchronous motor

-Permanent magnet synchronous motors are smaller and **10% more** efficient than traditional asynchronous motors;
-High-efficiency permanent magnet synchronous motor with **97.5%** efficiency at full load and >95%;
-**High reliability** due to **H-class** insulation design with a maximum temperature resistance of 180°C efficiency at partial load;

Industry mainstream inverter

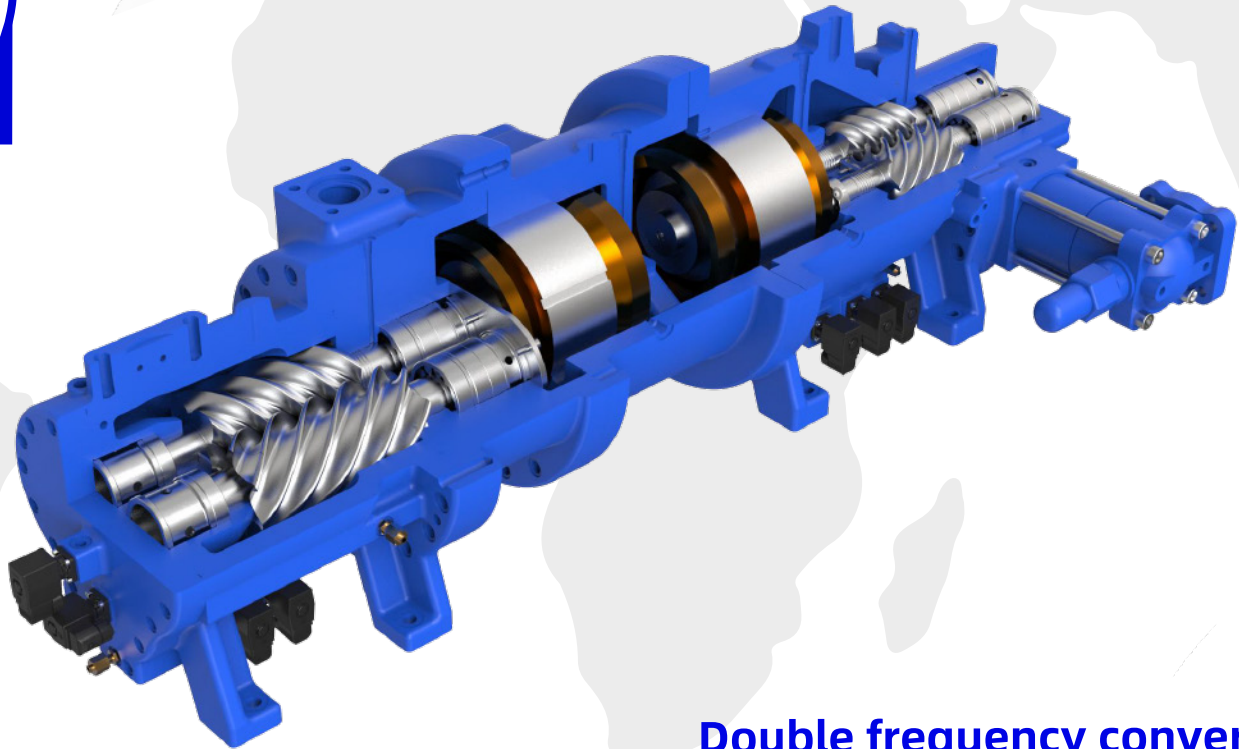
-**High reliability**, the whole machine temperature rise test, **long life** design, the selection of a new generation of IGBT technology, high junction temperature, high power density;
-The combination has rich and powerful functions and stable performance, such as integrated motor protection and alarm, communication bus, user programmable, etc.



Carrier frequency **0.8-8k** automatic adjustment



Effectively reduce **motor noise and heat**

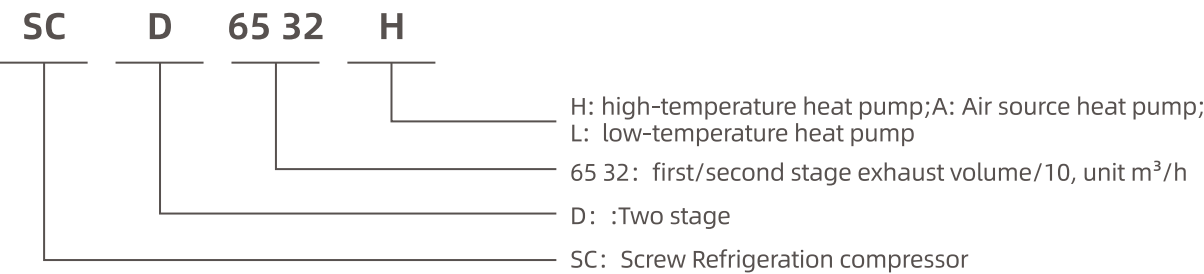


Double frequency converters drive high and low pressure -stage motors independently

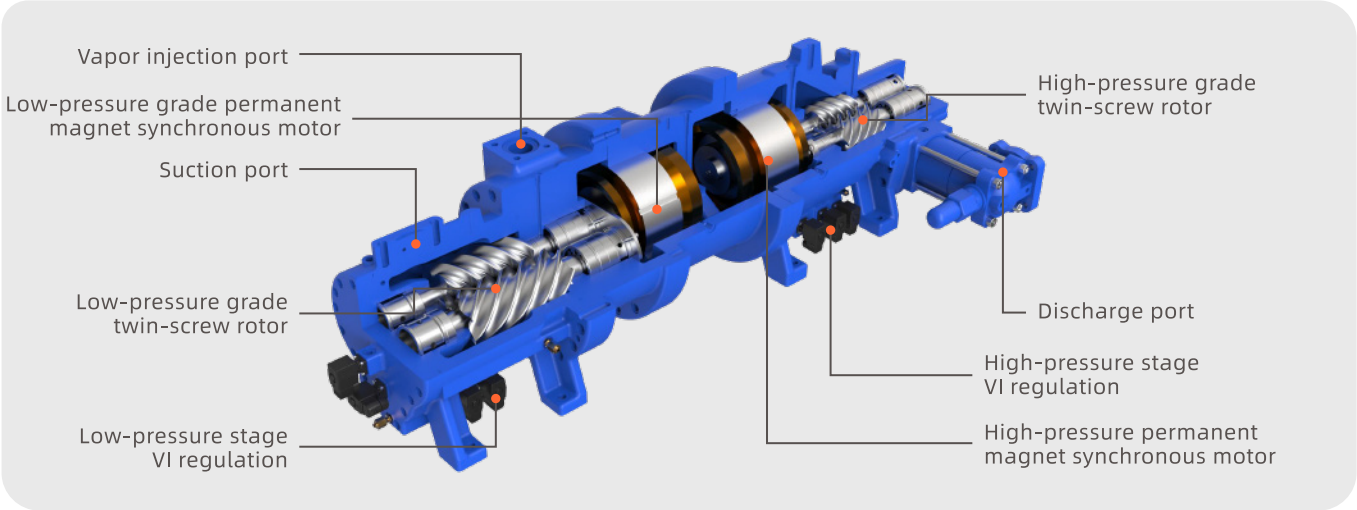
-Adopting double frequency conversion technology, actively and accurately control the pressure between high and low pressure stages to achieve **higher energy efficiency**;
-Frequency conversion is adopted to **avoid** the **energy loss** during partial load operation and further improve the performance of the unit under partial load;
-The space vector pulse width modulation technology enables the motor to run accurately and efficiently in real time, and realize the energy saving of the full load operation range.

SCD SINGLE MACHINE DOUBLE STAGE SCREW REFRIGERATION

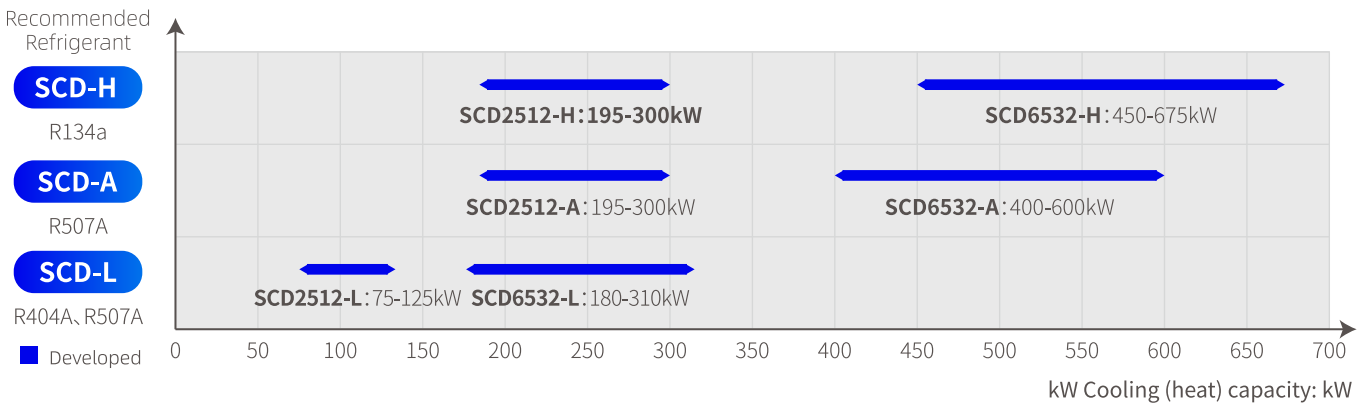
Naming conventions



COMPRESSOR CROSS-SECTION



Product spectrum

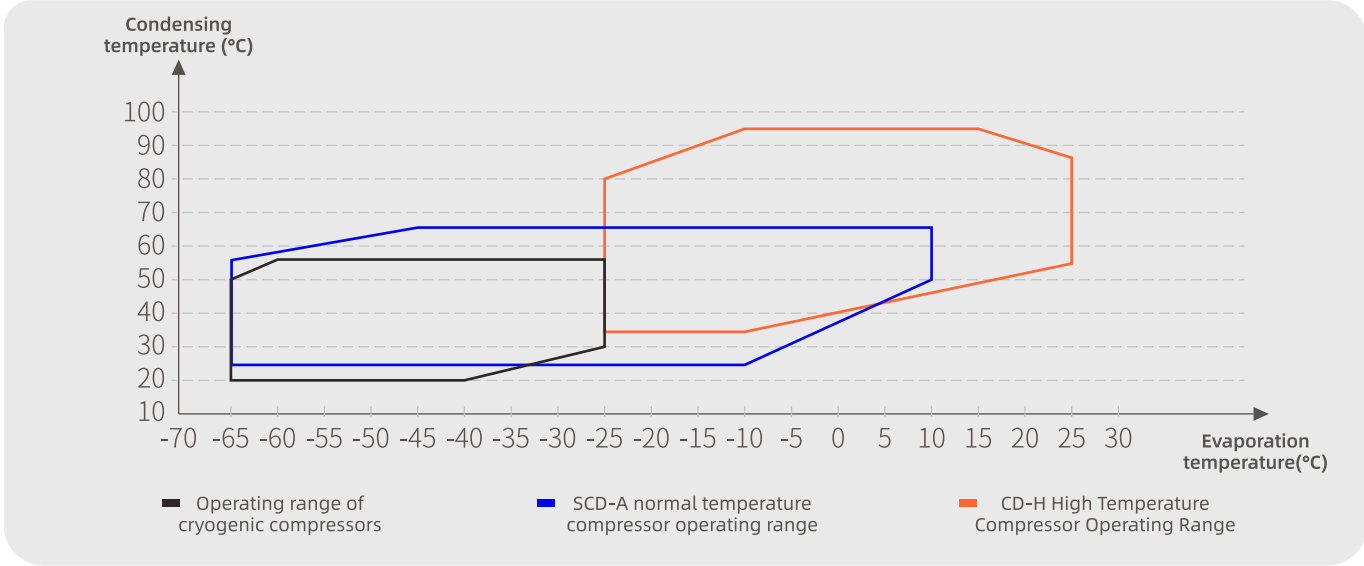


Description of working conditions:

①SCD-H compressor working condition: evaporation temperature 5 °C, condensation temperature 85 °C.②SCD-A compressor working condition: evaporation temperature -20 °C, condensation temperature 43 °C. ③ SCD-L compressor working condition: evaporation temperature -35 °C, condensation temperature 35 °C.

Note: Different types of compressors have changes in refrigeration/heating when using different refrigerants, please refer to the compressor user manual or compressor selection software for details.

Operating range



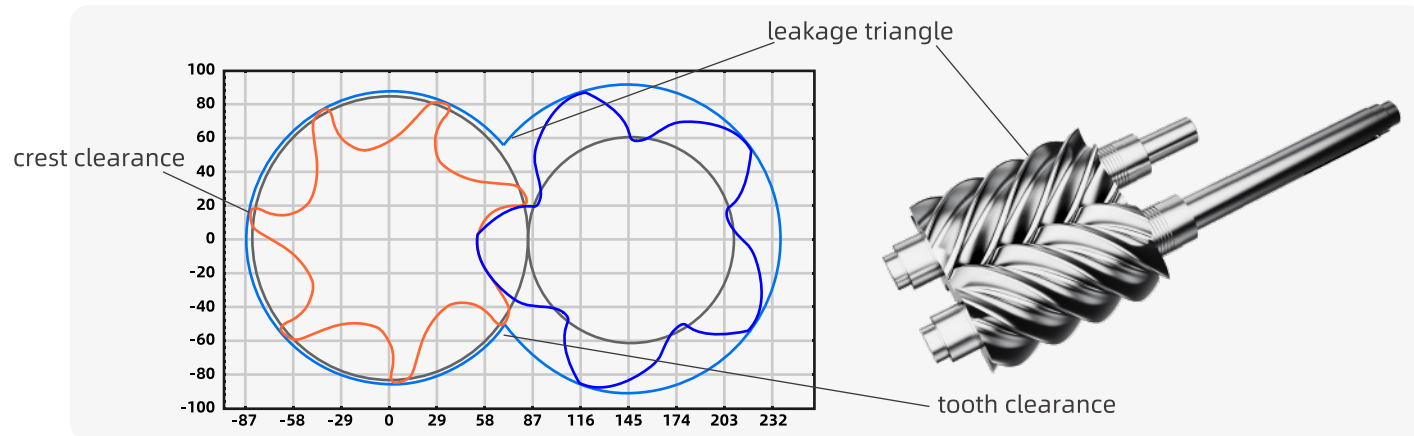
Technical parameters

Models			SCD2512H	SCD2512A	SCD2512L	SCD6532H	SCD6532A	SCD6532L
compressor	Rated speed (Low Voltage Stage/High	r/min	3450/3900			2500/3000		
	Exhaust volume (Low Voltage Stage/High Pressure Stage)	m³/h	279/132			655/315		
	VI regulation	Low voltage	1.5/2.5/3.3/4.1					
		High pressure level	1.5/2.5/3.0					
Motor	category	/	Permanent magnet synchronous motor					
	power supply	/	380V 6P 172.5/195Hz			380V 6P 125/150Hz		
	Startup mode	/	Variable frequency start					
	protector	/	PTC+NTC					
Lubrication method		/	Differential pressure oil supply					
Strength test		bar	48					
weight		kg	850			1946		
long		mm	1684			2052		
wide		mm	797			988		
high		mm	682			856		
Frequency converters	Model		MD500ET55G			MD500ET132G		
	LxWxH	mm	542×300×275			915×400×320		
	weight	Kg	35Kg			85Kg		
	quantity			2				



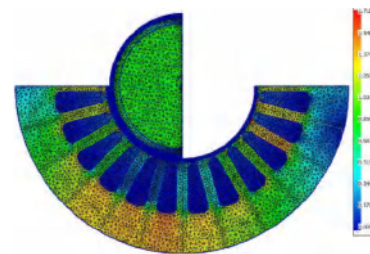
ENERGY EFFICIENT

■ New patented bilateral asymmetric 5:7 profile design

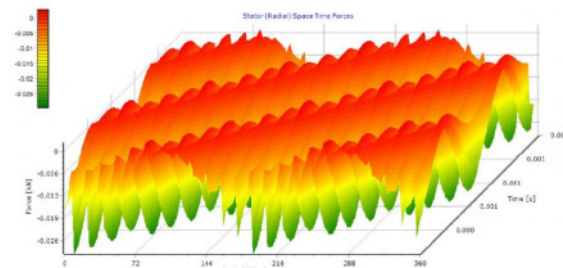


- The new asymmetric profile design significantly reduces the area of the leakage triangle, **reduces** the **leakage**

■ Permanent magnet synchronous motor + frequency conversion regulation technology



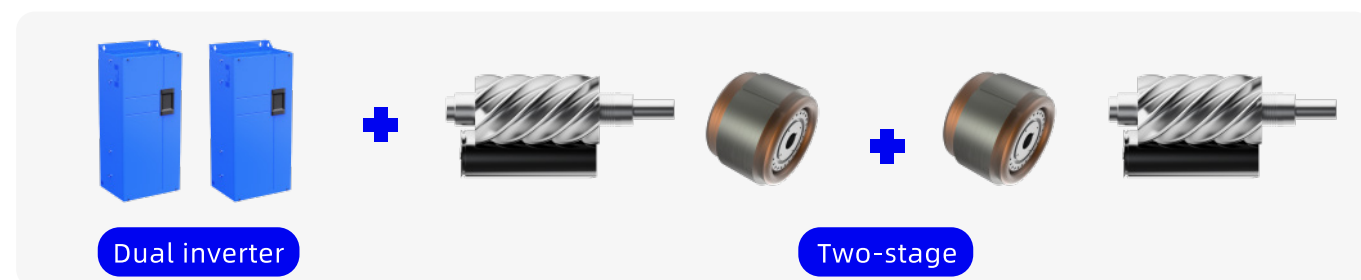
permanent magnet synchronous motor + frequency conversion regulation technology



2D time-domain torque distribution of high-speed permanent magnet motor

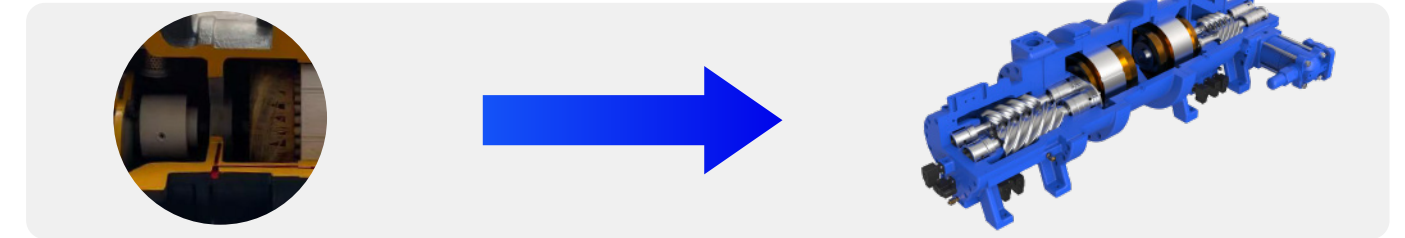
- The permanent magnet synchronous motor of compact structure, and the motor efficiency is $\geq 95\%$ in the full operating range, up to **97.5%**.
- Adopting space vector pulse width modulation technology to achieve energy saving in full load operation range.

■ Dual VFD + Independent H/L Pressure Control



- Dual inverter technology, active and precise control of pressure between high and low pressure stages to achieve **higher energy efficiency**;
- Adjustable VI, combined with dual inverter technology, **the operating range widens**;
- Frequency conversion regulation, **avoiding energy loss** during part-load operation, further improving the operating performance of the unit under part-load conditions.

■ Dual motor setup - a combination of high efficiency and control



- Direct drive of motors at all levels, the power transfer efficiency can reach **100%**
- Dual-stage motors can be independently controlled and well-matched
- Gear-less + coupling-less, **2% more** efficient transmission

■ Dual VI Adjustable Tech

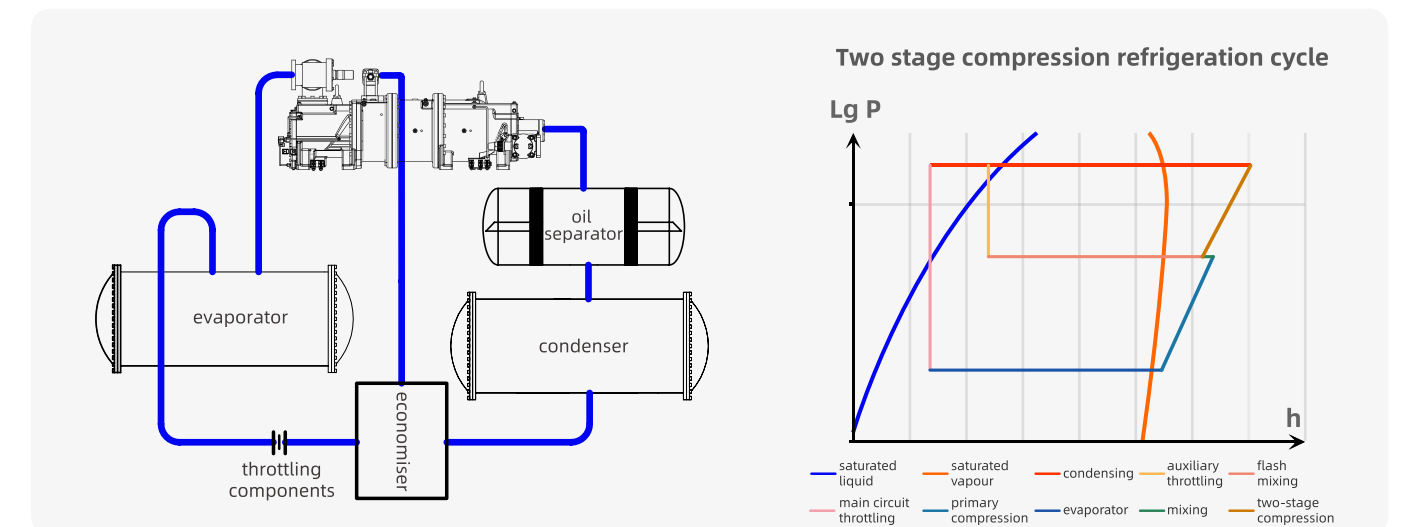


Adjustable internal volume ratio for the low-voltage stage: 1.5, 2.5, 3.0, 4.1

Adjustable internal volume ratio for the high-voltage stage: 1.5, 2.5, 3.0

- The high/low pressure level is independently adjustable VI, which can be **automatically matched with VI** under the different working conditions according to the fuzzy PID regulation function to achieve the high efficiency operation state.

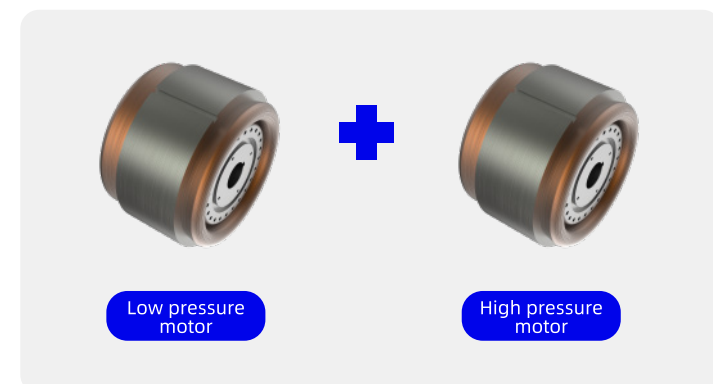
■ Vapor injection technology



- Double-stage compression of complementary air and increase heat energy, with dual VI adjustable, dual frequency conversion technology to control the best intermediate pressure in real time, improving the energy efficiency of the whole machine.

Stable and reliable

■ High insulation motor design



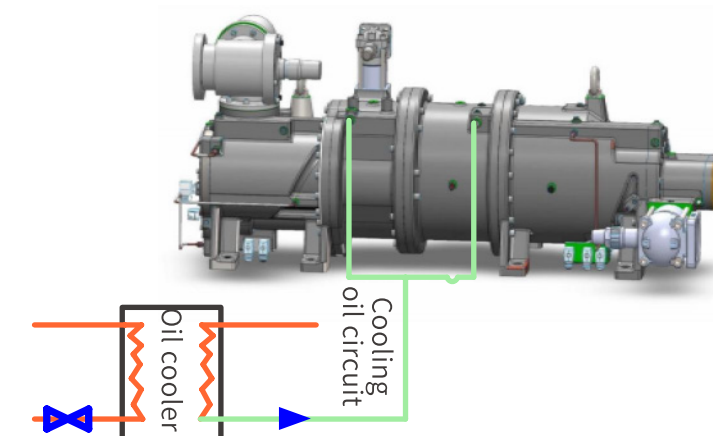
- Low pressure motor and high voltage motor insulation grade are **H class**, temperature resistance **180°C**, compared with F class one grade higher;
- It can ensure that the compressor in the bad condition, the motor can still run reliably.

■ Adopting imported large brand compressor bearings



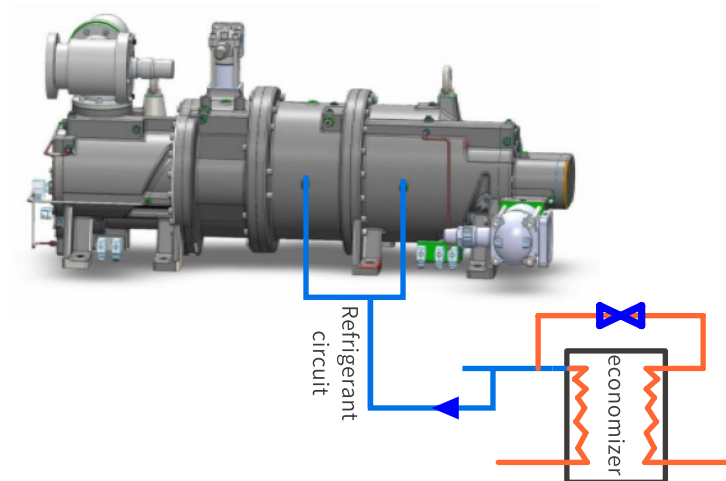
- Swedish SKF bearing, long service life, continuous operation of **more than 50,000 hours**.
- SKF bearing machining accuracy is high, always ensure the stable operation of the compressor.

■ High pressure stage and low pressure stage independent injection lubrication design



- The high pressure stage and the low pressure stage are equipped with independent oil injection ports, and **the cooled oil can lubricate the high pressure and low pressure stage bearings and the motor through the two oil injection ports** at the same time to ensure the stable operation of the compressor.
- The limit condition can be matched with the appropriate size of the oil cooler to ensure the return oil temperature and lubricate the compressor system.

■ High pressure stage and low pressure stage independent injection lubrication design



- The high pressure stage and low pressure stage are equipped with independent spray cooling ports, real-time detection of motor temperature through high-precision temperature sensors, and cooling through **their respective spray liquid** under high temperature conditions, **so that the compressor can be quickly and evenly cooled**;
- With the low temperature frozen oil cooled down by the oil cooler, it can play a double cooling effect, the cooling effect is better, and the compressor **can maintain a low temperature work under worse working conditions**, so that its service life is longer.

■ Scope of supply

Number	Name	Quantity	Configuration
1	Compressor host	1	●
2	Suction shutoff valve	1	●
3	Exhaust shutoff valve	1	●
4	Exhaust non-return valves	1	●
5	Economizer shut off valve	1	●
6	Economizer non-return valve	1	●
7	Shock-absorbing pad	8	●
8	Foundation bolt	8	●
9	Pressure sustaining valve	1	○
10	Differential pressure switch	on demand	○
11	Oil line magnetic valve	1	○
12	Oil flow switch	1	○
13	External oil filter	1	○
14	Oil line sight glasses	1	○
15	Oil heater	on demand	○
16	Refrigerant oil	on demand	○
16	Inverter	2	●

Note: ●Standard ○Optional The above is the standard scope of supply of compressor, if you have special requirements, please contact Xinlei technical personnel.

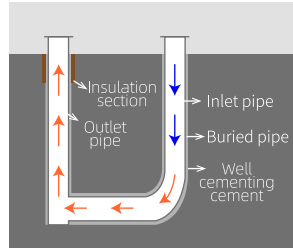
Compressors with heat pump unit applications

Ground water source heat pump unit

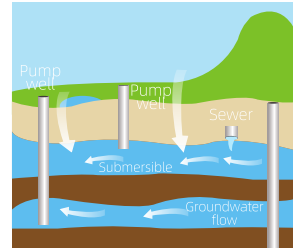
Heat source



Surface water source



land management water



underground water source



polluted water

5°C-20°C

Host equipment



High temperature water (ground) source screw heat pump unit

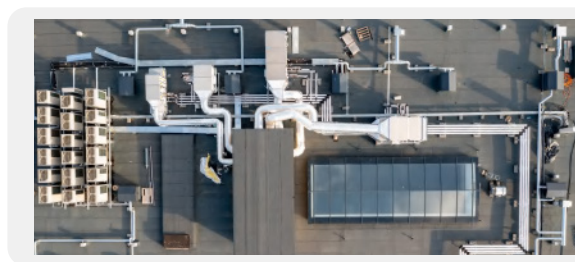
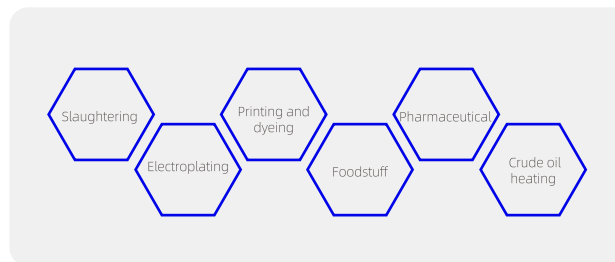
60°C-90°C



Magnetic levitation frequency centrifugal chiller(heat pump) unit

40°C-65°C

Pipe network



secondary pipe network

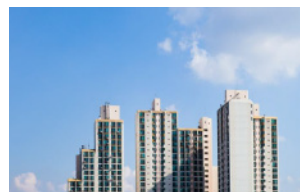
Users



public buildings



commercial services



civil buildings



agricultural insulation

Energy tower heat pump unit

Heat source



Low temperature environment

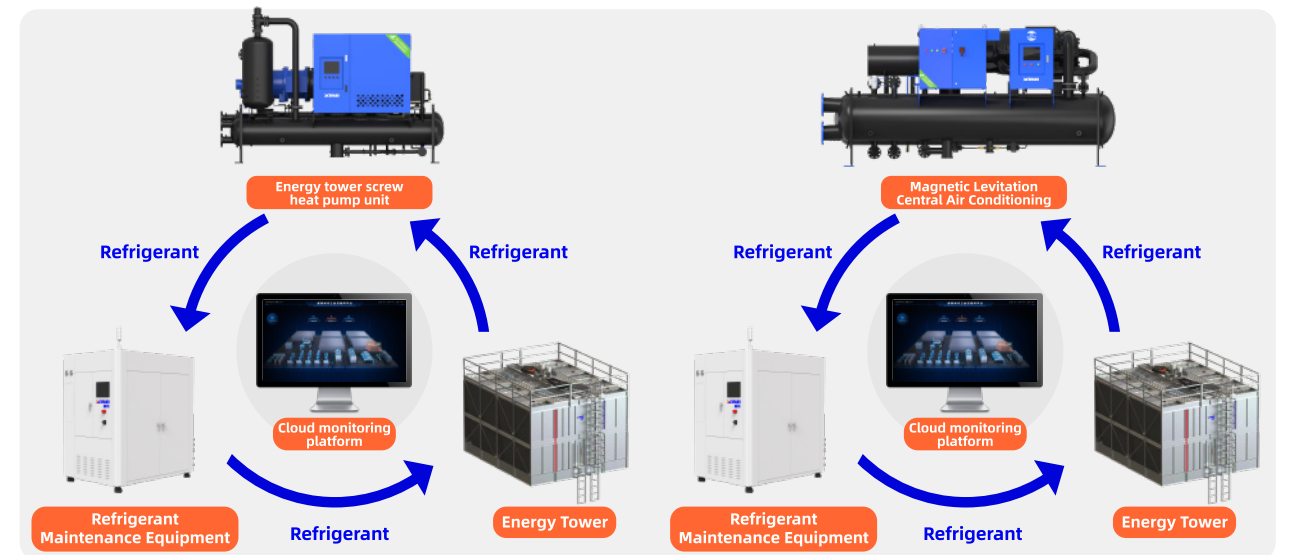
-25°C-43°C



Normal temperature environment

-2°C-43°C

Host equipment



40°C-65°C

Pipe network

secondary pipe network

Users



Industrial heating



residential buildings



commercial buildings

Air source heat pump unit

Heat source



Normal temperature environment

❯❯❯ -2°C-43°C ❯❯❯



Low temperature environment

❯❯❯ -35°C-43°C ❯❯❯

Host equipment



Air-cooled magnetic levitation centrifugal heat pump unit

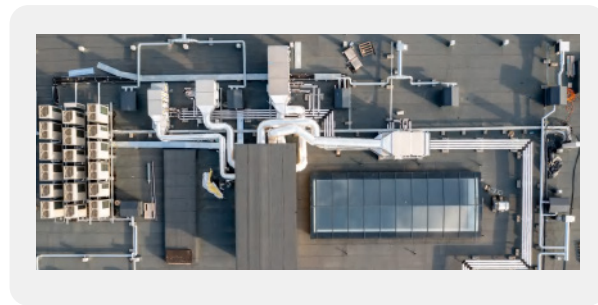
❯❯❯ 35°C-45°C ❯❯❯



Ultra-low annular temperature air screw heat pump

❯❯❯ 40°C-65°C ❯❯❯

Pipe network



❯❯❯ ❯❯❯ ❯❯❯ ❯❯❯ ❯❯❯

Users



commercial services



public buildings



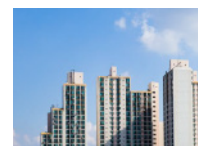
residential buildings



agricultural insulation



commercial buildings



residential heating

Case

Minghua Gear



Project Introduction

Minghua Gear Co., Ltd. specializes in manufacturing precision gear systems and mechanical parts. While consolidating traditional products, the company has developed gears and transmissions for light trucks, trucks and cars, so that production, reserve, research and development can be carried out simultaneously. The company is located in the coastal area of Taizhou, Wenling, warm and humid. So precision instruments have high requirements for air temperature and humidity.

Project Highlights

Xinlei Magnetic Suspension Cooler adopts Xinlei's self-developed magnetic compressor, which has the characteristics of low noise, high energy efficiency and longer life with efficient design, ingenuity and precision manufacturing, which fully meets the needs of air conditioning in the complex industrial environment and provides a more efficient and stable air conditioning solution. At present, the operation process is very stable, not only to meet the needs of precision CNC lathes, but also to provide a cool working environment for workshops, offices, canteens and other places. Their old factory adopt 10 air-cooled module machines, but after effective comparison, Xinlei Magnetic Suspension Cooler is 50% more energy-saving than the original air-conditioning unit, so as to save costs and create value for the company.

Energy saving rate

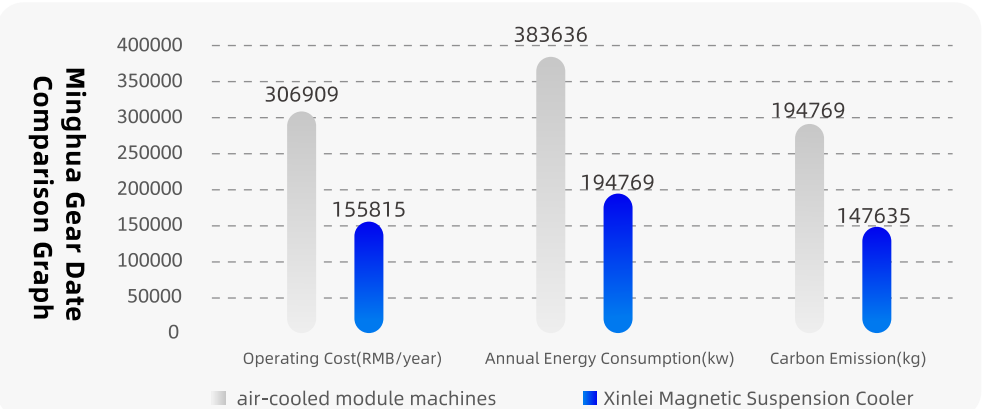
50%

Annual Operating Cost Saving

150,000 RMB/year

Reduce Carbon Emissions

14.3 tons/year



Energy Bearing



Project Introduction

Zhejiang Energy Bearing Technology Co., Ltd. (formerly Taizhou Ruili Bearing Co., Ltd.) is a modern enterprise specializing in the production of various medium and small metric and inch tapered roller bearings, and gradually extends the development and production of short cylindrical bearings, construction machinery, agricultural machinery, and bushings for automobile transmissions. The company is located in Taizhou, the beautiful mountain and sea city of "Holy Land and Manufacturing Capital". It is warm and humid all the year round, so the temperature and dehumidification capacity of the air conditioning system are more demanding. After a lot of investigations and comparisons, they chose two 150RT Xinlei Magnetic Suspension Central Air Conditioning, just to meet its three layers (each layer 50*70*6m) machining workshop.

Project Highlights

The project has been in operation for more than 8,000 hours without any anomalies. Xinlei's machines have show excellent reliability and stability, to adapt the harsh production environment of energy bearings, with overall energy efficiency of 6.4. Xinlei Magnetic Suspension Central Air Conditioning, introduced magnetic suspension technology, the application of industrial magnetic bearings, no lubricating oil, zero friction, low power consumption, reducing the company's energy consumption and maintenance costs. The overall energy efficient design reduces the impact on the environment, in line with the company's environmental philosophy. At the same time, the system is equipped with an intelligent control system, which enables flexible temperature and humidity regulation, increasing comfort and energy efficiency.

Comprehensive
Energy Efficiency

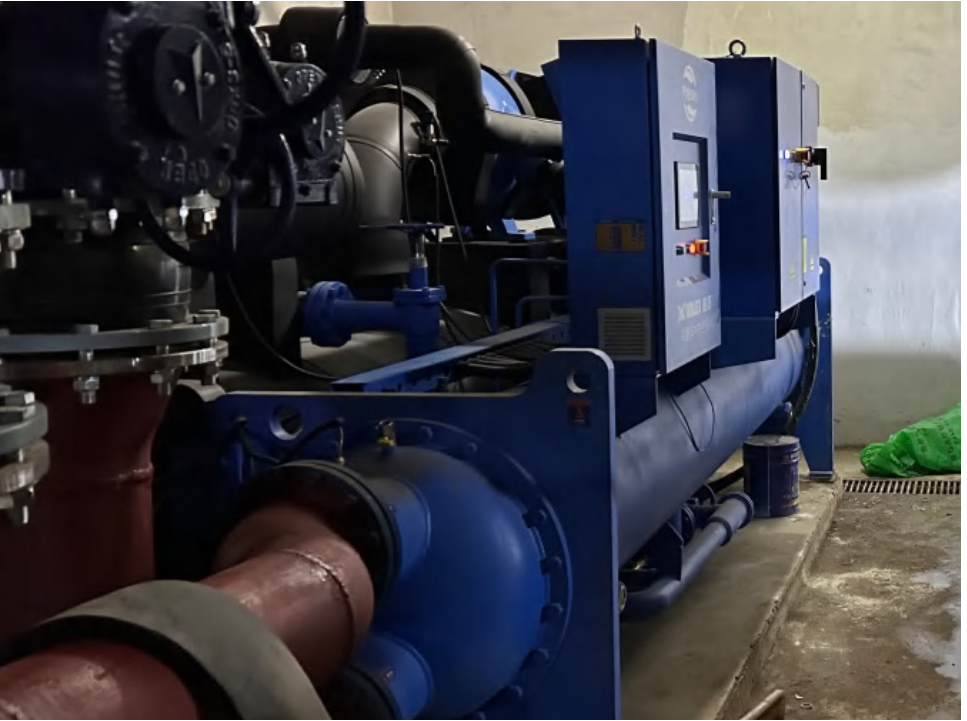
6.4

Total running
time (no faults)

8000_h



Zhengzhou Orthopedic Hospital



Project Introduction

Zhengzhou Orthopedic Hospital is a specialized orthopedic medical institution, committed to providing high-quality medical care and comfortable environment for patients. With the expansion of the scale of the hospital and the increase of the number of patients, the demand for environmental control in the hospital is getting higher and higher. In order to improve the comfort of patients and medical staff, the hospital decided to upgrade the indoor cooling system in the inpatient department. The design area of the project is 449,972.13 square meters, and a Xinlei XLMC350 was installed to provide an efficient indoor cooling solution for the hospital, ensuring that the indoor temperature can be maintained in the hot summer, and providing a cool and comfortable hospital environment for patients.

Project Highlights

Efficient Cooling: The Xinlei Magnetic Levitation Chiller provides exceptional cooling performance, effectively and quickly reducing indoor temperatures. This improves the patient experience during hospitalization and the work efficiency of healthcare staff.

Energy Saving and Eco-friendly: Utilizing advanced energy-saving technology, the chiller delivers powerful cooling with low energy consumption. This reduces the hospital's energy consumption and operational costs, aligning with green environmental principles and realizing the sustainable development of hospital.

High Reliability: With oil-free, frictionless operation, ultra-low noise, and stable performance, the chiller is ideal for environments like hospitals that require continuous operation. It provides long-term, stable cooling services, reducing the frequency of equipment malfunctions and maintenance, ensuring the operation of hospital.

