

INFINITY LIVING 9K-12K MULTI-ZONE AIR HANDLER WITH DIYCOOL TECHNOLOGY*



SERVICE MANUAL

Models Covered:

EZ-09W-M

EZ-12W-M



*This manual contains service information for 9K-12K air handlers used in Infinity Living multi-zone systems with DIYCOOL technology. For service information regarding Infinity Living multi-zone air handlers with DIYCOOL technology that are of a larger capacity (18K-36K), please refer to the separate manual that covers those units.

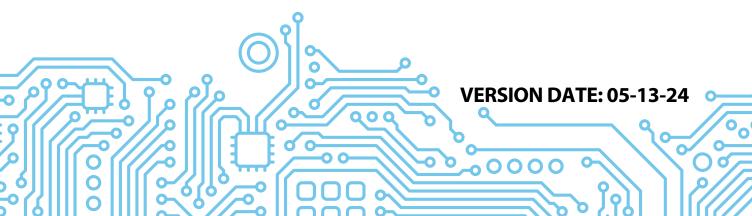


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Safety Precautions

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1. Precautions

To prevent personal injury, or property or unit damage, adhere to all precautionary measures and instructions outlined in this manual. Before servicing a unit, refer to this service manual and its relevant sections.

Failure to adhere to all precautionary measures listed in this section may result in personal injury, damage to the unit or to property, or in extreme cases, death.



WARNING indicates a potentially hazardous situation which if not avoided could result in serious personal injury, or death.



CAUTION indicates a potentially hazardous situation which if not avoided could result in minor or moderate personal injury, or unit damage.

1.1 In case of Accidents or Emergency

WARNING

- If a gas leak is suspected, immediately turn off the gas and ventilate the area if a gas leak is suspected before turning the unit on.
- If strange sounds or smoke is detected from the unit, turn the breaker off and disconnect the power supply cable.
- If the unit comes into contact with liquid, contact an authorized service center.
- If liquid from the batteries makes contact with skin or clothing, immediately rinse or wash the area well with clean water.
- Do not insert hands or other objects into the air inlet or outlet while the unit is plugged in.
- Do not operate the unit with wet hands.
- Do not use a remote controller that has previously been exposed to battery damage or battery leakage.

CAUTION

- Clean and ventilate the unit at regular intervals when operating it near a stove or near similar devices.
- Do not use the unit during severe weather conditions.
 If possible, remove the product from the window before such occurrences.

1.2 Pre-Installation and Installation

WARNING

- Use this unit only on a dedicated circuit.
- Damage to the installation area could cause the unit to fall, potentially resulting in personal injury, property damage, or product failure.
- Only qualified personnel should disassemble, install, remove, or repair the unit.
- Only a qualified electrician should perform electrical work. For more information, contact your dealer, seller, or an authorized service center.

CAUTION

 While unpacking be careful of sharp edges around the unit as well as the edges of the fins on the condenser and evaporator.

1.3 Operation and Maintenance

WARNING

- Do not use defective or under-rated circuit breakers.
- Ensure the unit is properly grounded and that a dedicated circuit and breaker are installed.
- Do not modify or extend the power cable. Ensure the power cable is secure and not damaged during operation.
- Do not unplug the power supply plug during operation.
- Do not store or use flammable materials near the unit.
- Do not open the inlet grill of the unit during operation.
- Do not touch the electrostatic filter if the unit is equipped with one.
- Do not block the inlet or outlet of air flow to the unit.
- Do not use harsh detergents, solvents, or similar items to clean the unit. Use a soft cloth for cleaning.
- Do not touch the metal parts of the unit when removing the air filter as they are very sharp.
- Do not step on or place anything on the unit or outdoor units.
- Do not drink water drained from the unit
- Avoid direct skin contact with water drained from the
 unit
- Use a firm stool or step ladder according to manufacturer procedures when cleaning or maintaining the unit.

A CAUTION

- Do not install or operate the unit for an extended period of time in areas of high humidity or in an environment directly exposing it to sea wind or salt spray.
- Do not install the unit on a defective or damaged installation stand, or in an unsecure location.
- Ensure the unit is installed at a level position
- Do not install the unit where noise or air discharge created by the outdoor unit will negatively impact the environment or nearby residences.
- Do not expose skin directly to the air discharged by the unit for prolonged periods of time.
- Ensure the unit operates in areas water or other liquids.
- Ensure the drain hose is installed correctly to ensure proper water drainage.
- When lifting or transporting the unit, it is recommended that two or more people are used for this task.
- When the unit is not to be used for an extended time, disconnect the power supply or turn off the breaker.

2. Information servicing(For flammable materials)

2.1 Checks to the area

- Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized.
- For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

2.2 Work procedure

 Work shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

2.3 Work procedure

- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out.
- Work in confined spaces shall be avoided.
- The area around the work space shall be sectioned off.
 Ensure that the conditions within the area have been made safe by control of flammable material.

2.4 Checking for presence of refrigerant

- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres.
- Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. no sparking, adequately sealed or intrinsically safe.

2.5 Presence of fire extinguisher

- If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand.
- Have a dry powder or CO2 fire extinguisher adjacent to the charging area.

2.6 No ignition sources

- No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion.
- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space.

- Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks.
- NO SMOKING signs shall be displayed.

2.7 Ventilated area

• Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

2.8 Checks to the refrigeration equipment

- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance. The following checks shall be applied to installations using flammable refrigerants:
 - the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
 - the ventilation machinery and outlets are operating adequately and are not obstructed;
 - if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant; marking to the equipment continues to be visible and legible.
 - markings and signs that are illegible shall be corrected;
 - refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

2.9 Checks to electrical devices

 Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised. Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that there no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

2.10 Repairs to sealed components

- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
 - Ensure that apparatus is mounted securely.
 - Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE: The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

2.11 Repair to intrinsically safe components

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use. Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

2.12 Cabling

• Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check

shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

2.13 Detection of flammable refrigerants

• Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

2.14 Leak detection methods

- The following leak detection methods are deemed acceptable for systems containing flammable refrigerants. Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed. Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
 - If a leak is suspected, all naked flames shall be removed or extinguished.
 - If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the systemremote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

2.15 Removal and evacuation

- When breaking into the refrigerant circuit to make repairs or for any other purpose, conventional procedures shall be used. However, it is important that best practice is followed since flammability is a consideration.
- The following procedure shall be adhered to:
 - remove refrigerant;
 - purge the circuit with inert gas;
 - evacuate;
 - purge again with inert gas;
 - open the circuit by cutting or brazing.

- The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be flushed with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task. Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.
- Ensure that the outlet for the vacuum pump is not close to any ignition sources and there is ventilation available.

2.16 Charging procedures

- In addition to conventional charging procedures, the following requirements shall be followed:
 - Ensure that contamination of different refrigerants does not occur when using charging equipment.
 Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
 - Cylinders shall be kept upright.
 - Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
 - Label the system when charging is complete (if not already).
 - Extreme care shall be taken not to overfill the refrigeration system.
 - Prior to recharging the system it shall be pressure tested with OFN. The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

2.17 Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken.

In case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

- Become familiar with the equipment and its operation.
- Isolate system electrically.

- Before attempting the procedure ensure that:
 - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - all personal protective equipment is available and being used correctly;
 - the recovery process is supervised at all times by a competent person;
 - recovery equipment and cylinders conform to the appropriate standards.
- Pump down refrigerant system, if possible.
- If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- Make sure that cylinder is situated on the scales before recovery takes place.
- Start the recovery machine and operate in accordance with manufacturer's instructions.
- Do not overfill cylinders. (No more than 80 % volume liquid charge).
- Do not exceed the maximum working pressure of the cylinder, even temporarily.
- When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

2.18 Labelling

- Equipment shall be labelled stating that it has been decommissioned and emptied of
- refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

2.19 Recovery

- When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.
- When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct numbers of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.

- Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.
- The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order.
- Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.
- The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.
- If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant.
 The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

Specifications

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1. Model Reference

Refer to the following table to determine the specific indoor unit model.

Indoor Unit Model	Capacity (Btu/h)	Power Supply
EZ-09W-M	9K	208/230V~, 60Hz, 1Phase
EZ-12W-M	12K	

2. Electrical Wiring Diagrams

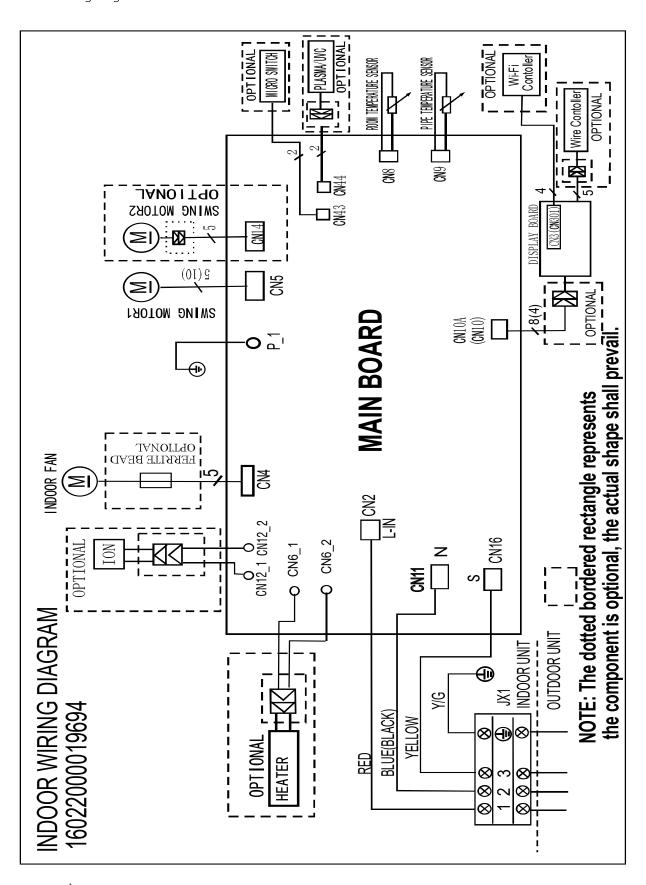
Indoor unit wiring diagram

Indoor Unit		
IDU Model	IDU Wiring Diagram	
EZ-09W-M	1602200010604	
EZ-12W-M	16022000019694	

Indoor unit abbreviations

Abbreviation	Paraphrase	
Y/G	Yellow-Green Conductor	
ION	Positive and Negative Ion Generator	
CAP	Capacitor	
PLASMA	Electronic Dust Collector	
L	LIVE	
N	NEUTRAL	
T1	Indoor Room Temperature	
T2	Coil Temperature of Indoor Heat Exchanger	

Indoor unit wiring diagram: 16022000019694



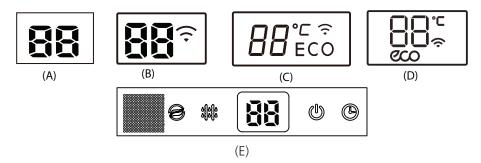
Product Features

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1. Display Function

Unit display functions



Display		Function	
8		Fresh(available on select units only)	
ର୍ଗର୍ଗର ବାର୍ଷ୍ଟର		Defrost	
٨		When the unit is on	
(When TIMER is on	
EE0		ECO function (available on select units only)	
		Lights up in different colour according to the operation mode(some units):	
" C		Under COOL and DRY mode, it displays as cool colour.Under HEAT mode, it displays as warm colour.	
÷		when Wireless Control feature is activated(some units)	
QQ	Temperature value	Temperature	
	(3s)	Activation of Timer ON, Fresh, Swing, Turbo, or Silent	
	(3s)	Cancellation of Timer OFF, Fresh, Swing, Turbo, or Silent	
	dF	Defrost	
	cF	Warming in heating mode	
	5[Self-clean (available on select units only)	
	FP	Heating in room temperature under 8°C	

2. Safety Features

Compressor three-minute delay at restart

Compressor functions are delayed for up to one minute upon the first startup of the unit, and are delayed for up to three minutes upon subsequent unit restarts.

Zero crossing detection error protection(Except for DC fan units)

If AC can not detect zero crossing signal for 4 minutes or the zero crossing signal time interval is not correct, the unit will stop and the LED will display the failure. The correct zero crossing signal time interval should be between 6-13ms.

Automatic shutoff based on discharge temperature

If the compressor discharge temperature exceeds a certain level for a period of time, the compressor ceases operation.

Automatic shutoff based on fan speed

If the indoor fan speed registers below 300RPM for an extended period of time, the unit ceases operation and the corresponding error code is displayed on the indoor unit.

Inverter module protection

The inverter module has an automatic shutoff mechanism based on the unit's current, voltage, and temperature. If automatic shutoff is initiated, the corresponding error code is displayed on the indoor unit and the unit ceases operation.

Indoor fan delayed operation

- When the unit starts, the louver is automatically activated and the indoor fan will operate after a period of 7 seconds.
- If the unit is in heating mode, the indoor fan is regulated by the anti-cold wind function.

Sensor redundancy and automatic shutoff

• If one temperature sensor malfunctions, the air conditioner ceases operation.

3. Basic Functions

3.1 Abbreviation

Unit element abbreviations

Abbreviation	Element	
T1	Indoor room temperature	
T2	Coil temperature of evaporator	
T3	Coil temperature of condenser	
T4	Outdoor ambient temperature	
TS	Set temperature	
Td	Control target temperature	
TP	Compressor discharge temperature	

In this manual, such as TCE1, TCE2...etc., they are well-setting parameter of EEPROM.

3.2 Fan Mode

When fan mode is activated:

- The outdoor fan and compressor are stopped.
- Temperature control is disabled and no temperature setting is displayed.
- The indoor fan speed can be set to high, med, low, or auto.
- The louver operations are identical to those in cooling mode.
- Auto fan: In fan-only mode, AC operates the same as auto fan in cooling mode with the temperature set at 24°C.

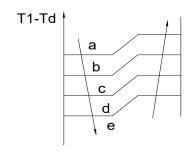
3.3 Cooling Mode

3.3.1 Indoor Fan Control

- In cooling mode, the indoor fan operates continuously.
 The fan speed can be set to high, medium, low, or auto.
- If the compressor ceases operations when the configured temperature is reached, the indoor fan motor operates at the minimum or configured speed.
- The indoor fan is controlled as below:

Setting fan speed	T1-Td ℃(°F)	Actual fan speed
н	A	H+ (H+=H+G) H (=H) H- (H-=H-G)
М	D	M+ (M+=M+Z) M (M=M) M- (M-=M-Z)
L	G H I	L+(L+=L+D) L-(L=L-D)

• The auto fan acts as below rules:



3.3.2 Outdoor Fan Control

• For different outdoor units, the fan speeds are different. the fan speed is controlled by T4.

3.3.3 Evaporator Temperature Protection

When evaporator temperature drops below a configured value, the compressor ceases operation.

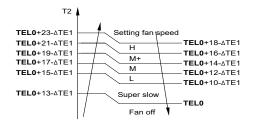
3.3.4 Condenser Temperature Protection

When condenser temperature is more than setting value, the compressor ceases operation..

3.4 Heating Mode (For heat pump models)

3.4.1 Indoor Fan Control

- When the compressor is on, the indoor fan speed can be set to high, medium, low, or auto. And the anticold wind function has the priority.
- Anti-cold air function
 - The indoor fan is controlled by the indoor temperature T1 and indoor unit coil temperature T2.

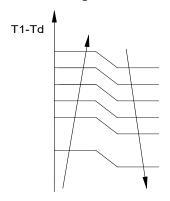


T1 ≥ 19°C(66.2°F)	ΔTE1=0
15°C(59°F) ≤ T1 ≤ 18°C(64.4°F)	ΔTE1=19°C−T1 (34.2°F-T1)
T1<15°C(59°F)	ΔTE1=4°C(7.2°F)

• The indoor fan is controlled as below:

Setting fan speed	T1-Td℃(°F)	Actual fan speed
н	1	H- (H=H-G)
"		H (=H)
	*	H+(H+=H+G)
М	1	M-(M-=M-Z)
		M(M=M)
	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	M+(M+=M+Z)
	1	L-(L-=L-D)
-		L(L=L)
	7	L+(L+=L+D)

• Auto fan action in heating mode:



3.4.1 Outdoor Fan Control

• For different outdoor units, the fan speeds are different. the fan speed is controlled by T4.

3.4.1 Defrosting mode

- The unit enters defrosting mode according to the value of temperature of T3 and the value range of temperature change of T3 as well as the compressor running time.
- In defrosting mode, the compressor continues to run, the indoor and outdoor motor will cease operation, the defrost light of the indoor unit will turn on, and the "Symbol is displayed.
- If any one of the following conditions is satisfied, defrosting ends and the machine switches to normal heating mode:
 - T3 rises above TCDE1.
 - T3 maintained above TCDE2 for 80 seconds.
 - Unit runs for 10 minutes consecutively in defrosting mode.

3.4.1 Evaporator Temperature Protection

• When T2> 63°C(145.4°F), the compressor frequency will cease operation until T2< 48°C(118.4°F).

3.5 Auto-mode

- This mode can be selected with the remote controller.
- In auto mode, the machine selects cooling, heating, or fan-only mode on the basis of ΔT (ΔT =T1-Ts).

ΔΤ	Running mode
ΔT>2 °C (3.4°F)	Cooling
-2 °C (-3.4°F)≤ΔT≤2 °C (3.4°F)	Fan-only
ΔT<-2°C (-3.4°F)	Heating*

Heating*: In auto mode, cooling only models run the fan

- The louver operates same as in relevant mode.
- If the machine switches mode between heating and cooling, the compressor will keep stopping for 15 minutes and then choose mode according to T1-Ts.
- If the setting temperature is modified, the machine will choose running function again.

3.6 Drying mode

- Indoor fan speed is fixed at breeze and can't be changed. The louver angle is the same as in cooling mode.
- All protections are active and the same as that in cooling mode.

3.7 Forced operation function

• Forced cooling mode:

The compressor and outdoor fan continue to run and the indoor fan runs at breeze speed. After running for 30 minutes, the AC will switch to auto mode with a preset temperature of 24°C(75°F).

• Forced auto mode:

Forced auto mode operates the same as normal auto mode with a preset temperature of 24°C(75°F).

- When there's indoor unit running in forced cooling, it is the master forced cooling unit. Other indoor units will run at forced cooling mode too and they will be the slave forced cooling units. The slave forced cooling units can not quit forced cooling mode until the master forced cooling unit quit, and turn to cooling mode at low speed with 24°C setting temperature.
- The slave forced cooling units will not be controlled by other signals.

3.8 Timer function

- Timing range is 24 hours.
 - Timer on. The machine will turn on automatically when reaching the setting time.
 - Timer off. The machine will turn off automatically when reaching the setting time.
 - Timer on/off. The machine will turn on automatically when reaching the setting "on" time, and then turn off automatically when reaching the setting "off" time.
 - Timer off/on. The machine will turn off automatically when reaching the setting "off" time, and then turn on automatically when reaching the setting "on" time.
 - The timer function will not change the AC current operation mode. Suppose AC is off now, it will not start up firstly after setting the "timer off" function. And when reaching the setting time, the timer LED will be off and the AC running mode has not been changed.
 - The setting time is relative time.
 - The AC will quit the timer function when it has malfunction.

3.9 Sleep function

- The sleep function is available in cooling, heating, or auto mode.
- The operational process for sleep mode is as follows:
 - When cooling, the temperature rises 1°C (to not higher than 30°C) every hour. After 2 hours, the temperature stops rising and the indoor fan is fixed at low speed.
 - When heating, the temperature decreases 1°C(to not lower than 17°C) every hour. After 2 hours, the temperature stops decreasing and the indoor fan is fixed at low speed. Anti-cold wind function takes priority.
- The operating time for sleep mode is 7 hours, after which, the unit exits this mode and switches off.
- The timer setting is available in this mode.

3.10 Auto-Restart function

• The indoor unit has an auto-restart module that allows the unit to restart automatically. The module automatically stores the current settings (not including the swing setting) and, in the case of a sudden power failure, will restore those setting automatically within 3 minutes after power returns.

- If the unit was in forced cooling mode, it will run in this mode for 30 minutes and turn to auto mode with temperature set to 24°C.
- If there is a power failure while the unit is running, the compressor starts 3 minutes after the unit restarts. If the unit was already off before the power failure, the compressor starts 1 minute after the unit restarts.

3.11 Louver Position Memory Function

When starting the unit again after shutting down, its louver will restore to the angle originally set by the user, but the precondition is that the angle must be within the allowable range, if it exceeds, it will memorize the maximum angle of the louver. During operation, if the power fails or the end user shuts down the unit in the turbo mode, the louver will restore to the default angle.

3.12 Mode conflict

- The indoor units can not work cooling mode and heating at same time.
- Heating mode has a priority.

(1) Definition

	Cooling mode	Heating Mode	Fan	Off
Cooling mode	No	Yes	No	No
Heating Mode	Yes	No	Yes	No
Fan	No	Yes	No	No
Off	No	No	No	No

No: No mode conflict;

Yes: Mode conflict

(2) Unit action

- In case of one Indoor unit working in cooling mode or fan mode, and another indoor unit is set to heating mode, the indoor unit working in cooling mode or fan mode will change to off. The outdoor unit will change to heating mode after compressor stop 3 minutes.
- In case of one Indoor unit working in heating mode, and another indoor unit is set to cooling mode or fan mode, the indoor unit setting to cooling mode or fan mode will change to stand by. The outdoor unit will continue working in heating mode.
- If heating mode stops (not including the indoor unit in heating mode reaching the set temperature), 3 minutes after the outdoor unit restarts and works in cooling mode or fan-only mode.

3.13 8° C Heating(Optional)

In heating mode, the temperature can be set to as low as 8°C, preventing the indoor area from freezing if unoccupied during severe cold weather.

3.14 Follow me(Optional)

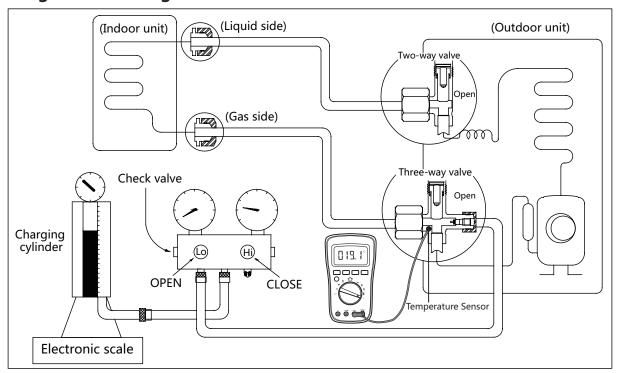
- If you press "Follow Me" on the remote, the indoor unit will beep. This indicates the follow me function is active.
- Once active, the remote control will send a signal every 3 minutes, with no beeps. The unit automatically sets the temperature according to the measurements from the remote control.
- The unit will only change modes if the information from the remote control makes it necessary, not from
- the unit's temperature setting.
- If the unit does not receive a signal for 7 minutes or you press "Follow Me," the function turns off. The unit regulates temperature based on its own sensor and settings.

Maintenance

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1. Refrigerant Recharge



Procedure:

- 1. Close both 2- and 3-way valves.
- **2.** Slightly connect the Handle Lo charge hose to the 3-way service port.
- **3.** Connect the charge hose to the valve at the bottom of the cylinder.
- **4.** If the refrigerant is R410A/R32, invert the cylinder to ensure a complete liquid charge.
- **5.** Open the valve at the bottom of the cylinder for 5 seconds to purge the air in the charge hose, then fully tighten the charge hose with push pin Handle Lo to the service port of 3-way valve..
- **6.** Place the charging cylinder onto an electronic scale and record the starting weight.
- **7.** Fully open the Handle Lo manifold valve, 2- and 3-way valves.

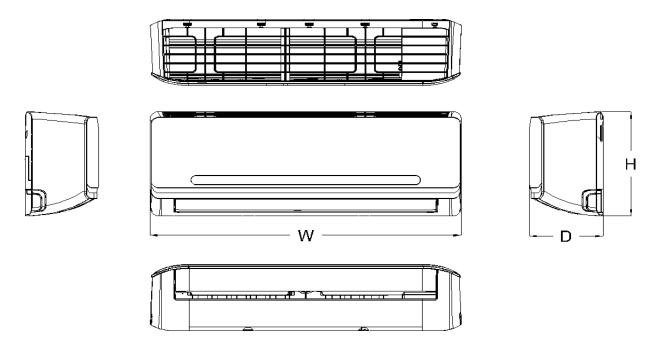
- **8.** Operate the air conditioner in cooling mode to charge the system with liquid refrigerant.
- **9.** When the electronic scale displays the correct weight (refer to the gauge and the pressure of the low side to confirm, the value of pressure refers to chapter Appendix), turn off the air conditioner, then disconnect the charge hose from the 3-way service port immediately.
- **10.** Mount the caps of service port and 2- and 3-way valves.
- **11.** Use a torque wrench to tighten the caps to a torque of 18 N.m.
- 12. Check for gas leakage.

Indoor Unit Disassembly

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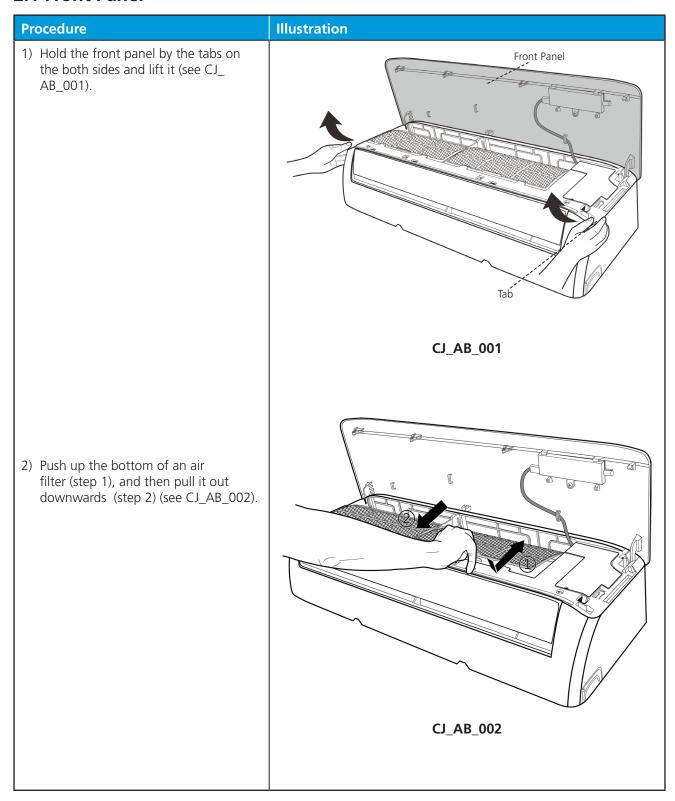
1. Dimension

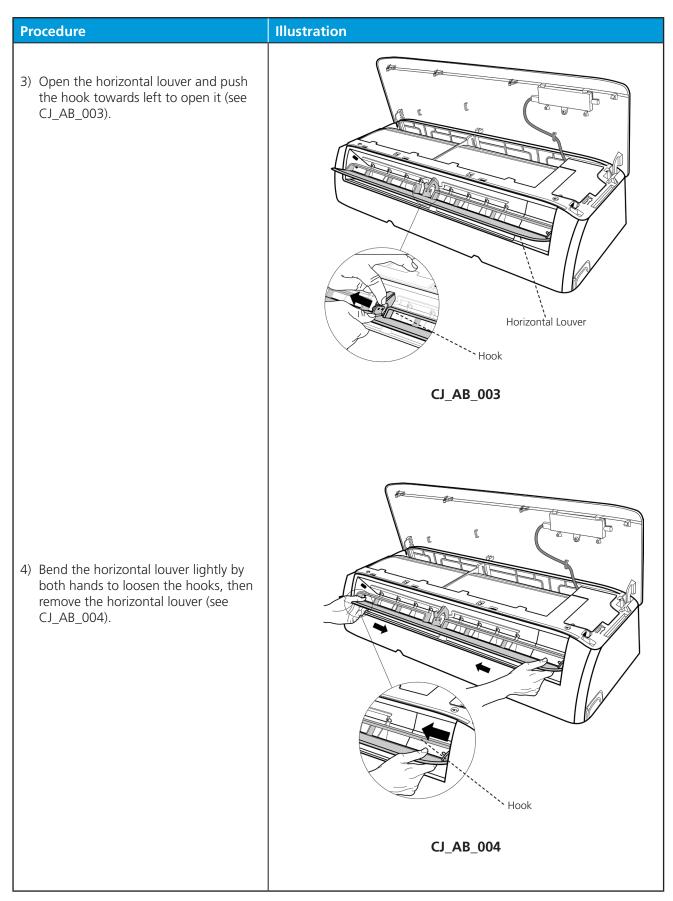


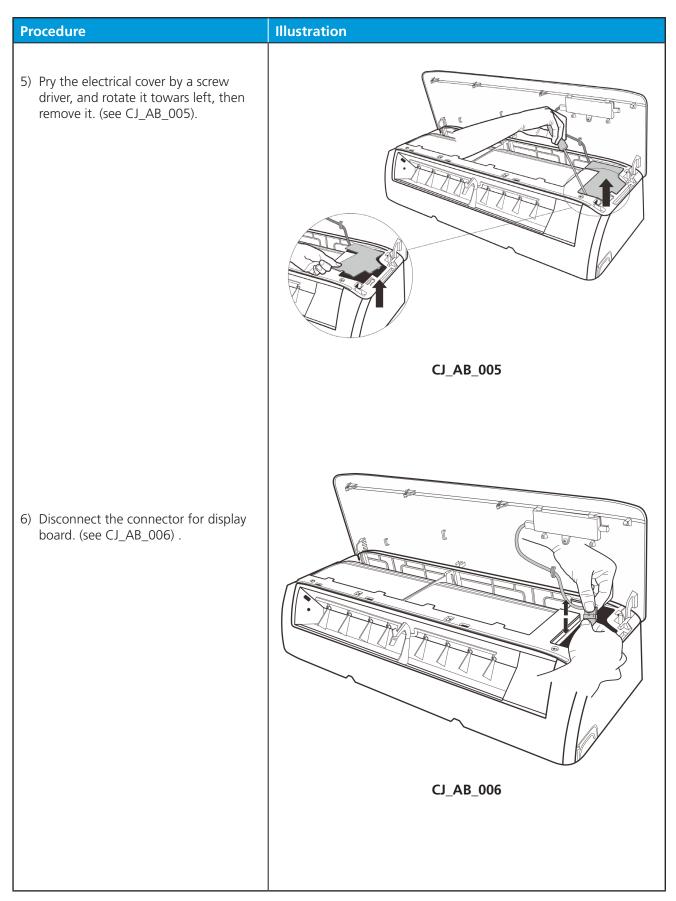
Capacity	Body Code	W(mm)	D(mm)	H(mm)
7K~9K	А	722	187	290
9K~12K	В	802	189	297
12K~18K	D	965	215	319
18K~24K	Е	1080	226	335
27K~36K	F	1259	282	362
30K~36K	G	1350	272	365

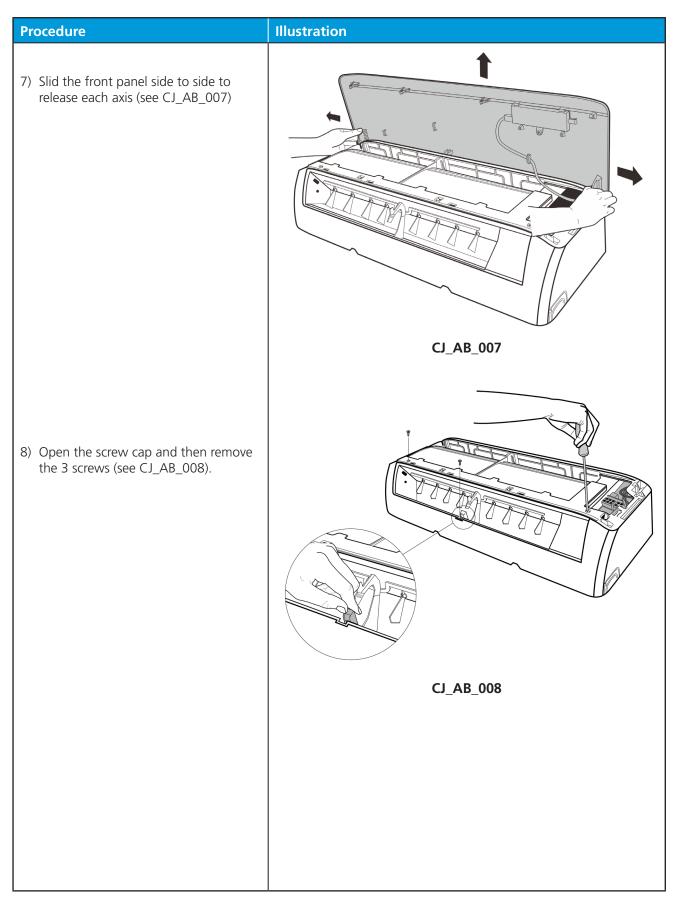
2. Indoor Unit Disassembly

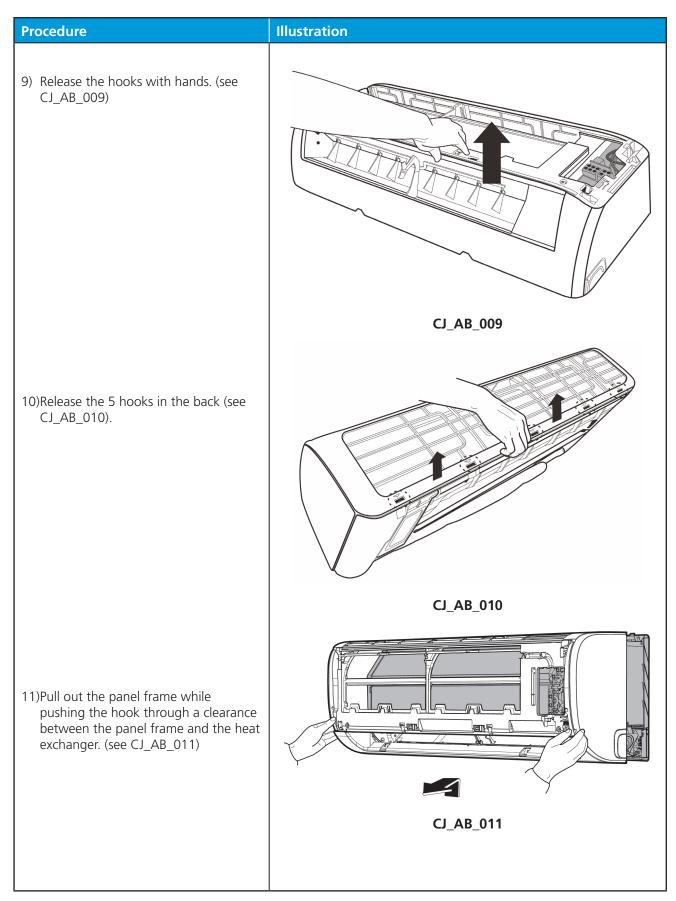
2.1 Front Panel







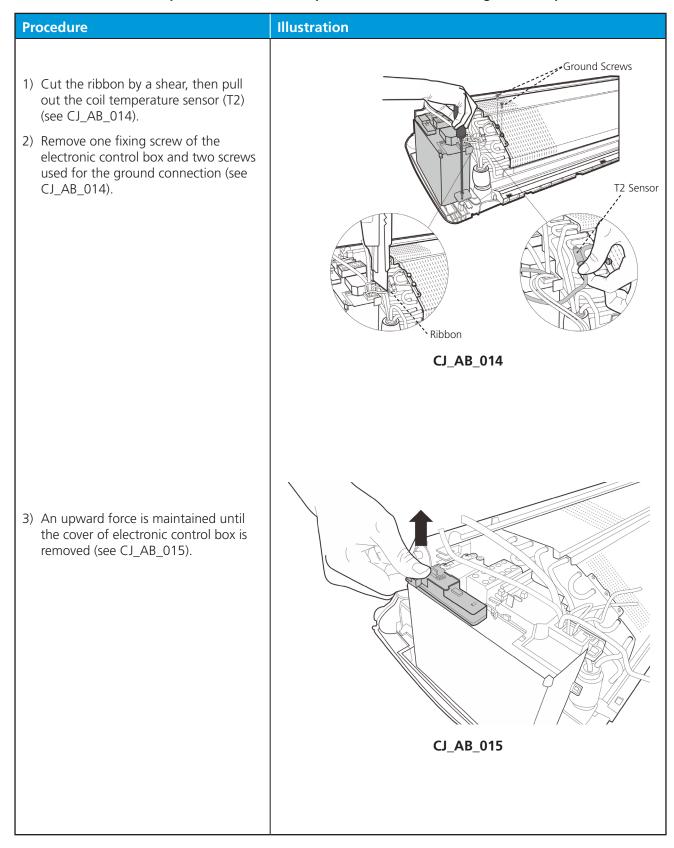




Procedure Illustration 12)Release the 5 hooks of the vertical blades, then pull the vertical blades rightward and remove it (see CJ_ AB_012). CJ_AB_012 13)Remove 1 screw of the display board. (see CJ_AB_013). 14)Rotate the display board in the direction shown in the right picture. (see CJ_AB_013). CJ_AB_013

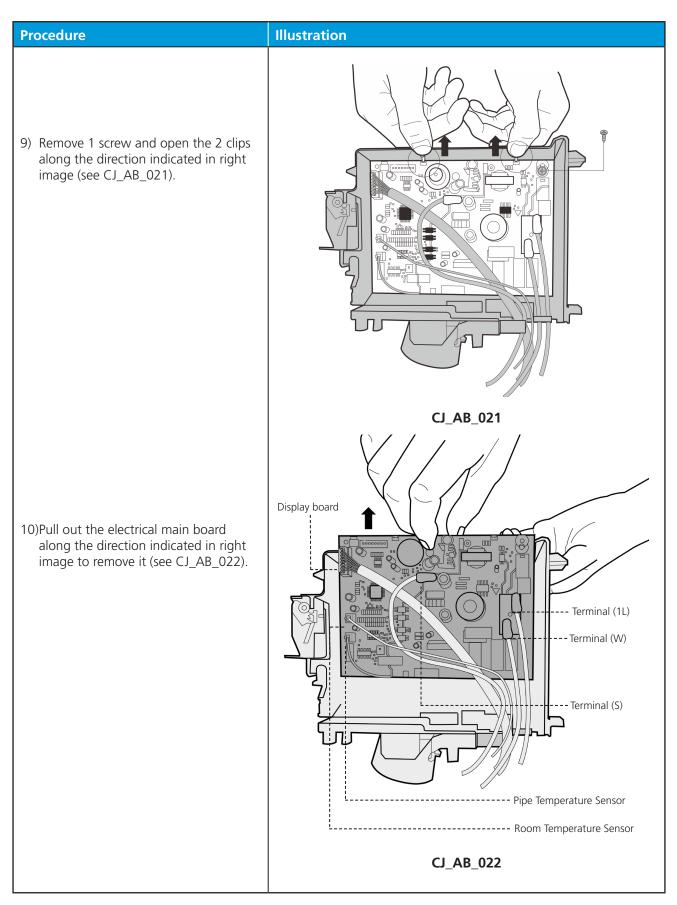
2.2 Electrical parts (Antistatic gloves must be worn.)

Note: Remove the front panel (refer to 1. Front panel) before disassembling electrical parts.



Procedure	Illustration
4) Remove the fixed devices of the connectors (see CJ_AB_016).	
	CJ_AB_016
5) Disconnect the connectors of fan motor, the step motor and the T2 sensor (see CJ_AB_017).	
	CJ_AB_017
6) Open the left side plate of electronic control box (see CJ_AB_018).	
	CJ_AB_018

Procedure Illustration 7) Open the two clips on the front of the electric box. (see CJ_AB_019) CJ_AB_019 8) Open the upper cover plate of electronic control box (see CJ_ AB_020). CJ_AB_020



2.3 Evaporator

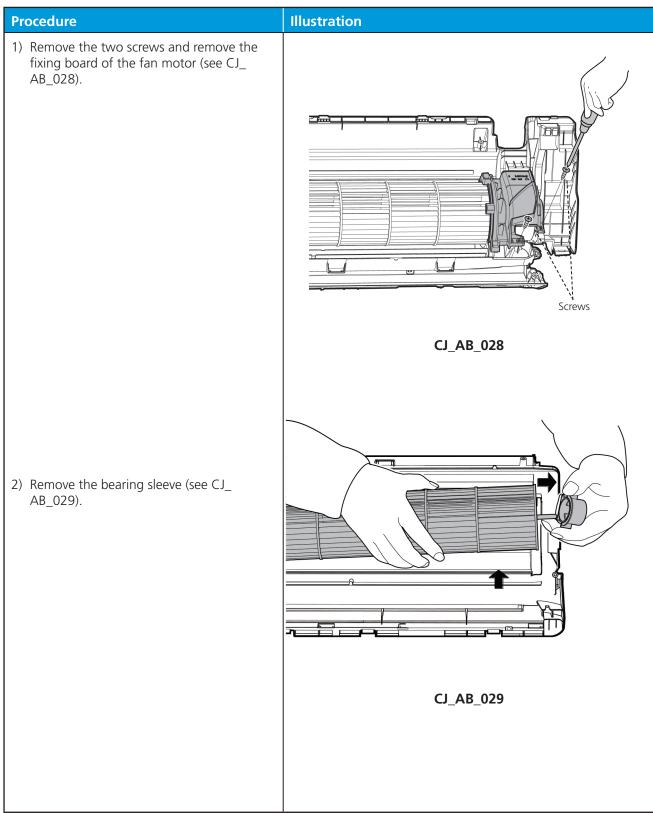
Note: Remove the front panel and electrical parts (refer to 1. Front panel and 2. Electrical parts) before disassembling evaporator.

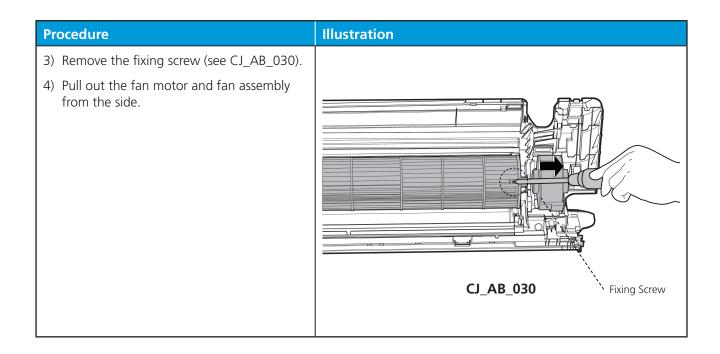
Procedure	Illustration
Disassemble the pipe holder located at the rear of the unit (see CJ_AB_023).	CJ_AB_023
2) Remove the 1 screws on the evaporator located at the fixed plate (see CJ_AB_024).	CJ_AB_024

Procedure	Illustration
3) Release the hook on the evaporator (see CJ_AB_025).	
	CJ_AB_025
Remote the one screw on the evaporator located at the fixed plate (see CJ_AB_026).	
	CJ_AB_026
4) Pull out the evaporator (see CJ_AB_027).	
	CJ_AB_027

2.4 Fan motor and fan

Note: Remove the front panel, electrical parts and evaporator (refer to 1. Front panel, 2. Electrical parts, and 3. Evaporator). before disassembling fan motor and fan.





2.5Step motor

Note: Remove the front panel and electrical parts (refer to 1. Front panel, 2. Electrical parts) before disassembling step motor.

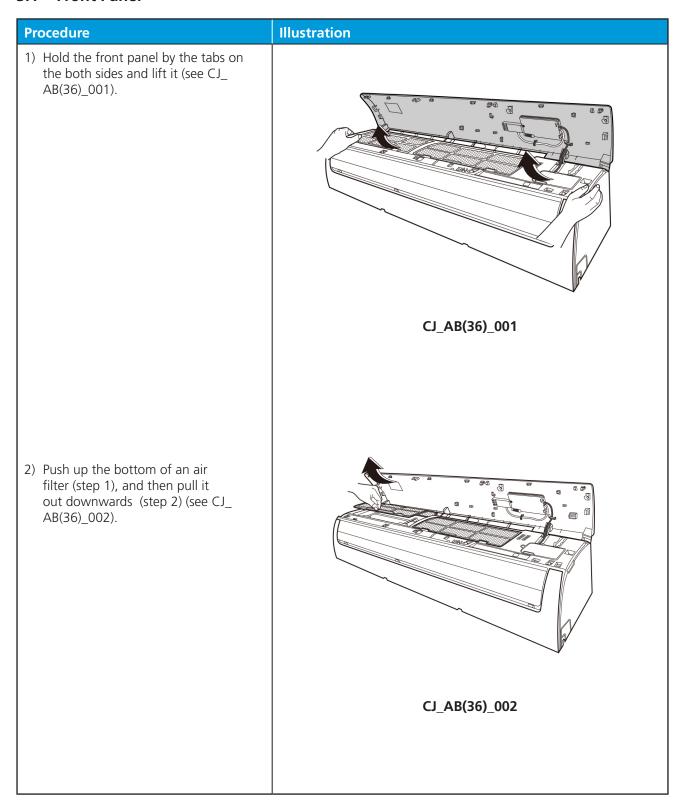
Procedure	Illustration
Remove the two screws, then remove the stepping motor (see CJ_AB_031).	Stepping Motor
	CJ_AB_031

2.6 Drain Hose

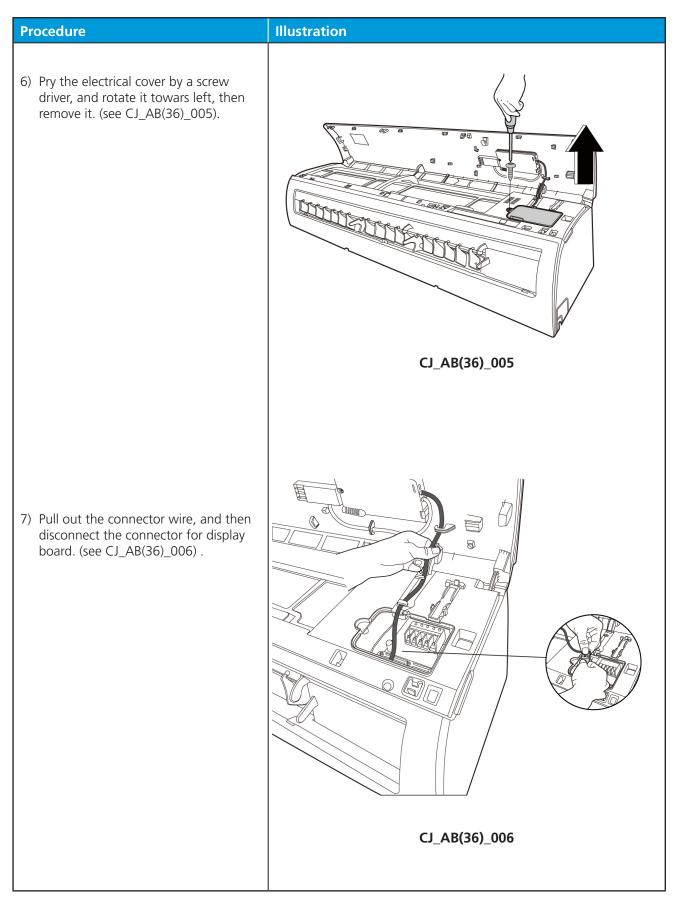
Procedure	Illustration
Rotate the fixed wire clockwise indicated in right image (see CJ_AB_032).	
	CJ_AB_032
2) Pull up the drain hose to remove it (see CJ_AB_033).	
	CJ_AB_033

3. Indoor Unit Disassembly(27k~36k)

3.1 Front Panel



Procedure Illustration 3) Open the horizontal louver(below) and bend the louver lightly to loosn the leftmost hook, then push the hook towards right to loosn the sencond hook. (see CJ_AB(36)_003). 4) Remove the horizontal louver(below) towords left.(see CJ_AB(36)_003). CJ_AB(36)_003 5) Remove the horizontal louver(above) with the same way.(see CJ_ AB(36)_004). CJ_AB(36)_004



Procedure Illustration 8) Slid the front panel side to side to release each axis (see CJ_AB(36)_007) CJ_AB(36)_007 9) Open the screw caps and then remove the 4 screws. (see CJ_AB(36)_008). 10)Remove the 4 screws fixing the panel frame.(see CJ_AB(36)_008). CJ_AB(36)_008

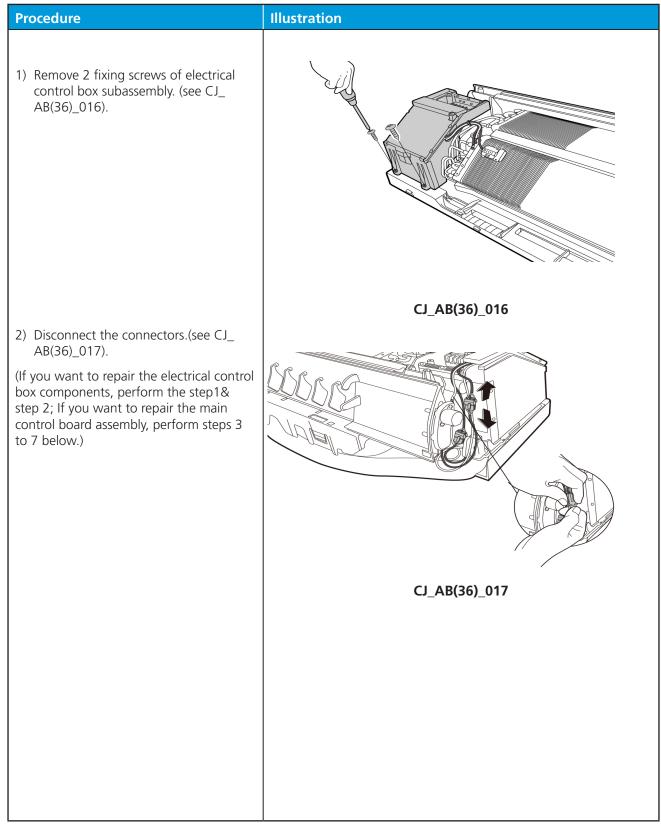
Procedure	Illustration
11)Release the hooks with hands. (see CJ_AB(36)_009)	
	CJ_AB(36)_009
12)Release the 5 hooks in the back (see CJ_AB(36)_010).	
	CJ_AB(36)_010

Procedure	Illustration
13)Pull out the panel frame while pushing the hook through a clearance between the panel frame and the heat exchanger. (see CJ_AB(36)_011)	
14)Remove 1 screw of the display board. (see CJ_AB(36)_012).	CJ_AB(36)_011

Procedure	Illustration
15)Rotate the display board in the direction shown in the right picture. (see CJ_AB(36)_013)	
	CJ_AB(36)_013
16)Remove 1 screw of the wifi module . (see CJ_AB(36)_014).	
	CJ_AB(36)_014
17)Rotate the wifi module in the direction shown in the right picture. (see CJ_AB(36)_015)	
	CJ_AB(36)_015

3.2 Electrical parts (Antistatic gloves must be worn.)

Note: Remove the front panel (refer to 1. Front panel) before disassembling electrical parts.



Procedure Illustration 3) Cut the ribbon by a shear, then pull out the coil temperature sensor (T2) (see CJ_AB(36)_018). 4) Remove one fixing screw of the electronic control box and two screws used for the ground connection (see CJ_AB(36)_018). 5) Remove fixed clamp of temperature sensor (see CJ_AB(36)_018). CJ_AB(36)_018

Procedure	Illustration
6) Pull out the electrical main board along the direction indicated in right image. (see CJ_AB(36)_019).	
7) Disconnect the connectors and remove main control board. (see CJ_AB(36)_020).	CJ_AB(36)_019 CJ_AB(36)_020

3.3 Evaporator

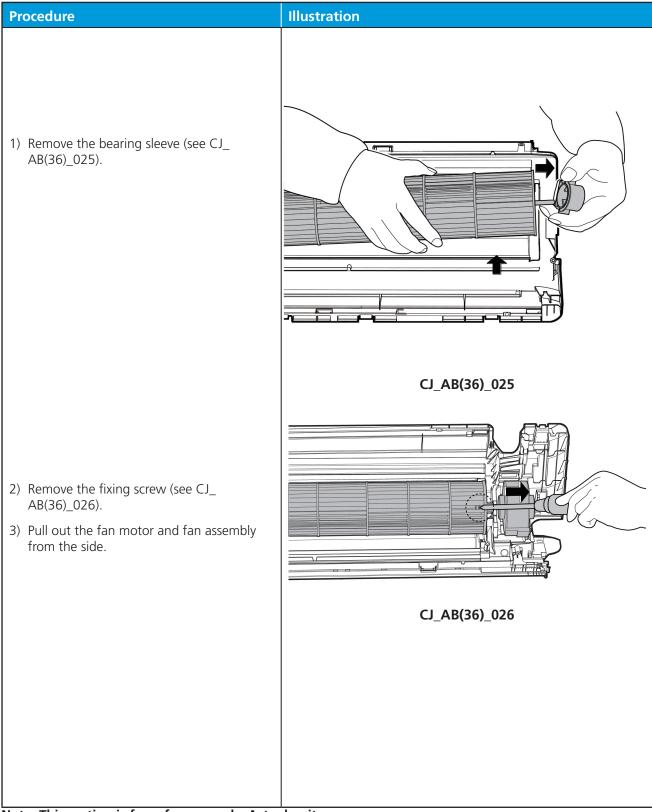
Note: Remove the front panel and electrical parts (refer to 1. Front panel and 2. Electrical parts) before disassembling evaporator.

Procedure	Illustration
Procedure 1) Disassemble the pipe holder located at the rear of the unit (see CJ_AB(36)_021). 2) Remove the 3 screws on the evaporator located at the fixed plate (see CJ_AB(36)_022).	CJ_AB(36)_022

Procedure	Illustration
3) Remote the 4 screws fixing the fan motor cover (see CJ_AB(36)_023).	
4) Pull out the evaporator (see CJ_AB(36)_024).	CJ_AB(36)_023
	CJ_AB(36)_024

3.4 Fan motor and fan

Note: Remove the front panel, electrical parts and evaporator (refer to 1. Front panel, 2. Electrical parts, and 3. Evaporator). before disassembling fan motor and fan.



3.5 Step motor

Note: Remove the front panel and electrical parts (refer to 1. Front panel, 2. Electrical parts) before disassembling step motor.

Procedure	Illustration
1) Remove the 3 screws, then remove the horizontal swing motor(above)(see CJ_AB(36)_027). AB(36)_027).	
	CJ_AB(36)_027
 2) Remove the 2 screws, then remove the horizontal swing motor(below)(see CJ_AB(36)_028) 3) Remove 1 screw, then remove the ionizer generator (see CJ_AB(36)_028).(for some units) 	CJ_AB(36)_028

Procedure	Illustration
4) Remove 1 screw, then remove the Positive and negative ion generator. (see CJ_ AB(36)_029).(for some units)'	
	CJ_AB(36)_029
5) Remove 2 screws, then remove the vertical swing motor (see CJ_AB(36)_030).(for some units)	
	CJ_AB(36)_030

2.6 Drain Hose

