

Commercial Heating and Cooling

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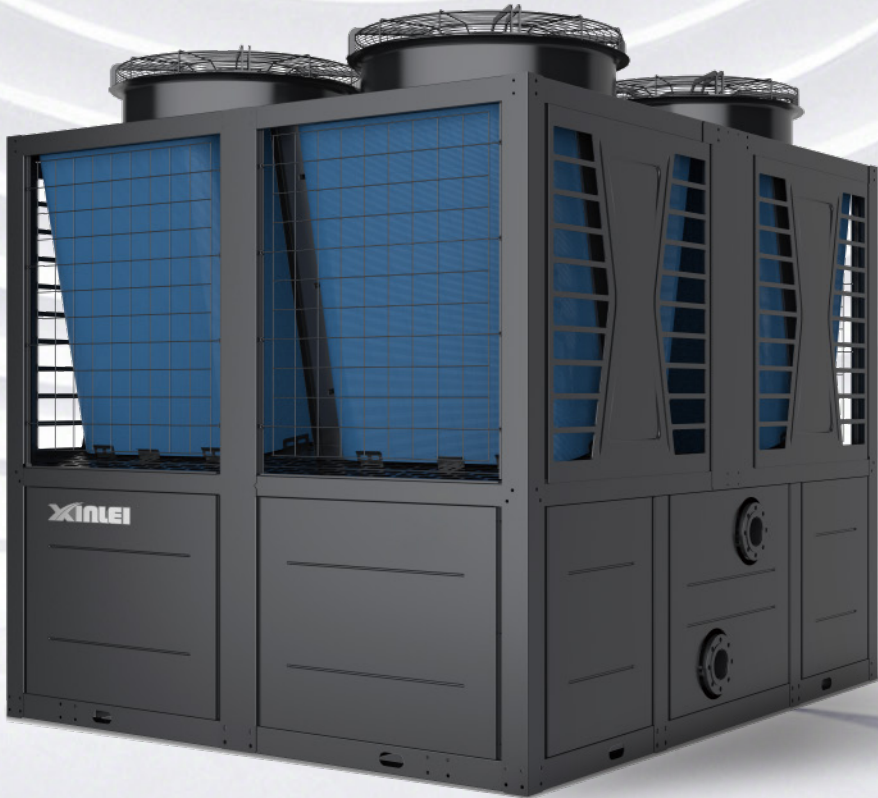
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Xinlei Ultra-Low Temperature Commercial Heating and Cooling Units



 **Wide Range Operation**
Cooling: 5°C-55°C
Heating: -35°C - 30°C

 **Stable & Reliable**
Core components Top 3
Test standards > 100 items

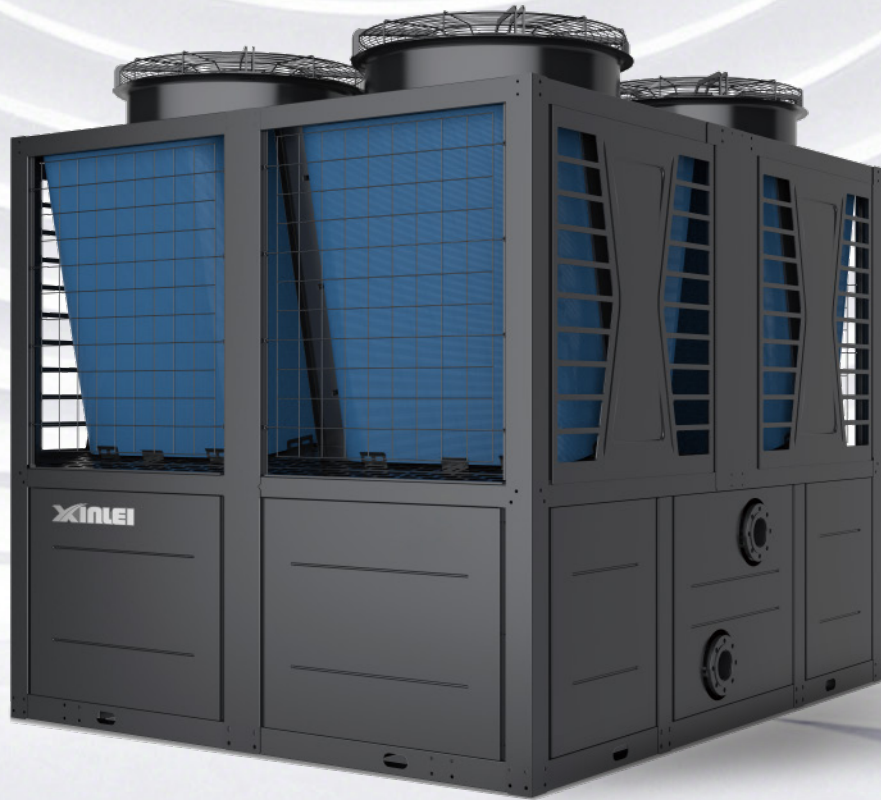
 **High efficiency Energy saving**
Energy Efficiency Level 1;
Multi-step timing and temperature setting;

 **Intelligent control**
OTA remote upgrade
APP service

 **Multiple protections**
Water flow; Overload;
Antifreeze; Phase sequence;

 **Friendly refrigerant**
Cooling efficiency ↑ 8%
Heating efficiency ↑ 13%

Xinlei Ultra-Low Temperature Commercial Heating Unit



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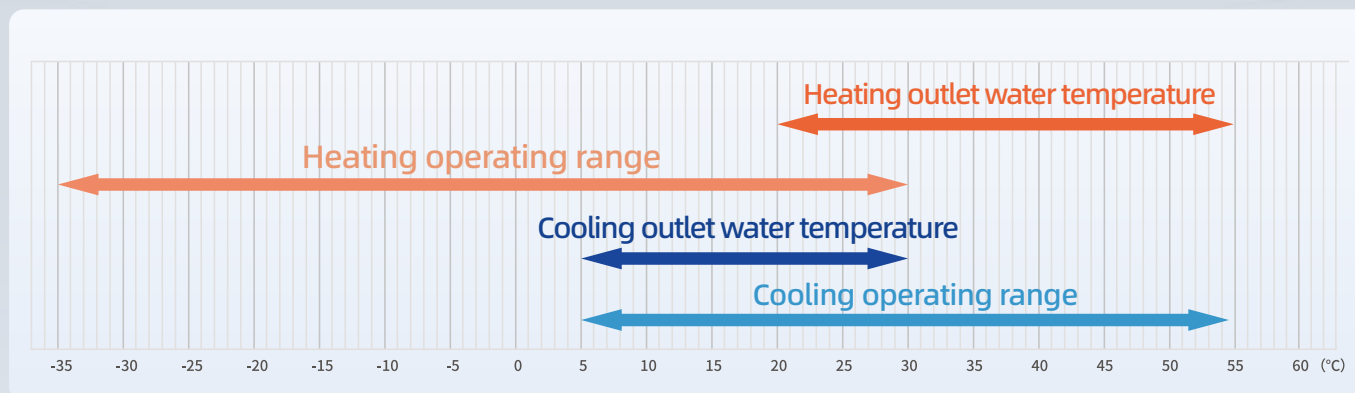
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Wide range operation

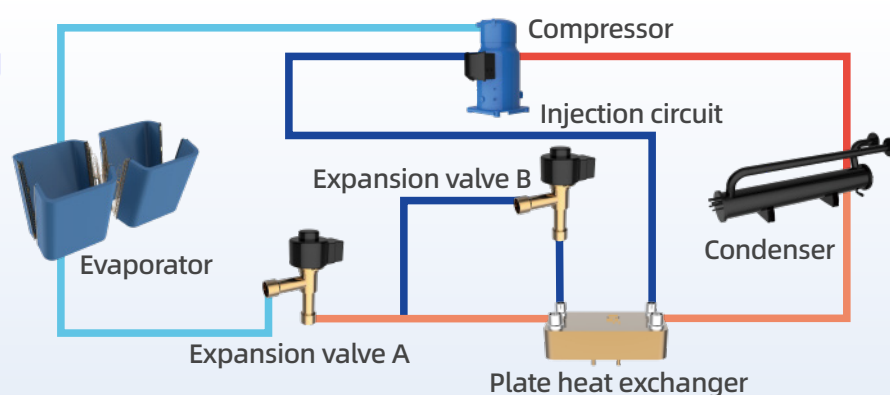
Wide-range operation, fearless of severe cold

Featuring a wide operating condition design, it achieves cooling from 5-55°C and heating from -35°C to 30°C. Unaffected by severe winter cold or scorching summer heat, it is suitable for extremely cold regions.



Cooling and Heating dual EVI technology

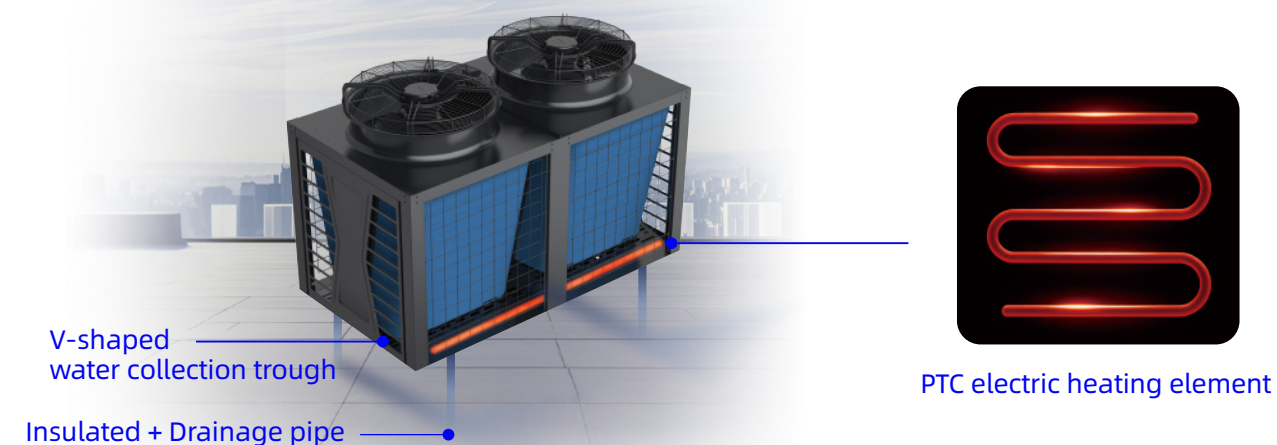
Dual EVI tech cuts excessive exhaust temperature in extreme cooling & heating, supports high compression ratio and greatly boosts low-temperature heating performance.



Stable and reliable

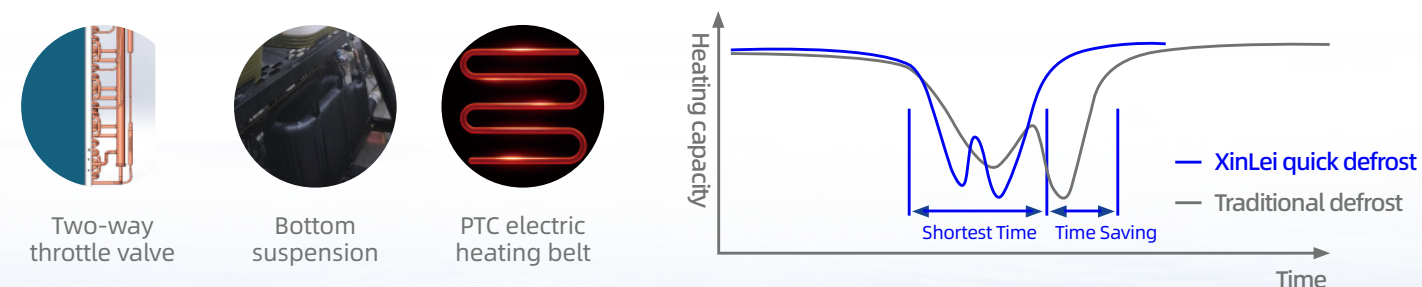
Centralized drainage design with water collection tray

To address drainage issues, the unit is equipped with a centralized drainage design with a water tray as standard. In low-temperature environments, the water tray is equipped with electric heating, which can effectively solve the problem of defrosting water freezing at low temperatures, ensuring smooth drainage and making winter maintenance more worry-free.



Quick defrosting in 2 minutes

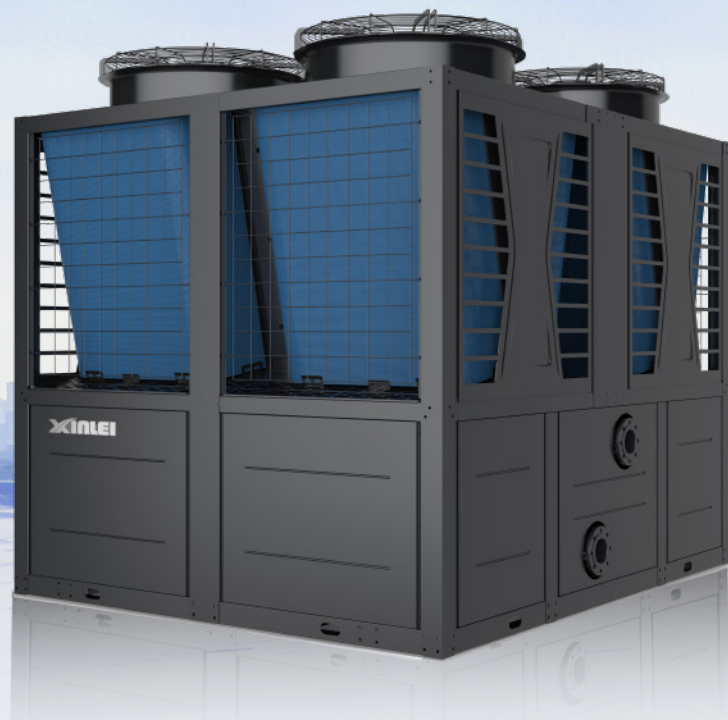
The dual-path parallel synchronous defrosting not only improves defrosting efficiency and reduces defrosting time with a "two-pronged approach", but also effectively reduces reverse heat absorption during defrosting, thus maximizing the protection of constant indoor heat.



Core components, stable and reliable



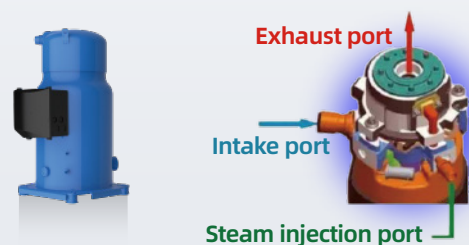
High efficiency and energy saving



CLASS 1 ENERGY EFFICIENCY

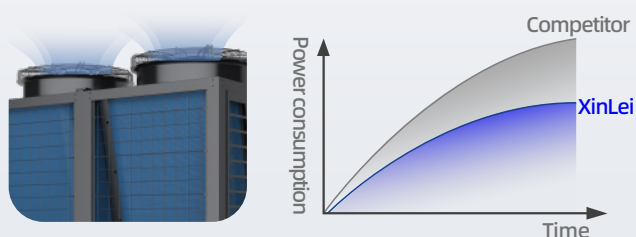
Heat pump scroll compressor

The use of a heat pump-specific jet enthalpy-enhancing scroll compressor increases the compressor's gas delivery capacity under low-temperature conditions, greatly improving heating capacity and reliability in extremely cold weather.



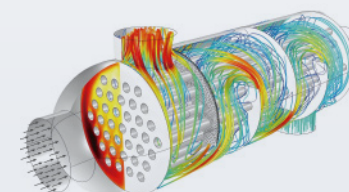
Independent air ducts are more energy-efficient

It adopts an independent fan system, which can operate independently under partial load, making it more energy efficient than a whole fan system.



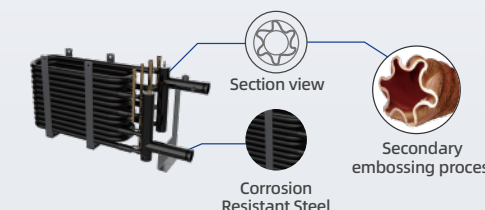
High-efficiency water-side shell heat exchanger

The high-efficiency water-side shell heat exchanger innovatively adopts a simulation-optimized flow path and baffle plate enhancement design, which improves heat exchange efficiency by 10% compared to ordinary shell heat exchangers, resulting in superior performance.



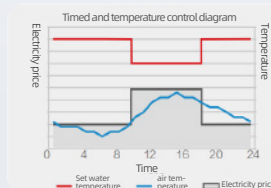
High-efficiency water-side shell heat exchanger

The shell heat exchanger has the advantages of self-scaling and being less prone to scaling and freezing; the multi-head spiral tube, combined with the coaxial multi-head + secondary embossing process and high-efficiency coaxial shell, improves heat exchange capacity and reduces water resistance.



Multi-step timing and temperature setting

It supports multi-segment timer and time-segment temperature control, allowing users to precisely adjust the water temperature based on ambient temperature and electricity price differences at different times. This ensures comfortable water use while minimizing operating costs.



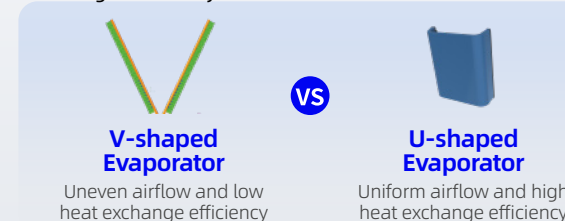
Independent defrosting

This self-learning defrosting function can track the heat exchange attenuation rate and accurately lock the optimal defrosting mode to achieve "defrosting on demand". Combined with the dual-rotation defrosting design, it can adjust the unit's defrosting ratio, avoid large fluctuations in water temperature, and ensure user comfort.

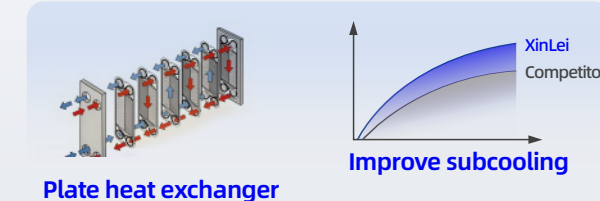


High-efficiency wide-blade heat exchanger + high-efficiency economizer

The use of wide hydrophilic aluminum foil fins and a simulated flow path design significantly improves heat exchange efficiency.



It adopts a high-efficiency economizer to achieve two-stage subcooling and improve heating capacity.

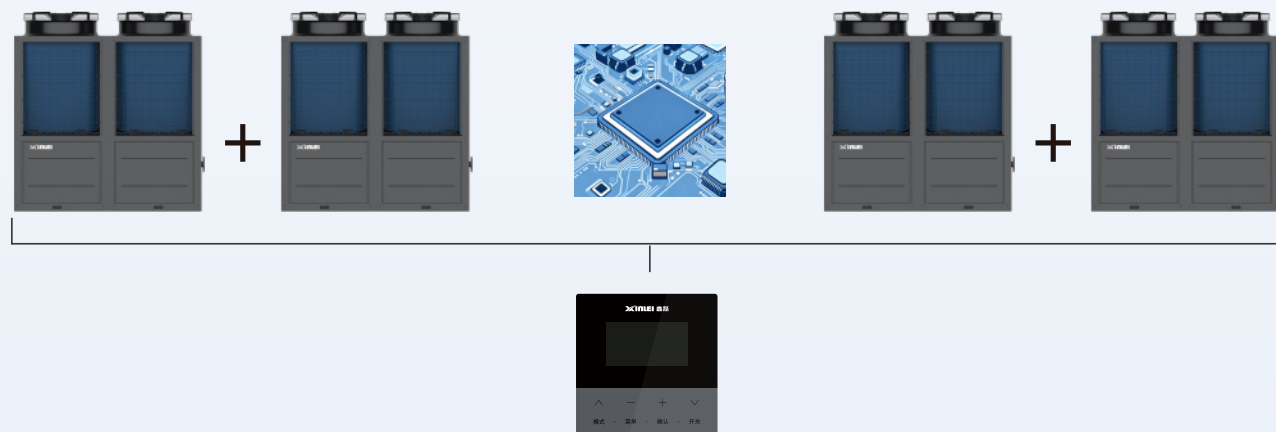


Note: Applicable to ultra-low temperature unit systems

Intelligent control

Xinlei's independently developed air to water heat pump remote monitoring system features remote operation and monitoring capabilities. Users can remotely monitor the unit's operating status and control its start/stop via mobile phone or computer. It offers 24/7 remote online diagnostics, fault alarms, and rapid analysis and processing, providing reliable service in the shortest possible time, ensuring your peace of mind.

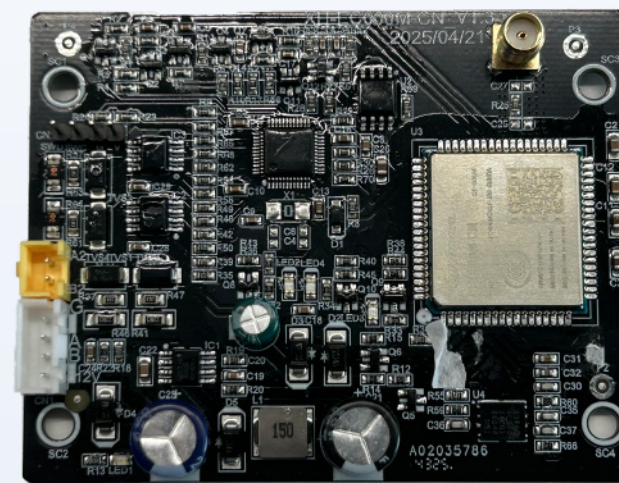
INTELLIGENT CLOUD SERVICE CENTER



A single wired controller can connect to up to 16 modular units, allowing for flexible combinations to meet the needs of different application scenarios.

Smart IoT Life

Xinlei Smart Control can be connected to the Xinlei Smart Furniture APP for remote one-click control. No matter where you are, you can easily adjust indoor equipment and enjoy a comfortable temperature as soon as you open the door, simplifying the process and making operation more convenient.



Energy saving mode

It features built-in daily 3-level timer and temperature control programs, with flexible options for weekly cycles and holiday modes. The operating time and water temperature can be customized as needed, and it is simple and easy to use.



Remote OTA (standard configuration)

It can automatically update and upgrade the running program, making it more stable and energy-efficient.



Mobile App Control

Remote control can be achieved through the "Xinlei Smart Home APP".



Remote control (standard configuration)

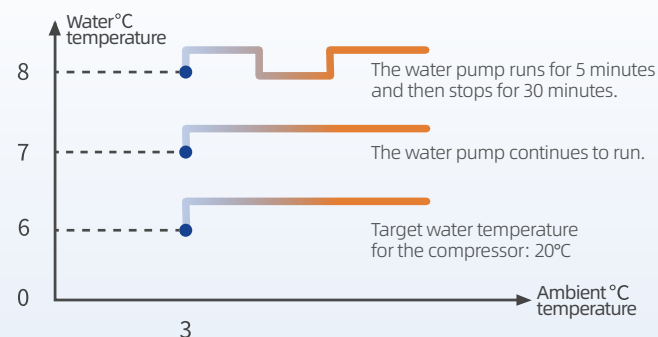
Remote control covers the entire area; wherever there is a mobile signal, remote and precise control can be easily achieved through both mobile phones and web browsers.

Multiple protections

Water-side intelligent antifreeze function

The unit features a four-level hardware antifreeze and a triple software antifreeze design, which can prevent accidents such as freezing and cracking of water pipes and related equipment, and effectively protect the shell and copper tubes of the water-side heat exchanger from freezing and cracking.

Software antifreeze logic



Multiple protection functions ensure system operation security

The unit adopts a modular design, allowing for staged start-up and reducing the impact of the starting current on the power grid. It is equipped with high and low voltage switches, anti-freeze protection devices, flow controllers, overload protection devices, power phase sequence protection devices, and an operation control device that provides real-time automatic alarms in case of faults.



Compressor high/low pressure protection



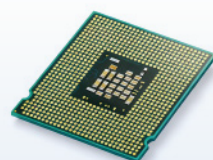
Water flow switch protection



Compressor overheating protection



Sensor fault protection



Power supply reverse phase (loss) protection



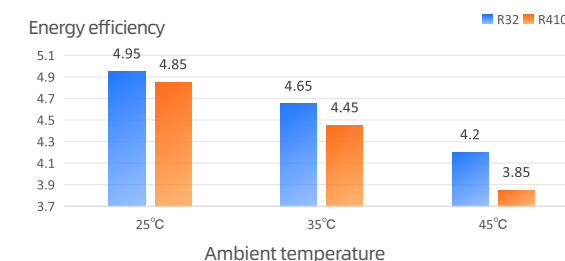
Power supply protection

R32 environmentally friendly refrigerant

Energy efficiency and cooling/heating performance comparison curves of R32 vs R410A

ENVIRONMENTAL PROTECTION & SAFETY

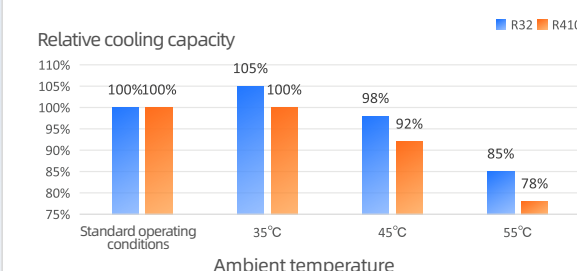
Cooling energy efficiency comparison (R32 VS R410A)



High-temperature advantage:

In a high-temperature environment of 45°C, R32 has a cooling energy efficiency of about 9% higher than R410A. R32 also has faster heat transfer and a faster cooling response.

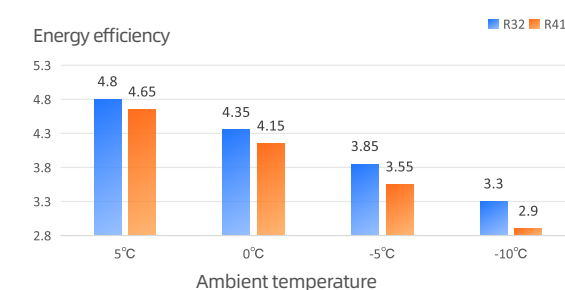
Cooling capacity comparison (R32 VS R410A)



High-temperature advantage:

In a high-temperature environment of 55°C, the cooling capacity of R32 is about 7% higher than that of R410. R32 has less cooling capacity degradation at high temperatures and more stable cooling performance.

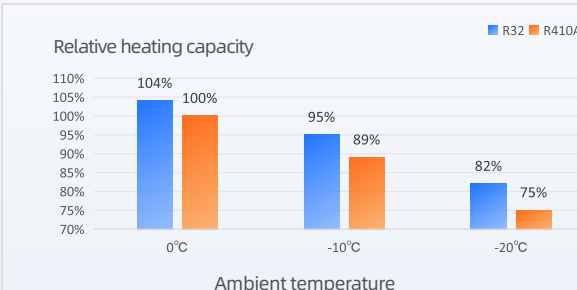
Heating efficiency comparison (R32 VS R410A)



Low temperature advantage:

In a low temperature environment of -10°C, the heating energy efficiency of R32 is about 10% higher than that of R410A, the annual energy efficiency ratio (HSPF) is about 3-5% higher, and the cost is 10-15%.

Heating capacity comparison (R32 VS R410A)



Low temperature advantage:

In a low temperature environment of -20°C, R32 has a heating capacity of about 7% higher than R410A. R32 has less heating capacity at low temperatures and more stable heating performance.

Projects

Xinhu Jiahe Mingju Residential Community Heating Project

Project Overview

Located west of Jiefang Road & Taihe Road intersection, Lanshan District, Linyi. The residential phase two covers 70,000 sq.m heating area, requiring 20 units, with 12 XLH-185 II BDX heat pumps deployed.

Equipment Configuration

Room temperature steadily stays **18-22°C** with even heat distribution. No dry air or temperature swings, eliminating uneven heating drawbacks. Freely adjustable temperature suits all family members for superior comfort.



Broiler chicken farming project in Xuancheng City, Anhui Province

Project Overview

This yellow-feathered broiler farm has 15 breeding houses. Each house measures 15m×80m, holding 35,000 chickens, with max ambient temperature 35°C. Coal-fired boilers with floor heating pipes were formerly adopted.

Equipment Configuration

Site survey and calculation led engineers to deploy 14 XLH-18511BDX heat pumps to replace coal-fired boilers. Annual costs **cut by \$45,000**, saving rate 37.3%, carbon emission reduced by 1,559 tons.



Heating Project for Office Building of Shandong Longyuan Rubber Co., Ltd.

Project Overview

This project sits in Lijin County, Dongying, covering 4,000 sq.m. Fitted with two Xinlei 185 heat pumps and floor heating terminals, it replaces high-energy steam heating with air-source heat pumps for lower power consumption.

Time of commissioning: November 2025

Project Highlights

The system operates with **zero carbon emissions and zero pollutant emissions**, fully meeting national environmental protection policy requirements, helping office buildings achieve the goal of "green office" and providing reliable heating for office spaces.



Yishui Youbang Breeding Farm

Project Overview

This broiler house heating renovation project is situated in Wujiawa Town, Yishui County, Linyi. 13 houses originally heated by coal-fired boilers will be equipped with 12 XLH-18511BDX air source heat pumps.

Project Highlights

Featuring precise temperature control, the unit maintains shed temperature steadily at **18-30°C** to fit growth demands of white-feathered broilers. It prevents temperature swings, securing survival and growth efficiency for standardized farming.

Dingzhou City, Hebei Province, Dashijie Shopping Mall

Project Overview

Dingzhou Grand World Group is a large comprehensive commercial conglomerate covering shopping, catering, entertainment, leisure and office business. Boasting a floor area over 2 million square meters, it is equipped with 28 sets of 60HP HVAC units.

System Configuration

Heating area: **46,000** square meters

Unit configuration:

28 units of **60** horsepower cooling and heating machines



Suqian World Expo Breeding Farm

Project Overview

Located in Suqian City, Jiangsu Province, this project involves the renovation of broiler chicken sheds and heating systems. A total of 24 chicken sheds were originally equipped with coal-fired boilers, and the renovation will use 24 XLH-18511BDX air source heat pump units.

Project Highlights

The unit achieves precise temperature control, keeping shed temperature steady at 18-30°C for broilers at different growth stages. It stabilizes breeding environment, ensuring survival rate and growth efficiency.

