



KOMFORT ICEW

Integrated heat pump environment
control unit with outdoor air

English Instruction manual



BLAUBERG
Ventilatoren

Note: Please read this user manual carefully before installing and using the unit.

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Safety instructions

Please read the instruction manual carefully. When installing and operating the unit, it is necessary to strictly follow the usage requirements in the manual, relevant national safety regulations and norms, as well as electrical technical specifications and other standards.

The warnings shown in the manual involve important personal safety related information and must be taken seriously. If the operating procedures or safety warnings in the manual are not followed, it may cause personal injury or equipment damage. To ensure the service life of the unit, please read the instruction manual carefully before using the unit.

Marking legend



Warn!



Forbid!

Installation and operation precautions



- Be sure to disconnect the power supply during installation.



- Please be cautious when opening the package.



- Do not place the power cord near the heating device.



- Please follow the relevant installation procedures when installing.



- Do not use damaged equipment or power cords to connect the unit to the power source.



- Do not operate this device outside the operating temperature range specified in the user's manual.
- Do not operate this device in flammable and explosive environments.



- Do not touch the control unit with wet hands.
- Do not use wet hands for installation and maintenance operations.



- Do not rinse the device directly with water.
- Protect the circuit section to prevent moisture from entering.



- Children are prohibited from operating this device.



- Before performing any maintenance operation, disconnect the power supply first.



- Do not store flammable and explosive materials around the device.



- If the device produces abnormal noise, odor, or smoke, please disconnect the power connection immediately and contact the dealer.



- Do not open the panel while the device is running.



- Do not blow the airflow produced by the device towards open flames or sources of fire.



- Do not block the air duct while the device is running.



- To ensure the long-term stable operation of the equipment, please regularly check the safety of the device installation.



- Do not place other items on the device.



- This device is only used for specific needs and occasions.



The installation of this device requires person with relevant professional knowledge to operate it. Please read and understand this manual before using this device. Children need to use this device under the supervision of a guardian.



After the expiration of the unit's usage period, it needs to be recycled separately and cannot be disposed of together with unclassified garbage. Some of the materials in the equipment can be recycled, and some should not be treated as household waste. According to the effective regulations of the country of application, please handle the product promptly once it reaches the end of its service life.

Preface

Blauberg is pleased to provide you with a series of new high-quality integrated heat pump environment control unit with outdoor air, the KOMFORT ICEW series.

This user manual includes technical parameters, safety regulations, operation and installation guidelines, etc. During installation and startup, please carefully read the user manual, especially the safety regulations.

Please keep the instruction manual properly.

Summarize

This integrated heat pump environment control unit is suitable for ventilation, heating and cooling in villas or residential apartments.

This product is suitable for use in indoor environments with temperatures ranging from +1 °C to +40 °C and relative humidity not exceeding 80%, and outdoor temperatures ranging from -25 °C to +45 °C.

Protection level

Motor: IP44

Machine: IP22

The product will be updated regularly, and description of some models may differ slightly from this manual. The actual product should prevail.

Safety rules

If maintenance is required, please make sure to do it with the power cut off.

Installation and maintenance require professional person to operate. Before powering on, ensure that the internal components of the equipment are not damaged bad, make sure there are no foreign objects inside the device. Unauthorized software and hardware modifications to the device are prohibited.

The device is equipped with an electrical wiring diagram and relevant technical specifications. Protective measures should be taken to prevent smoke, carbon monoxide, and other combustible gases from entering the room from the equipment inlet. The air ducts connected to the equipment must not contain solid impurities, viscous substances, or fibrous materials. This device is prohibited from operating in flammable and explosive environments. Operate correctly according to the instructions in the user manual to ensure that the equipment operates without any malfunctions.

Transportation and Storage

Transportation and loading/unloading: Any vehicle can be used for transportation, provided that it is protected from climate and mechanical damage; Suitable loading and unloading equipment for this product should be used during loading and unloading, and a crane can be used for handling to reduce mechanical damage.

Storage: The unit is packaged in its original factory and stored in a dry and ventilated environment. It should be stored in an environment with stable temperature and humidity, with an ambient

temperature of +5 °C ~+40 °C; Avoid storing in environments that may cause mechanical damage; Do not store with items that may cause corrosion or damage to insulation.

Naming rules

Model: **KOMFORT-ICEW - DXXXH - XXP - L - 4.0 (W)**

Unit series

Cold and heat sources

Fresh air rate (m³/h)

Cooling capacity

Unit type (L or R)

Unit version

Delivery list

Unit name:

Integrated heat pump environment control unit with outdoor air

Unit model:

KOMFORT-ICEW-D200H-35P-L-4.0(W) KOMFORT-ICEW-D200H-35P-R-4.0(W)

KOMFORT-ICEW-D250H-50P-L-4.0(W) KOMFORT-ICEW-D250H-50P-R-4.0(W)

KOMFORT-ICEW-D300H-70P-L-4.0(W) KOMFORT-ICEW-D300H-70P-R-4.0(W)

Packing list:

1.ICEW Series indoor unit	1pcs
2.ICEW Series outdoor unit	1pcs
3.Instruction manual	1pcs
4.Master controller	1pcs
5.IAQ sensor(for zone-option)	/
6.Electric air outlet(for zone-option)	/
7.Electric air vavlefor(zone-option)	/



Warn

Check for any transportation damage and deliver the goods only after passing the inspection.

Technical parameter

Due to regular improvements in product design, there maybe slight differences between some product parameters and instruction manual.

Product model	KOMFORT ICEW- D200H-35P-L(R)-4.0(W)	D250H-50P-L(R)-4.0(W)	D300H-70P-L(R)-4.0(W)
Phase/Voltage	220V-50Hz	220V-50Hz	220V-50Hz
Rated fresh air volume[m ³ /h]	160	200	300
Rated exhaust air volume[m ³ /h]	160	200	300
Rated supply air volume[m ³ /h]	600	900	1100
External static pressure[Pa]	100 (50~170)	100 (50~170)	100 (50~170)
Temperature exchange efficiency (heating)[%]	78	78	78
Enthalpy exchange efficiency (heating) [%]	72	72	72
Filter level	Fresh Air: C4 (G4) +YG (H11) Exhaust Air: C4 (G4)	Fresh Air: C4 (G4) +YG (H11) Exhaust Air: C4 (G4)	Fresh Air: C4 (G4) +YG (H11) Exhaust Air: C4 (G4)
Filtration efficiency (PM2.5) [%]	95	95	95
Cooling capacity[W]	4600	6400	9200
Rated cooling power[W]	1480	2060	2960
Refrigerating rated current[A]	6.9	9.5	13.7
Heating capacity[W]	4600	6400	9200
Rated heating power[W]	1530	2130	3060
Heating rated current[A]	7.1	9.9	14.2
Electric pre-heating power[W]	1000	1000	1000
Energy efficiency coefficient of refrigeration mode	3.1	3.1	3.1
Energy efficiency coefficient of heating mode	3.0	3.0	3.0
Maximum input power[W]	1920	2950	4200
Maximum input current [A]	8.9	13.6	19.4
Maximum input current (Pre-heating added) [W]	1920+1000	2950+1000	4200+1000

Technical parameter

Due to regular improvements in product design, there maybe slight differences between some productparameters and instruction manual.

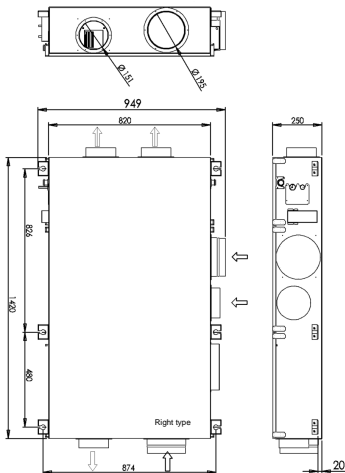
Product modelKOMFORT ICEW-	D200H-35P-L(R)-4.0(W)	D250H-50P-L(R)-4.0(W)	D300H-70P-L(R)-4.0(W)
Maximum input current (Pre-heating added) [A]	13.5	18.2	24.0
Refrigerant type	R410a	R410a	R410a
Refrigerant Charge [g]	1250	1600	1800
Refrigerant maximum working pressure[MPa]	4.2	4.2	4.2
Refrigerant piping[mm]	Φ9.52/6.35	Φ12.7/6.35	Φ15.9/6.35
Maximumlength of refrigerant pipe[m]	15	20	20
Max drop betweenindoor and outdoor unit[m]	5	10	10
Maximum number of bends for refrigerant pipes	5	15	15
Drain-pipe[mm]	PVC25(IDΦ20/ODΦ25)	PVC25(IDΦ20/ODΦ25)	PVC25(IDΦ20/ODΦ25)
Range of environment temperature for use[°C]	-25 ~ 45	-25 ~ 45	-25 ~ 45
Indoor unit size(L *W * H)	1420*820*250	1530*950*255	1530*950*255
Outdoor unit size(L *W * H)	918*365*712	918*365*712	918*365*712
Indoor unit weight[kg])	76	95	95
Indoor unit weight[kg]	39.5	42.5	48.5

Remarks:

1. This unit is designed in accordance with the standard GB/T 40438-2021 <Integrated heat pump environmental control unit with outdoor air>;
2. Heat recovery conditions: indoor return air/circulating air: dry bulb temperature of 21° C , wet bulb temperature of 13° C ; Outdoor fresh air: 2° CDB , 1° CWB ;
3. Nominal cooling: indoor return air/circulating air: dry bulb temperature of 27° C , wet bulb temperature of 19.5° C ; Outdoor fresh air: 35° C DB , 28° CWB ;
4. Nominal heating: indoor return air/circulating air: dry bulb temperature of 21° C , wet bulb temperature of 13° C ; Outdoor fresh air: 2° C DB , 1° CWB ;

When the equipment leaves the factory, the refrigerant hasn't been pre charged yet,you have to fill it after installation following the instruction manual; If the pipe length exceeds a certain limit, refrigerant should be added according to the instruction manual.

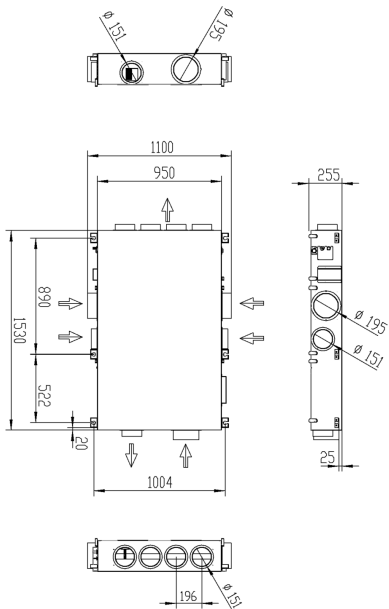
KOMFORT - ICEW - D200H - 35P indoor unit size(R type)



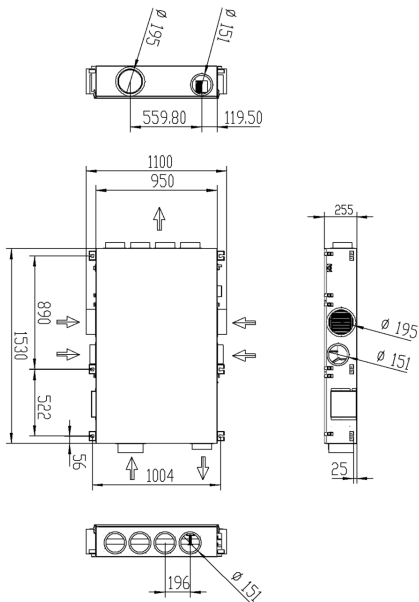
Left and right type definition:

Look down the machine, facing to the outer side of the unit. Fresh air outlet which sites on the left side of the unit is defined as left type, while fresh air outlet sites on the right side is defined as right type.

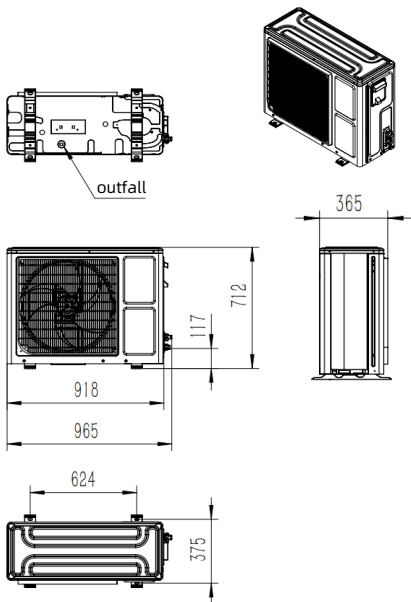
KOMFORT - ICEW - D250H - 50P indoor unit size(R type)



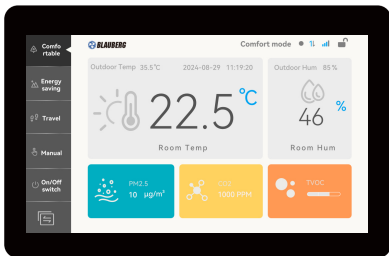
KOMFORT - ICEW - D300H - 70P indoor unit size(R type)



KOMFORT - ICEW - D200/250/300H - 35/50/70P outdoor unit size



Introduction to Master controller



Brief introduction:

7-inch color screen controller for fresh air systems, air conditioning systems, high-end instruments and other applications, its built-in 7-inch high-resolution full-color display with capacitive touch glass panel, smooth and simple operation. Built-in 32-bit ARM microcontroller, responsible for the realization of the sensor data acquisition, real-time communication with the host and a series of functions; display driver using the most widely used, mature and stable 8051 core, 1T (single instruction cycle) high-speed work, the highest main frequency up to 250MHz; at the same time, equipped with RS485, DC carrier control, to meet the needs of the BMS, intelligent control of the connection of the hardware and other needs; Control screen integrated PM2.5 sensor, CO2 sensor, temperature and humidity sensors and TVOC sensor in one, real-time detection of air quality indicators in the zone, according to customer needs to switch to different modes of state, and real-time feedback equipment operating status and related data.

Parameters:

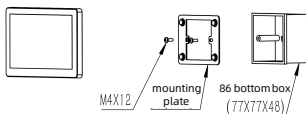
List	parameters	temperatureRange	-10~85°C
Input Power Voltage	12~24V DC	humidityRange	0~100%
Power	Brighten screen<5.5W Darken screen<2.5W	TVOC Range	0~5.00mg/m ³
Communication Methods	24VDC carrier/RS485	PM2.5 Precision	±10%
Displayscreen resolution	1024*600	CO2 Precision	± (50PPm+30%)
List	7inch	temperaturePrecision	±0.4°C (-10~85°C)
PM2.5 Range	0~500ug/m3	humidityPrecision	±3% (0~80%RH)
CO2 Range	400~2000ppm/m3	TVOC Precision	±15%

Introduction to Master controller

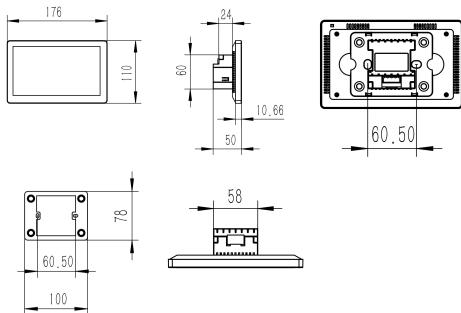
Wiring diagram:

Wiring diagram:	V+	V-	A	B
DC24V arrier	24V DC	GND	/	/
RS485	12~24V DC	GND	485A	485B

Installation:



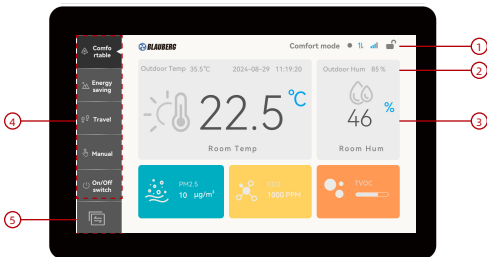
Size:



Operation instructions

The device can be controlled through master controller and mobile mini program.

1、Main interface description

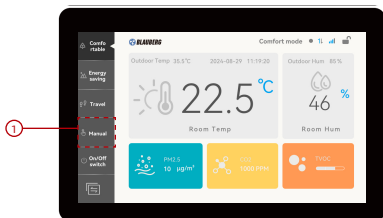


- ① Display the current mode, communication status, network signal, and screen lock status.
- ② Current outdoor air quality (temperature, humidity) as well as time and date.
- ③ Current regional air quality (temperature, humidity, CO₂ content, PM2.5 content, TVOC content).
- ④ Equipment operation mode: Click to select Comfort, Energy saving, Travel, Manual mode, or Shutdown (Comfort mode is mainly for external circulation, Energy saving mode is mainly for internal circulation, and Travel mode is for periodic external circulation).
- ⑤ Page change icon: Click to enter the settings interface.

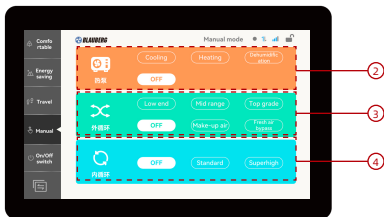
Operation instructions

The device can be controlled through master controller and mobile mini program.

2、Manual mode setting



- ① Click on 'Manual' on the main interface to switch the screen page to the manual mode page.

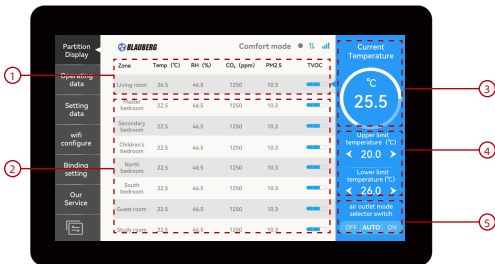


- ② Click to select the heat pump operation mode: cooling, heating, dehumidification, or off.
- ③ Click to select the external circulation gear: low, medium, high, air supply, bypass, or turn off the external circulation.
- ④ Click to select the internal circulation mode: Standard, Strong, Off.

Operation instructions

The device can be controlled through master controller and mobile mini program.

3、Partition Overview (Multi-zone Control Interface)

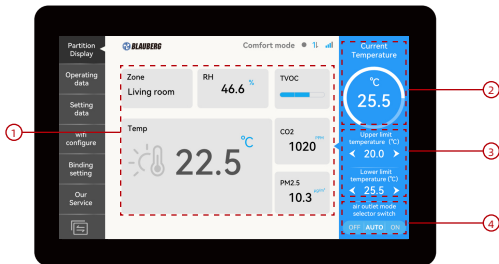


- ① Display the air quality of the current zone (temperature, humidity, CO₂ concentration, PM_{2.5} content, TVOC content).
- ② Display the air quality of the remaining partition zone (temperature, humidity, CO₂ concentration, PM_{2.5} content, TVOC content).
- ③ Current regional temperature.
- ④ Adjust the temperature upper and lower limits of the area, and it is recommended to set the temperature upper and lower limits to ≥ 3 °C for control.
- ⑤ Click to select the air vent control mode (closed, automatic, open).

Operation instructions

The device can be controlled through master controller and mobile mini program.

4、Partition Overview (Single-zone Control Interface)



- ① Display the air quality of the area (temperature, humidity, CO₂ concentration, PM_{2.5} content, TVOC content).
- ② Current regional temperature.
- ③ Adjust the temperature upper and lower limits of the area, and it is recommended to set the temperature upper and lower limits to ≥ 3 °C for control.
- ④ Click to select the air vent control mode (closed, automatic, open).

Operation instructions

The device can be controlled through master controller and mobile mini program.

5、Operating parameters

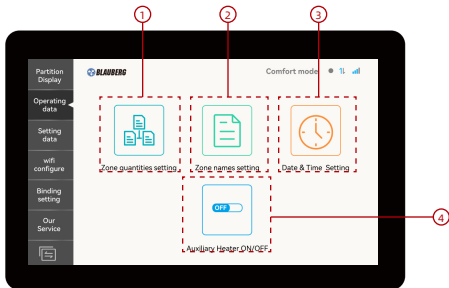


- ① The operating status of fresh air, exhaust air, and circulating fans.
- ② The temperature and humidity of the air supply in the main air duct of the equipment.
- ③ The current operating status of the heat pump gear and the display of external machine fault codes.
- ④ The filter inside the equipment is dirty and blocked. If the degree of dirt and blockage reaches 80% or above, it is recommended to replace the filter.
- ⑤ Equipment operating power and cumulative power consumption (cumulative total power consumption from factory to present)

Operation instructions

The device can be controlled through master controller and mobile mini program.

6、Parameter setting

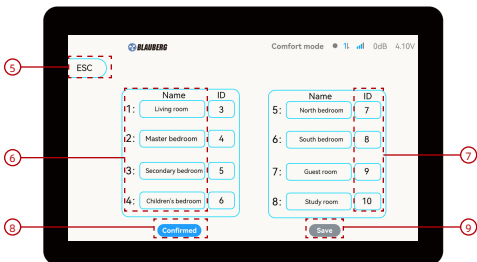


- ① Change zone quantity setting(all settings have been completed by the factory, and users do not need to reset.)
- ② Room name settings, click on to enter the name modification interface.
- ③ Date and time settings, click on to enter the date modification interface
- ④ Electric auxiliary heating settings.

Operation instructions

The device can be controlled through master controller and mobile mini program.

7、Zone Name Change Settings

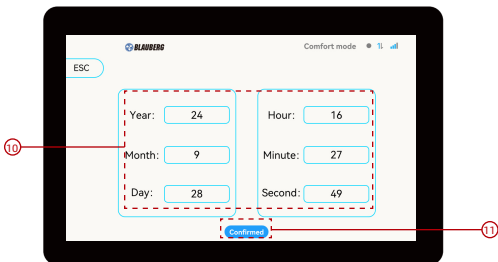


- Click back to return to the previous interface.
- Click on the corresponding area to modify the name.
- Display the ID corresponding to the sensor in this zone.
- Click confirm to modify, the name modification is complete.
- Click "Save" to save the name to the main control screen.

Operation instructions

The device can be controlled through master controller and mobile mini program.

8、Time modification

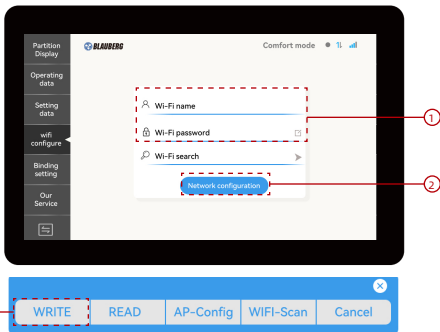


- ⑩ Click on any number box to modify the number.
- ⑪ Click to confirm the modification, and the date and time change is complete.

Operation instructions

The device can be controlled through master controller and mobile mini program.

9、Wi-Fi setup method one



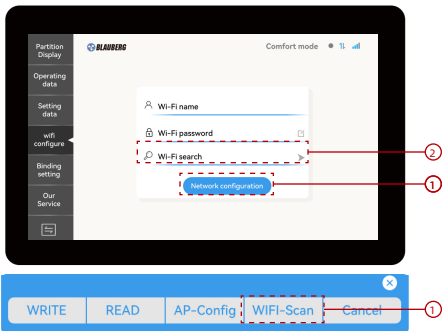
- ① Enter the Wi-Fi name and Wi-Fi password.
- ② Clicking on network configuration will bring up a dialogue window.
- ③ Click on "Write" in the conversation window to complete Wi-Fi networking.

Note: This function can be used only when the unit set with a Wi-Fi module .

Operation instructions

The device can be controlled through master controller and mobile mini program.

10、Wi-Fi setup method two



- ① Click on Network Configuration, then click on Search Network;
- ② Select the corresponding Wi-Fi name in the search network box, then click on the Wi-Fi name. The system will automatically enter it into the Wi-Fi name column. After entering the Wi-Fi password, click on "Write " and wait for a period of time.

Note: This function can be used only when the unit set with a Wi-Fi module .

Operation instructions

The device can be controlled through master controller and mobile mini program.

11、Binding settings

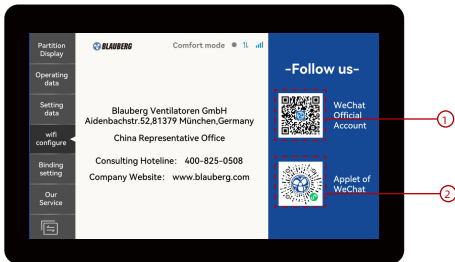


- ① Click to obtain device information, wait for the QR code to refresh, and then scan the code to obtain the device hardware code for binding settings.

Operation instructions

The device can be controlled through master controller and mobile mini program.

12、Service list



- ① Scan the QR code of the official account, follow the official account, and learn more about the equipment information and warranty problems.
- ② Scan the QR code of the mini program, bind the device to the mini program, and experience remote control.

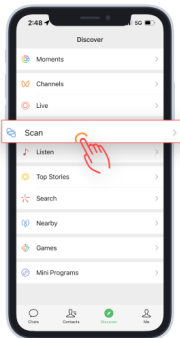
Remote operation instructions

The official account is mainly used to push reminders of new users' binding devices to the account owner's WeChat, and perform various operations.

1、Instructions for Remote Control of Mini Programs

Please scan the QR code of the official account, follow the official account, and learn more about equipment information and warranty problems.

Scan the QR code of the mini program using WeChat, bind the device to the miniprogram, and experience remote control.

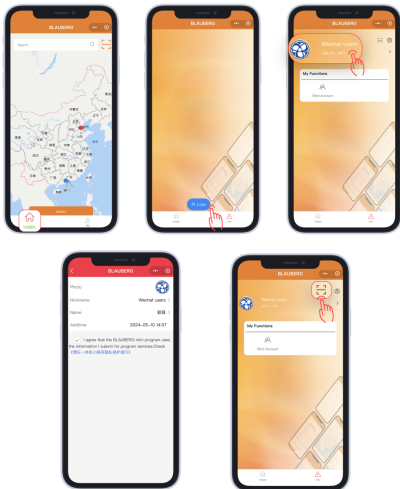


Remote operation instructions

The official account is mainly used to push reminders of new users' binding devices to the account owner's WeChat, and perform various operations.

2、Description of the main interface of the mini program

- ①After entering the mini program,click on the personal center to log in wechat.
- ②Click on the avatar to fill in personal information (phone number and name are required).
- ③Once the personal information is filled out, you can return to add the device.

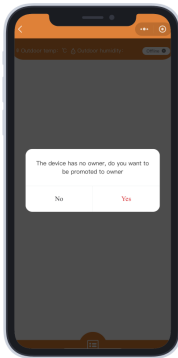
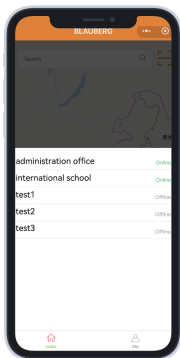


Remote operation instructions

The official account is mainly used to push reminders of new users' binding devices to the account owner's WeChat, and perform various operations.

3、Equipment role application

- ①Click to enter the added device.
- ②Choose whether to upgrade to a household head (the household head can control and manage the accounts of family members and tourists), with only one household head for each device;
- ③If the identity of the device owner is found to be unknown, feedback can be given to the manufacturer or property management to downgrade or remove the owner.

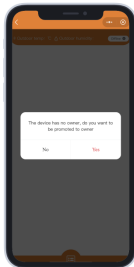
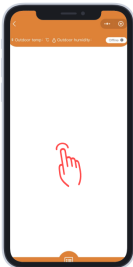
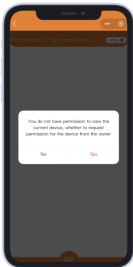


Remote operation instructions

The official account is mainly used to push reminders of new users' binding devices to the account owner's WeChat, and perform various operations.

4、Family member application

- ①If the device already has a homeowner, a dialog box will pop up after entering the device, click confirm;
- ②Click on the blank space, and the system will pop up an application dialog box;
- ③Once submitted, it cannot be resubmitted until the approval process is completed;
- ④First level users, the head of the household can have device operation permissions and can approve and allocate permissions to family members;
- ⑤Second level users and their family members may have partial operational permissions on the device;
- ⑥Third level users, tourists can only access viewing devices.

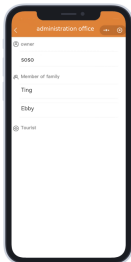
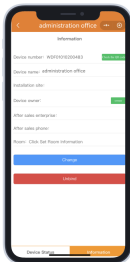


Remote operation instructions

The official account is mainly used to push reminders of new users' binding devices to the account owner's WeChat, and perform various operations.

5、Head of household manages members

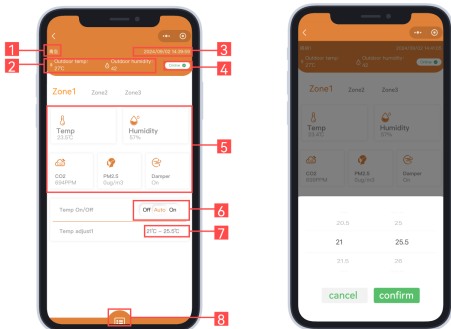
- ① Click to enter the device information interface;
- ② Click on the household head to enter the member management interface, change the associated member account for operation (downgrade family members to tourists, upgrade tourists to family members, delete tourists from this device's associated account).



Remote operation instructions

6、Mini Program Interface Description

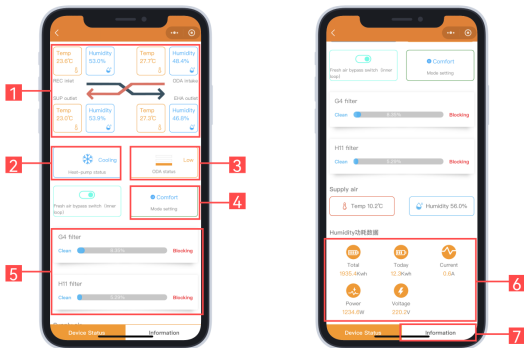
- ① Location of the device in the region;
- ② Temperature and humidity in the area where the equipment is located;
- ③ Device time, if the device is disconnected, the timer will stop and automatically refresh when online;
- ④ Online/offline status;
- ⑤ Indoor temperature and humidity, carbon dioxide concentration, PM2.5 concentratin, and on/off status of air vents;
- ⑥ Click to turn on (or off) the temperature switch. When turned on, temperature control can be applied to the corresponding interval. When turned off, temperature control will not be applied to this interval;
- ⑦ Set the temperature adjustment range, and stop the cooling and heating of the equipment when the temperature reaches the range;
- ⑧ Click to enter the secondary interface.



Remote operation instructions

7、Secondary interface description

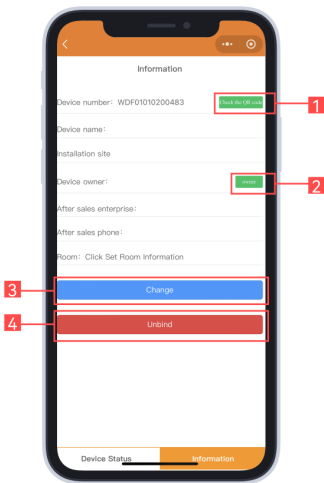
- ① You can view the temperature and humidity changes inside and outside after being exchanged by the total heat exchanger core;
- ② Cold and heat source status (cooling, heating, off);
- ③ Fresh/exhaust air status (low, medium, high);
- ④ Switching of device operation mode;
- ⑤ Check if the filter is dirty and blocked (it needs to be manually reset after replacing the filter);
- ⑥ You can view the device's electricity consumption, power, voltage, etc.from the beginning of use to the current time (click on the data to view the corresponding detailed historical data information);
- ⑦ Click to enter the device information interface.



Remote operation instructions

8、Equipment information

- ① Click to view the device QR code (the QR code used when binding the device);
- ② Click on the homeowner to enter the member management page;
- ③ After clicking, you can enter the modification of device information. After the modification is completed, then click save.



Remote operation instructions

9、Precautions

- ① Master controller is generally installed in lobbies, rooms, and other places;
- ② Do not install or use this product in dusty, damp, dirty, or high-temperature areas to avoid damage to the product;
- ③ Please avoid placing this product and its accessories near water or fire sources to prevent personal injury, equipment malfunction, etc.;
- ④ Do not use any violent means to treat this product (including forced disassembly, forced installation, etc.)

10、After sales maintenance

- ① Damage caused by design, manufacturing, or factory transportation can be repaired or replaced free of charge for this product and its components, if the product is damaged due to other reasons, repair and replacement costs will be charged at the factory price;
- ② Any malfunction or damage caused by abnormal use, self modification, disassembly, or violent treatment of this product is not covered by the warranty;
- ③ For products that have exceeded the warranty period or are not covered by free warranty, our repair center is still dedicated to providing paid services for you.

Installation instructions

1、Indoor unit installation



Attention: The location of the hanging machine should be able to support more than 4 times the weight of the indoor unit. If reinforcement is required, it should be done first before installation. Otherwise, there is a risk of falling indoors and causing injury.

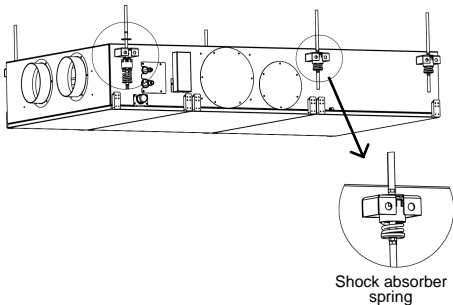
Indoor unit is installed in a suspended ceiling style. Installation requires hanging feet, hanging bars, nuts, and shock-absorbing spring pads. The fastening components are not included in the packing list and need to be purchased separately. When selecting fastening components, it is necessary to consider the conformity of the installation surface and the weight of the unit. The weight of the unit can refer to the technical parameter table.

Fasteners must be selected by professionals.

Before installing the equipment, it is necessary to check whether there are any external substances such as plastic film or paper on the outer shell.

Sufficient space needs to be reserved when installing equipment to ensure later takeover, maintenance, and overhaul operations.

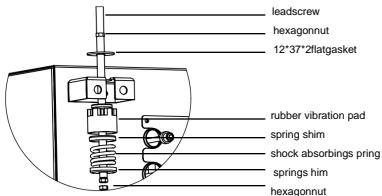
In order to ensure optimal operation of the machine and minimize wind pressure loss caused by turbulence, straight air ducts need to be connected on both sides of the machine. When connecting the air duct and flange, it is necessary to ensure the tightness of the connection.



Installation instructions

2. Shock absorber spring

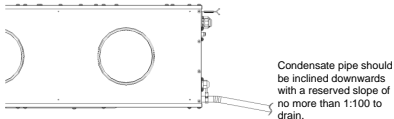
The product is equipped with a dedicated shock-absorbing spring, which reduces the resonance frequency through a special process, thereby reducing vibration noise. The equipment needs to be lifted with six screw rods, each of which is equipped with a shock-absorbing component. In general, the equipment needs to be installed on the ceiling, and the single point error of the ceiling installation hole should not exceed 5mm. When lifting, nuts and 12*37*2 flat washers should be preinstalled above the hanging ears. After installing the shock absorber components, two nuts should be added below and locked to each other.



3. Installation of condensate pipe

The machine should be installed horizontally, and the condensate pipe should be inclined downwards with a reserved slope of no more than 1:100. When arranging the condensate pipe, it should not be higher than the condensate pipe interface of the machine, and there should be a slope of not less than 1:100 towards the drainage outlet. The condensate pipe should not have dents or leaks.

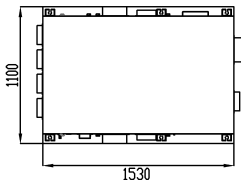
The condensate pipe should be insulated to prevent dripping after condensation outside the pipe, which may damage your decoration or other equipment.



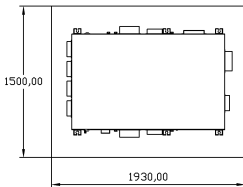
Installation instructions

4. Reserved maintenance port

After installation, please reserve a maintenance port directly below the unit for daily replacement of the filter and maintenance. The size of the maintenance port should not be smaller than the size of the unit. The size is shown in the figure.



KOMFORT-ICEW-D200H-35P
Minimum size of the access port



KOMFORT-ICEW-D250H-50P
KOMFORT-ICEW-D300H-70P
Suitable maintenance size

Installation instructions

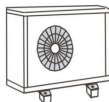
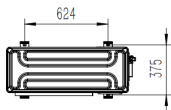
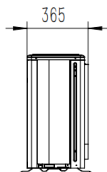
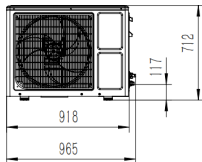
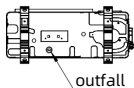
5. Outdoor installation

When installing, the first thing to ensure is the load-bearing capacity of the roof or bracket where the outdoor unit is installed, and practical waterproof measures should be taken on the roof. When carrying out installation work, the strength and level of the foundation should be checked to avoid vibration and noise.

The appropriate length of the anchor bolt should exceed 20mm above the foundation surface and firmly fix the outdoor unit; The foundation should avoid using only four angular support frames to support the outdoor unit.

When the unit is running for heating, the outdoor unit may produce defrosting water, which can be discharged to an appropriate place through the drainage pipe;

Insulation materials should be installed during the installation of drainage pipes to prevent freezing and inability to drain.



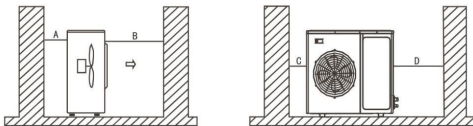
⊗ Wrong installation method

Installation instructions

6. Outdoor unit installation space

- ① The installation location must be well ventilated so that the machine can draw in and exhaust sufficient air;
- ② The installation location is sufficient to withstand the weight of the outdoor unit and isolate the noise and vibration of the machine;
- ③ Avoid direct sunlight and install a sunshade if necessary;
- ④ The installation site must be drained of rainwater and water formed by defrosting;
- ⑤ The installation location must ensure that the machine will not be buried in snow;
- ⑥ The installation location must ensure that the air outlet does not face strong winds directly;
- ⑦ Ensure that the air outlet and operating noise of the unit do not affect neighbors;
- ⑧ The installation location must not be affected by oil stains on the garbage bin;
- ⑨ If the outdoor unit operates in an atmospheric environment containing oil sources (packages or engine oil), salt (marine areas), and sulfide gases (near hot springs or oil refineries), these substances may cause unit failure.

After selecting the location, sufficient space should be reserved according to the requirements in the following diagram before installation to ensure the ventilation and maintenance space requirements of the external fan.



Space requirements for maintenance

A > 300mm; B > 1500mm;

C > 300mm; D > 500mm;

Installation instructions

7. Indoor and outdoor unit connection

The unit does not come with refrigerant pipes as standard. During installation, if the length of the inner and outer units exceeds 5 meters, an additional 0.035kg of refrigerant needs to be filled for every additional meter (when the pipeline is too long, both capacity and reliability will decrease. As the number of bends increases, the resistance of the system pipeline to refrigerant flow will increase, which will reduce the cooling/heating capacity and may cause compressor failure. Please design according to the recommended connecting pipe length in the technical parameter table). Please choose deoxygenated seamless phosphor copper tube as the refrigerant connection pipe. When installing, if welding is required to extend the piping, please install the piping before the expansion nut. When welding refrigerant pipes, nitrogen gas must be blown to prevent the formation of an oxide layer inside.

Before connecting the refrigerant pipe, please blow it with nitrogen or air to remove dust inside the pipe.

Requirements for indoor and outdoor connecting piping:

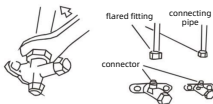
- ① The processing dimensions of the expansion section are shown in the table below;
- ② Connect the expansion nut and apply refrigeration oil (on both the inner and outer walls) to the expansion section. Before tightening, manually screw the nut into 3-4 threads;
- ③ The tightening force is shown in the table below;

NO.	Piping size	Tightening torque	flaring size (A)	flaring shape	Apply engine oil
1	φ6.35/φ6mm	15-19N.m	8.3-8.7mm		
2	φ9.52/φ9mm	35-40N.m	12.0-12.4mm		
3	φ12.7/φ12mm	50-60N.m	15.4-15.8mm		
4	φ15.88mm	62-76N.m	18.6-19mm		
5	φ19.05mm	98-120N.m	22.9-23.3mm		

- ④ Perform a leak test after installation is complete.

Piping connection between indoor and outdoor unit;

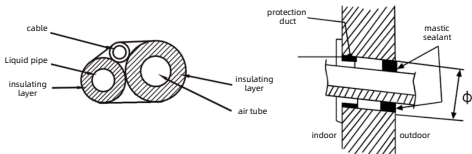
Remove the indoor unit nut, align one end of the connecting pipe with the indoor unit pipe joint, screw the copper nut onto the indoor unit pipe joint and tighten it (tightening torque as shown above)



Installation instructions

8. Connection of piping and outdoor unit

- ① Press the horn shaped expansion of the piping against the connection head of the low pressure valve and the high pressure valve, and the piping should be aligned with the axis direction of the connection head of the high and low pressure valves;
- ② Use force to gradually tighten the copper nut along the connection head, and then tighten the nut (tightening torque as shown in the table above);
- ③ After the piping connection is completed, it is necessary to confirm that there is no refrigerant leakage at the indoor and outdoor joints;
- ④ The piping must be wrapped with insulation materials with good insulation properties (heat-resistant above 120° C) separately, otherwise condensation or water leakage may occur;
- ⑤ After the installation of piping and drainage pipes, the gaps between the wall holes and the piping, drainage pipes, and wires should be sealed with mud glue or putty to prevent rainwater or foreign objects from entering the room and causing a decrease in operating efficiency or water leakage;
- ⑥ When the outdoor unit is higher than the indoor unit, the piping should be bent to ensure that the lowest point of the piping is lower than the wall hole, in order to prevent rainwater from flowing into the room along the pipeline.



Installation instructions

9、Refrigerant injection

- ① Before connecting with the indoor unit, after the installation of the refrigeration pipeline, it is necessary to blow the pipeline with 0.6Pa nitrogen gas. Inflation should be carried out from the main pipe of the outdoor unit, and the indoor port should be discharged. The pipes of other branches should be closed and purged successively until the pipes are clean.
- ② Use a vacuum pump with an electric magnetic check valve, and the vacuum should reach 755mmHg or above, with a displacement of 4L/s. After vacuuming from the trachea or liquid tube for 30 minutes, maintain the vacuum for 30 minutes. If the pressure does not increase, it is considered qualified. Regularly check the oil level of the vacuum pump to ensure that the oil color is clear and transparent.
- ③ The outdoor unit uses a new environmentally friendly refrigerant R410a, which has a working pressure about 1.6 times that of a regular R22 air conditioner and higher refrigeration efficiency. R410a is a mixture of fluorine, which will not decrease proportionally in case of leakage. Fluorine replenishment is prohibited. If there is a leakage, it must only be completely drained and refilled.

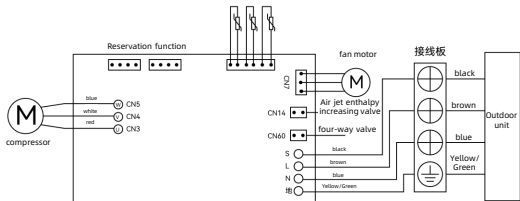
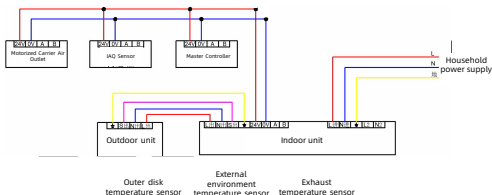
Attention:

- 1) Fluorine release can only be carried out at the inlet of the gauge valve or vacuum pump, and it is not allowed to unload the pipe for fluorine release. Immediately start the vacuum pump after releasing fluorine. Special attention should be paid that if the fluorine has been released completely, it may cause humid air to enter the system, causing serious problems. Please keep this in mind!
- 2) R410a must be filled in liquid form and gas addition is prohibited. Legitimate manufacturers only sell whole pink fluorine cans with siphon markings, which can be filled upright without the need to invert.
- 3) Before adding fluorine, the weighing equipment must be calibrated. Currently, many electronic scales have insufficient accuracy. If the amount is insufficient, it can be replenished, but if it is excessive, it needs to be completely drained and refilled.
- 4) The additional amount of refrigerant should be based on the equipment nameplate parameters. After the refrigerant pipeline exceeds 5 meters, an additional 0.35g of fluorine should be added per meter, and the additional amount should be recorded. When injecting refrigerant, it is necessary to ensure the accuracy of the weighing equipment, accurately charge, and mark the recorded amount of refrigerant added on the external unit label.

Installation instructions

10、Internal and external circuit connections

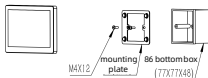
- 1) The equipment uses 220V input for power supply and needs to be wired from the household electrical box to the equipment (L, N, ground).
- 2) The power supply for the outdoor unit is provided by the indoor unit, and there are reserved wiring blocks (L, N, S, ground) inside the indoor unit and electrical box.
- 3) Except for the use of AC220V for the indoor and outdoor power supply, all other accessories are controlled by DC 24V current line carrier.



Installation instructions

11. Master controller installation

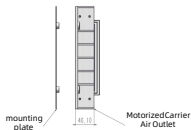
① The master controller's screen uses DC24V power line carrier control, requiring only two core shielded wires. The carrier line needs to be connected from the host electrical box, and the routing position and wiring method should be considered during installation. The master controller should be installed in a convenient location such as the living room or hallway that children cannot reach, and ensure good ventilation to avoid direct sunlight and water. After installation, objects should not be hung on it.



② IAQ sensor (required for zone control) uses DC24V power line carrier control and only requires the use of two core shielded wires. The carrier line is connected from the indoor unit electrical box, and the installation should consider the routing position and wiring method (which can be connected in series with other carrier devices). IAQ sensor is equipped with temperature, humidity, PM2.5, CO2 concentration and TVOC concentration sensors. When installing, it is necessary to choose a well ventilated and spacious location to avoid water splashing and placing the probe in a corner that blocks the inlet and outlet. The distance between surrounding walls or other obstacles should not be less than 10cm.

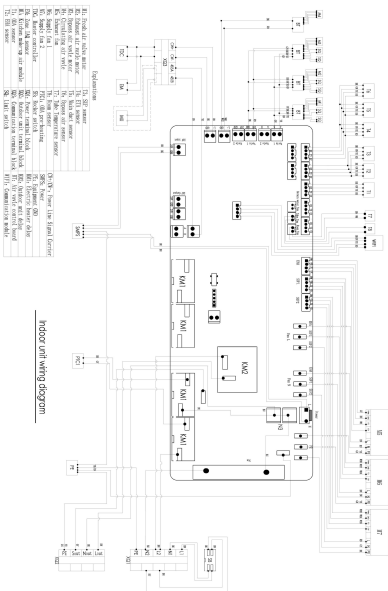


③ The electric air outlet of the room branch (requiring zone control) is controlled by DC24V power line carrier and only requires two core shielded wires. The carrier line is connected from the indoor unit electrical box, and the installation should consider the routing position and wiring method (which can be connected in series with other carrier devices). When installing, first fix the bottom plate, then install the air vent with magnetic suction function, and reserve a louver air vent no smaller than the size of the electric air vent as an inspection port for maintenance.



Installation instructions

12. Indoor unit wiring diagram



Technical maintenance



Attention: Before any operation, please turn the automatic protection switch from QF to OFF to cut off the power supply.

Take corresponding measures to prevent the switch from automatically activating and connecting to power.

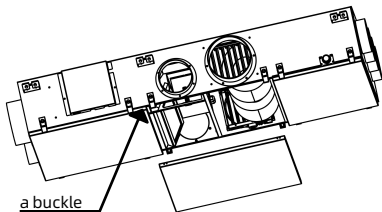


Before any maintenance operation, please cut off the power, turn the switch from QF to OFF, and take measures to prevent the switch from automatically activating and powering on. Routine technical maintenance of products can extend their service life and ensure their normal operation.

The product needs to be maintained 3-4 times a year, including routine cleaning, replacement of filters, and other tasks.

Filter maintenance

① Release the buckle above the cover plate, open the filter maintenance cover plate, remove the filter screen cover plate, and gently place the removed filter screen cover plate in a safe position to prevent loss and scratching.



Technical maintenance

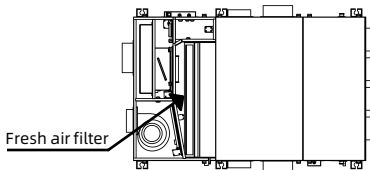
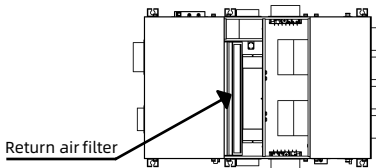


Attention: Before any operation, please return the automatic protection switch from QF to OFF to cut off the power supply.

Take corresponding measures to prevent the switch from automatically activating and connecting to power.



② Take out the filter that needs to be replaced, hold the handle strip of the filter that needs to be replaced with both hands, and gently remove the filter from the inside of the machine.

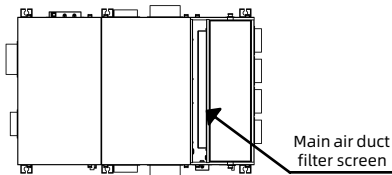


Technical maintenance



Attention: Before any operation, please return the automatic protection switch from QF to OFF to cut off the power supply.

Take corresponding measures to prevent the switch from automatically activating and connecting to power.



③ Install the new filter back into the machine in the direction indicated by the arrow.

④ Refix and seal the filter cover with hand twisted bolts to complete the main tenance of the filter.

Main air duct filter (H11) ↑

Fresh air filter (G4) ↑

Return air filter (G4) ↑

Technical maintenance



Attention: Before any operation, please return the automatic protection switch from QF to OFF to cut off the power supply.

Take corresponding measures to prevent the switch from automatically activating and connecting to power.

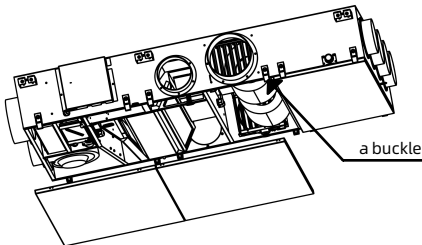


Maintenance of heat exchanger core

The indoor unit adopts a washable full heat counterflow heat exchange core, which needs to be checked regularly (recommended once a year). If cleaning is required, please choose warm water not exceeding 55°C for soaking and rinsing, and do not use high-pressure water for rinsing. Be sure to cut off the power before testing.

The inspection and steps for the heat exchange core are as follows:

① Use the key provided by the manufacturer to open the lock of the side pull buckle. After fully unlocking the buckle, hold the cover with one hand and open the pull buckle on the other side. Remove the cover and place it in a safe position to prevent surface scratches.



Technical maintenance



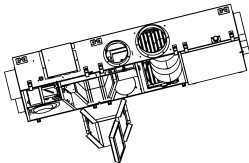
Attention: Before any operation, please return the automatic protection switch from QF to OFF to cut off the power supply.

Take corresponding measures to prevent the switch from automatically activating and connecting to power.



Maintenance of heat exchanger core

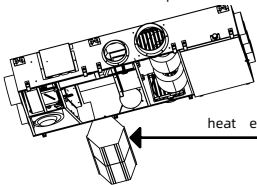
② Remove the baffle of the heat exchanger core. When removing the baffle, hold the heat exchange core with your hand to prevent it from falling off due to gravity.



③ Remove the heat exchange core, caution the weight of the core, please grip and stabilize it firmly.

④ For cleaning the heat exchange core, please choose to soak and rinse it with water that does not exceed 55°C, and do not use high-pressure water for rinsing.

⑤ After cleaning and drying the heat exchange core, follow the steps opposite to disassembly install it back into the unit to complete the maintenance work of the core.



Technical maintenance



Outdoor unit fault code

Faultcode	Faultdescription
E1	communication failure between indoor and outdoor unit
E2	T1 room temperature sensor malfunction
E3	T2 tube temperature sensor malfunction
F0	Compressor drive failure
F1	PFC overcurrent fault
F2	Outdoor fan malfunction
F3	Compressor DC voltage below 180V or above 430V alarm
F4	Air conditioner E fault (The chip failure of the outdoor unit, may result in the inability to read data)
F5	Outdoor overcurrent protection
F6	Outdoor sensor malfunction
F7	One to many mode conflict
F8	Reserve
F9	High temperature protection for condenser
FA	Exhaust high temperature protection
FB	Evaporator high temperature protection
FC	Evaporator low temperature protection
FD	High temperature protection for frequency conversion module
FE	Low pressure protection for refrigeration system
FF	High pressure protection for refrigeration system

Warranty card

Integrated heat pump environment control unit with outdoor air

Warranty terms

1. Warranty period starts from the date of purchase of the product, and all warranty terms become invalid after the repair period expires; When providing warranty, please present a valid purchase certificate and pay attention to the following two points:
 - a. Products covered by the warranty must be repaired at a service provider recognized by our company;
 - b. Properly keep the warranty certificate for verification during warranty.
2. From the date of purchase, free repair or replacement of parts will be provided for any malfunctions that occur during normal use due to quality issues with the product itself;
 - a. Complete machine warranty for 2 years;
 - b. Main components: Fan warranty for 5 years .
3. Vulnerable consumables such as sealing rings, filters, fuses, etc. are not covered by the warranty;
4. Other unspecified situations shall be handled in accordance with national regulations.

Disclaimers

Malfunctions caused by the following reasons are not covered by the free warranty:

1. Damage caused by non manufacturer reasons during transportation, storage, or installation;
2. Damage caused by improper operation, abnormal power supply, etc;
3. Damage caused by floods, electric disasters, fires, earthquakes or other force majeure factors;
4. Damage caused by non factory reasons.

Unit model		Body barcode	
Purchase date		Dealer name	
User name		User phone number	
User's address			

After-sale service hotline: 400-835-0379

Pre-sales service hotline: 400-825-0508

Official website: <http://www.blauberg.cn>

Please keep the warranty information for this section properly.

Blauberg Environment System (Suzhou) Co., Ltd