EUROKLIMAT®

GIVE LIFE TO BUILDING & BRING US BACK TO NATURE

ALL DC INVERTER

EKRV-E

Full DC Variable-frequency

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EK AC
Energy-saving AC experts from Europe

Origin of EK — Euroklimat Air-Conditioning & Refrigeration Co., Ltd. ("EUROKLIMAT" for short) was founded in 1963. Till now, EUROKLIMAT products are sold in many countries and regions such as China, India, Thailand, Indonesia, Myanmar, South Africa, United Arab Emirates, Chile, and Bangladesh. Driven by technical innovations and taking energy conservation-oriented approaches, EUROKLIMAT is committed to developing into a world-leading environmental system integrator and service provider. The six main air conditioning products of EUROKLIMAT are fluorine system products, water system products, air handling units, units for data centers, high-efficiency equipment rooms, and smart homes. Besides, EUROKLIMAT boasts core competencies in heat recovery, condenser and evaporator capacity, and precision control.

Development of EK — After years of development and endless exploration, now EUROKLIMAT has 1,200 employees in China working in many departments involving marketing, R&D, manufacturing, and after-sales services. EUROKLIMAT has over 10 testing laboratories accredited by CNAS, a technology R&D center in the Asia Pacific region, and the over-100,000m2 EK industrial park. All products are manufactured through world-leading air conditioning technologies and processes. We have provided high-efficiency and energy-saving central air conditioners with an estimated value of RMB10 billion to the Chinese market. In the era of 5G, EUROKLIMAT keeps pace with development. We have established the EK-CLOUD platform that supports real-time monitoring of devices, to provide users with comprehensive industry solutions.

Honors of EK — National High-tech Enterprise, Testing Laboratory Accredited by CNAS, Chinese Standard Innovation Contribution, Enterprise of National Major Energy-Saving Electronic Products, Guangdong Energy-Saving and Environmental-Protection Air Conditioning Engineering Research Center, IPR Superior Enterprise in Guangdong, Guangdong Enterprise Technical Center, Guangdong Enterprise with AAAA Standardized Conduct, Guangdong Famous Enterprise, Guangdong Enterprise with High Reputation, Informatization and Industrialization Integration Management System Accreditation, and IPR Management System Accreditation. EUROKLIMAT led and participated in the preparation of a series of national standards such as GB/T25857-2010 Low Ambient Temperature Air Source Multi-connected Heat Pump (Air Conditioning) Unit, GB/T 18837-2015 Multi-connected Air-condition (Heat Pump) Unit, GB/T 33658-2017 Thermal Comfort Requirements and Evaluation for Indoor Environment, and JB-T 13515-2018 Positive Displacement Water Chilling (Heat Pump) Packages with Full Heat Recovery.

Message from EK — For EUROKLIMAT, energy efficiency is the relentless pursuit, and comfort and natural life is the eternal goal. Under the concept of "Give life to building & bring us back to nature", and adhering to the commitment of energy conservation and environmental protection, EK, to achieve harmony with nature, will keep developing comfortable and energy-saving air conditioners and join hands with partners to create a bright future.

CONTENTS

EKRV EVI **Full DC Variable-frequency • Super Capacity**

Central AC of Variable Refrigerant Flow R410A

1
Super Capacity
The maximum single module is 44HP, a breakthrough to achieve up to 132HP by module combination.

2
Technology of Enhanced Vapor Injection (EVI)
Significantly improve energy saving, powerful heating capacity, stable operation ultra-low temperature down to -30°C.

3
Technology of Full DC Variable-Frequency
Compressor and fan motors are in full DC variable-frequency, with a control accuracy of 0.01Hz, and more accurate unit capacity.

4
Ultra-high Energy Efficiency
The IPLV (C) of the full range unit is up to 10.0, exceeding national first-class energy efficiency standard.

5
Patent New Heat Exchanger
Patented design of heat exchanger with supercooling/ defrosting with new curved ventilation structure to improve the cooling/heating performance.

6
16 Low-noise Technologies
16 low-noise technologies such as the patented compressor soundproof box and streamlined large-diameter blades, creating a quieter and more o comfortable environment.

7
Multi-stage Oil Return Technology
Patented oil control technologies including cross oil return, smart oil equalization, ensuring the best system operation.

8
Three-stage Supercooling Technology
The highly efficient economizer realizing three-stage supercooling up to 35°C, greatly improving operation efficiency.

9
Smart Control
Smart control systems such as household billing, meeting the diverse control needs of customers.

The era of IOT is coming. When the air conditioner is combined with the IoT, what convenience can it bring to our work and life?

You can remotely view, adjust the operating status of any equipment in real time, or centrally control all equipment.

You can also log in to the cloud to view the historical operating data of the equipment, and reduce the operating cost by setting the functions such as "one-click energy saving", "temperature limits", and "permission setting";

You can also conduct schedule management to make the equipment operate as scheduled;

You can even get faster and more accurate proactive after-sales service.

EK smart cloud VRF unit allows you to easily control your own air-conditioning equipment without learning complex expertise; it also enables you to get stronger service support without going through complex operational procedures.

EK AIoT Intelligent Management System

New EK AIoT intelligent management system has many important functions such as identity recognition, positioning, cloud data storage, big data analysis, remote assistance, IoT, and mobile monitoring.

EK AIoT Service Support

Air conditioner operating report

By extracting and collecting more data, the EK cloud platform can generate a full-year air conditioner operating report, provide users with more detailed and professional suggestions for use to help save energy to the maximum.

Active after-sales service

In the past, the users report the faults by themselves, and it is time-consuming and difficult. When the EK smart VRF unit fails, the cloud platform can receive the fault information and error code immediately, reach out to the user, and arrange after-sales service.

Remote diagnosis

When the fault occurs, the technical team can analyze the operating status of the equipment 30 minutes before the fault occurs with the platform data, make a judgment in advance, carry the possible parts, and try to troubleshoot it at one time.

Remote repair support

The platform technical team can help the on-site technical personnel identify the fault and put forward a solution by analyzing the operating data of the equipment on the platform, bringing better and faster service experience to the users.

Spot check service

Regular spot check service can be provided to focus on the health of the equipment, and keep it always in the best operating status.

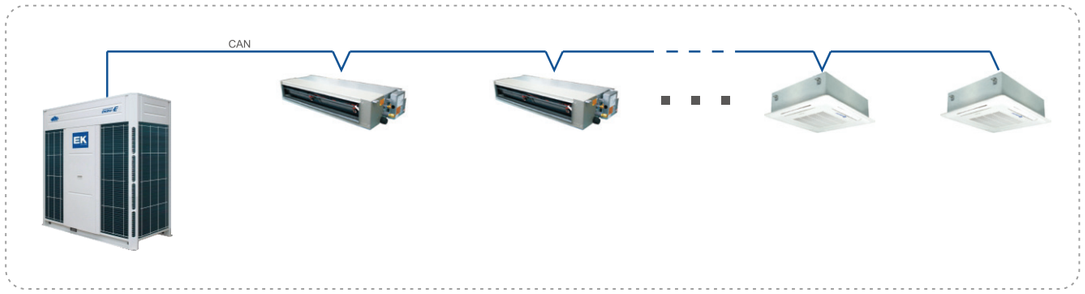
EK AIoT Service Support

Multi-account management

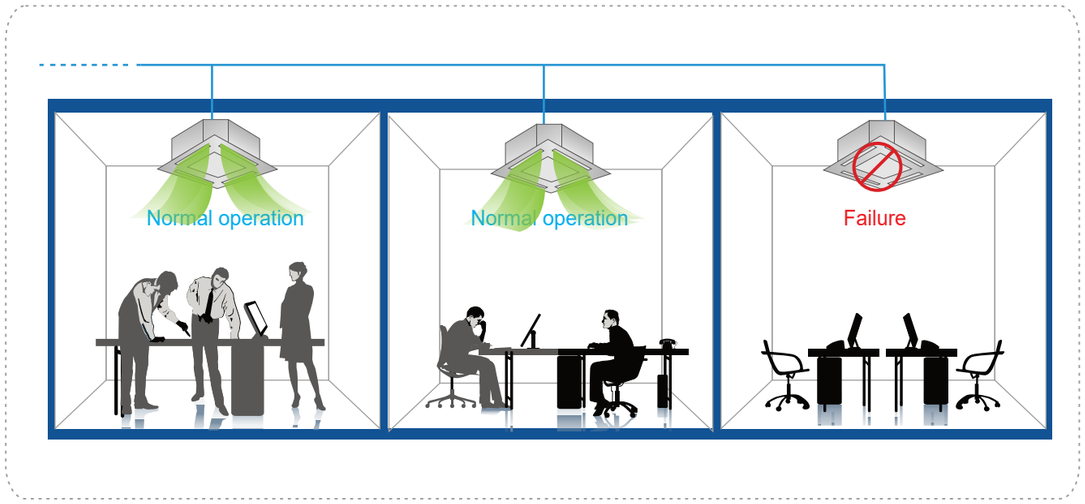
EK AIoT intelligent management system allows multiple administrators to log into it simultaneously to monitor and manage the air conditioning units under the same project.

Efficient and reliable CAN communication

- With CAN communication, the transmission speed can reach 50Kbps and an ultra-long communication cable of 1500m is used to connect the IDU and ODU, easily solving the problem of unstable communication for the high-rise buildings.



- With CAN communication, if an IDU has a communication fault, it automatically exits the communication system without affecting the communication between other IDUs and the ODU.



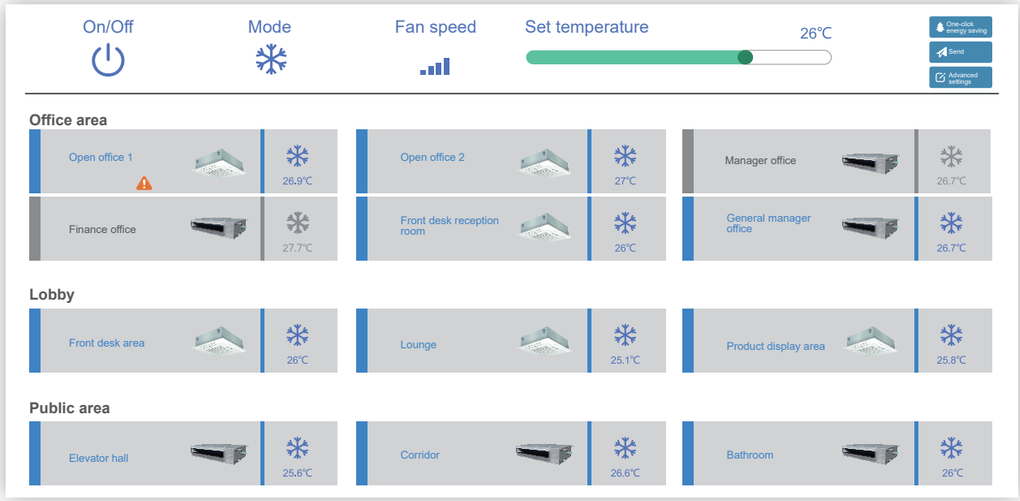
EK AIoT Energy Saving Management

Schedule management

The schedule management, depending on needs for IDUs located in different places, allows group control of units operating during different time periods or in different modes. There is no need to switch on/off the unit manually every day, helping effectively avoid energy waste caused by forgetting to switch off the unit. It also allows the unit to automatically operate in the cooling mode or heating mode in advance to create a more comfortable indoor environment.

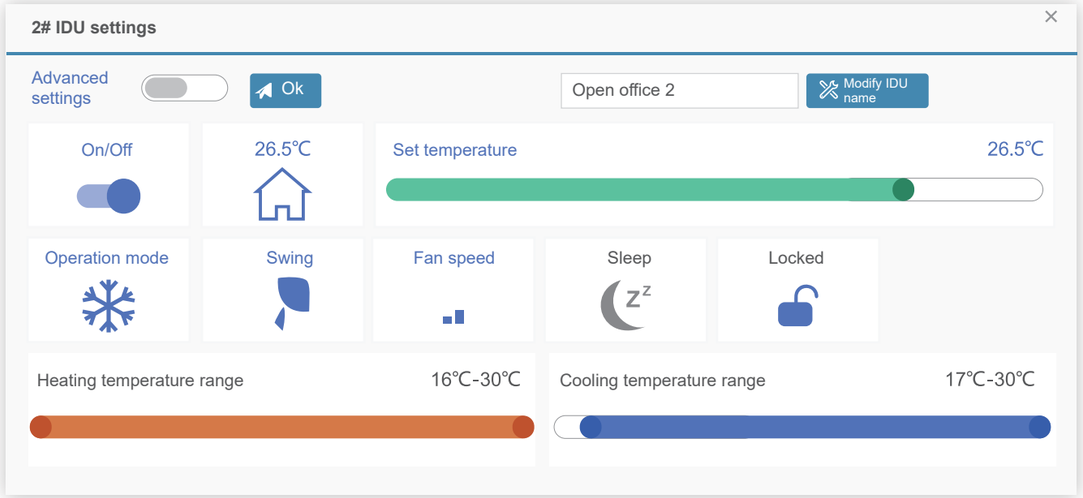
Convenient intelligent control

- **Convenient independent control**
  Switch on/off any IDU, adjust its operating mode, air flow, swing mode remotely, allowing users to easily operate the unit.
- **Smart partition management**
  Name and group all IDUs freely in the system, switch on/off all the units, and adjust their operating mode, temperature, fan speed and other parameters uniformly by partition management to achieve energy saving.
- **One-click energy saving**
  Optimize the operating status of all units by analyzing the data of EK AIoT intelligent management system, and use the one-click energy-saving button to reduce the operating cost intelligently.



Multiple energy saving setting

- **Concise operating interface**
  A visual and concise operating interface is provided for users to view various operating parameters of each IDU such as partition, on/off, mode, temperature and fan speed and its fault information at any time.
- **Temperature limit setting**
  Set the minimum and maximum temperature of the IDU to ensure a comfortable indoor environment, and keep the equipment operate in the best energy-saving mode.
- **Control permission lock**
  Conduct permission lock to any IDU in the system to avoid misoperation and reduce energy waste.
- **Sleep mode**
  Adjust the sleep temperature scientifically to meet the body temperature change demand at night, and reduce the operating noise and energy consumption of the unit.



The Core of Technology

To ensure excellent performance

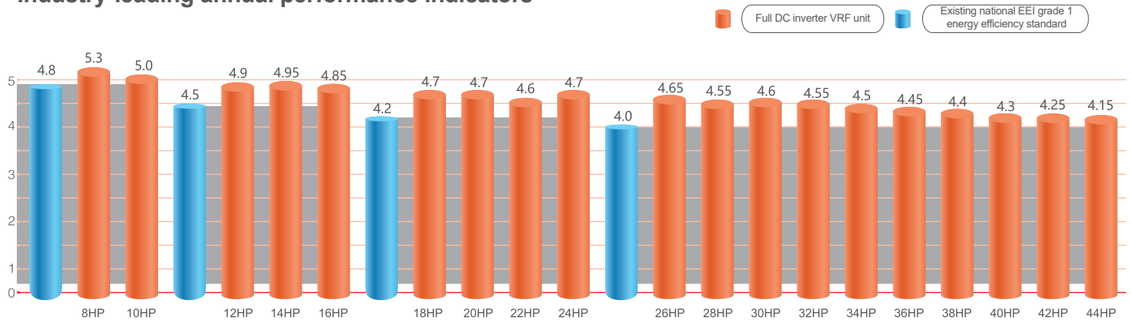
EK actively participates in formulating VRF standard

EK AC is a member of the drafting team with five leading VRF producers for "Low Ambient Temperature Air Source VRF Heat Pump (Air Conditioning) Units", as well as one of the drafter for the national standard of “VRF Air Conditioning (Heat Pump) Units".

Go beyond the national first-class energy efficiency

Industry-leading annual performance indicators

The APF is up to 5.3, far exceeding the national EEI grade 1 performance



Note: The APF of modular multi-connected air-conditioning (heat pump) units is tested based on basic modules according to the Minimum Allowable Values of the Energy Efficiency and Energy Efficiency Grades for Multi-connected Air-condition (Heat Pump) Units (GB21454-2021)

Efficient outdoor unit

The unit adopts high-efficiency parts and components, saving energy by tuning the system for the most reasonable operating state, while ensuring reliability and comfort to improve the energy-saving effect.

DC VF compressor with high-pressure cavity | Streamlined large-diameter fan | Full DC VF fan motor | 180° sine wave DC VF technology | Highly efficient 2-1 loop | Supercooling circuit design | Unique curved ventilation design of heat exchanger | Φ7mm high-efficiency internal thread copper pipe

Leading technology of low temperature and strong heat

A new generation of EVI based scroll compressor

The unit adopts an DC VF scroll compressor with large displacement and high-pressure cavity, a high-rigidity casing, anti-overcompression system, anti-liquid hammer technology, suction the air direct into the compression chamber for higher volumetric efficiency. In addition, by combining the unique EVI technology and advanced three-stage supercooling technology, the compressor has a higher circulation of refrigerant in the system at low temperatures for highly efficient operating.

Enhanced vapor injection design
It significantly improves the cooling/heating performance of the unit and expands the heating operation range to ensure the stable operation of the unit at low temperature.

New design of suction pipe
Reduce suction resistance loss and increase energy efficiency at high load.

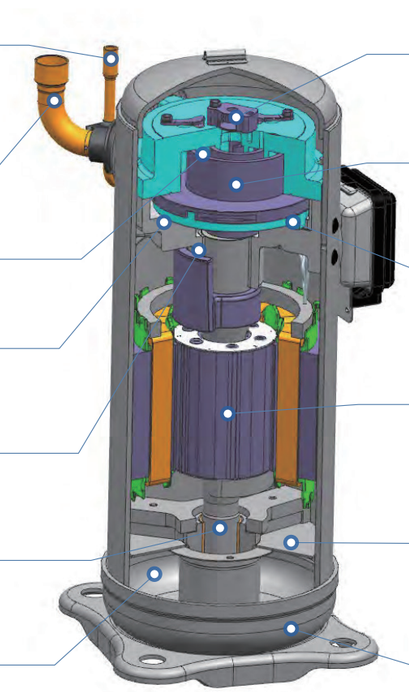
Vapor injection check valve
Reduce compressor noise and pipeline vibration to improve the performance.

Flexible mechanical structure
Reduce leakage and friction loss to improve the energy efficiency of the entire unit.

Gas discharge and oil saving baffle design
When the refrigerant is compressed and discharged, this baffle can reduce the discharge of lube for reliable operation.

Stable oil supply system
The differential pressure oil supply system ensures that the compressor can provide sufficient lube when running at a lower speed.

Lubricant
PVE lubricant and self-cleaning design of oil tank are adopted to prolong the service life of compressor.



Pressure relief valve
Reduce over-compression loss and improve compressor efficiency at small and medium loads.

New scroll plate structure
The asymmetric design of the scroll plate reduces leakage loss and improves compression efficiency.

Advanced air discharge structure
Ensure a lower oil discharge rate of the compressor under any load to improve the reliability.

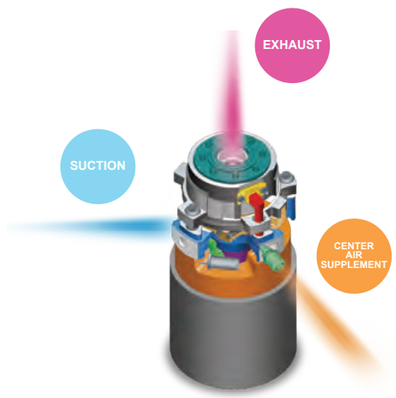
Efficient motor configuration
A new type of concentrated winding stator and a six-pole neodymium magnetic material rotor are used to effectively improve the efficiency of the motor and allow the compressor to run more stably with low noise.

Oil separator design
Effectively block the stirring of the crankshaft to the oil pool, avoiding the too much oil being thrown out, ensuring the reliable operation.

Oil temperature heating tape
The unit automatically controls the start and stop of the oil temperature heating tape to ensure the stable start of the unit.

EVI technology

The new EVI system has a jet booster compressor and high-efficiency supercooler. An air suction port added to the medium-pressure cavity of the compressor scroll will supplement air in middle-pressure to boost the air displacement of the compressor for improved heating capacity in a low temperature environment. The main advantage of the system is that the unit will operate with high efficiency in cooling, while significantly raise the heating performance in severe cold environment for safe and reliable operation.



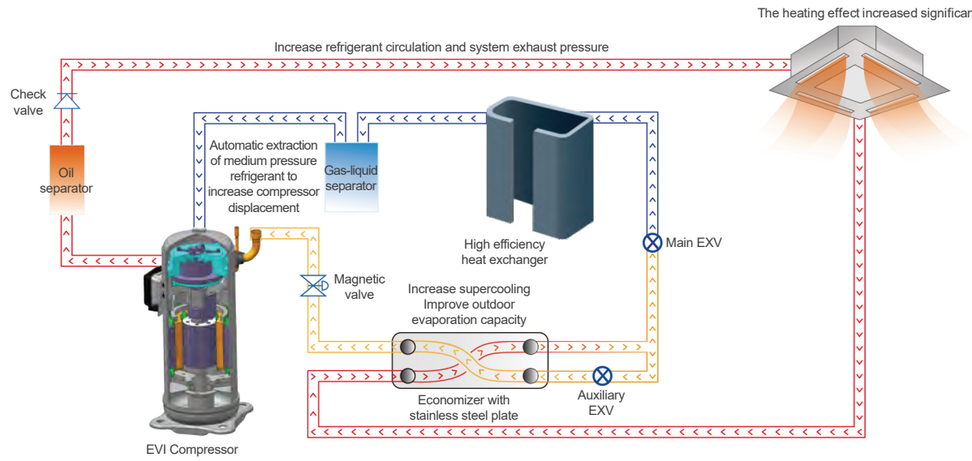
• Principle of EVI
A second suction port is added to the scroll to supplement air through the second suction circuit. It will increase the refrigerant displacement and the enthalpy difference of the main cycle refrigerant.

Medium pressure refrigerant with additional injection → Increase refrigerant circulation by 20% → One compressor for 2 quasi-compression → Effectively improve cooling and heating efficiency

• Conventional system heating operation
When the ambient temperature is very low and the pressure on the evaporating side is low, the conventional system will reduce the exhaust volume which will raise the exhaust temperature, reduce the volumetric efficiency of the compressor as well as the heat exchange efficiency of the system. The significant attenuation of heating capacity will lead to shut off when exceeding system operation range.

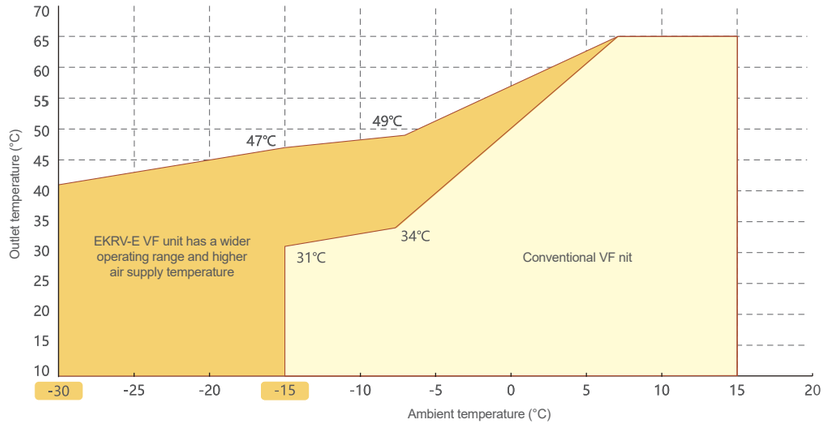
Advanced medium-pressure air supplement system

After the compressor exhaust passing through the indoor unit for sufficient heat exchange, the high-efficiency economizer will, on the one hand, supercool the refrigerant in the main circulation circuit before throttling, increasing the air temperature difference; and on the other hand, properly preheated the medium-pressure, low-temperature refrigerant passing through the auxiliary circuit and depressurized by the electronic expansion valve. It will enable the compressor for secondary compression, improving the heating capacity of the system as a perfect solution of winter heating in cold areas.



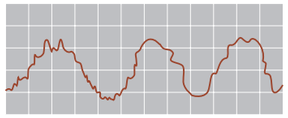
High temperature of air supply at low temperatures

By the wider operation range, the EVI and three-stage supercooling technology will break the limits of exhaust pressure and exhaust temperature at low ambient temperatures, greatly increase the unit heating capacity, and the air outlet temperature of the indoor unit.

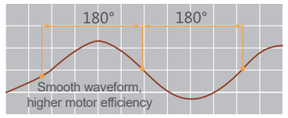


Stepless VF technology

The advanced DC VF control technology realizes stepless speed regulation of the compressor speed. According to the actual AC load requirements, the smart adjustment system enables linear transmission from low load to high load, allowing adjusting the unit capacity on demand.



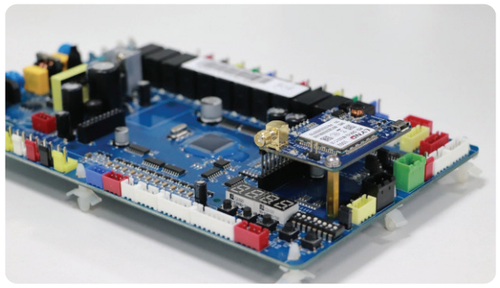
Ordinary AC: Ordinary rectangular wave output, low motor efficiency



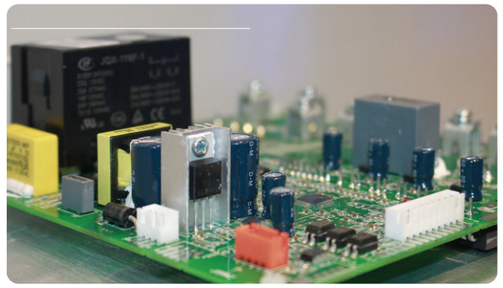
EK AC: 180° sine wave output, high motor efficiency

Smart VF control

- The powerful VF control motherboard independently developed by the company, realizing a wide VF control of 0~480Hz with the control frequency accuracy up to 0.01Hz.
- Precisely control by the high-speed DSP chip by Texas Instruments and mature algorithm that will control the double closed-loop feedback in voltage and current; integrates multiple protection functions against overvoltage, overcurrent, and overtemperature for more stable performance and more reliable operation.
- Effectively reduce compressor motor vibration by sensorless SVPWM sine wave control.
- Reduce the compressor start-up current and power grid impact by the closed-loop start-up control design, effectively ensures the stability of the customer's power grid.



Control module

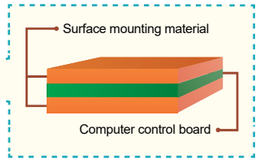


VF module

SMT technology

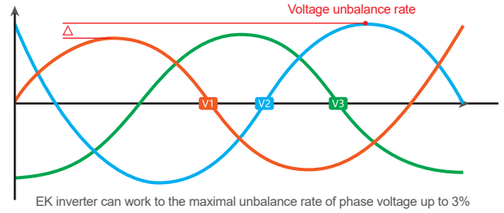
With the SMT (Surface Mounted Technology) , the entire motherboard surface is coated with sealing materials, effectively improving anti-clutter interference performance of the motherboard, protecting it from high temperature, humidity, wind, sand and other severe weather and air environments.

The surface of the control board uses surface mounting material



Floating pressure fit of IPM Inverter

EK inverter adopts advanced unbalance control of voltage, it can work stably and efficiently even the voltage unbalance rate reaches 3%.



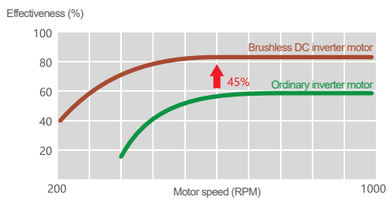
EK inverter can work to the maximal unbalance rate of phase voltage up to 3%

Suppress ultraharmonics and electrical noise

EKRV-E series of VRF central AC units have been tested by high standards and passed the national EMC test. Combined with high-efficiency components, it effectively suppresses ultraharmonics and electrical noise.

DC inverter motor

The DC brushless inverter motor will effectively operate in various environmental temperatures, quickly responding to adjust the fan speed, ensuring the stable suction and exhaust pressure of the system. Meanwhile, the air volume and pressure of the outdoor unit are automatically adjusted according to the load change, ensuring the stable and reliable operation of the system.



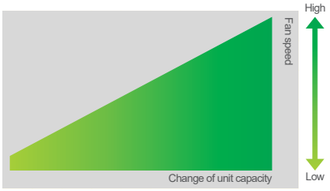
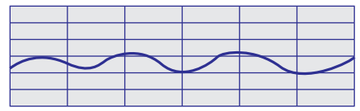


Diagram of wind speed regulation for outdoor unit under cooling conditions

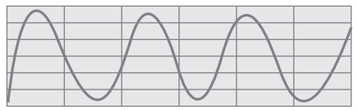
Steady fan control

FFT feedforward control enable smart control the fan speed, avoiding frequency fluctuations of the whole machine to save energy and electricity.

High pressure fluctuation of refrigeration



EK: Stepless control + feedforward control



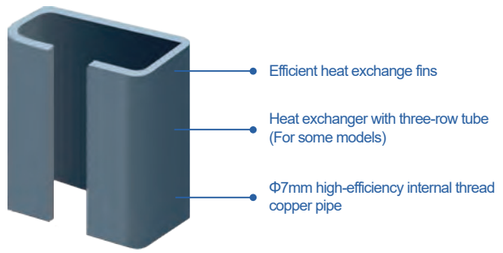
Conventional: hierarchical control + feedback control

High quality and efficient
heat exchange technology

Design of high efficiency heat exchanger

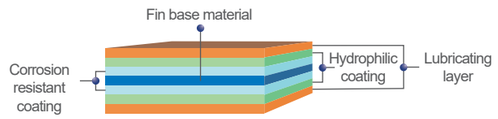
High-temperature heat exchanger against corrosion

Both the indoor and outdoor units use hydrophilic anticorrosive aluminum foil to slowdown the corrosion of corrosive gases on the fins. It will destroy the surface tension of water droplets and accelerate the rapid discharge of condensed water. Meanwhile, it will prevent frost during heating to enhance the AC performance (Copper fins and black anti-corrosion aluminum fins can be customized as required).



Four-side surrounding heat exchanger (20~44HP)

Note: To customize copper fins and black anti-corrosion aluminum fins, please consult EK technical engineers

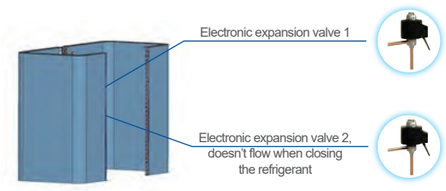


Hydrophilic anticorrosive aluminum fin

High-efficiency high-tooth internal threaded tube

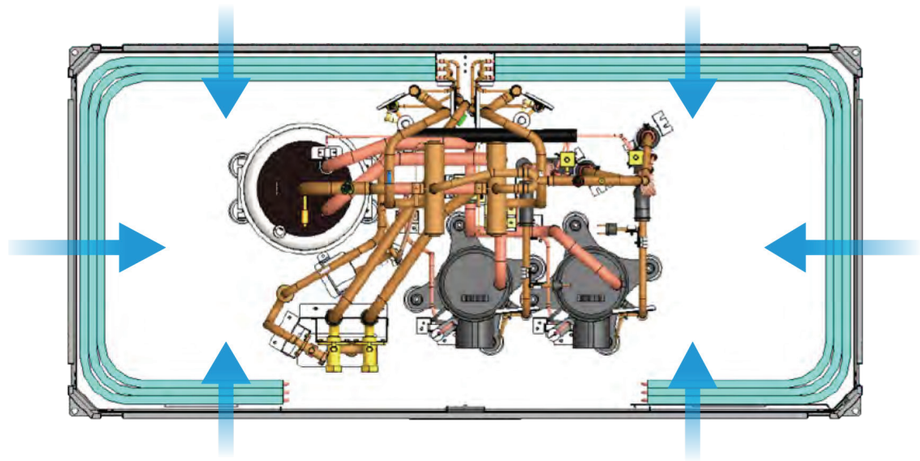
Automatic adjustment of heat exchange area of outdoor unit

The outdoor unit heat exchanger has dual electronic expansion valves, enabling automatic matching of heat exchange area according to the indoor load demand. It will accurately control the refrigerant flow for the effective heat exchange area, allowing more comfortable operation and improved efficiency of partial load operation.



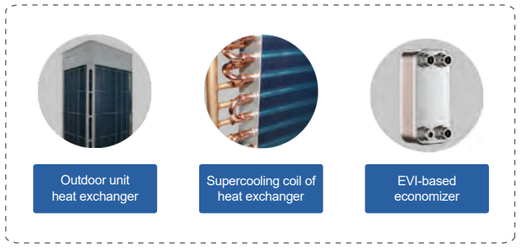
Compact 3-D design

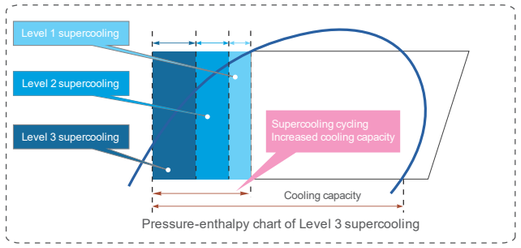
The compressor, gas-liquid separator, oil separator and other components are compactly arranged in the center of the chassis. It will not only facilitates the maintenance, but also benefit to the smooth air intake from four directions to greatly improve the heat exchange efficiency.



Three-stage supercooling

The condenser can achieve primary and secondary supercooling. A independent board heat exchanger is set to achieve three-stage supercooling up to 30°C. It will increases the cooling capacity of the unit, and effectively improves the capacity attenuation of the long connecting pipe. Therefore, the unit efficiency is improved with more stable operation.

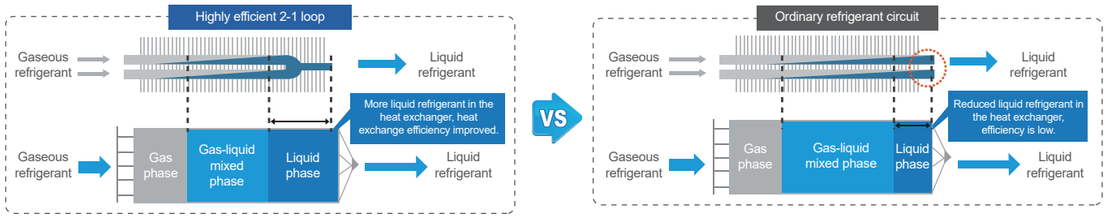




Pressure-enthalpy chart of Level 3 supercooling

Highly efficient 2-1 loop

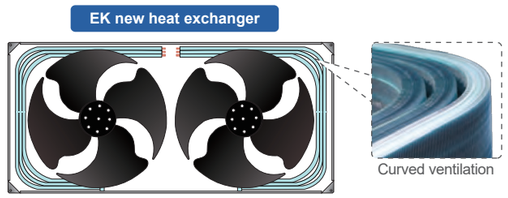
The highly efficient 2-1 refrigeration circuit is designed to increase the amount of liquid refrigerant for great improvement in heat exchange efficiency.



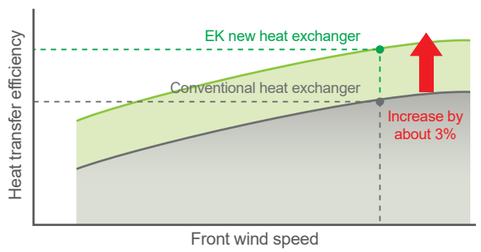
Unique curved ventilation design of heat exchanger

EKRV-E series of outdoor unit adopts a new curved ventilation design to improve the heat exchange efficiency of the outdoor unit, helping improve the performance of the AC system.

- Reduce ventilation resistance at bends, increase heat exchange ventilation.
- Easier for condensed water to be discharged through the bend during heating.

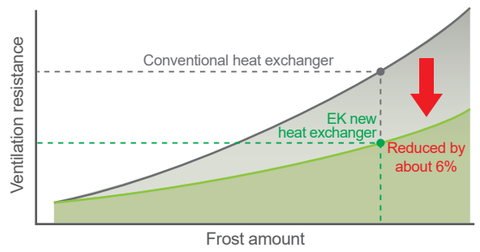


Heat transfer efficiency



- The new design of heat exchanger reduces the ventilation resistance for higher front wind speed and heat exchange efficiency.

Reduce ventilation resistance

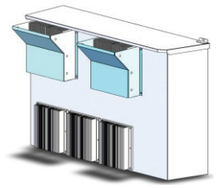


- The new design of heat exchanger has larger ventilation space at the bends to reduces the forest amount during heating in winter.

Heat dissipation design with various electric control box

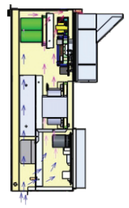
Highly efficient heat dissipation of wind scooper

The electric control has a wind scooper to quickly remove the heat generated by the VF drive based on the principle of aerodynamics. After the comparison test, the electric control box with wind scooper reduces the average temperature of the VF drive by 6°C.



Patented design of auxiliary heat dissipation for the electric control box

By the negative pressure effect, the heat in the box is continuously discharged through the opening on the top of the electric control box to ensure the stability of the system in a high-temperature environment and reduce energy consumption.
(Patent No.: ZL201821647872.7)



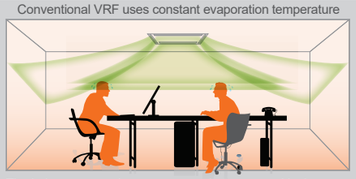
Refrigerant control technology

STC (Smart temperature Control)

The unit can predict and control the refrigerant smartly about the ideal operating state of the AC system. With STC (Smart Temperature Control) , the indoor unit can smartly adjust the evaporation temperature according to the corresponding load demand. When the cooling demand is low, it will increase the evaporation temperature and reduce the opening of the electronic expansion valve; vice versa. It will achieve both highly efficient system operation and body comfort in the space.

The indoor unit of the air conditioner will achieve rapid cooling or heating in a short time after being opened.

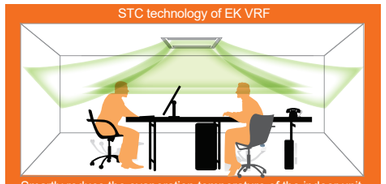
Conventional VRF uses constant evaporation temperature



The indoor evaporation temperature is constant with slow temperature dropping. The room still feels warm.

Smartly reduce the evaporation temperature of the indoor unit

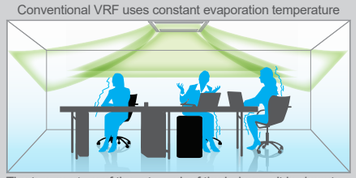
STC technology of EK VRF



Smartly reduce the evaporation temperature of the indoor unit, realizing **rapid cooling**, and reaching the set indoor temperature more quickly.

When approaching the set temperature of the indoor unit, there will be no discomfort due to the cold and hot air blowing directly.

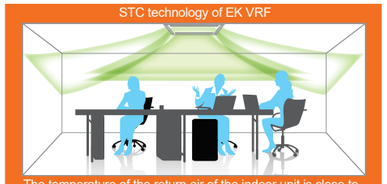
Conventional VRF uses constant evaporation temperature



The temperature of the return air of the indoor unit is close to the set temperature of the AC. The evaporation temperature of the indoor unit is low, causing discomfort due to the direct flowing of cold wind.

Smartly reduce the evaporation temperature of the indoor unit

STC technology of EK VRF

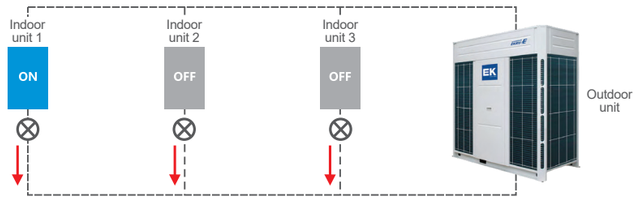


The temperature of the return air of the indoor unit is close to the set temperature of the AC. The evaporation temperature of the indoor unit is smartly raised to **avoid discomfort due to the direct flowing of cold wind**.

Refrigerant control technology

Smart supplement of refrigerant

In the heating mode, the system will smartly identify when to supplement the circulating system with the refrigerant in the heat exchanger coil of the indoor unit in standby state. Through continuous tunning, the heating effect of the system is improved, while the energy consumption is reduced.



Refrigerant control

Refrigerant pressure detection

With the sensors of suction and exhaust pressure and temperature sensors, the refrigerant status of the system can be accurately detected to ensure stable and efficient unit operation. The sensor feeds back pressure changes in time, while the unit quickly responds to the indoor load to avoid the impact of instantaneous high and low pressure on the compressor.

New type of refrigerant separator

With the venturi type separator with the highest processing precision in the industry, the refrigerant is evenly distributed with reduced pressure loss and noise to improve the heat exchange efficiency.

Accurate temperature control with multiple electronic expansion valves

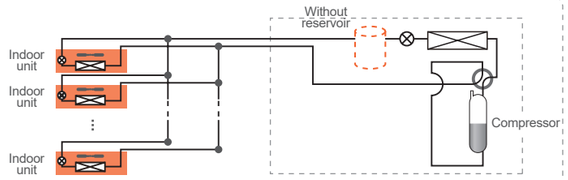
The outdoor unit has multiple electronic expansion valves to accurately adjust the refrigerant flow of up to 3000 levels according to the load of the indoor unit, creating a more comfortable indoor environment.

Liquid steam injection

For cooling , the refrigerant injection valve in the system will spray the liquid refrigerant into the compressor as mist to prevent the compressor from high temperature damage.

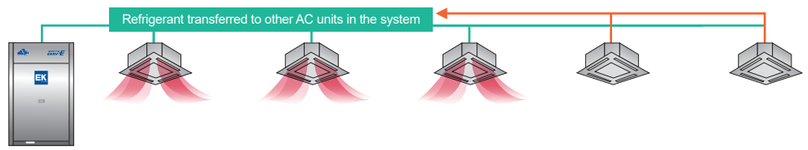
Refrigerant piping storage

The refrigerant piping storage will store the excess liquid refrigerant in the pipeline without a special reservoir. By eliminating the system loop of the accumulator, the refrigerant control is more accurate, while the system operation efficiency is significantly improved.



Dynamic distribution of refrigerant

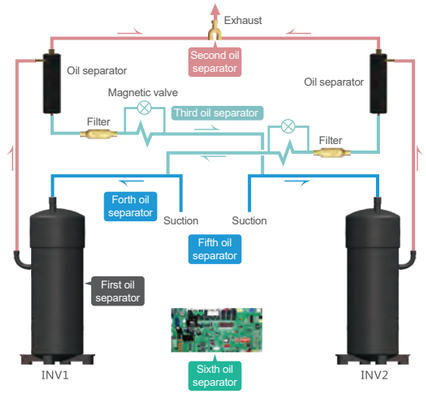
In the heating mode, the refrigerant in the stopped indoor unit will be transferred and reasonably distributed to the running AC, ensuring sufficient refrigerant for heating.



Multi-stage oil control

By adopting several oil control technologies such as large-capacity oil separator, smart inter-module oil equalization, automatic oil return of the system, inter-compressor cross oil equalization (patent number: ZL201520458037.9), and non-stop heating oil return, EKRV-E reaches a effective oil return rate as high as 99.99%. It ensures the reliable and stable operation of the system and effectively extends the service life of the whole machine.

- Oil-mist separation inside the compressor
- Intelligent control of compressor oil level
- Cross oil equalization between compressors
- Oil supply technology of pressure difference between compressors
- Non-stop heating oil return
- Intelligent oil equalization between modules
- Automatic return oil by system
- Large capacity oil separator returns oil



First oil separator: oil separation inside the compressor;
Second oil separator: efficient returns oil of oil separator;
Third oil separator: magnetic valve + capillary double return oil;
Forth oil separator: high-speed oil return in the suction pipe;
Fifth oil separator: cross-equalizing oil between compressors;
Sixth-stage oil: accurately controlled oil balance by program;

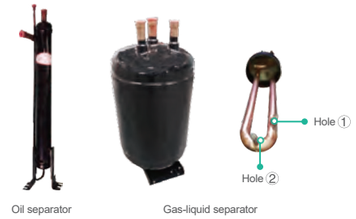
Efficient oil control components

- Efficient oil separator

  Effectively block the refrigerant oil from entering the system with the refrigerant, sending the oil back to the compressor in time for efficient oil return.

- Efficient gas-liquid separator

  The U-shaped bend of the gas-liquid separator is equipped with double oil return holes (patent number: ZL201520458001.0); the oil outlet has a cylindrical filter screen (patent number: ZL201520458032.6) to effectively increase the filtering area and secure the filtering effect, while ensuring the amount of oil return of the compressor, preventing liquid shock and improving oil return performance.



Automatic oil equalization for more stable compressor operation

- Oil cycles inside the compressor

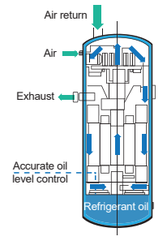
  The oil-mist separation design inside the compressor reduces the oil discharge rate at the air outlet, improving the heat exchange efficiency of the system.

- Oil supply technology of pressure difference between compressors

  The oil supply design by the pressure difference of the high-pressure cavity scroll compressor to ensure sound lubrication of the compressor.

- Cross oil equalization between compressors

  The method of cross oil return between the compressors realizes reasonable distribution of the refrigerating oil before returning to the compressor, while ensuring the system in good working condition.



Control technology of system oil return

- Non-stop heating oil return

  No need to switch the heating mode to the cooling mode for the oil return when heating. The unit continues to supply heat when the oil returns.

- Automatic return oil by system

  The system sends the oil return command via the controller automatically according to the running time and status, and returns the oil on demand automatically.

- There is no need of equalizing oil pipes between outdoor unit modulest

Intelligent defrost technology

Intelligent defrost technology, smooth operation in winter

- Dynamic smart defrost function

  The unit automatically corrects the defrost time according to the real-time operating temperature and pressure parameters of the outdoor unit. The frost will be removed accurately in time according to the actual amount to effectively avoid the heating loss commonly seen in conventional defrost mode.

- Defrost function in low temperature environment

  When the outdoor temperature is low, the unit automatically judges the change trend of the temperature and the pressure sensor to ensure more accurate defrosting.

- Defrost function in high humidity environment

  The unit automatically judge the humidity of the external environment, performing defrost function accurately to avoid excessive frosting or invalid defrosting action.

- Partial load defrost function

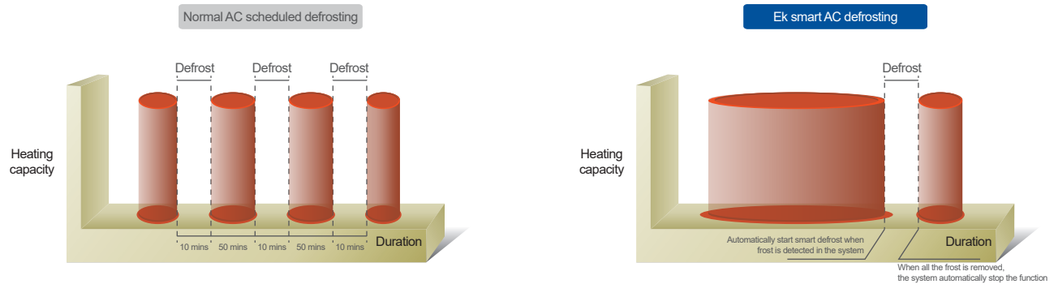
  When the unit is running under partial load, it automatically performs defrosting accurately according to the change in the heat exchange efficiency of the outdoor unit. Under different load conditions and different judgment criteria, the timing of defrosting can be more accurately grasped.

- Module rotated defrosting

  For the system of combined outdoor units, the deforesting function will rotate among units. It will reduce the indoor temperature field fluctuates, help shortening the system's defrosting cycle for more comfort.

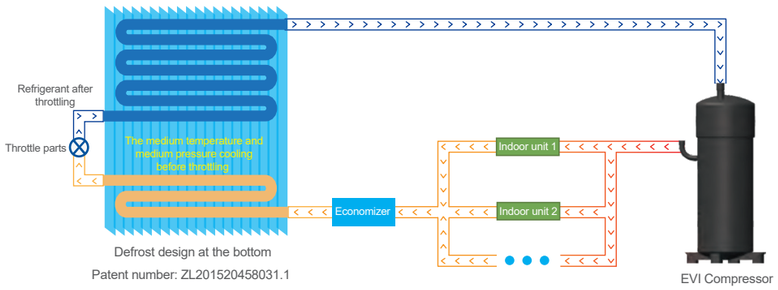
- Heat storage defrost of indoor unit

  Before entering defrost function, the system raises the refrigerant temperature, allowing the indoor heat exchanger to store heat. After the defrost function start, the heat from the indoor unit is released to the outdoor unit for faster defrosting of the outdoor unit. It shortens the defrosting time of the system, allowing the indoor unit to start hearting to the set temperature.



Anti-frosting heat exchanger

The heat exchanger of outdoor unit has the defrost function. In the heating mode, the medium temperature cooling from the indoor unit first enters the defrost heat exchanger to further release heat, ensuring that no frost on the bottom of the outdoor unit heat exchanger. The defrost design effectively avoids any frost and snow accumulated at the bottom of the heat exchanger and improve the heating capacity of the system.



Defrost design at the bottom

Patent number: ZL201520458031.1

Never frost on the bottom of the unit

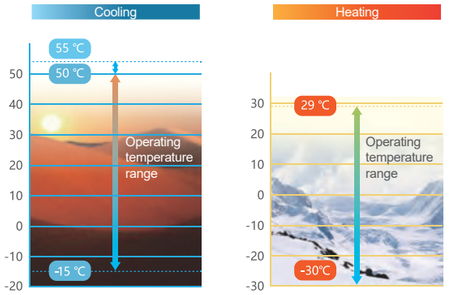
Wide operating range

Wide operating temperature to better response to any harsh environments

Advanced AC design greatly improve the adaptability of the unit to various environments. Whether it's 55°C or -30°C in the external environment, the unit can operate reliably for a comfortable indoor environment for users.

Operation temperature for cooling: -15°C~55°C

Operation temperature for heating: -30°C~29°C



Note: Please consult EK technical engineer for low temperature refrigeration/ low temperature heating/ high temperature cooling.

Reliable operation

Smart & balanced operation management

Based on the operation time of each compressor automatically recorded by the system, it starts the compressor with a short operating time as a priority to balance the operating time of each compressor, extend the life of each compressor; automatically records the operating time of each module. By giving priority to start modules with short running time, and balancing the running time of each module, the service life of the unit is extended.

Quadruple backup for operation

Designed with a quadruple backup operation, the outdoor unit modules, the compressors and inverters in the modules and fans are backups for each other respectively to ensure that the unit continues to run for accidental protection or in any shutdown.

Multiple protection measures to protect the safe and reliable operation of the unit

- Protection against compressor overload
- Suction pressure protection
- Exhaust temperature protection
- Exhaust pressure protection
- Self-check for IPM fault
- Inverter PFC protection
- Protection against compressor phase loss
- Lightning protection
- Protection against communication failure
- Protection against abnormal input power
- Protection against insufficient refrigerant
- Protection against IPM overheat

EUROKLIMAT®

Health and Fitness
Fully enjoy green technology

Creating a quiet space

With 16 designs to reduce noise of operation, the unit creates a quiet space both indoor and outdoor.

- Low-noise grid for air outlet
- Streamlined large-diameter fan
- New design of wind guide ring
- Brushless DC fan motor
- Vibration absorbing of the motor support cage

- Quiet DC VF compressor
- Anti-resonance between compressors
- Vibration absorbing of the compressor base
- New soundproof case of compressor
- High-density sound-absorbing material

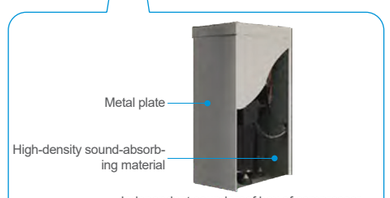
- Quiet design of refrigerant flow
- Simulated vibration absorption of pipeline
- Vibration absorption of outdoor cabinet

- Silent function at night
- Up-converting start with low noise
- Quiet design of EVI jet loop noise

New soundproof case of compressor

The outdoor unit adopts an independent soundproof box designed to effectively reduce noise and protect the compressor. With the high-density sound-absorbing material attached to the inner wall of the box, the whole machine has three layers of noise reduction which effectively absorb and block the noise of the compressor in the high, medium and low frequency bands, achieving great noise reducing result.

Patent number: ZL201420515518.4



Indoor unit noise control

The noise of indoor unit is reduced to as low as 23dB (A) with the method based on the research of operation venue, structure features, and operation control.

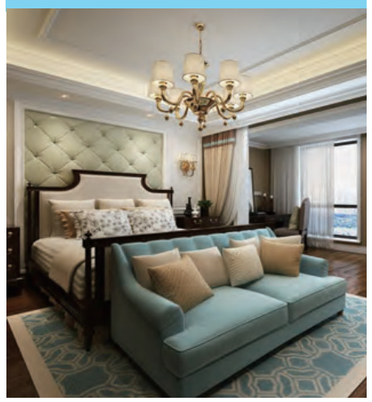
20dB(A)
The rustle of leaves

23dB(A)
EK duct machine

30dB(A)
Quiet reading room

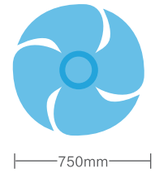
40dB(A)
Quiet speech room

50dB(A)
Office



Streamlined large-diameter blade

The streamlined vortex fan in Φ750mm diameter will reduce pressure loss with lower noise and higher heat exchange efficiency.



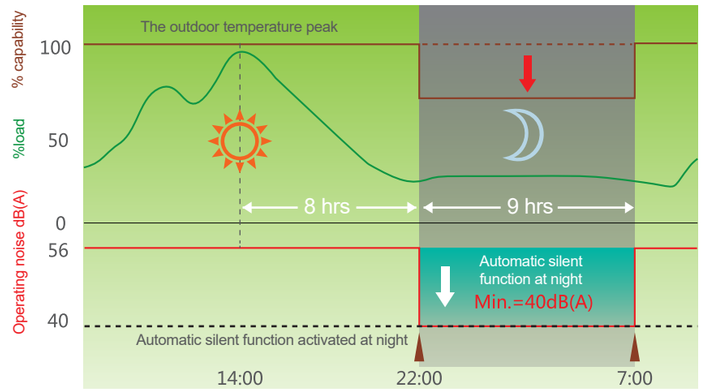
The sharp edges of the blade is optimized by CFD airflow analysis to reduce energy loss and noise.

Automatic silent mode all day

When the system is under partial load, the outdoor fan automatically reduces speed according to the pressure, the unit adjust automatically to perfectly matches the room load to reduce operating noise automatically.

Silent night mode

The silent night mode of outdoor unit has the lowest noise as low as 40 dbs to create a comfortable and quiet night environment.



Create a comfortable temperature

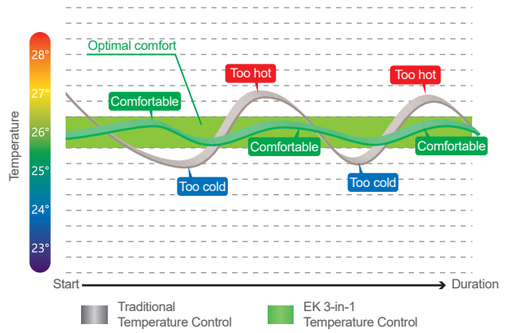
VIP function

Multiple operation modes: VIP priority, cooling priority, heating priority, cooling only, heating only.

VIP first | Cooling first | Heating first | Cooling only | Heating only

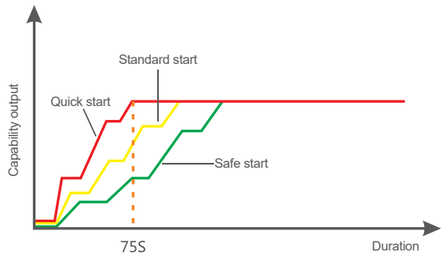
3-in-1 temperature sensing design

The temperature sensor will accurately detects the temperatures of air supply, the return air and the indoor environment. The control chip of indoor unit intelligently detects temperature changes, automatically adjusting the actual cooling or heating capacity of the indoor unit to maintaining the indoor temperature control as accurate as ±0.5°C, delivering the air in the most comfortable temperature range for users. The indoor air return port and the wire controller has one temperature sensors respectively, both are standby for each other. When one fails, the system automatically switch to another sensor to ensure the stable operation of the system.



Quick start cooling (heating) to reach the set temperature fast

By EK DC VF quick start design, the system can be started in different modes as fast as 75S based on the on-site installation and usage.



A green AC to support a green earth

Respond to the RoHS Directive

RoHS, or Restriction of Hazardous Substances Directive prohibits using the following six hazardous substances (lead, mercury, cadmium, hexavalent chromium, polybrominated diphenyl ether (PBDE) or (PBB) in electrical and electronic equipment. As a response to RoHS, EK AC actively and strictly controls the use of hazardous substances, aiming to protect the health of users to ensure the compliant recycling and processing of waste electrical and electronic equipment.

Create green buildings by energy saving and environmental protection

EKRV-E series adopts R410A green refrigerant with 0 ODP that is safe to the ozone layer. The product has passed the China Environmental Labeling and LEED, proving that it offers a green and environmentally friendly environment while being efficient and energy-saving.

中国环境标志 CHINA ENVIRONMENTAL LABELLING

保护大气臭氧层 R410A Protect the atmospheric ozone layer

ECS 绿色建筑节能推荐产品证书 Certificate for Recommended Products of Green & Energy-Saving

Comfortable and clean air solution

In recent years, more and more attention has been paid to the indoor air quality, especially in places which require a cleaner and healthier environment such as hospitals. EK pays attention to air quality and brings fresh air with innovative technology. EK concealed air duct unit and duct-type high static pressure unit offer various air purification solutions to ensure indoor fresh air.

PM 2.5 + formaldehyde removal composite filter screen

EKCC IDU can be equipped with PM 2.5 + formaldehyde removal composite filter screen. The filter element is injected with static electricity through special materials. The static electricity on the filter material will last for a long time and easily capture PM 2.5. The synthetic fiber material is moisture-proof and mold-proof. The filter element of the other half is made of active composite material. The catalyst is used to absorb harmful volatile gases such as formaldehyde. The composite filter screen can filter 98 percent of PM 2.5 and 95 percent of formaldehyde according to the test result of a third party.

Filter screen

Photocatalyst filter screen

It is a TiO_2 screen, and irradiated with UV light to decompose harmful gases in the air such as formaldehyde and benzene and kill microorganisms such as molds and bacteria through catalysis.

High-voltage static electricity filter

According to the principle of high-voltage static electricity, the fine particles in the air are ionized in the electric field area. According to the principle of positive and negative attraction, the fine particles in the air are collected on the integrated board to achieve air purification. In addition, the microbes and molds in the air will have their biological structure destroyed under high-voltage ionization to achieve the effect of killing bacteria. The high-voltage static electricity is customized. For details, consult technical engineers.

IDU antibacterial fins

EKCC-F series air duct IDU and EKCK-H series surrounding air embedded IDU adopt silver ion coating fins, which can inhibit 99 percent of Escherichia coli and Staphylococcus and keep a healthy and comfortable indoor air environment.

(1). The third party test report of the PM 2.5 + formaldehyde filter screen
(2). The third party test report of IDU antibacterial fins

The third party test report of the PM 2.5 + formaldehyde filter screen

The third party test report of IDU antibacterial fins

Comfortable and clean air solution

EKCC-F series filter options

Model	G2 filter	Photocatalyst sterilization filter	PM 2.5 + formaldehyde filter
	Calculated resistance 10Pa	Calculated resistance 20Pa	Calculated resistance 30Pa
EKCC18-36F1-L	ACRV-G2-F1E	ACRV-PAP-F1E	ACRV-JQPM-F1E
EKCC40-56F1-L	ACRV-G2-F2E	ACRV-PAP-F2E	ACRV-JQPM-F2E
EKCC63-80F1-L	ACRV-G2-F3E	ACRV-PAP-F3E	ACRV-JQPM-F3E
EKCC90-160F1-L EKCC90-140F1-M	ACRV-G2-F5D	ACRV-PAP-F5D	ACRV-JQPM-F5D
EKCC160-180F1-M	ACRV-G2-F5C	ACRV-PAP-F5C	ACRV-JQPM-F5C

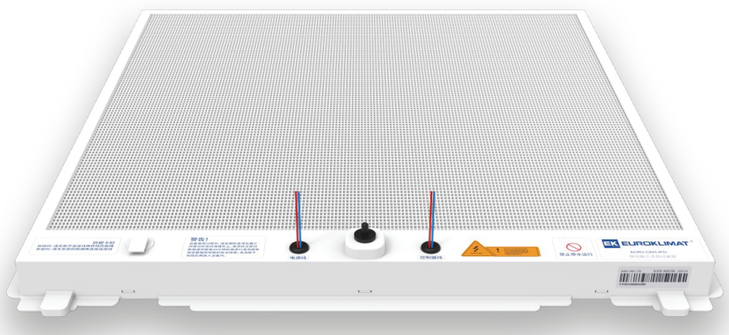
Note: If the EKCC18~80F1-L model comes with an optional PM 2.5 + formaldehyde filter, the motor of the electric control box requires a high fan speed.

EKDB-X fresh air unit filter options

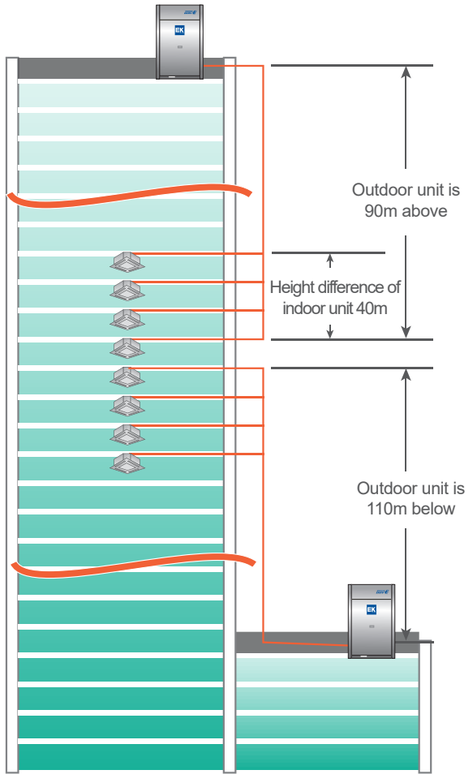
Series	Model	G2 filter	G2 filter	G2F5 filter
		Calculated resistance 10Pa	Calculated resistance 70Pa	Calculated resistance 200Pa
Fresh air unit	EKDB140C1X	ACDB-G2-5	ACDB-G4-5	ACDB-G2F5-5
	EKDB224-560C1X	ACDB-G2-1	ACDB-G4-1	ACDB-G2F5-1
	EKDB680-790C1X	ACDB-G2-2	ACDB-G4-2	ACDB-G2F5-2
	EKDB900-1020C1X	ACDB-G2-3	ACDB-G4-3	ACDB-G2F5-3
	EKDB1140-1190C1X	ACDB-G2-4	ACDB-G4-4	ACDB-G2F5-4

EKCK-H series DC ceiling unit filter options

Model	Electrostatic dedusting and sterilizing filter
Function	The pass rate for microorganisms is not more than 10%, that for particulate matters is not more than 5% by weight, and the resistance is less than 50Pa.
EKCK28-160H1	ACRV-CKH-IFD



Extra long piping



Max. piping length

1100m

Max. length of the equivalent single tube **220m**

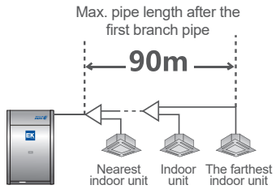
Max. length of the actual single tube **190m**

Max. drop between indoor and outdoor units

Outdoor unit is **90m** above

Outdoor unit is **110m** below

Max. drop between indoor unit **40m**



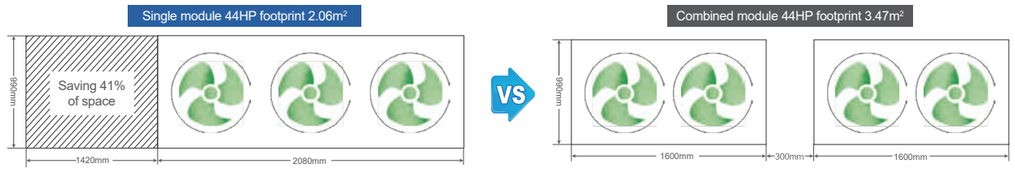
*Note: Please consult EK engineer if:

1. The outdoor unit is on the top with a drop of more than 50m between the indoor and outdoor units;
2. The outdoor unit is on the bottom with a drop of more than 40m between the indoor and outdoor units;
3. The drop between indoor units exceeds 20m;
4. The max. pipe length after the first branch pipe exceeds 40m.

Small footprint

Space is important for modern buildings. EKRV-E series of VRF central AC is highly integrated with the max. capacity of a single module can reach 44HP. It strives to use each inch of space in a building for more convenient AC construction and design.

- Single model reaches up to 44HP, a foot print of only 2.06m², saving more than 41% of the area compared to traditional combination models.
- Save the installation space of tube wells and reduce the difficulty of refrigerant pipeline connection and construction.



Flexible application

The external static pressure is adaptive to ensure the cooling effect of the unit.
Note: For static pressure above 85Pa, please consult the EK engineer.

The EKCC/EKCK internal unit has a float water level switch as standard. It will alarm when the drain pipe is dirty against any leakage.

360° consideration for easy installation.

Smart debugging

The function of trial operation for EKRV-E will not only improve the construction speed, but also guarantee the construction quality of the construction site.

- Automatically check the various connection wiring between indoor and outdoor units to confirm correctness.
- According to the actual system conditions such as the configuration of indoor and outdoor units, the length of refrigerant piping, etc., it automatically checks whether the refrigerant filling in the system is within a reasonable range.
- Automatically check whether the locking valve of each outdoor unit module is working properly to ensure the normal operation of the whole system.
- The trial operation can be connected to the smart diagnosis and debugging software, allowing a quick and comprehensive diagnosis of the AC for convenient debugging and maintenance.

- **Self-recognition and correction of phase sequence**

  Both the compressor and fan have DC motors. In case of wrong phase sequence of power distribution is wrong, the unit can identify the phase sequence and automatically correct it for normal operation.

- **Automatic test for abnormal pipeline function**

  The system monitors the operating status in real time according to the configured temperature and pressure sensors, locating any problem (takeover errors, leaks, etc.) in the system pipeline in time.

- **Non-polar communication and automatic addressing of outdoor unit**

  The communication between the outdoor and the indoor units is connected through a non-polar shielded twisted pair. Simple and safe control without address setting for each internal machine during debugging. The controller automatically register the addresses for all internal machines under the system without manual dialing.

- **Automatic circuit repair**

  The unit may be damaged by many factors such as excessive temperature, excessive current, and excessive refrigerant pressure. In such case, the system will alarm in time, while the electronic control circuit class can be automatically repaired.

- **Strong current protection**

  When the live and neutral wires of the outdoor unit are connected incorrectly, the circuit will be automatically protected to avoid impact and damage to the inverter and compressor.

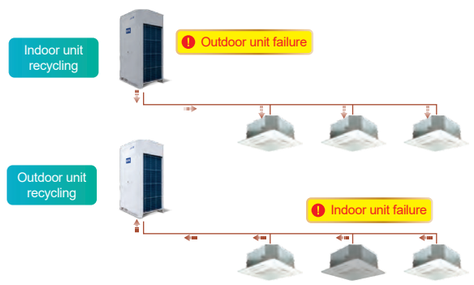
- **Protection against wrong connection of strong and weak current**

  The weak current part of the main control board has an "L" type crimping terminals as standard. Because the wire diameter of the strong wire is too large to be pressed onto the "L" terminal, the wrong connection of the strong current and the weak current from the root are avoided from the root.

Convenient Maintenance

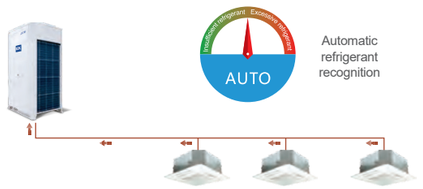
Automatic refrigerant recycling

According to the maintenance requirements, the refrigerant can be automatically recycled to the outdoor or the indoor unit side, reducing waste caused by refrigerant discharge during maintenance.



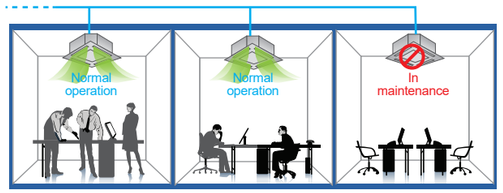
Automatic recognition of refrigerant charge

The unit will automatically detect whether the refrigerant charge in the system is appropriate according to the actual configuration of the indoor unit and the length of the refrigerant piping. When the charge is insufficient, it will remind the technicians to charge in time for stable and efficient operation.



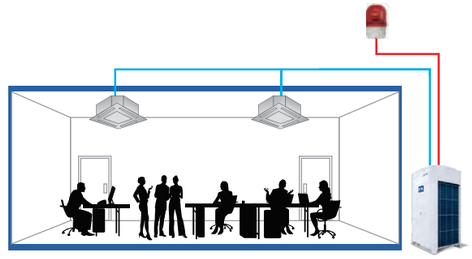
Emergency maintenance of power failure for indoor unit

When emergency power-off maintenance is required for an indoor unit, the unit can be powered off alone without affecting the operation of the entire system.



Emergency stop

Without remote monitoring, the outdoor unit can be directly connected to the connected fire alarm to immediately stop the operation of the whole unit in an emergency, avoiding greater risk losses.



Against head wind of outdoor fan

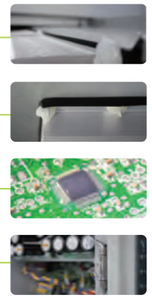
If the fan of the outdoor unit rotates in the reverse direction under strong wind, turning on the AC in such case might damage the fan because a sudden start might lead to the increase of the motor torque in short time.

Conventional

Headwind

Electrical box rotating, waterproof design

Since electrical components are sensitive to water, the electrical control box of the EKRV-E series adopts a layered design with multiple waterproof measures. Therefore the electrical components are effectively protected, while the service life of the unit will be extended.
The rotation design of the electrical box brings great convenience to debugging and maintenance.



- Waterproof cover
- Waterproof mounting base
- Surrounded by wrapped waterproof eaves
- Waterproof gasket
- All screw holes are protected by waterproof glue
- SMT sealing
- Waterproof copper pillar
- Rotation waterproof of electric control box
  Patent number: ZL201520458051.9

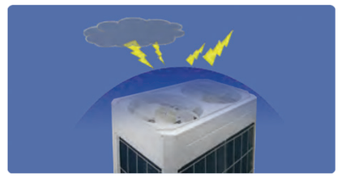
Anti-wind and snow & reverse cleaning

The outdoor unit has the anti-wind and snow function to prevent the unit from being covered by heavy snow when the unit is not running. It also has the reverse cleaning function to clean the heat exchanger to improve the heat exchange efficiency.

- Consult EK technicians for details of the above functions

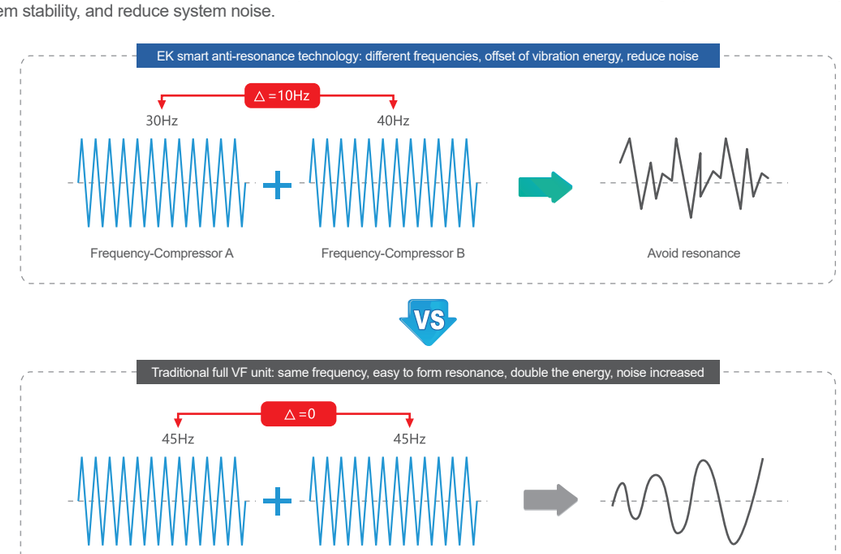
Lightning protection

The lightning protection function of the outdoor unit will protect the unit from damage by lightning strikes, effectively protecting safe and stable unit operation.



Smart anti-resonance technology

The outdoor unit can automatically adjust the frequency difference between the two compressors during operation to prevent system resonance, improving system stability, and reduce system noise.

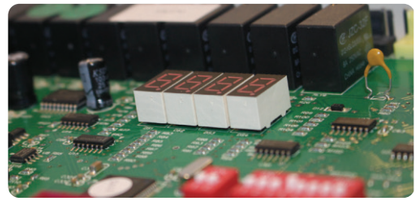


Black box function

The fault storage function of the system can query and record fault data, assist service staff to adjust and analyze the failure cause correctly and rapidly.

Automatic fault detection

With the 7-segment luminous digital tubes, the operation status is displayed visually and directly for more convenient debugging and after-sales service.

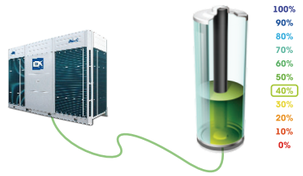


Self-start by power restoration

When the power is restored after an unexpected blackout, the system automatically restores the operating state before the power failure without manual intervene.

Smart power saving mode

The unit can set a variety of energy-saving operation modes according to regional power restriction requirements to save energy.



Smart Control System

Convenient and easy operations

EK smart control

EKRV-E series VRF provides diversified control methods for customers to meet the requirements of different applications.

Controller	Design	Model	Features	Description
Remote controller		EK136	• Controlled separately • Applicable to IDUs of all series	• Battery-powered, placed freely, used flexibly
Receiver		EK238	• Receiver is required when the IDU of EKCC/EKDB series is equipped with a remote controller	• No power supply, and connected to the main board of the IDU
Wire controller		EK361	• Controlled separately, and applicable to IDUs of all series • Equipped with EK136 wireless remote controller	• Installed on the wall, and not easy to lose • No battery, and powered by the corresponding IDU • Receive the signal from the remote controller
Gateway		EK510	• Centralized control together with BAS • One EK510 gateway for each ODU	• 220V single phase power supply with power adapter • Connected to the ODU master unit with a communication cable
Touchscreen centralized controller		CMP03	• Centrally monitor and manage a maximum of 8 sets of the VRF units	• Installed on the wall, and not easy to lose • No battery, 220V to 12V adapter included • Full touchscreen display
Household billing		MBS03C	• Centralized control and billing of up to 128 sets of VRF systems	• Accurate billing for easy management • Real-time monitoring of system operation status • Authority limit,recharge management, user setting, and other strong functions • Single or group control, easy to manage
Power distributor		MBS03A	• 1 set of household billing can connect up to 16 power distributors • 1 power distributor can connect up to 8 VRF systems	• Household billing accessories • Power distributor, accurately distribute power consumption
Battery backup		MBS03B	• 1 power backup device adapts to 8 power distributors at most	• Household billing accessories • Power backup device, real-time backup data
Building control		MODBUS03	• Provide MODBUS general protocol for building automation control	• Through the MODBUS protocol, the AC and other systems in the building can be centrally managed building automation control
Key card function		DCS03	• The AC is connected to the key card control system for connected control	• Ideal for the key card system in hotels to facilitate management

Wired controller and remote controller

EK136

Remote controller

- Large LCD screen
- Power on/off, and temperature setting
- Air conditioning mode (cooling/heating/dry/air supply) settings
- Fan speed options (ultra-high/high/medium/low/auto) and air deflector swing settings
- Timed on/off for a maximum of 24 hours
- Intelligent PTT function
- Wired/wireless controller can control the IDU simultaneously

EK361

Wired controller

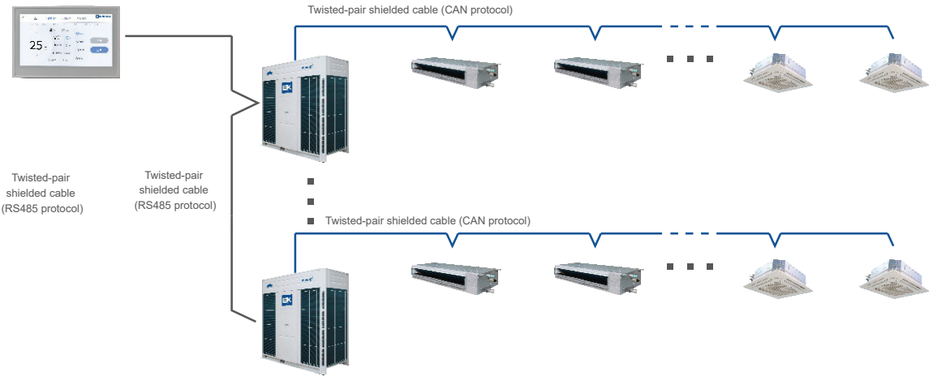
- User-friendly interfaces and touchscreen operation
- Power on/off, and temperature setting
- Cooling/heating/hot water coil heating/dry/air supply mode settings
- Seven fan speed options: ultra-high/high/medium-high/medium/medium-low/low/silent/auto (note: apply only to DC IDUs)
- Timed on/off for a maximum of 24 hours
- Error code display (note: The IDU with hot water coil shall be equipped with the EK361 wired controller)
- Receiver
- Main wired controller
- Controller temperature limit
- Filter screen cleaning prompt
- Controller locking
- ECO

Touchscreen centralized controller

Its interface is simple and easy to operate. It can control 8 sets of the VRF units, and meet various control requirements such as separate control, group centralized control and schedule management.

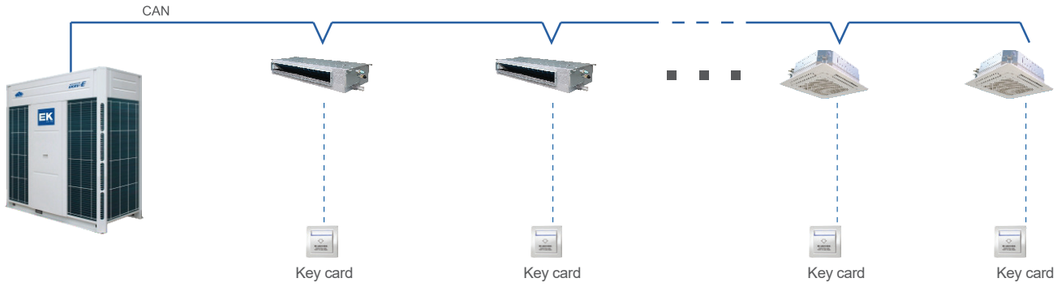
CMP03

- Mode switching: Dry/cooling/heating/air supply
- Parameter setting: Fan speed, temperature, air deflector angle, auxiliary heat, etc.;
- Schedule management: Weekly and monthly management can be performed on the IDU
- Display function: Error code display



Smart control system of key card

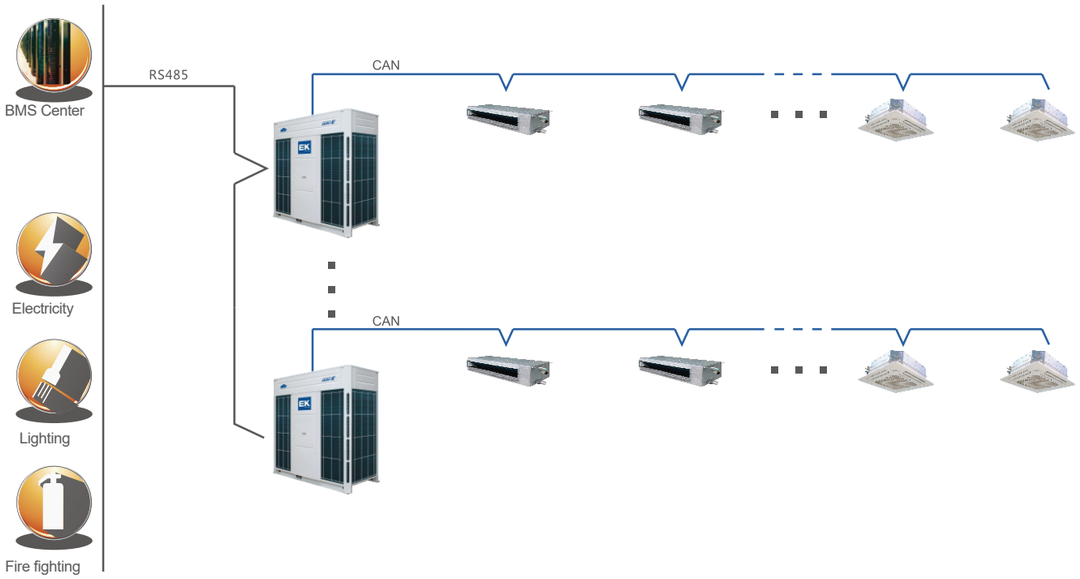
The key card signal interface can be preset on the indoor unit control board, while the relevant indoor unit can be controlled through the key card. Removing the card will shut down the indoor unit. Reinserting the card will turn on the indoor unit again automatically in the operating mode before the card is removed or in the standby mode.



Open smart building control system

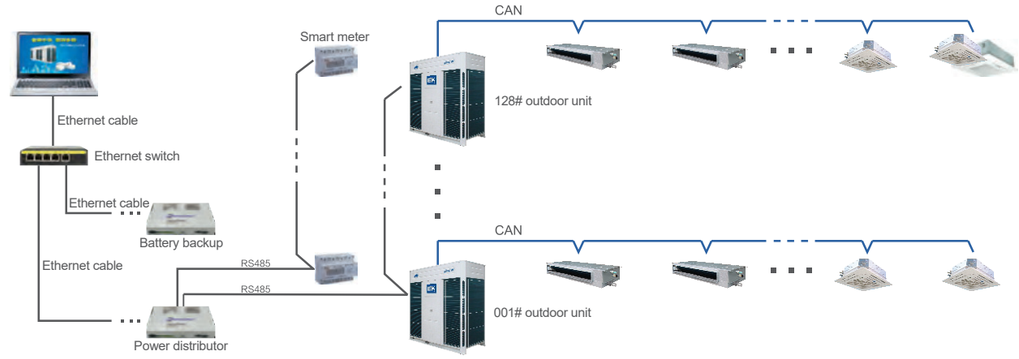
The EK open smart building control system can be applied to the MODBUS protocol. Through the network connection module, the EK VFR AC system is connected to the smart building control system to activate the following functions:

- The monitoring center order the AC by commands (turn on/off, temperature setting, air volume, direction setting, mode setting, etc.)
- Built-in protocol converter for outdoor unit
- Real-time monitoring of the operation of AC
- Chain control (fire alarm, door lock, lighting, etc.)
- Fault alarm and fault code display
- Manage the user authority settings
- Improve management reliability and save management costs



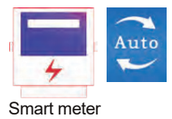
Household billing

The power distributor is connected to the smart meter and the indoor and the outdoor units to read the smart meter data and the real-time operation of both units quickly. According to the refrigerant flow ratio corresponding to the opening of the electronic expansion valve of each indoor unit, and combines the wind speed and return air of the indoor unit state parameters, such as temperature and outdoor unit defrosting, it will accurately distribute and store the total power consumption in real time, before transferring it to the PC through the Ethernet switch. The PC converts the power allocated by each indoor unit into the corresponding cost for features of report and statistics.



The visualized navigation interface of each floor can monitor all the units, implementing authority management for users, while display and save the operation records of all units. It can also automatically count and export the electricity data of indoor units to generate electricity reports for each user.

User Management



Smart meter

Automatic meter reading

Recharge management

Electricity fee inquiry

Tiered price

Allocation setting

Smart backup

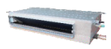
Schedule management

Permission setting

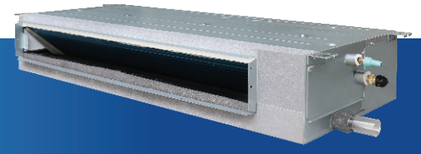
Report printing

Indoor and Outdoor Line-up

Indoor unit lineup

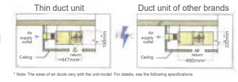
Name	Specification	Cooling capacity (kW)																		
		1.8	2.2	2.5	2.8	3.2	3.6	4	4.5	5	5.6	6.3	7.1	8	9	10	11.2	12.5	14	16	18
Ceiling-mounted concealed (ultrathin) EKCC-F1		●	●	●	●	●	●	●	●	●	●	●	●	●							
Ceiling concealed (medium and high static pressure) EKCC-F1															●	●	●	●	●	●	●
Surrounding air cassette EKCK-H1					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Two-way cassette EKCK-G1			●	●	●	●	●	●	●	●	●	●	●								
Wall-mounted unit EKBG-D1			●		●		●		●	●	●	●	●	●							
Ceiling-exposed/ Floor-standing EKCE-C1									●		●		●		●		●		●		

Ceiling-mounted concealed indoor unit
(EKCC-F1-L series)



Compact and space saving design

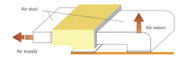
The body thickness of the DC duct unit is minimized to 190mm, and the depth is minimized to 447mm to save you more living space.



* Note: The sizes of air ducts vary with the unit model. For details, see the following specifications

Multiple air return modes available

Side air supply and back air return or side air supply and bottom air return, and the site return air mode of the full series can be adjusted.

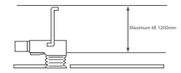


Seven fan speeds are available to create a more comfortable environment

The unit adopts the brushless DC motor with less vibration and lower noise; 7 fan speeds are available for precise adjustment and to create a more comfortable environment (note: EK361 wired controller is needed for the unit with 7 fan speeds).
Ultra high - high - medium high - medium - medium low - low - silent - Auto

Condensate water lifting pump (optional)

It comes with a standard water level switch. An optional condensate water lifting pump with the 1200mm high lift will ensure more flexible installation position.



Fresh air introducing function

A fresh air duct can be connected to introduce outdoor fresh air and ensure indoor ventilation.

9-level ESP is available for free adjustment

With the EK361 wired controller that comes with the DC air duct unit, the unit external static pressure can be adjusted at 9 levels. It helps debug the air duct after installation and makes installation easier.

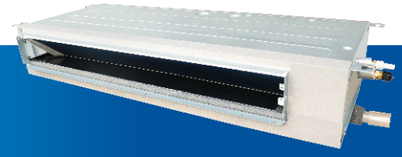
Efficient filter, ensuring fresh air

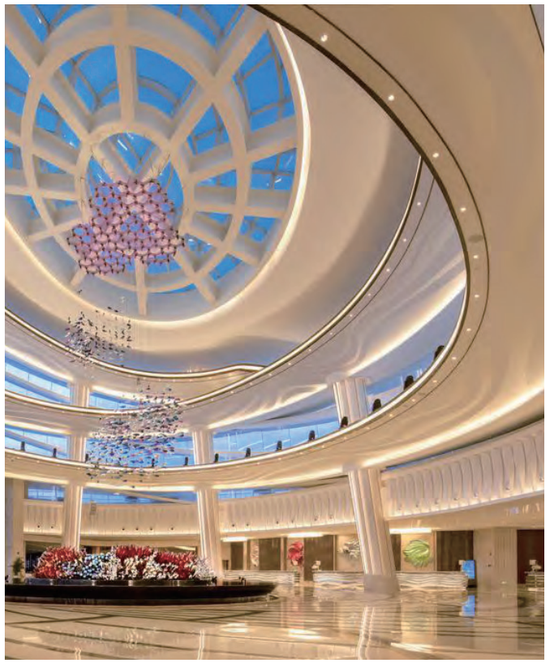
The sterilization return air filter or PM 2.5 and formaldehyde removal return air filter is available to ensure the indoor fresh and clean air.

Model	Cooling capacity (kW)	Heating capacity (kW)	Standard air flow (m^3/h)	External static pressure (Pa)	Power input (W)	Power supply	Sound level (dB(A))	Dimensions (W x D x H) (mm)	Weight (kg)	Diameter of connecting pipe (mm)				Control mode
										Liquid pipe	Gas pipe	Drainage pipe	Drainage hose (fitting)	
EKCC18F1-L	1.8	2.2	400/320/280	10 (up to 50)	32	220V ~ /50Hz	28/25/23	700x447x190	15	Φ6.35	Φ12.7	Without any water pump Inner diameter ø32	With a water pump Outer diameter Φ32	Optional remote controller or wired controller
EKCC22F1-L	2.2	2.8	400/320/280	10 (up to 50)	32	220V ~ /50Hz	28/25/23	700x447x190	15	Φ6.35	Φ12.7			
EKCC25F1-L	2.5	3.0	550/400/320	10 (up to 50)	40	220V ~ /50Hz	32/25/23	700x447x190	16	Φ6.35	Φ12.7			
EKCC28F1-L	2.8	3.3	550/400/320	10 (up to 50)	40	220V ~ /50Hz	32/25/23	700x447x190	16	Φ6.35	Φ12.7			
EKCC32F1-L	3.2	3.6	630/490/390	10 (up to 50)	45	220V ~ /50Hz	33/26/25	700x447x190	16.5	Φ6.35	Φ12.7			
EKCC36F1-L	3.6	4.2	630/490/390	10 (up to 50)	45	220V ~ /50Hz	33/26/25	700x447x190	16.5	Φ6.35	Φ12.7			
EKCC40F1-L	4.0	4.5	800/630/490	10 (up to 50)	60	220V ~ /50Hz	35/26/25	910x447x190	19	Φ6.35	Φ12.7			
EKCC45F1-L	4.5	5.0	800/630/490	10 (up to 50)	60	220V ~ /50Hz	35/26/25	910x447x190	19	Φ6.35	Φ12.7			
EKCC50F1-L	5.0	5.8	900/700/550	10 (up to 50)	60	220V ~ /50Hz	35/26/25	910x447x190	19	Φ6.35	Φ12.7			
EKCC56F1-L	5.6	6.5	900/700/550	10 (up to 50)	60	220V ~ /50Hz	35/26/25	910x447x190	19	Φ6.35	Φ12.7			
EKCC63F1-L	6.3	7.5	1360/950/780	10 (up to 50)	100	220V ~ /50Hz	37/27/25	1180x447x190	24	Φ9.52	Φ15.88			
EKCC71F1-L	7.1	8.5	1360/950/780	10 (up to 50)	100	220V ~ /50Hz	37/27/25	1180x447x190	24	Φ9.52	Φ15.88			
EKCC80F1-L	8.0	9.0	1360/950/780	10 (up to 50)	100	220V ~ /50Hz	37/27/25	1180x447x190	24	Φ9.52	Φ15.88			

Note: 1. The cooling capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 27°C/19°C and the outdoor dry/wet bulb temperature is 35°C/24°C.
2. The heating capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 20°C/15°C and the outdoor dry/wet bulb temperature is 7°C/6°C.
3. The above noise values are measured in the semi-anechoic chamber, 1.4m below the air conditioner center. In practice, the value is a little higher than the standard value due to the influence of the ambient environment.
4. The above noise values are measured during operation in the back air return mode; the noise value during operation in the bottom air return mode is about 5dB(A) greater than that during operation in the back air return mode.
5. When selecting a remote controller, a receiver is also required.

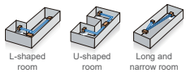
Ceiling-mounted concealed indoor unit
(EKC-F1-M medium static pressure)





High static pressure design

The high static pressure design of the indoor unit can provide long-distance and multi-point air supply for the AC needs in large spaces.

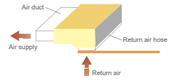


Multi-outlet options

Different types of air outlets can be selected to meet the actual decoration needs of the site according to the AC needs of different places. Various air purification devices are optional.

A variety of return air methods are available

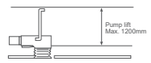
Side entry & bottom return: Requires small mounting space on ceiling , and an inspection port shall be left with the indoor unit to ensure smooth service.



Side entry & back return: If enough installation space is available, recommend the side-entry and back-returning method for air returning to effectively reduce the running sound. Set up inspection ports to ensure smooth maintenance.

Condensate lifting pump (optional)

Optional condensate lifting pump with 1200mm high lift allowing safer use and more flexible installation position.



Function of introducing new air

A fresh air duct can be connected for more fresh air from the outside to the inside room.

Efficient filtering, healthy air

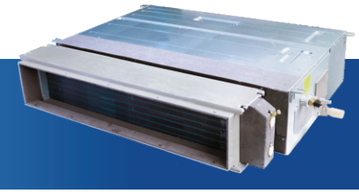
Efficient filter accessories are optional which can filter impurities, formaldehyde, PM2.5, etc. in the air, allowing the user to breathe fresh, natural and healthy air anytime.

Model	Cooling capacity (kW)	Heating capacity (kW)	Standard air flow (m^3/h)	External static pressure (Pa)	Power input (W)	Power supply	Sound level (dB(A))	Dimensions (W x D x H) (mm)	Weight (kg)	Diameter of connecting pipe (mm)				Control mode
										Liquid pipe	Gas pipe	Drainage pipe	Drainage hose (fitting)	
EKCC90F1-L	9.0	10.0	1890/1580/1200	30/50	195	220V ~ /50Hz	40/38/33	1140x720x268	37.5	Φ9.52	Φ15.88	Without any water pump Inner diameter ø32	With a water pump Outer diameter Φ32	Optional remote controller or wired controller
EKCC100F1-L	10.0	11.2	1890/1580/1200	30/50	195	220V ~ /50Hz	40/38/33	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC112F1-L	11.2	12.5	2000/1640/1310	30/50	205	220V ~ /50Hz	43/39/34	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC125F1-L	12.5	14.0	2000/1640/1310	30/50	205	220V ~ /50Hz	43/39/34	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC140F1-L	14.0	16.3	2200/1760/1450	30/50	232	220V ~ /50Hz	44/40/35	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC160F1-L	16.0	18.0	2200/1760/1450	30/50	232	220V ~ /50Hz	44/40/35	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC90F1-M	9.0	10.0	2000/1640/1310	80/130	194	220V ~ /50Hz	43/38/36	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC100F1-M	10.0	11.2	2000/1640/1310	80/130	194	220V ~ /50Hz	43/38/36	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC112F1-M	11.2	12.5	2000/1640/1310	80/130	194	220V ~ /50Hz	43/38/36	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC125F1-M	12.5	14.0	2280/1890/1470	80/130	228	220V ~ /50Hz	44/39/37	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC140F1-M	14.0	16.3	2280/1890/1470	80/130	228	220V ~ /50Hz	44/39/37	1140x720x268	37.5	Φ9.52	Φ15.88			
EKCC160F1-M	16.0	18.0	2520/2160/1720	80/130	240	220V ~ /50Hz	44/39/37	1300x800x350	54.0	Φ9.52	Φ15.88			
EKCC180F1-M	18.0	20.0	2520/2160/1720	80/130	240	220V ~ /50Hz	44/39/37	1300x800x350	54.0	Φ9.52	Φ15.88			

Note: 1. The model name of the above indoor units will have a suffix "-D" if supporting electric heating is selected, for example "EKCC22F1-M-D";

2. If supporting electric heating is selected, the unit weight will be changed, please consult EK engineer for details;
3. The above standard cooling capacity is the tested under the indoor dry/wet bulb temperature of 27/19°C and outdoor dry/wet bulb temperature of 35/24°C;
4. The above standard heating capacity is the tested under the indoor dry/wet bulb temperature of 20/15°C and outdoor dry/wet bulb temperature of 7/6°C;
5. The above noise values are measured in a semi-anechoic at a spot 1.4m below the center of the AC. The actual operation might have a higher value due to the external exposures;
6. The above noise value is that of the rear return air mode. The value of the bottom return air mode is about 5dB (A) higher than the value.

Dual heat source IDU
(EKCC-F series)

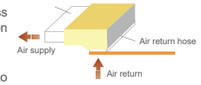


Air conditioning heating + hot water coil heating, double heating

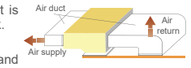
The EKCC-F series dual heat source IDUs support three heating modes: air conditioner heating, air conditioner + hot water coil heating, hot water coil heating, making the place more comfortable.

Multiple air return modes available

Side air supply and bottom air return:
The required overall ceiling space is small, and the access port needs to be set in consideration of the indoor decoration to ensure smooth progress of the maintenance work.
Side air supply and back air return:



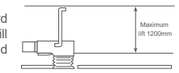
If the installation space is sufficient, it is recommended to adopt the side air supply and back air return mode to reduce the operation sound effectively. An access port is set to ensure smooth progress of the maintenance work.



Remarks:
The back air return mode is configured before delivery, and it can be changed on site as required

Condensate lifting pump (optional)

It comes with a standard water level switch. A standard condensate water lifting pump with the 1200mm high lift will prevent condensed water intrusion and ensure safer use and a more flexible installation position.



Fresh air introducing function

A fresh air duct can be connected to introduce outdoor fresh air and ensure indoor ventilation.

Separate installation for easy disassembly

The air duct unit and the hot water coil are connected and installed on site to ensure easy detach for maintenance; In addition, the efficient insulation material is attached to the outer surface of the hot water coil to prevent condensation and water dripping.

Efficient filter, ensuring fresh air (optional)

An efficient filter can be selected to filter impurity, formaldehyde, PM 2.5, and other particles in the air, enabling you to breathe fresh air anytime.

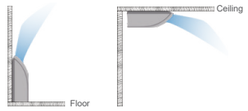
Coil type	Corresponding unit type	Standard air flow (m^3/h)	Coil water flow (m^3/h)	Coil heating capacity (kW)	Water resistance (kPa)	Coil air resistance (Pa)	Coil dimension (W x D x H) (mm)	Coil weight (kg)	Coil water inlet/outlet pipe
ACRV-WH-1	EKCC22F1-L	400/320/280	0.46	3.5	14	14	658×238×233	8	Rc3/4 taper pipe inner thread
	EKCC25F1-L	550/400/320	0.46	3.5	14	14	658×238×233	8	
	EKCC28F1-L	550/400/320	0.49	3.7	15	16	658×238×233	8	
	EKCC32F1-L	630/490/390	0.49	3.7	15	16	658×238×233	8	
	EKCC36F1-L	630/490/390	0.49	3.7	15	16	658×238×233	8	
ACRV-WH-2	EKCC40F1-L	800/630/490	0.63	5.8	19	17	868×238×233	9.5	
	EKCC45F1-L	800/630/490	0.63	5.8	19	17	868×238×233	9.5	
	EKCC50F1-L	900/700/550	0.63	5.8	19	17	868×238×233	9.5	
	EKCC56F1-L	900/700/550	0.63	5.8	19	17	868×238×233	9.5	
ACRV-WH-3	EKCC63F1-L	1360/950/780	1.01	8.6	23	20	1138×238×233	11	
	EKCC71F1-L	1360/950/780	1.01	8.6	23	20	1138×238×233	11	
	EKCC80F1-L	1360/950/780	1.01	8.6	23	20	1138×238×233	11	
ACRV-WH-4	EKCC90F1-M	2000/1640/1310	1.33	13.2	24	40	1104×238×275	13	
	EKCC100F1-M	2000/1640/1310	1.33	13.2	24	40	1104×238×275	13	
	EKCC112F1-M	2000/1640/1310	1.33	13.2	24	40	1104×238×275	13	
	EKCC125F1-M	2280/1890/1470	1.44	14.2	28	48	1104×238×275	13	
	EKCC140F1-M	2280/1890/1470	1.44	14.2	28	48	1104×238×275	13	
ACRV-WH-5	EKCC160F1-M	2520/2160/1720	1.85	18.5	30	50	1323×238×275	15.5	
	EKCC180F1-M	2520/2160/1720	1.85	18.5	30	50	1323×238×275	15.5	

Note: The heating capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 20°C/15°C and the coil inlet water temperature is 60°C.

Ceiling-exposed/Floor-standing indoor unit
(EKCE-C1 series DC)

Ceiling-exposed/Floor-standing, fashionable and beautiful

The unit features a streamlined integrated body design that is beautiful and fashionable. It can be suspended from the ceiling or installed on the floor to realize omni-directional air supply and cater to various interior design preferences.

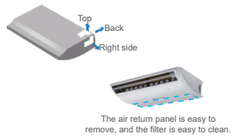


Wide blade design

The unit utilizes wide blades to expand the air supply range, evenly distribute the temperature field, and enhance overall body comfort.

Convenient installation and simple maintenance

The refrigerant pipes, drainage pipes, and cables can be installed on one side, which improves installation efficiency and shortens installation time. The unit does not need to be disassembled from the ceiling during maintenance, facilitating operation.



The air return panel is easy to remove, and the filter is easy to clean.

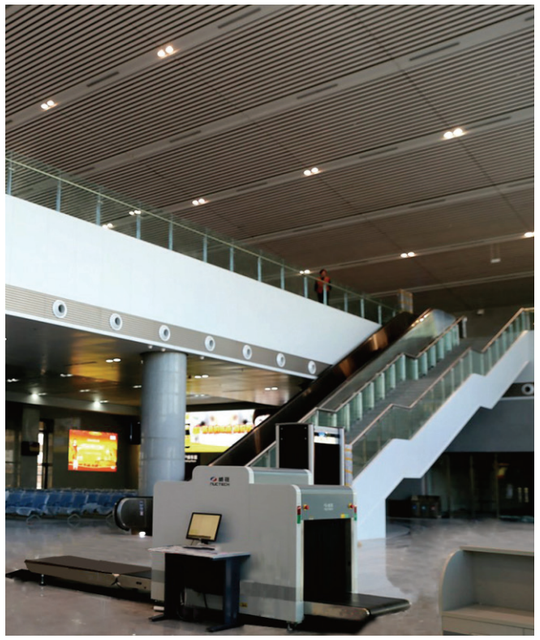
Long-acting filter for the standard configuration

The filter can absorb particulates effectively to enhance indoor air quality, and it is easy to clean.

Model	Cooling capacity (kW)	Heating capacity (kW)	Air flow (m^3/h)	Power input (W)	Power supply	Sound level (dB(A))	Dimensions (W x H x D) (mm)	Weight (kg)	Liquid pipe (mm)	Gas pipe (mm)	Drainage pipe	Control mode
EKCE45C1	4.5	5.0	730/600/570/440	28	220V~/50Hz	42/38/35/34	1055 x 675 x 235	24	Φ9.52	Φ15.88	Outside diameter Φ25	Optional remote controller or wired controller
EKCE56C1	5.6	6.3	990/820/720/580	51	220V~/50Hz	50/44/42/37	1055 x 675 x 235	24	Φ9.52	Φ15.88		
EKCE71C1	7.1	8.0	1210/1000/820/680	87	220V~/50Hz	56/53/45/41	1055 x 675 x 235	25	Φ9.52	Φ15.88		
EKCE90C1	9.0	10.0	1650/1370/1120/920	133	220V~/50Hz	56/51/45/39	1275 x 675 x 235	29	Φ9.52	Φ15.88		
EKCE112C1	11.2	12.5	2000/1660/1360/1120	142	220V~/50Hz	56/52/47/42	1635 x 675 x 235	38	Φ9.52	Φ15.88		
EKCE140C1	14.1	16.0	2100/1920/1460/1230	163	220V~/50Hz	59/54/48/44	1635 x 675 x 235	38	Φ9.52	Φ15.88		

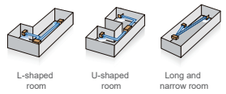
Notes: 1. The cooling capacities above are based on the tests performed under specific working conditions, with indoor dry/wet bulb temperatures of 27°C/19°C and outdoor dry/wet bulb temperatures of 35°C/24°C.
2. The heating capacities above are based on the tests performed under specific working conditions, with indoor dry/wet bulb temperatures of 20°C/15°C and outdoor dry/wet bulb temperatures of 7°C/6°C.
3. The noise values above are measured in a semi-anechoic chamber. In real-world applications, the actual value may vary slightly from the standard due to the influence of ambient environmental factors.

Duct-type indoor unit
(EKDB-C1 series)



High static pressure design

With the high static pressure design, the IDU can implement multi-point air supply at a long distance to meet the air conditioning demand of a large space.



Selection of multiple air supply outlets

The air supply outlets of diversified forms can be selected according to actual decoration requirements on the field to satisfy the air conditioning demands of different sites.

Low operating noises

The IDU adopts the high efficiency and low noise centrifugal fan, sound-absorbing insulation material for the inner wall and dual noise reduction design to ensure low noise operation of the IDU; the IDU can be installed on the ceiling far from the air conditioning area to ultimately meet the indoor low noise demand.

Optional primary- or medium-efficiency filter screen

The long acting nylon filter screen or primary-efficiency G4 filter screen can be equipped to purify the indoor environment; the medium- or high-efficiency filter screen, or sterilization filter screen can also be customized.

Model	Cooling capacity (kW)	Heating capacity (kW)	Standard air flow (m^3/h)	External static pressure (Pa)	Power input (W)	Power supply	Noise dB(A)	Dimensions (mm) (W x D x H)	Weight (kg)	Diameter of connecting pipe (mm)			Control mode
										Liquid pipe	Gas pipe	Drainage pipe	
EKDB250C1	25.0	28.0	5000	100/200	1700/1800	220V~/50Hz	60/60	1790×765×470	100	Φ9.52	Φ19.05	External thread R1	Optional remote controller or wired controller
EKDB280C1	28.0	31.5	5000	100/200	1700/1800	220V~/50Hz	60/60	1790×765×470	100	Φ9.52	Φ22.23		
EKDB335C1	33.5	37.0	6500	150/200/300	1400/1400/1500	380V/3N~/50Hz	62/62/64	1960×895×735	185	Φ12.7	Φ25.4		
EKDB450C1	45.0	50.0	7800	300/400	2200/3000	380V/3N~/50Hz	67/68	1960×895×735	195	Φ12.7	Φ28.6		
EKDB500C1	50.0	56.0	9200	300/500	3000/4000	380V/3N~/50Hz	68/69	1960×895×735	200	Φ15.88	Φ28.6		
EKDB560C1	56.0	62.0	10000	350/500	3800/5000	380V/3N~/50Hz	70/71	2460×895×735	240	Φ15.88	Φ28.6		
EKDB615C1	61.5	69.0	12000	500	5800	380V/3N~/50Hz	74	2460×895×735	250	Φ15.88	Φ28.6		
EKDB680C1	68.0	75.0	13000	500	6000	380V/3N~/50Hz	75	2460×935×875	280	Φ15.88	Φ28.6		
EKDB790C1	79.0	88.0	14500	500	6800	380V/3N~/50Hz	76	2460×935×875	285	Φ19.05	Φ31.8		
EKDB900C1	90.0	100.0	17850	500	7500	380V/3N~/50Hz	78	2250×1380×1480	320	Φ19.05	Φ31.8		
EKDB1080C1	108.0	120.0	20400	500	8500	380V/3N~/50Hz	88	2250×1380×1480	330	Φ19.05	Φ38.1		
EKDB1190C1	119.0	135.0	24500	500	11000	380V/3N~/50Hz	90	2250×1380×1480	340	Φ19.05	Φ38.1		

Note: 1. The cooling capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 27°C/19°C and the outdoor dry/wet bulb temperature is 35°C/24°C.
2. The heating capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 20°C/15°C and the outdoor dry/wet bulb temperature is 7°C/6°C.
3. The above noise value is measured in the semi-anechoic chamber, 1.4 m below the air conditioner center. In practice, the value is a little higher than the standard value due to the influence of the ambient environment.
4. When selecting a remote controller, a receiver is also required.
5. The unit of 25-79kW is horizontally ventilated without a long acting filter screen. A long acting filter screen shall be equipped;
6. The unit of 90-119kW is ventilated at the top with a standard long acting filter screen equipped.

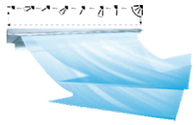
Surrounding air cassette
(EKCK-H1 series DC)

Brushless DC motor, 7 fan speeds
Brand-new panel design, beautiful and concise; the unit adopts the brushless DC motor and centrifugal vortex blades. The blades have undergone dynamic and static balance tests, and their operating noise is proved to be as low as 25 dB(A); the flexible high ceiling air supply design. Seven fan speeds are available to create a more comfortable environment (note: EK361 wired controller shall be used)

360° surrounding air supply
With the surrounding air outlet design, the air can cover more areas, the fan speed is more stable, and the environment is more comfortable. In addition, 4 detachable air outlets of the air duct are equipped for the unit, making it convenient to supply air, more flexible to use.

Introducing fresh air for a more comfortable environment
The unit has its own fresh air inlet, which can introduce the outdoor fresh air to improve comfort.

Multi-angle swing setting
The air flow direction can be fixed or set to swing within a certain range. Up to 8 options can meet diverse needs. The special swing design can prevent discomfort caused by direct blowing.



Standard condensate water lifting pump
It comes with a standard water level switch. A standard condensate water lifting pump with the 1200mm high lift will ensure more flexible installation position.

A standard long acting filter screen is equipped and a dust removal and disinfection filter screen is optional
The return air outlet of the unit is equipped with a standard long acting filter screen to filter particles effectively and make the indoor air cleaner.

Model	Cooling capacity (kW)	Heating capacity (kW)	Air flow (m³/h)	Power input (W)	Power supply	Noise dB(A)	Dimensions (W x D x H) (mm)	Panel Dimensions (W x D x H) (mm)	Weight (kg)	Diameter of connecting pipe (mm)			Control mode
										Liquid pipe	Gas pipe	Drainage hose (attachment)	
EKCK28H1	2.8	3.3	800/700/580/450	20	220V~/50Hz	28/27/26/25	840×840×236	950×950×50	29	Φ6.35	Φ12.7	OD Φ32	Optional remote controller or wired controller (Note: Do not select the EK135 remote controller)
EKCK32H1	3.2	3.6	800/700/580/450	20	220V~/50Hz	28/27/26/25	840×840×236	950×950×50	29	Φ6.35	Φ12.7		
EKCK36H1	3.6	4.2	850/720/600/480	24	220V~/50Hz	29/28/26/25	840×840×236	950×950×50	29	Φ6.35	Φ12.7		
EKCK40H1	4.0	4.5	960/800/650/550	26	220V~/50Hz	30/29/28/27	840×840×236	950×950×50	29	Φ6.35	Φ12.7		
EKCK45H1	4.5	5.0	960/800/650/550	26	220V~/50Hz	30/29/28/27	840×840×236	950×950×50	29	Φ6.35	Φ12.7		
EKCK50H1	5.0	5.8	1100/920/720/600	30	220V~/50Hz	32/31/29/27	840×840×236	950×950×50	29	Φ6.35	Φ12.7		
EKCK56H1	5.6	6.5	1100/920/720/600	30	220V~/50Hz	32/31/29/27	840×840×236	950×950×50	29	Φ6.35	Φ12.7		
EKCK63H1	6.3	7.5	1260/1050/850/700	45	220V~/50Hz	35/33/30/28	840×840×236	950×950×50	29.5	Φ9.52	Φ15.88		
EKCK71H1	7.1	8.5	1260/1050/850/700	45	220V~/50Hz	35/33/30/28	840×840×236	950×950×50	29.5	Φ9.52	Φ15.88		
EKCK80H1	8.0	9.0	1400/1150/950/750	55	220V~/50Hz	38/35/32/30	840×840×236	950×950×50	29.5	Φ9.52	Φ15.88		
EKCK90H1	9.0	10.0	1500/1260/1000/850	60	220V~/50Hz	39/36/33/31	840×840×236	950×950×50	29.5	Φ9.52	Φ15.88		
EKCK100H1	10.0	11.2	1600/1350/1100/900	75	220V~/50Hz	40/37/35/33	840×840×272	950×950×50	33	Φ9.52	Φ15.88		
EKCK112H1	11.2	12.5	1700/1450/1200/900	80	220V~/50Hz	41/38/36/33	840×840×272	950×950×50	33	Φ9.52	Φ15.88		
EKCK125H1	12.5	14.0	1800/1500/1260/1050	100	220V~/50Hz	43/40/37/34	840×840×272	950×950×50	33	Φ9.52	Φ15.88		
EKCK140H1	14.0	16.3	1800/1500/1260/1050	100	220V~/50Hz	43/40/37/34	840×840×272	950×950×50	33	Φ9.52	Φ15.88		
EKCK160H1	16.0	18.0	2150/1900/1550/1260	120	220V~/50Hz	47/44/40/36	840×840×272	950×950×50	33	Φ9.52	Φ15.88		

Note: 1. The cooling capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 27°C/19°C and the outdoor dry/wet bulb temperature is 35°C/24°C.
2. The heating capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 20°C/15°C and the outdoor dry/wet bulb temperature is 7°C/6°C.
3. The above noise values are measured in the semi-anechoic chamber, 1.4m below the air conditioner center. In practice, the value is a little higher than the standard value due to the influence of the ambient environment.

Jet indoor unit
(EKSL-A series)

Jet diffuser, back return air design
For places with a large span and poor air flow, the unit is equipped with a spherical air outlet with a long-distance air supply of 15 - 30m, and there is a beautiful design in the air outlet.

Anti-corrosion panel, high-efficiency heat insulation
The new PE material is attached to the inner wall of the unit panel, which can effectively reduce the noise and keep the heat insulation.

Multiple noise reduction technologies
The unit adopts the centrifugal fan that generates less noise. It has multiple nozzles, making the air flow more stable.

Energy-saving management and efficient operation
Switch on the air conditioners in different areas based on the demand, and the inverter makes the unit operate in a more energy-saving way; the flexible air duct can be installed at the air outlet to supply air to the fixed console.

Humidity and purification requirements
An optional humidity sensor can be equipped to realize automatic dry, and meet the requirements of cool warehouse for medicines. An optional primary-efficiency filter screen can be equipped to purify the indoor air, making the place healthier and more comfortable.

Model			EKSL050A1	EKSL065A1	EKSL075A1	EKSL090A1	EKSL100A1	EKSL115A1	EKSL130A1	EKSL140A1
Return air condition	Cooling capacity	kW	28.0	33.5	45.0	51.0	56.5	62.0	68.0	79.0
	Heating Capacity	kW	31.5	37.5	50.5	57.0	63.0	69.0	75.0	88.0
Workshop condition	Cooling capacity	kW	34.0	45.0	56.5	68.0	79.0	85.2	96.0	108.0
	Heating Capacity	kW	37.5	45.0	57.0	63.0	69.0	75.0	82.5	95.0
Cool warehouse condition	Cooling capacity	kW	16.0	18.0	25.2	28.0	34.0	40.0	45.0	51.0
	Heating Capacity	kW	18.0	20.0	28.0	31.5	37.5	45.0	50.5	57.0
Fresh air condition	Model		EKSL050A1X	EKSL065A1X	EKSL075A1X	EKSL090A1X	EKSL100A1X	EKSL115A1X	EKSL130A1X	EKSL140A1X
	Cooling capacity	kW	45.0	56.5	68.0	79.0	90.0	102.0	114.0	119.0
	Heating Capacity	kW	32.0	40.0	48.5	56.0	64.0	77.0	84.5	96.0
Power input		kW	1.8	1.1	2.2	3.0	3.5	4.5	5.5	5.5
Air flow		m³/h	5000	6500	7500	9000	10000	11500	13000	14000
Number of nozzles			3	3	3	3	4	4	4	4
Maximum range		m	15	20	20	25	25	25	30	30
Noise		dB(A)	64	66	68	70	73	75	76	78
Dimensions (W x D x H)		mm	1790×1115×470	1960×1320×735			2460×1315×735		2460×1350×875	
Weight		kg	130	220	230	235	280	290	325	330
Power supply			220V~/50Hz	380V/3N ~ /50Hz						
Liquid pipe		mm	Φ9.52	Φ12.7	Φ12.7	Φ15.88	Φ15.88	Φ15.88	Φ15.88	Φ19.05
Gas pipe		mm	Φ22.23	Φ25.4	Φ28.6	Φ28.6	Φ28.6	Φ28.6	Φ28.6	Φ31.8
Drainage pipe (self-drainage)			External thread R1							

Note: 1. Return air condition: The dry/wet bulb temperature of the cooling room is 27°C/19°C, and the outdoor dry/wet bulb temperature is 35°C/28°C; the dry/wet bulb temperature of the heating room is 20°C/-, and the outdoor dry/wet bulb temperature is 7°C/6°C;
2. Workshop condition: The dry/wet bulb temperature of the cooling room is 30°C/24°C, and the outdoor dry/wet bulb temperature is 35°C/28°C; The dry/wet bulb temperature of the heating room is 18°C/-, and the outdoor dry/wet bulb temperature is 7°C/6°C;
3. Fresh air condition: The outdoor dry/wet bulb temperature is 33°C/28°C; the dry/wet bulb temperature outside the heating room is 0°C/-2.9°C;
4. Cool warehouse condition: The dry/wet bulb temperature of the cooling room is 18°C/14°C, the outdoor dry/wet bulb temperature is 35°C/-; the dry/wet bulb temperature of the heating room is 18°C/-, and the outdoor dry/wet bulb temperature is 7°C/6°C;
5. The above noise value is measured in the semi-anechoic chamber, 1.4m below the air conditioner center. In practice, the value is a little higher than the standard value due to the influence of the ambient environment.
6. The return air outlet of the unit is not equipped with the long acting (G2) filter screen, and it shall be purchased separately;
7. The ODU of the same cooling capacity shall be equipped according to the cooling capacity of the unit under different working conditions;
8. The model of the unit with fresh air is EKSL*A1X.

Indoor unit ceiling cassette, double discharge
EKCK-G1

Standard condensate lift pump
A standard condensate lift pump of 1200mm lift. It is safer to use and more flexible in installation location.

Ultra-thin body
The footprint of the unit on ceiling is small, while the installation is not limited by the room height, ensure perfect integration with the decoration.

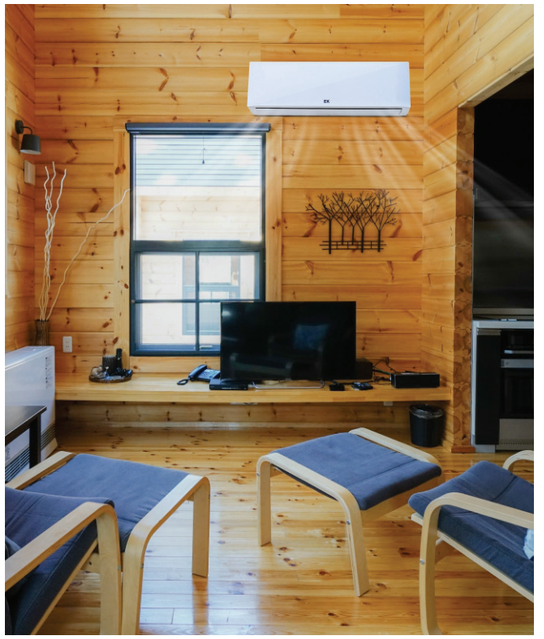
Air spread with ultra wide angle
The wide range of wind spread which can be set at various swing angles to increase the coverage.

Standard long-lasting filter mesh
Effectively absorb PMs and harmful flocs for easier cleaning.

Unit type	Cooling capacity kW	Heating capacity kW	Standard air volume m³/h	Input power W	Power supply	Noise dB(A)	Dimensions (W×D×H) mm	Panel Size (W×D×H) mm	Weight kg	Specification of connecting pipe mm			Control method
										Liquid pipe	Gas pipe	Drain pipe	
EKCK22G1	2.2	2.8	490/370/280	55	220V~/50Hz	35~28	1140×575×290	1240×680×30	32	Φ6.35	Φ12.7	Φ16	Optional Remote Wire control
EKCK25G1	2.5	3.0	490/370/280	55	220V~/50Hz	35~28	1140×575×290	1240×680×30	32	Φ6.35	Φ12.7	Φ16	
EKCK28G1	2.8	3.2	490/370/280	55	220V~/50Hz	35~28	1140×575×290	1240×680×30	32	Φ6.35	Φ12.7	Φ16	
EKCK32G1	3.2	3.6	640/490/370	62	220V~/50Hz	36~30	1140×575×290	1240×680×30	32	Φ6.35	Φ12.7	Φ16	
EKCK36G1	3.6	4.0	640/490/370	62	220V~/50Hz	36~30	1140×575×290	1240×680×30	32	Φ6.35	Φ12.7	Φ16	
EKCK40G1	4.0	4.5	850/640/490	70	220V~/50Hz	38~32	1140×575×290	1240×680×30	34	Φ6.35	Φ12.7	Φ16	
EKCK45G1	4.5	5.0	850/640/490	70	220V~/50Hz	38~32	1140×575×290	1240×680×30	34	Φ6.35	Φ12.7	Φ16	
EKCK50G1	5.0	5.6	850/640/490	70	220V~/50Hz	38~32	1140×575×290	1240×680×30	34	Φ6.35	Φ12.7	Φ16	
EKCK56G1	5.6	6.3	1360/1050/800	110	220V~/50Hz	41~36	1140×575×290	1240×680×30	34	Φ9.52	Φ15.88	Φ16	
EKCK63G1	6.3	7.1	1360/1050/800	110	220V~/50Hz	41~36	1140×575×290	1240×680×30	34	Φ9.52	Φ15.88	Φ16	
EKCK71G1	7.1	8.0	1360/1050/800	110	220V~/50Hz	41~36	1140×575×290	1240×680×30	34	Φ9.52	Φ15.88	Φ16	

Note: 1. The above standard cooling capacity is the test result under the indoor dry/wet bulb temperature of 27/19°C and outdoor dry/wet bulb temperature of 35/24°C;
2. The above standard heating capacity is the tested under the indoor dry/wet bulb temperature of 20/15°C and outdoor dry/wet bulb temperature of 7/6°C;
3. The above noise values are measured in a semi-anechoic at a spot 1.4m below the center of the AC. The actual operation might have a higher value due to the external exposures.

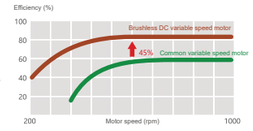
Wall-mounted indoor unit
(EKBG-D1 series DC)



Pleasant appearance
The latest design of the concise and beautiful appearance can be harmonious with the interior decoration, making your decoration style more elegant.

Smart 360° air supply
The air is supplied horizontally and vertically and it has various air supply angles to avoid the discomfort when cold air directly blows on you. The temperature is distributed reasonably in different areas, making people feel more comfortable.

More silent and comfortable
The new fan blade with low noise adopts brushless DC motor which can realize stepless speed change and smooth air supply. It reduces power consumption of the unit while providing a silent, comfortable indoor environment.



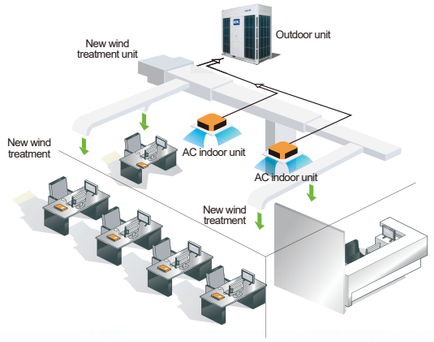
Seven fan speeds are available to create a more comfortable environment
The unit adopts the DC inverter motor with less vibration and lower noise; 7 fan speeds are available for precise adjustment and to create a more comfortable environment (note: EK361 wired controller shall be equipped for the unit with 7 fan speeds).

Standard long acting filter screen
The filter screen can absorb particulates effectively and improve indoor air quality. It is easy to clean.

Model	Cooling capacity (kW)	Heating capacity (kW)	Air flow (m³/h)	Power input (W)	Power supply	Noise dB(A)	Dimensions (W x D x H) (mm)	Weight (kg)	Liquid pipe mm	Gas pipe mm	Drainage pipe	Control mode
EKBG22D1	2.2	2.5	580/500/460/400	19	220V~/50Hz	35/32/30/26	915×315×236	12.8	Φ6.35	Φ12.7	OD Φ18	Optional remote controller or wired controller
EKBG28D1	2.8	3.2	580/500/460/400	19	220V~/50Hz	35/32/30/26	915×315×236	12.8	Φ6.35	Φ12.7		
EKBG36D1	3.6	4.0	680/610/540/430	22	220V~/50Hz	40/37/33/29	915×315×236	12.8	Φ6.35	Φ12.7		
EKBG45D1	4.5	5.0	800/680/540/430	28	220V~/50Hz	43/38/33/29	915×315×236	12.8	Φ6.35	Φ12.7		
EKBG50D1	5.0	5.6	880/720/630/460	32	220V~/50Hz	44/42/35/30	915×315×236	12.8	Φ6.35	Φ12.7		
EKBG56D1	5.6	6.3	980/820/710/600	34	220V~/50Hz	41/39/35/30	1085×315×236	14	Φ9.52	Φ15.88		
EKBG63D1	6.3	7.1	980/820/710/600	34	220V~/50Hz	41/39/35/30	1085×315×236	14	Φ9.52	Φ15.88		
EKBG71D1	7.1	8.0	1130/990/820/650	39	220V~/50Hz	45/42/37/31	1085×315×236	14	Φ9.52	Φ15.88		
EKBG80D1	8.0	9.0	1200/1060/920/720	46	220V~/50Hz	47/44/39/32	1085×315×236	14	Φ9.52	Φ15.88		

Note:
1. The cooling capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 27°C/19°C and the outdoor dry/wet bulb temperature is 35°C/-.
2. The heating capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 20°C/- and the outdoor dry/wet bulb temperature is 7°C/6°C
3. The above noise values are measured in the semi-anechoic chamber, 1.4m below the air conditioner center. In practice, the value is a little higher than the standard value due to the influence of the ambient environment.

Indoor unit
fresh air ducted AC



New wind treatment unit

- The new wind treatment unit has its own cold and heat source, which can process the outdoor fresh air to a temperature close to that of the indoor before spreading. The air volume ranges from 1100 to 9000m³/h, meeting the demand for fresh air in different occasions, presenting fresh and healthy air even indoor.
- With the automatic energy-saving mode, it will automatically switch to the air supply mode when the outdoor temperature is 15°C~20°C, and stops the outdoor unit (serving as an AC indoor unit only) to save operating costs.
- The new unit and traditional indoor unit can be controlled by a centralized line controller.
- The new unit can be connected to the EK VFR centralized control system and the building automation system.
- The capacity of the new unit connected to the same system as the traditional one shall not exceed 30% of that of the connected outdoor unit. The total capacity of the new and traditional units shall not exceed that of the outdoor unit.
- Connected by one-to-multiple method, allowing multiple new units connected to the same system. The total capacity of the new unit shall not exceed that of the outdoor unit.
- EKDB680B1X and EKDB790B1X has no multiple or series-parallel connection. Suggest one for one application.
- Various air purification devices are optional.

Model	Cooling capacity (kW)	Heating capacity (kW)	Standard air flow (m³/h)	External static pressure (Pa)	Power input (W)	Power supply	Sound level (dB(A))	Dimensions (W x D x H) (mm)	Weight (kg)	Diameter of connecting pipe (mm)			Control mode
										Liquid pipe	Gas pipe	Drainage pipe	
EKDB140C1X	14.0	10.0	1100	200(150~250)	290	220V～/50Hz	44	798×765×470	60	Φ9.52	Φ15.88	External thread R1	Optional remote controller or wired controller
EKDB224C1X	22.4	17.0	1700	200(100~220)	780	220V～/50Hz	50	1790×765×470	115	Φ9.52	Φ19.05		
EKDB224C1X	22.4	17.0	2100	250(150~300)	780	220V～/50Hz	52	1790×765×470	115	Φ9.52	Φ19.05		
EKDB280C1X	28.0	20.0	2500	200/300/500	650/750/1000	380V/3N～/50Hz	55/55/58	1790×850×470	125	Φ9.52	Φ22.23		
EKDB280C1X	28.0	20.0	3000	200/300/500	700/800/1100	380V/3N～/50Hz	56/56/59	1790×850×470	125	Φ9.52	Φ22.23		
EKDB335C1X	33.5	26.4	3500	220/300/500	900/1100/1500	380V/3N～/50Hz	57/57/60	1790×850×470	130	Φ12.7	Φ25.4		
EKDB450C1X	45.0	32.0	4000	200/300/500	1000/1100/1500	380V/3N～/50Hz	61/61/64	1790×850×470	145	Φ12.7	Φ28.6		
EKDB560C1X	56.0	39.0	5000	200/300/450	1500/1500/2200	380V/3N～/50Hz	62/62/65	1790×850×470	150	Φ15.88	Φ28.6		
EKDB560C1X	56.0	39.0	6000	200/300/500	2000/2200/3000	380V/3N～/50Hz	63/63/66	1790×850×470	155	Φ15.88	Φ28.6		
EKDB680C1X	68.0	48.5	7000	200/300/500	2000/2200/3000	380V/3N～/50Hz	64/64/67	1960×895×735	190	Φ15.88	Φ28.6		
EKDB790C1X	79.0	56.5	9000	250/350/500	2800/3000/4000	380V/3N～/50Hz	66/66/69	1960×895×735	195	Φ19.05	Φ31.8		
EKDB900C1X	90.0	64.0	10000	500	5000	380V/3N～/50Hz	71	2460×895×735	240	Φ19.05	Φ31.8		
EKDB1020C1X	102.0	77.0	12000	500	5800	380V/3N～/50Hz	74	2460×895×735	250	Φ19.05	Φ38.1		
EKDB1140C1X	114.0	84.5	13000	500	6000	380V/3N～/50Hz	75	2460×935×875	280	Φ19.05	Φ38.1		
EKDB1190C1X	119.0	96.0	14000	500	6800	380V/3N～/50Hz	76	2460×935×875	285	Φ19.05	Φ38.1		

Note: 1. The rated cooling capacity is based on the following condition: The equivalent refrigerant pipe length at outdoor temperature 33°C for DB and 28°C for WB (68% RH) is 7.5m (horizontal).
2. The rated heating capacity is based on the following condition: The equivalent refrigerant pipe length at outdoor temperature 0°C for DB and -2.9°C for WB (50% RH) is 7.5m (horizontal).
3. The rated heating capacity is obtained in non-defrosting mode.
4. Hybrid connection is not recommended for some models of fresh air processing units. For the specific hybrid connection requirement, consult the local EK technical support engineer.
5. The noise value is measured before delivery. Due to environmental noises or other reasons during actual use, the actual noise value may differ from the values listed in the table.
6. By default, the temperature is set to 22°C before product delivery.
7. When selecting a remote controller, a receiver is also required.
8. The whole series of units are not equipped with the long acting filter screen, and it shall be equipped separately.

Temperature Control Direct Expansion Floor Standing Unit
EKDH-A1

Multiple air supply modes

The air supply forms such as duct, louver and jet can be selected according to the on-site installation needs, to meet the requirements of different places and people.

Long-distance air supply

Duct type: The unit external static pressure is customizable at 100–500 Pa, which can provide air supply to multiple sites at a distance of up to 100 m.
Louver type: Large air flow design, with the air supply distance of 5 to 15 m.
Jet type: Multi-nozzle design, with the range of 10 to 30 m.

Optional inverter

The unit equipped with an inverter has the soft start function, which can reduce the impact of starting current on the power grid, prolong the service life of the motor, adjust the speed as needed and enhance energy efficiency.
Note: Consult relevant technicians for the selection of the inverter.

Industrial anti-corrosion protection

The unit uses orange electrostatic spraying anti-corrosion galvanized steel plate, and can be customized with electrophoresis anti-corrosion of heat exchanger, varnishing treatment of system pipeline, stainless steel drain pan, stainless steel screws, etc. to meet the industrial anti-corrosion requirements.

Purifying device

The unit comes with a standard long acting filter screen G2 and optional purification and sterilization devices such as G3/G4 plate-type filter screen, micro static electricity, high-voltage static electricity and photocatalyst devices, to meet the requirements of different scenarios.

Model		Cooling capacity (kW)	Heating capacity (kW)	Standard air flow (m³/h)	External static pressure (Pa) Air supply distance (m)	Power input (W)	Power supply	Dimensions (W×D×H) (mm)	Weight (kg)	Sound level (dB(A))	Diameter of connecting pipe (mm)			Control mode
											Liquid pipe	Gas pipe	Drainage pipe	
Duct	EKDH140A1	14.1	16.0	2700	100	900	220V～/50Hz	650×600×1580	100	56	Φ9.52	Φ15.88	Φ22	Standard wired controller
	EKDH280A1	28.0	31.5	5000	100	1100	380V/3N ～/50Hz	1260×610×1630	180	60	Φ9.52	Φ22.23	Externally threaded R1	
	EKDH335A1	33.5	37.0	6000	100	1400	380V/3N ～/50Hz	1260×610×1630	185	62	Φ12.7	Φ25.4		
	EKDH450A1	45.0	50.5	8000	200	2000	380V/3N ～/50Hz	1600×710×1675	248	63	Φ12.7	Φ28.6		
	EKDH560A1	56.0	63.0	10000	200	3000	380V/3N ～/50Hz	1600×710×1675	260	65	Φ15.88	Φ28.6		
	EKDH680A1	68.0	75.0	13000	250	4000	380V/3N ～/50Hz	1900×860×1820	345	67	Φ15.88	Φ28.6		
	EKDH790A1	79.0	88.0	15000	300	5800	380V/3N ～/50Hz	1900×860×1820	365	68	Φ19.05	Φ31.8		
	EKDH852A1	85.2	95.0	15000	300	4000	380V/3N ～/50Hz	2120×1050×1710	462	72	Φ19.05	Φ38.1		
	EKDH900A1	90.0	100.5	16000	300	4000	380V/3N ～/50Hz	2120×1050×1710	465	74	Φ19.05	Φ38.1		
	EKDH1020A1	102.0	114.0	18000	350	5400	380V/3N ～/50Hz	2120×1050×1710	490	75	Φ19.05	Φ38.1		
	EKDH1140A1	114.0	127.5	20000	350	7060	380V/3N ～/50Hz	2120×1050×1710	508	76	Φ19.05	Φ38.1		
	EKDH1240A1	124.0	138.0	22000	350	7950	380V/3N ～/50Hz	2120×1050×1710	512	77	Φ19.05	Φ38.1		
Louver	EKDH140A1-P	14.1	16.0	2300	5	750	220V～/50Hz	650×600×1850	105	55	Φ9.52	Φ15.88	Φ22	
	EKDH280A1-P	28.0	31.5	5000	10	750	380V/3N ～/50Hz	1260×610×1880	198	63	Φ9.52	Φ22.23	Externally threaded R1	
	EKDH335A1-P	33.5	37.0	6000	10	1400	380V/3N ～/50Hz	1260×610×1880	202	65	Φ12.7	Φ25.4		
	EKDH450A1-P	45.0	50.5	8000	12	1600	380V/3N ～/50Hz	1600×710×2025	276	66	Φ12.7	Φ28.6		
	EKDH560A1-P	56.0	63.0	10000	12	2700	380V/3N ～/50Hz	1600×710×2025	288	68	Φ15.88	Φ28.6		
	EKDH680A1-P	68.0	75.0	13000	15	3000	380V/3N ～/50Hz	1900×860×2170	368	69	Φ15.88	Φ28.6		
	EKDH790A1-P	79.0	88.0	15000	15	4200	380V/3N ～/50Hz	1900×860×2170	381	70	Φ19.05	Φ31.8		
Jet	EKDH140A1-J	14.1	16.0	2300	10	750	220V～/50Hz	650×600×2050	110	55	Φ9.52	Φ15.88	Φ22	
	EKDH280A1-J	28.0	31.5	5000	20	2000	380V/3N ～/50Hz	1260×610×2040	220	62	Φ9.52	Φ22.23	Externally threaded R1	
	EKDH335A1-J	33.5	37.0	6000	20	2000	380V/3N ～/50Hz	1260×610×2040	220	64	Φ12.7	Φ25.4		
	EKDH450A1-J	45.0	50.5	8000	25	2300	380V/3N ～/50Hz	1600×710×2085	303	65	Φ12.7	Φ28.6		
	EKDH560A1-J	56.0	63.0	10000	25	4300	380V/3N ～/50Hz	1600×710×2085	315	67	Φ15.88	Φ28.6		
	EKDH680A1-J	68.0	75.0	13000	30	5600	380V/3N ～/50Hz	1900×860×2230	417	69	Φ15.88	Φ28.6		
	EKDH790A1-J	79.0	88.0	15000	30	7700	380V/3N ～/50Hz	1900×860×2230	428	70	Φ19.05	Φ31.8		
	EKDH852A1-J	85.2	95.0	15000	30	4000	380V/3N ～/50Hz	2120×1050×2377	545	72	Φ19.05	Φ38.1		
	EKDH900A1-J	90.0	100.5	16000	30	4000	380V/3N ～/50Hz	2120×1050×2377	548	72	Φ19.05	Φ38.1		
	EKDH1020A1-J	102.0	114.0	18000	30	4240	380V/3N ～/50Hz	2120×1050×2830	629	75	Φ19.05	Φ38.1		
	EKDH1140A1-J	114.0	127.5	20000	30	5200	380V/3N ～/50Hz	2120×1050×2830	647	76	Φ19.05	Φ38.1		
	EKDH1240A1-J	124.0	138.0	22000	30	7270	380V/3N ～/50Hz	2120×1050×2830	651	79	Φ19.05	Φ38.1		

Notes: ① The cooling capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 27°C/19°C and the outdoor dry/wet bulb temperature is 35°C/24°C.
② The heating capacities above are the results of tests performed under the working condition where the indoor dry/wet bulb temperature is 20°C/15°C and the outdoor dry/wet bulb temperature is 7°C/6°C.
③ The above noise value is measured in a semi-anechoic chamber. In practice, the value will be higher than the standard due to the influence of ambient environment.

Outdoor unit lineup

Independent 5HP	Independent 6~12HP	Modular 8~18HP	Modular 20~28HP	Modular 30~44HP
				

Independent ODU

Model		EKRV050FR1	EKRV050ER1	EKRV060ER1	EKRV070ER1	EKRV080FR1	EKRV100FR1	EKRV120FR1
		Side discharge (-AP*)			Side discharge (-FP*)			
Rated cooling capacity	kW	14.5	14.0	16.0	18.0	25.2	28.0	33.5
Rated heating capacity	kW	16.0	16.0	18.0	20.0	28.0	31.5	37.5
Rated power input for cooling	kW	4.48	3.88	4.54	5.21	7.50	8.35	9.85
Rated power input for heating	kW	4.31	3.92	4.65	5.29	7.53	8.38	9.91
Power supply		220V~50Hz			380V/3N~50Hz			
Air flow	m³/h	6200	6500	6500	7000	11500	11500	11500
Liquid pipe	(Φ)mm	9.52	9.52	9.52	9.52	9.52	9.52	12.7
Gas pipe	(Φ)mm	19.05	15.88	15.88	19.05	19.05	22.23	25.4
Unit weight	kg	100	120	135	150	150	150	155
Sound level	dB(A)	56	55	56	57	57	59	60
Minimum circuit current	A	34.5	24.9	26.3	11.8	22.0	24.0	26.4
Maximum fuse current	A	50	32	40	20	32	32	40
Maximum number of IDUs connected		7	7	8	9	14	16	18
Annual energy consumption rate	APF	5.10	4.70	4.60	4.50	4.65	4.50	4.30
Dimensions (W×D×H)	mm	998×390×1013	900×350×1160	900×350×1290	900×350×1420	1100×390×1650		

Modular ODU

Unit model (-FTH)		EKRV080ER1	EKRV100ER1	EKRV120ER1	EKRV140ER1	EKRV160ER1	EKRV180ER1
Rated cooling capacity	kW	25.2	28.0	34.0	40.0	45.0	51.0
Rated heating capacity	kW	28.0	31.5	37.5	45.0	50.5	57.0
Rated power input for cooling	kW	5.85	6.90	8.92	10.87	12.22	14.45
Rated power input for heating	kW	5.97	7.07	8.96	10.72	12.25	13.62
Power supply		380V/3N~50Hz					
Air flow	m³/h	12000	12000	12000	16000	16000	16000
Liquid pipe	(Φ)mm	9.52	9.52	12.7	12.7	12.7	15.88
Gas pipe	(Φ)mm	19.05	22.23	25.4	25.4	28.6	28.6
Unit weight	kg	210	215	220	225	240	245
Sound level	dB(A)	40~56	40~57	40~60	40~60	40~60	40~61
Minimum circuit current	A	22.5	22.8	25.6	29.6	32.2	33.4
Maximum fuse current	A	32	32	40	40	50	50
Maximum number of IDUs connected		14	16	18	20	20	22
Annual COP	APF	5.30	5.00	4.90	4.95	4.85	4.70
Dimensions (W×D×H)	mm	1040×835×1680					

Unit model (-FTH)		EKRV200ER1	EKRV220ER1	EKRV240ER1	EKRV260ER1	EKRV280ER1	EKRV300ER1
Rated cooling capacity	kW	56.5	62.0	68.0	74.0	79.0	85.2
Rated heating capacity	kW	63.0	69.0	75.0	82.5	88.0	95.0
Rated power input for cooling	kW	15.03	16.55	17.24	18.99	22.27	22.68
Rated power input for heating	kW	15.12	16.76	17.92	19.68	21.21	22.73
Power supply		380V/3N~50Hz					
Air flow	m³/h	21500	21500	21500	24000	24000	32000
Liquid pipe	(Φ)mm	15.88	15.88	15.88	19.05	19.05	19.05
Gas pipe	(Φ)mm	28.6	28.6	28.6	31.8	31.8	38.1
Unit weight	kg	305	310	315	355	360	430
Sound level	dB(A)	40~64	40~64	40~65	40~62	40~62	40~63
Minimum circuit current	A	37.3	38.6	41.2	50.3	54.5	60.4
Maximum fuse current	A	50	63	63	75	75	80
Maximum number of IDUs connected		22	22	24	26	28	30
Annual COP	APF	4.70	4.60	4.70	4.65	4.55	4.60
Dimensions (W×D×H)	mm	1600x990x1680					2080x990x1680

Modular ODU

Unit model (-FTH)		EKRV320ER1	EKRV340ER1	EKRV360ER1	EKRV380ER1	EKRV400ER1	EKRV420ER1	EKRV440ER1
Rated cooling capacity	kW	90.0	96.0	102.0	108.0	114.0	119.0	124.0
Rated heating capacity	kW	100.5	107.5	114.0	120.0	127.5	133.0	138.0
Rated power input for cooling	kW	24.98	25.77	27.92	29.27	31.23	33.21	35.15
Rated power input for heating	kW	23.83	25.87	27.24	28.64	30.40	31.93	33.46
Power supply		380V/3N~50Hz						
Air flow	m³/h	32000	40000	40000	42000	42000	42000	44000
Liquid pipe	(Φ)mm	19.05	19.05	19.05	19.05	19.05	19.05	19.05
Gas pipe	(Φ)mm	38.1	38.1	38.1	38.1	38.1	38.1	38.1
Unit weight	kg	435	445	450	475	480	485	490
Sound level	dB(A)	40~64	40~67	40~67	40~67	40~67	40~68	40~68
Minimum circuit current	A	62.2	72.9	73.6	74.8	75.2	78.5	81.8
Maximum fuse current	A	80	100	100	100	100	125	125
Maximum number of IDUs connected		32	34	36	38	40	42	44
Annual COP	APF	4.55	4.50	4.45	4.40	4.30	4.25	4.15
Dimensions (W×D×H)	mm	2080x990x1680						

Outdoor unit combination parameters

Unit model (-FTH)		EKRV460ER1	EKRV480ER1	EKRV500ER1	EKRV520ER1	EKRV540ER1	EKRV560ER1	EKRV580ER1	EKRV600ER1	EKRV620ER1
Recommended combination (HP)		22+24	22+26	22+28	24+28	22+32	22+34	22+36	24+36	22+40
Rated cooling capacity	kW	130.0	136.0	141.0	147.0	152.0	158.0	164.0	170.0	176.0
Rated heating capacity	kW	144.0	151.5	157.0	163.0	169.5	176.5	183.0	189.0	196.5
Rated power input for cooling	kW	33.79	35.54	38.82	39.51	41.53	42.32	44.47	45.16	47.78
Rated power input for heating	kW	34.68	36.44	37.97	39.13	40.59	42.63	44.00	45.16	47.16
Power supply		380V/3N~50Hz								
Air flow	m³/h	43000	45500	45500	45500	53500	61500	61500	61500	63500
Liquid pipe	(Φ)mm	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05
Gas pipe	(Φ)mm	38.1	38.1	38.1	38.1	38.1	41.3	41.3	41.3	41.3
Unit weight	kg	625	665	670	675	745	755	760	765	790
Sound level	dB(A)	40~65	40~64	40~64	40~65	40~64	40~67	40~67	40~67	40~67
Minimum circuit current	A	79.8	88.9	93.1	95.7	100.8	111.5	112.2	114.8	113.8
Maximum fuse current	A	126	138	138	138	143	163	163	163	163
Maximum number of IDUs connected		46	48	48	48	48	48	48	48	48
Dimensions (W×D×H)	mm	(1600+1600)x 990 x 1680				(1600+2080)x 990 x 1680				

Unit model (-FTH)		EKRV640ER1	EKRV660ER1	EKRV680ER1	EKRV700ER1	EKRV720ER1	EKRV740ER1	EKRV760ER1	EKRV780ER1	EKRV800ER1
Recommended combination (HP)		22+42	24+42	26+42	28+42	36+36	36+38	36+40	36+42	36+44
Rated cooling capacity	kW	181.0	187.0	193.0	198.0	204.0	210.0	216.0	221.0	226.0
Rated heating capacity	kW	202.0	208.0	215.5	221.0	228.0	234.0	241.5	247.0	252.0
Rated power input for cooling	kW	49.76	50.45	52.20	55.48	55.84	57.19	59.15	61.13	63.07
Rated power input for heating	kW	48.69	49.85	51.61	53.14	54.48	55.88	57.64	59.17	60.70
Power supply		380V/3N~50Hz								
Air flow	m³/h	63500	63500	66000	66000	80000	82000	82000	82000	84000
Liquid pipe	(Φ)mm	19.05	19.05	22.23	22.23	22.23	25.4	25.4	25.4	25.4
Gas pipe	(Φ)mm	41.3	41.3	44.5	44.5	44.5	50.8	50.8	50.8	50.8
Unit weight	kg	795	800	840	845	900	925	930	935	940
Sound level	dB(A)	40~68	40~68	40~68	40~68	40~67	40~67	40~67	40~68	40~68
Minimum circuit current	A	117.1	119.7	128.8	133.0	147.2	148.4	148.8	152.1	155.4
Maximum fuse current	A	188	188	200	200	200	200	200	225	225
Maximum number of IDUs connected		48	48	48	48	48	48	48	48	48
Dimensions (W×D×H)	mm	(1600+2080)x 990 x 1680				(2080+2080)x 990 x 1680				

- The above standard cooling capacity is tested under the indoor dry/wet bulb temperature of 27/19°C and outdoor dry/wet bulb temperature of 35/24°C;
- The above standard heating capacity is tested under the indoor dry/wet bulb temperature of 20/15°C and outdoor dry/wet bulb temperature of 7/6°C;
- The above noise value is measured in a semi-anechoic chamber. In practice, the value will be slightly different from the standard due to the effect of ambient environment.
- The practical capacity of the unit may vary based on the correction of the ambient temperature, pipe length/height difference, defrosting, altitude, etc. Please consult EK technicians.
- Electrical wiring specifications should be selected based on the minimum circuit current, and the fuse or air switch should be selected based on the maximum fuse current;
- The connecting pipe specifications are unit outlet sizes. For engineering connecting pipe sizes, please consult EK technicians.

Outdoor unit combination parameters

Unit model (-FTH)		EKRV820ER1	EKRV840ER1	EKRV860ER1	EKRV880ER1	EKRV900ER1	EKRV920ER1	EKRV940ER1	EKRV960ER1	EKRV980ER1
Recommended combination (HP)		40+42	42+42	42+44	44+44	22+24+44	22+34+36	22+36+36	24+36+36	22+36+40
Rated cooling capacity	kW	233.0	238.0	243.0	248.0	254.0	260.0	266.0	272.0	278.0
Rated heating capacity	kW	260.5	266.0	271.0	276.0	282.0	290.5	297.0	303.0	310.5
Rated power input for cooling	kW	64.44	66.42	68.36	70.30	68.94	70.24	72.39	73.08	75.70
Rated power input for heating	kW	62.33	63.86	65.39	66.92	68.14	69.87	71.24	72.40	74.40
Power supply		380V/3N~50Hz								
Air flow	m³/h	84000	84000	86000	88000	87000	101500	101500	101500	103500
Liquid pipe	(Φ)mm	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4
Gas pipe	(Φ)mm	50.8	50.8	50.8	50.8	50.8	50.8	50.8	50.8	54
Unit weight	kg	965	970	975	980	1115	1205	1210	1215	1240
Sound level	dB(A)	40~68	40~68	40~68	40~68	40~68	40~67	40~67	40~67	40~67
Minimum circuit current	A	153.7	157.0	160.3	163.6	161.6	185.1	185.8	188.4	187.4
Maximum fuse current	A	225	250	250	250	251	263	263	263	263
Maximum number of IDUs connected		48	48	48	48	48	48	48	48	48
Dimensions (W×D×H)	mm	(2080+2080) x 990 x 1680				(1600+1600+2080) x 990 x 1680	(1600+2080+2080) x 990 x 1680			

Unit model (-FTH)		EKRV1000ER1	EKRV1020ER1	EKRV1040ER1	EKRV1060ER1	EKRV1080ER1	EKRV1100ER1	EKRV1120ER1	EKRV1140ER1	EKRV1160ER1
Recommended combination (HP)		22+36+42	24+36+42	22+40+42	22+42+42	24+42+42	24+42+44	36+36+40	36+36+42	36+36+44
Rated cooling capacity	kW	283.0	289.0	295.0	300.0	306.0	311.0	318.0	323.0	328.0
Rated heating capacity	kW	316.0	322.0	329.5	335.0	341.0	346.0	355.5	361.0	366.0
Rated power input for cooling	kW	77.68	78.37	80.99	82.97	83.66	85.60	87.07	89.05	90.99
Rated power input for heating	kW	75.93	77.09	79.09	80.62	81.78	83.31	84.88	86.41	87.94
Power supply		380V/3N~50Hz								
Air flow	m³/h	103500	103500	105500	105500	105500	107500	122000	122000	124000
Liquid pipe	(Φ)mm	25.4	25.4	25.4	25.4	25.4	28.6	28.6	28.6	28.6
Gas pipe	(Φ)mm	54	54	54	54	54	54	54	54	54
Unit weight	kg	1245	1250	1275	1280	1285	1290	1380	1385	1390
Sound level	dB(A)	40~68	40~68	40~68	40~68	40~68	40~68	40~67	40~68	40~68
Minimum circuit current	A	190.7	193.3	192.3	195.6	198.2	201.5	222.4	225.7	229.0
Maximum fuse current	A	288	288	288	313	313	313	300	325	325
Maximum number of IDUs connected		48	48	48	48	48	48	48	48	48
Dimensions (W×D×H)	mm	(1600+2080+2080) x 990 x 1680						(2080+2080+2080) x 990 x 1680		

Unit model (-FTH)		EKRV1180ER1	EKRV1200ER1	EKRV1220ER1	EKRV1240ER1	EKRV1260ER1	EKRV1280ER1	EKRV1300ER1	EKRV1320ER1
Recommended combination (HP)		36+40+42	36+42+42	36+42+44	40+42+42	42+42+42	42+42+44	42+44+44	44+44+44
Rated cooling capacity	kW	335.0	340.0	345.0	352.0	357.0	362.0	367.0	372.0
Rated heating capacity	kW	374.5	380.0	385.0	393.5	399.0	404.0	409.0	414.0
Rated power input for cooling	kW	92.36	94.34	96.28	97.65	99.63	101.57	103.51	105.45
Rated power input for heating	kW	89.57	91.10	92.63	94.26	95.79	97.32	98.85	100.38
Power supply		380V/3N~50Hz							
Air flow	m³/h	124000	124000	126000	126000	126000	128000	130000	132000
Liquid pipe	(Φ)mm	28.6	28.6	28.6	28.6	28.6	31.8	31.8	31.8
Gas pipe	(Φ)mm	54	54	54	54	54	66.8	66.8	66.8
Unit weight	kg	1415	1420	1425	1450	1455	1460	1465	1470
Sound level	dB(A)	40~68	40~68	40~68	40~68	40~68	40~68	40~68	40~68
Minimum circuit current	A	227.3	230.6	233.9	232.2	235.5	238.8	242.1	245.4
Maximum fuse current	A	325	350	350	350	375	375	375	375
Maximum number of IDUs connected		48	48	48	48	48	48	48	48
Dimensions (W×D×H)	mm	(2080+2080+2080) x 990 x 1680							

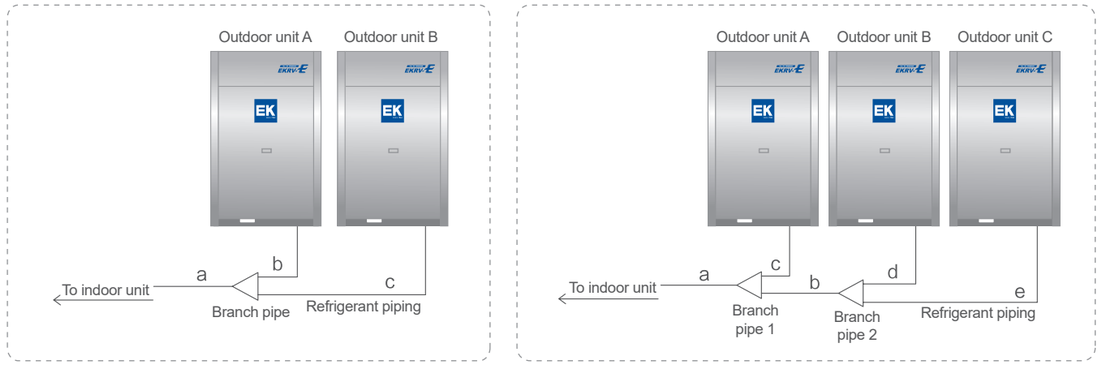
- The above standard cooling capacity is tested under the indoor dry/wet bulb temperature of 27/19°C and outdoor dry/wet bulb temperature of 35/24°C;
- The above standard heating capacity is tested under the indoor dry/wet bulb temperature of 20/15°C and outdoor dry/wet bulb temperature of 7/6°C;
- The above noise value is measured in a semi-anechoic chamber. In practice, the value will be slightly different from the standard due to the effect of ambient environment.
- The practical capacity of the unit may vary based on the correction of the ambient temperature, pipe length/height difference, defrosting, altitude, etc. Please consult EK technicians.
- Electrical wiring specifications should be selected based on the minimum circuit current, and the fuse or air switch should be selected based on the maximum fuse current;
- The connecting pipe specifications are unit outlet sizes. For engineering connecting pipe sizes, please consult EK technicians.

Piping size

Outdoor unit capacity	Main pipe size (Max. length of the equivalent single tube<90m)			Main pipe size (Max. length of the equivalent single tube≥90m)			Downstream Indoor Unit capacity A (kW)	Piping size		Applicable branch pipe
	Liquid pipe	Gas pipe	First branch pipe indoor	Liquid pipe	Gas pipe	First branch pipe indoor		Liquid pipe	Gas pipe	
8HP	Φ9.52	Φ19.05	ACRV-BP03	Φ12.7	Φ22.23	ACRV-BP03	A<16kW	Φ9.52	Φ15.88	ACRV-BP01
10HP	Φ9.52	Φ22.23	ACRV-BP03	Φ12.7	Φ25.4	ACRV-BP04	16≤A<22kW	Φ9.52	Φ19.05	ACRV-BP02
12-14HP	Φ12.7	Φ25.4	ACRV-BP03	Φ15.88	Φ28.6	ACRV-BP04	22≤A<33kW	Φ9.52	Φ22.23	ACRV-BP03
16HP	Φ12.7	Φ28.6	ACRV-BP04	Φ15.88	Φ31.8	ACRV-BP05	33≤A<51kW	Φ12.7	Φ28.6	ACRV-BP04
18-24HP	Φ15.88	Φ28.6	ACRV-BP04	Φ19.05	Φ31.8	ACRV-BP05	51≤A<71kW	Φ15.88	Φ28.6	ACRV-BP04
26-34HP	Φ19.05	Φ31.8	ACRV-BP05	Φ22.23	Φ38.1	ACRV-BP06	71≤A<102kW	Φ19.05	Φ31.8	ACRV-BP05
36-54HP	Φ19.05	Φ38.1	ACRV-BP05	Φ22.23	Φ41.3	ACRV-BP07	102≤A<155kW	Φ19.05	Φ38.1	ACRV-BP05
56-66HP	Φ19.05	Φ41.3	ACRV-BP07	Φ22.23	Φ44.5	ACRV-BP08	155≤A<187kW	Φ19.05	Φ41.3	ACRV-BP07
68-72HP	Φ22.23	Φ44.5	ACRV-BP08	Φ25.4	Φ50.8	ACRV-BP09	187≤A<205kW	Φ22.23	Φ44.5	ACRV-BP08
74-96HP	Φ25.4	Φ50.8	ACRV-BP09	Φ28.6	Φ54	ACRV-BP09	205≤A<278kW	Φ25.4	Φ50.8	ACRV-BP09
98-108HP	Φ25.4	Φ54.0	ACRV-BP10	Φ28.6	Φ66.8	ACRV-BP10	278≤A<312kW	Φ25.4	Φ54.0	ACRV-BP10
110-126HP	Φ28.6	Φ54.0	ACRV-BP10	Φ28.6	Φ66.8	ACRV-BP10	A≥312kW	Φ28.6	Φ54.0	ACRV-BP10

Note: For the sizes of main pipes and gas/liquid pipe of outdoor unit listed above, the larger one between the two diameters shall be size of main pipe.

Branch pipe between the indoor and outdoor units



Note: To install the outdoor unit combining two or three modules, the placement sequence shall be: the loser the outdoor unit is to the side leading to the indoor unit refrigerant pipe, the greater the capacity it is.

Combination of two modules

Outdoor unit capacity	20~24HP	26~50HP	56~66HP	68~72HP	74~84HP
Branch pipe model	ACRV-BP04	ACRV-BP05	ACRV-BP07	ACRV-BP08	ACRV-BP09

Combination of three modules

Outdoor unit capacity	52~54HP	56~66HP	68~72HP	74~96HP	98~108HP	110~126HP
Branch pipe 1 model	ACRV-BP05	ACRV-BP07	ACRV-BP08	ACRV-BP09	ACRV-BP10	ACRV-BP10
Branch pipe 2 model	ACRV-BP05	ACRV-BP05	ACRV-BP05	ACRV-BP05	ACRV-BP07	ACRV-BP09