



FOREST ON/OFF SERIES

SERVICE MANUAL

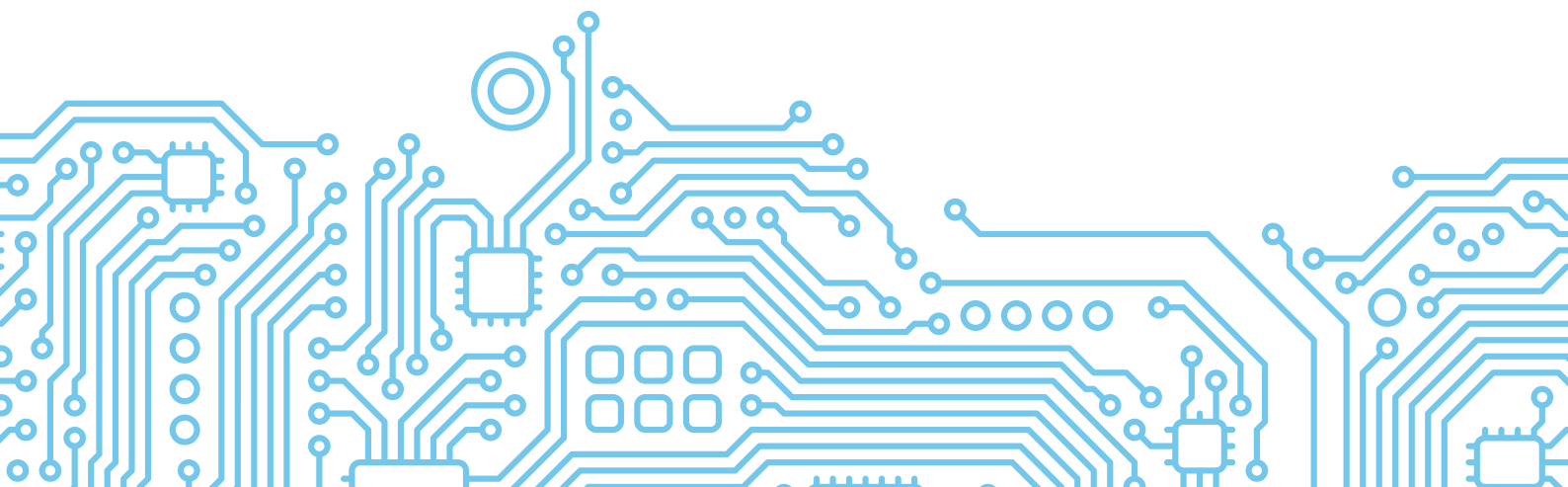
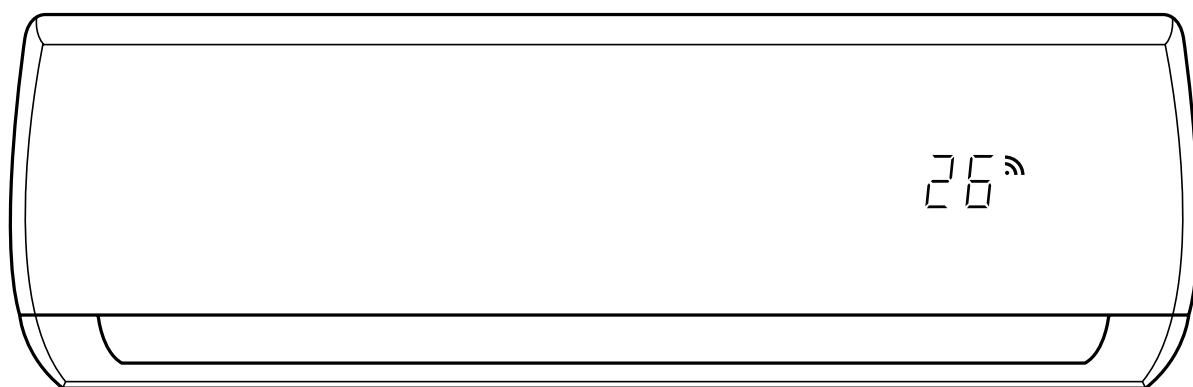


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Caution: Risk of fire
(Required for R32/R290
units only)

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.

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 system remote 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 de-commissioned 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 and outdoor unit model.

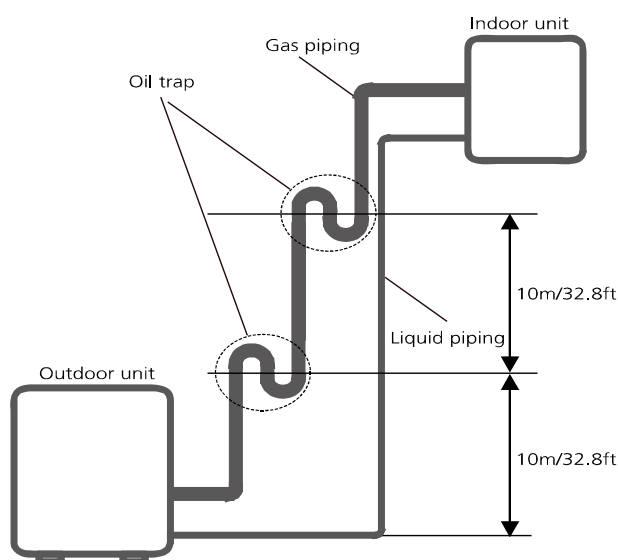
Indoor Unit Model	Outdoor Unit Model	Capacity (Btu)	Power Supply
MWECOT09S	MRECOT09AS	9k	220V,60Hz, 1Phase
MWECOT12SA	MRECOT12ASA	11k	115V,60Hz, 1Phase
MWECOT12S	MRECOT12AS	12k	220-230V~, 60Hz, 1Phase
MWECOT18S	MRECOT18AS	18k	
MWECOT24S	MRECOT24AS	24k	

2. Pipe Length and Drop Height

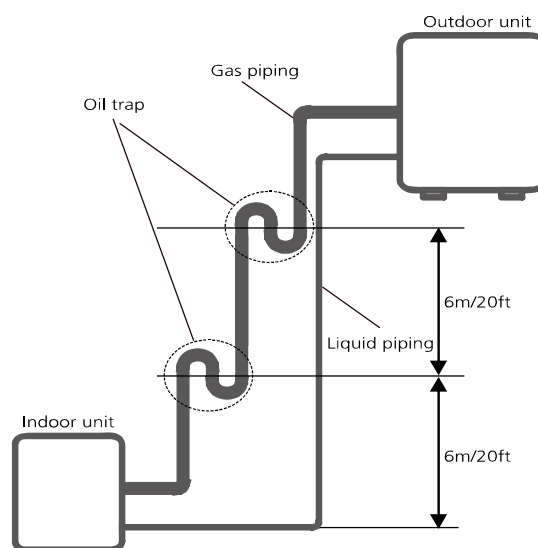
The length and elevation of connection pipe are shown in the table below. If the pipe length exceeds max pipe length, additional refrigerant should be charged to ensure nominal cooling/heating capacity.

Capacity(Btu)	Standard Length	Max Pipe Length	Max Elevation	Additional Refrigerant
<18k	5m (16.4ft)	20m (65.6ft)	8m (26.2ft)	15g/m (0.16oz/ft)
18k		25m (82ft)	10m (32.8ft)	
24k				30g/m (0.32oz/ft)

If oil flows back into the outdoor unit's compressor, this might cause liquid compression or deterioration of oil return. Oil traps in the rising gas pipe can prevent this.



1. Indoor unit is installed higher than outdoor unit



2. Outdoor unit is installed higher than indoor unit

If indoor unit is installed higher than outdoor unit, oil trap should be set every 10m(32.8ft) of vertical distance.

If the outdoor unit is installed higher than the indoor unit, proper oil should return to the compressor along with the suction of refrigerant to keep lubrication of compressor. If the suction flow velocity drops below 7.62m/s(1500fpm (feet per minute)), oil won't return to the compressor. An oil trap should be installed every 6m(20ft) of vertical distance.

3. Electrical Wiring Diagrams

Indoor and outdoor unit wiring diagram

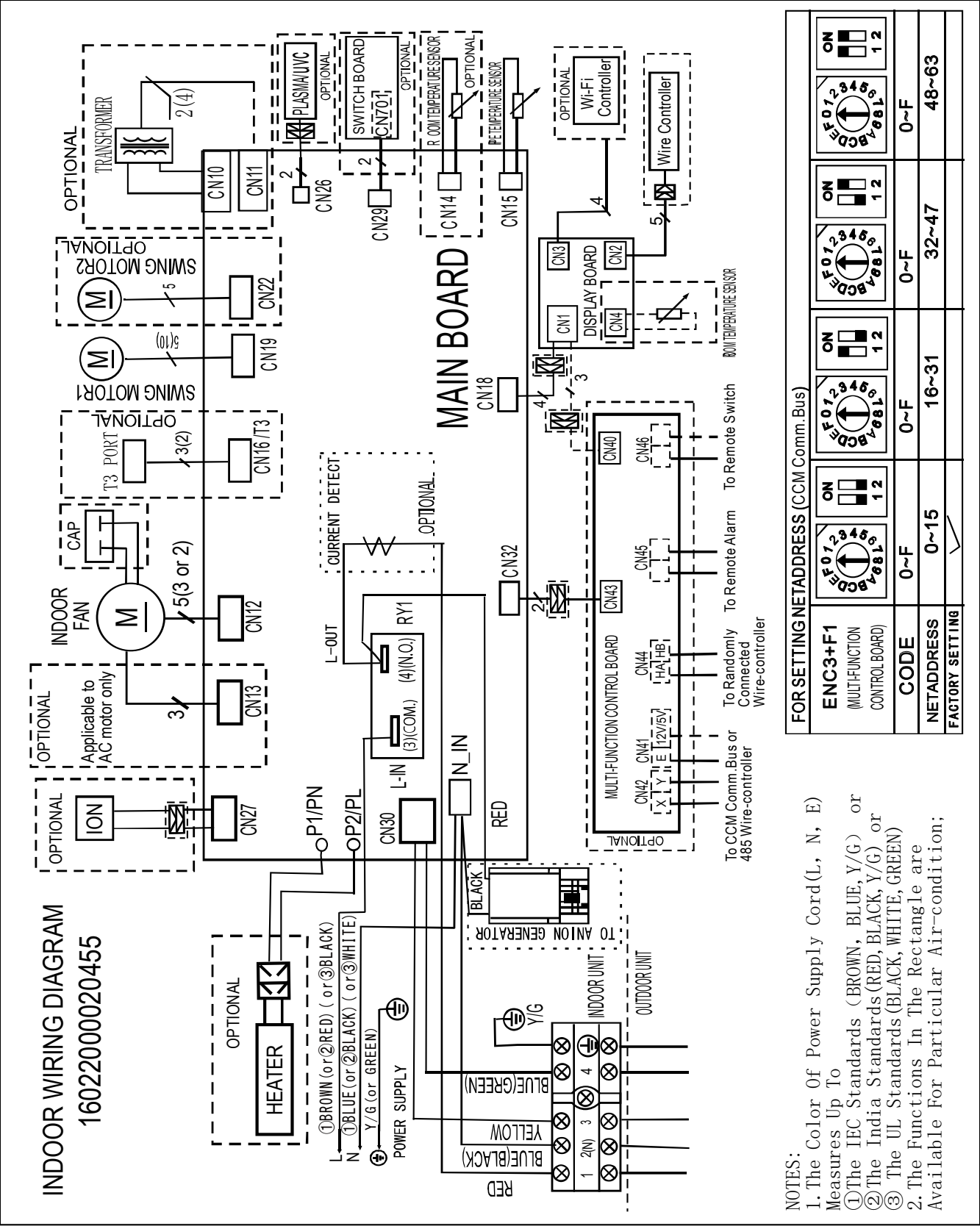
Indoor Unit		Outdoor Unit	
IDU Model	IDU Wiring Diagram	ODU Model	ODU Wiring Diagram
MWECOT09S	16022000020455	MRECOT09AS	16022000033610
MWECOT12ASA		MRECOT12ASA	
MWECOT12AS	16022000020229	MRECOT12AS	16022000033609
MWECOT18AS		MRECOT18AS	
MWECOT24AS		MRECOT24AS	

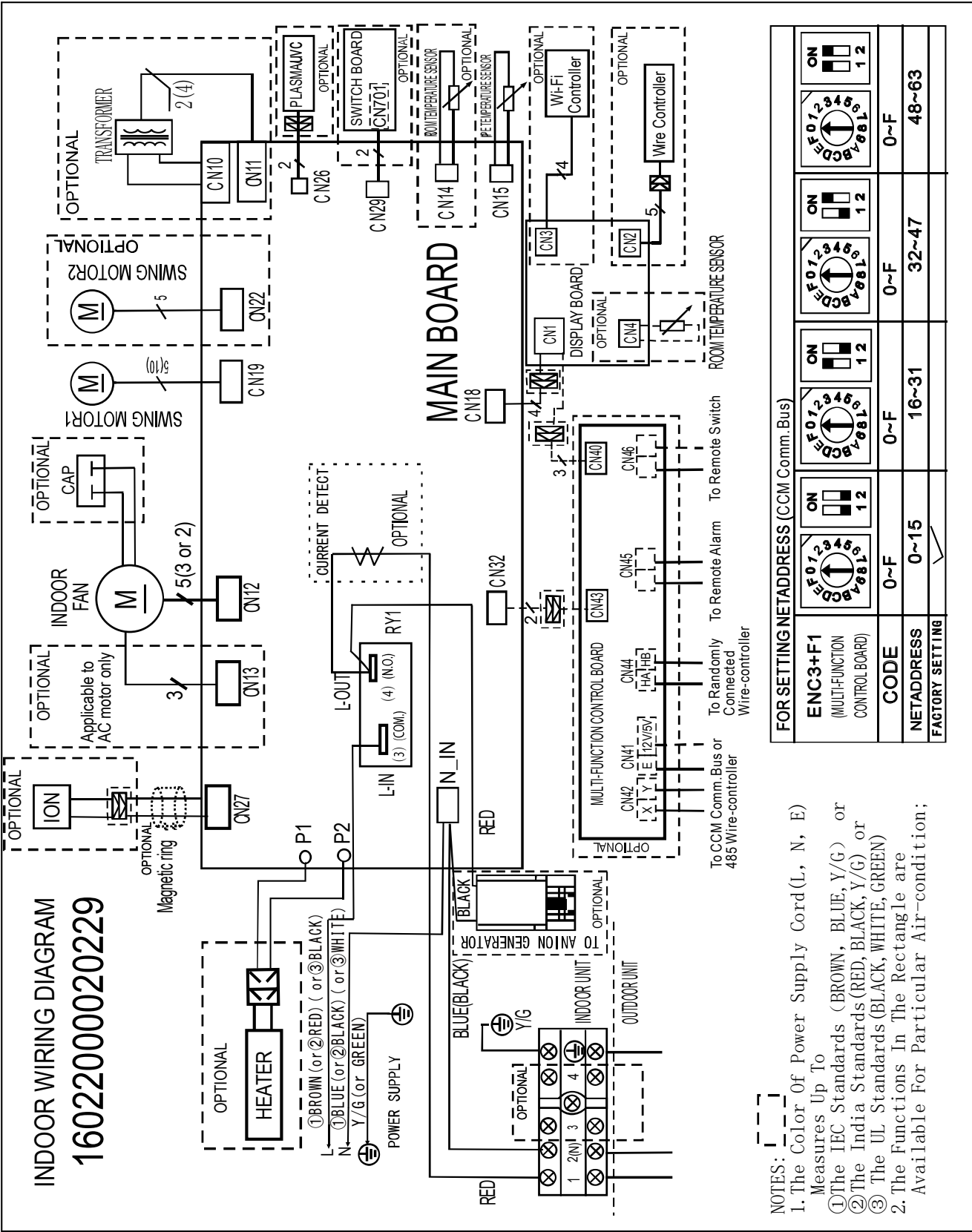
Indoor unit abbreviations

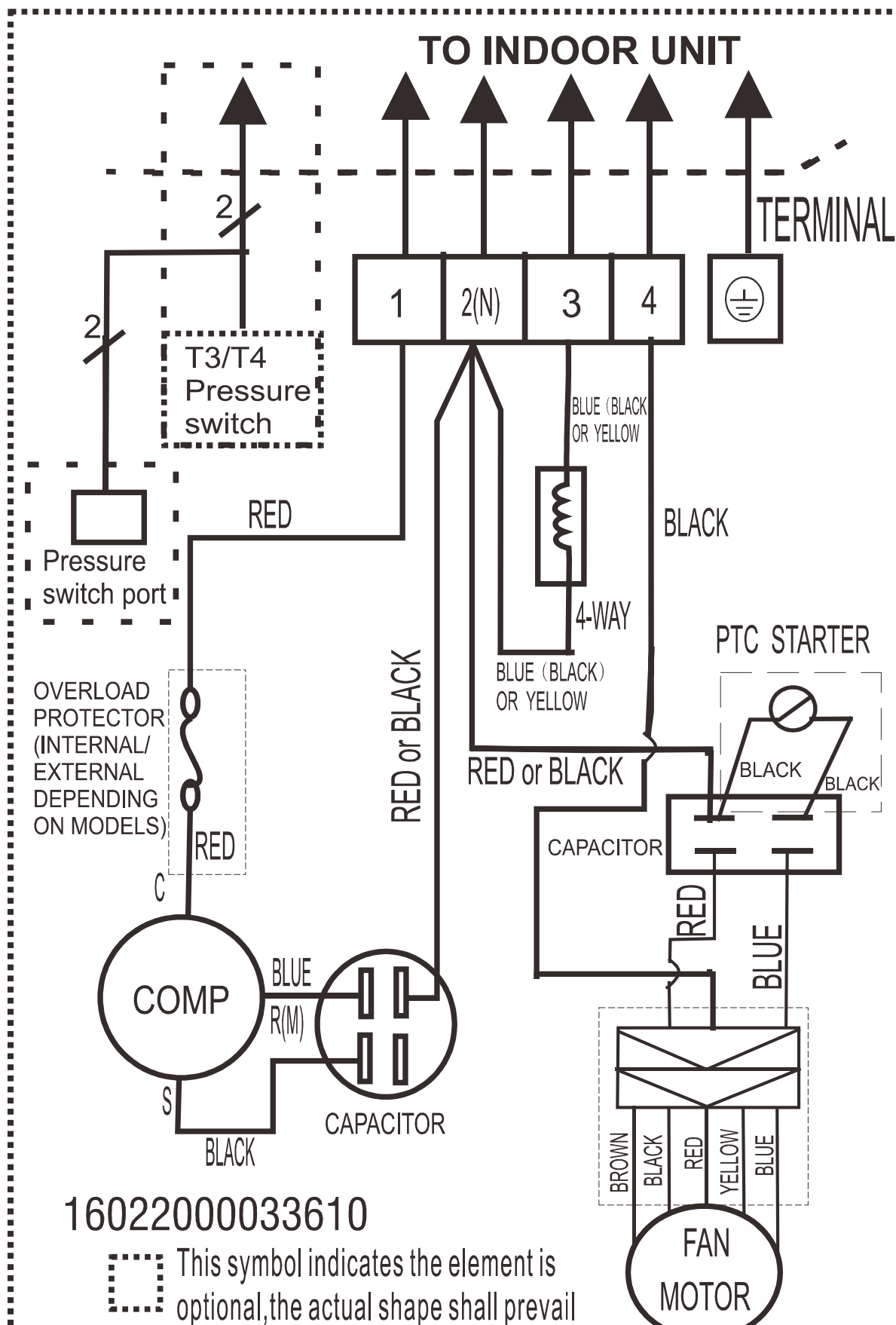
Abbreviation	Paraphrase
Y/G	Yellow-Green Conductor
ION	Positive and Negative Ion Generator
CAP	Capacitor
PLASMA	Electronic Dust Collector
L	LIVE
N	NEUTRAL
Heater	The Electric Heating Belt of Indoor Unit
T1	Indoor Room Temperature
T2	Coil Temperature of Indoor Heat Exchanger

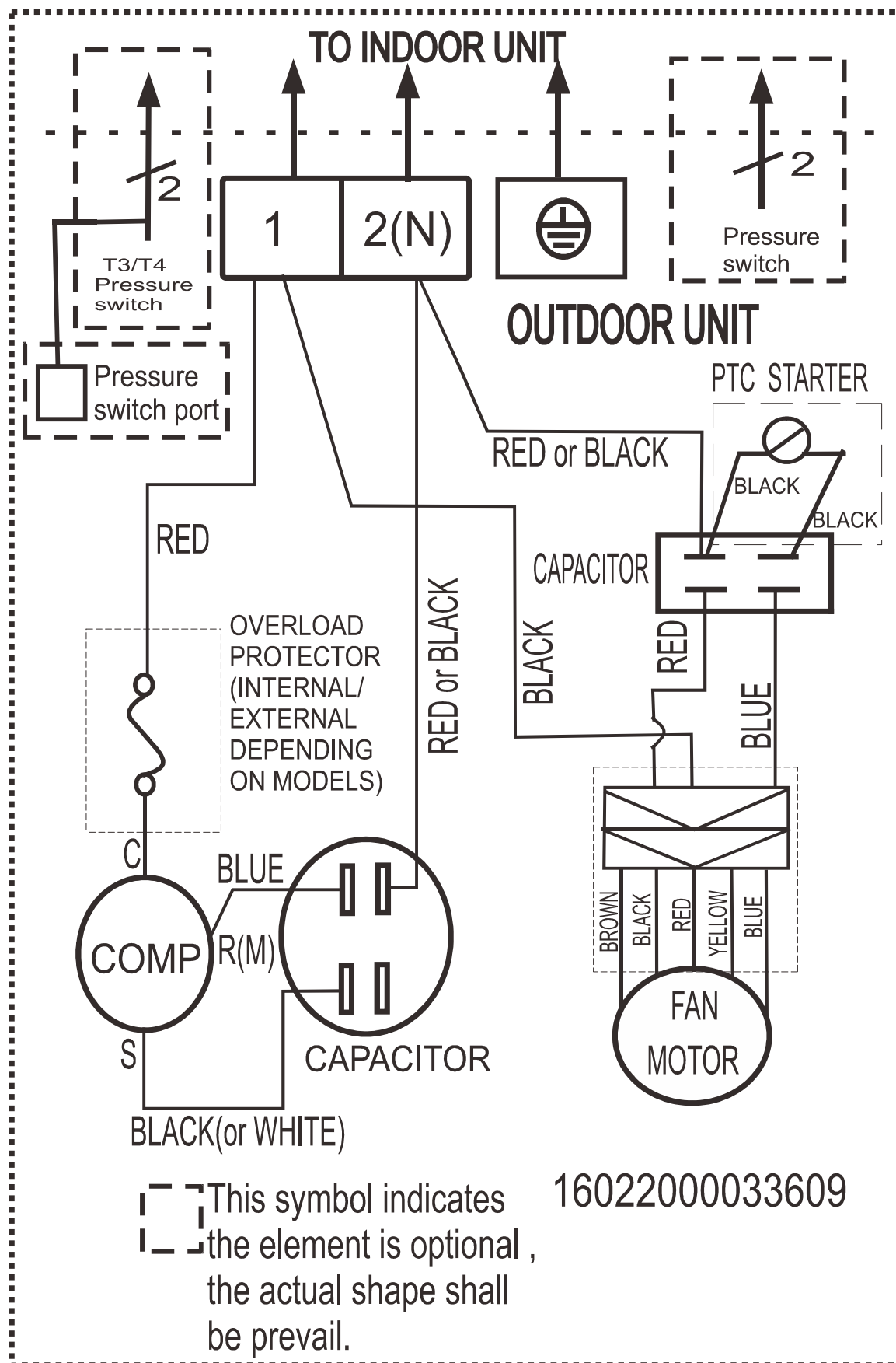
Outdoor unit abbreviations

Abbreviation	Paraphrase
4-WAY	Gas Valve Assembly/4-WAY VALVE
AC-FAN	Alternating Current FAN
DC-FAN	Direct Current FAN
CT1	AC Current Detector
COMP	Compressor
T3	Coil Temperature of Condenser
T4	Outdoor Ambient Temperature
L-PRO	Low Pressure Switch
H-PRO	High Pressure Switch









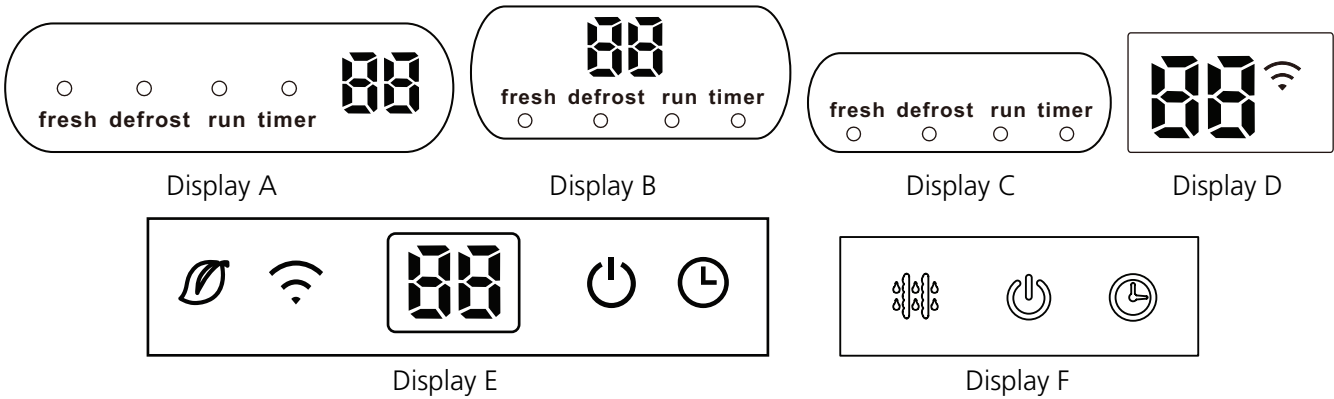
Product Features

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1. Display Function

Unit display functions



Display		Function
fresh or		Fresh(available on select units only)
defrost or		Defrost
run or		When the unit is on
timer or		When TIMER is on
		WiFi control (available on select units only)
	Temperature value	Temperature
	00 (3s)	Activation of Timer ON, Fresh, Swing, Turbo, or Silent
	0F (3s)	Cancellation of Timer OFF, Fresh, Swing, Turbo, or Silent
	dF	Defrost
	cF	Warming in heating mode
	SC	Self-clean (available on select units only)
	FP	Heating in room temperature under 8°C
	E→C→0→set temperature→E gradually illuminates to 00 in one second intervals	ECO function (available on select units only)

Note: Please select the display function according to your purchase product.

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 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.

Indoor fan delayed operation

- When the unit starts, the louver is automatically activated and the indoor fan will operate after a period of 4 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.

Refrigerant leakage detection

This function is active only when cooling mode is selected. It will detect if the compressor is being damaged by refrigerant leakage or by compressor overload. This is measured using the coil temperature of evaporator T2 when the compressor is in operation.

3. Basic Functions

3.1 Table

Functions		Heating Mode		Auto Mode
		Defrosting Mode		
Cases		Case1:T1 and T2	Case 2:T3	A=2°C(3.6°F), B=-3°C(-5.4°F)
Models	9k~24k cooling only	/	/	✓
	9k~12k heat pump	✓		✓

Note: The detailed description of case 1 or case 2 is shown in the following function sections(from 3.5 to 3.6).

3.2 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

In this manual, such as I_{defrost} TE1, TE2...etc., they are well-setting parameter of EEPROM.

3.3 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, medium, 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(75.2°F).

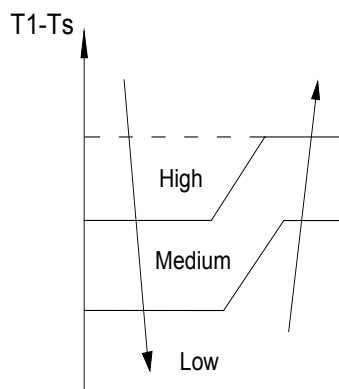
3.4 Cooling Mode

3.4.1 Compressor Control

- When indoor room temperature T1 is lower than setting value, the compressor and outdoor fan cease operation.

3.4.2 Indoor Fan Control

- In cooling mode, the indoor fan operates continuously. The fan speed can be set to high, medium, low, turbo or auto.
- The auto fan acts as below rules:



3.4.3 Outdoor Fan Control

Outdoor units just have one single fan speed. The operation of outdoor fan is consistent with the operation of compressor. Except the following situations:

- Condenser high temperature protection
- Current protection

3.4.4 Condenser Temperature Protection(For the units have T3 sensor)

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

3.4.5 Evaporator Temperature Protection

When evaporator temperature drops below a configured value, the compressor and outdoor fan cease operation.

3.5 Heating Mode(Heat pump units)

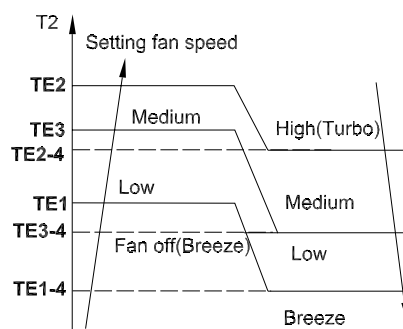
3.5.1 Compressor Control

Once the compressor starts up, it will keep running for 7 minutes, then indoor room temperature T1 is higher than setting value, the compressor and outdoor fan cease operation.

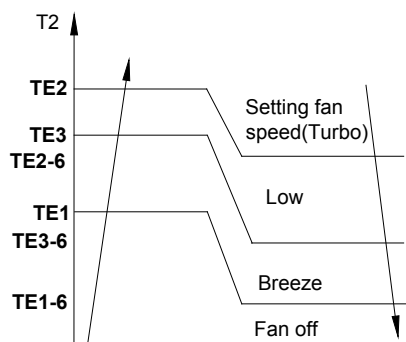
3.5.2 Indoor Fan Control:

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

For 18K and below models:

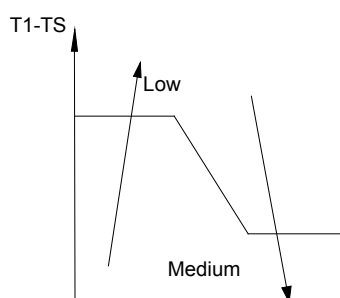


For above 18K models:



NOTE: During temperature rise, medium speed changeover has no requirement of forced running time. But during temperature drop, the high speed must be forced to run for 2 minutes before judging whether to directly turn to the low speed.

- Auto fan action in heating mode:



3.5.3 Outdoor Fan Control:

Outdoor units just have one single fan speed. The operation of outdoor fan is consistent with the operation of compressor. Except the following situations:

- Evaporator high temperature protection
- Defrosting
- Current protection.

3.5.4 Defrosting mode

Case 1:

- The unit enters defrosting mode according to the temperature difference between T2 and T1, as well as the compressor runtime.
- 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 "df" symbol is displayed.
- If any one of the following conditions is satisfied, defrosting ends and the machine switches to normal

heating mode:

- Compressor current is over than I_{defrost} and lasts for 7s
- The defrosting time has reached the setting value.
- $T2 \geq 2^{\circ}\text{C}(3.6^{\circ}\text{F})$ after entering defrosting mode for 3 minutes.
- After entering defrosting mode for 2 minutes, check the value of T2. The minimum temperature of T2 is marked as T2min. If $T2 - T2\text{min} \geq 2^{\circ}\text{C}(3.6^{\circ}\text{F})$ during the following 4 minutes, AC will exit defrosting mode(if $T2 \leq -15^{\circ}\text{C}(5^{\circ}\text{F})$, considers it as $-15^{\circ}\text{C}(5^{\circ}\text{F})$).

Case 2:

- 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 runtime..
- 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 "df" 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 TC2.
 - Unit runs for 10 minutes consecutively in defrosting mode.

3.5.5 Evaporator Temperature Protection

When the evaporator temperature exceeds a preset protection value, the compressor ceases operation.

3.6 Auto-mode

- This mode can be selected with the remote controller and the setting temperature can be changed between $17^{\circ}\text{C} \sim 30^{\circ}\text{C}(62^{\circ}\text{F} \sim 86^{\circ}\text{F})$.
- In auto mode, the machine selects cooling, heating, or fan-only mode on the basis of ΔT ($\Delta T = T1 - TS$).

ΔT	Running mode
$\Delta T > A$	Cooling
$B \leq \Delta T \leq A$	Fan-only
$\Delta T < B$	Heating*

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

- Indoor fan will run at auto fan speed.
- The unit will choose running mode, when
 - received the auto signal from the remote controller;
 - forced-auto mode by pressing manual button;

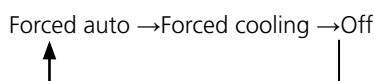
- time on to auto mode;
- the compressor doesn't start in 20 minutes when a running mode is set in auto.

3.7 Drying mode

- Compressor will run for 10 minutes and be off for 5 minutes and loop again and again
- Indoor fan speed is fixed at low 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.
- Low indoor room temperature protection
 - If $T1 < 10^{\circ}\text{C}$ (50°F), the compressor ceases operation until $T1 > 13^{\circ}\text{C}$ (55.4°F)..

3.8 Forced operation function

Press the AUTO/COOL button, the AC will run as below sequence:



- Forced cooling mode:

The compressor and outdoor fan continue to run and the indoor fan runs at low speed. After running for 30 minutes, the AC will switch to auto mode with a preset temperature of 24°C (76°F).

- Forced auto mode:

Forced auto mode operates the same as normal auto mode with a preset temperature of 24°C (76°F).

- The unit exits forced operation when it receives the following signals:
 - Switch on
 - Switch off
 - Timer on
 - Timer off
 - Changes in:
 - mode
 - fan speed
 - sleep mode
 - Follow me

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 (2°F) (to

not higher than 30°C (86°F)) 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 (2°F) (to not lower than 17°C (62.6°F)) 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 8 hours, after which, the unit exits this mode but does not switch off.

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 (76°F).
- 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 Refrigerant Leakage Detection

With this new technology, the display area will show "EC" when the outdoor unit detects refrigerant leakage.

3.12 Ionizer/Plasma (for some models)

When AC powers on and indoor fan is on, press "Fresh" on the remote control to enable the IONIZER function. While this function is active, the Ionizer/Plasma Dust Collector (depending on models) is energized and will help to remove pollen and impurities from the air.

4. Optional Functions

4.1 8°C Heating

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.

4.2 Self clean

- If you press “Self Clean” when the unit is in cooling or drying mode:
 - For cooling models, the indoor unit will run in low fan mode for a certain time, then ceases operation.
 - For heat pump models, the indoor unit will run in fan-only mode, then low heat, and finally in fan-only mode.
- Self Clean keeps the indoor unit dry and prevents mold growth.
- When match with multi outdoor unit, this function is disabled.

4.3 Follow me

- 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.

4.4 Silence

- Press “Silence” on the remote control to enable the SILENCE function. While this function is active, the indoor unit will run in low speed, which reduces noise to the lowest possible level.
- This function is only active in cooling mode.

Maintenance

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1. First Time Installation Check

Air and moisture trapped in the refrigerant system affects the performance of the air conditioner by:

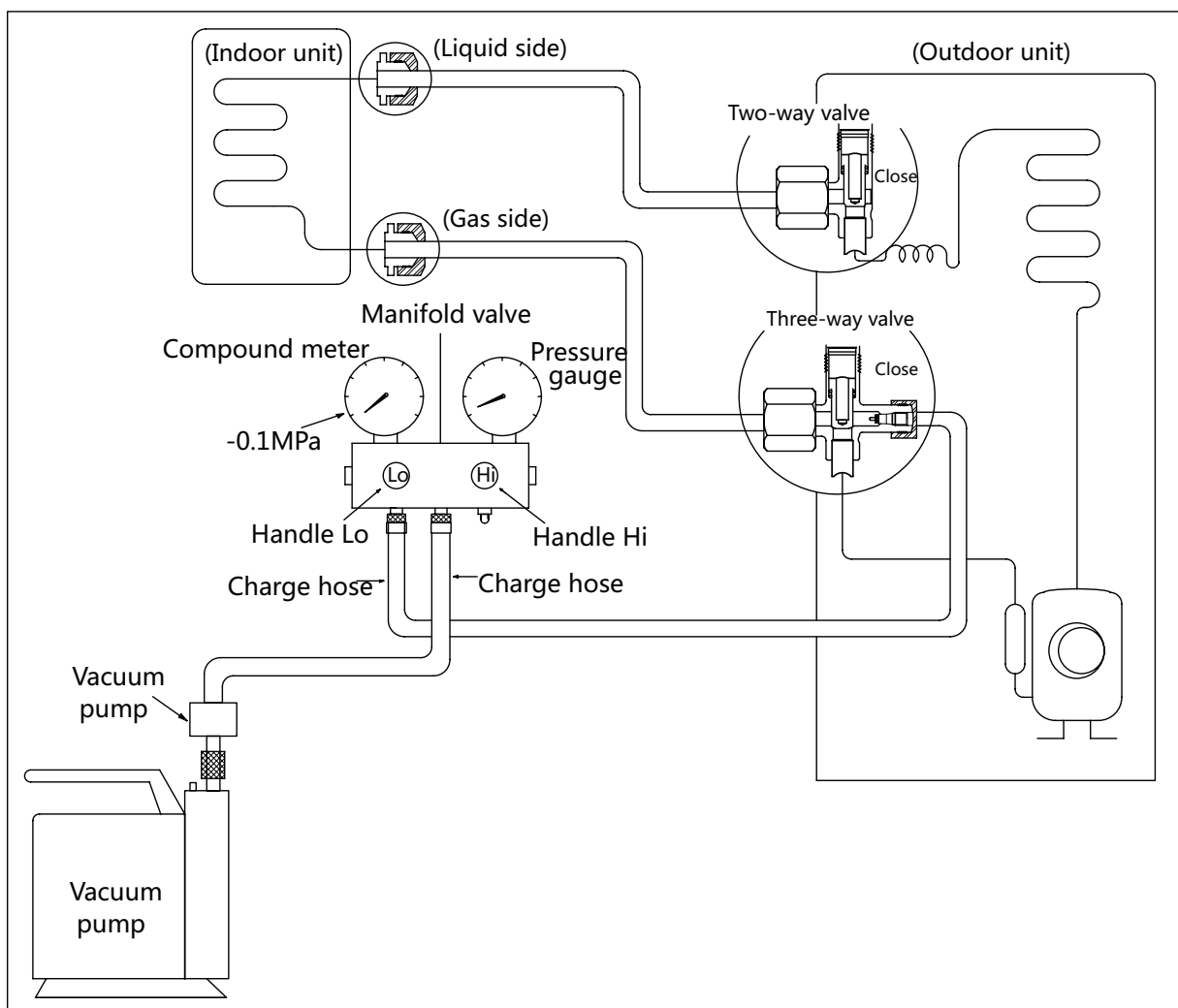
- Increasing pressure in the system.
- Increasing the operating current.
- Decreasing the cooling or heating efficiency.
- Congesting the capillary tubing due to ice build-up in the refrigerant circuit.
- Corroding the refrigerant system.

To prevent air and moisture from affecting the air conditioner's performance, the indoor unit, as well as the pipes between the indoor and outdoor unit, must be leak tested and evacuated.

Leak test (soap water method)

Use a soft brush to apply soapy water or a neutral liquid detergent onto the indoor unit connections and outdoor unit connections. If there is gas leakage, bubbles will form on the connection.

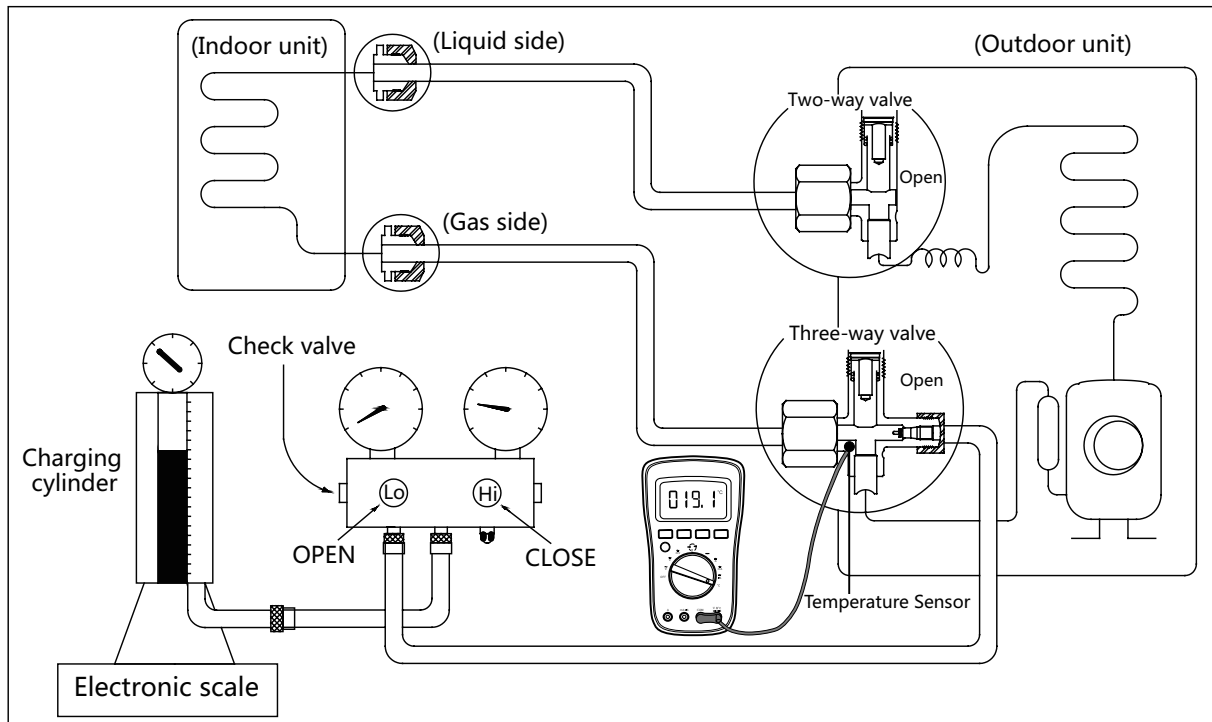
Air purging with vacuum pump



Procedure:

1. Tighten the flare nuts of the indoor and outdoor units, and confirm that both the 2- and 3-way valves are closed.
2. Connect the charge hose with the push pin of Handle Lo to the gas service port of the 3-way valve.
3. Connect another charge hose to the vacuum pump.
4. Fully open the Handle Lo manifold valve.
5. Using the vacuum pump, evacuate the system for 30 minutes.
 - a. Check whether the compound meter indicates -0.1 MPa (14.5 Psi).
 - If the meter does not indicate -0.1 MPa (14.5 Psi) after 30 minutes, continue evacuating for an additional 20 minutes.
 - If the pressure does not achieve -0.1 MPa (14.5 Psi) after 50 minutes, check for leakage.
 - b. If the pressure successfully reaches -0.1 MPa (14.5 Psi), fully close the Handle Lo valve, then cease vacuum pump operations.
6. Loosen the flare nut of the 3-way valve for 6 or 7 seconds and then tighten the flare nut again.
 - a. Confirm the pressure display in the pressure indicator is slightly higher than the atmospheric pressure.
 - b. Remove the charge hose from the 3-way valve.
7. Fully open the 2- and 3-way valves and tighten the cap of the 2- and 3-way valves.

2. Refrigerant Recharge



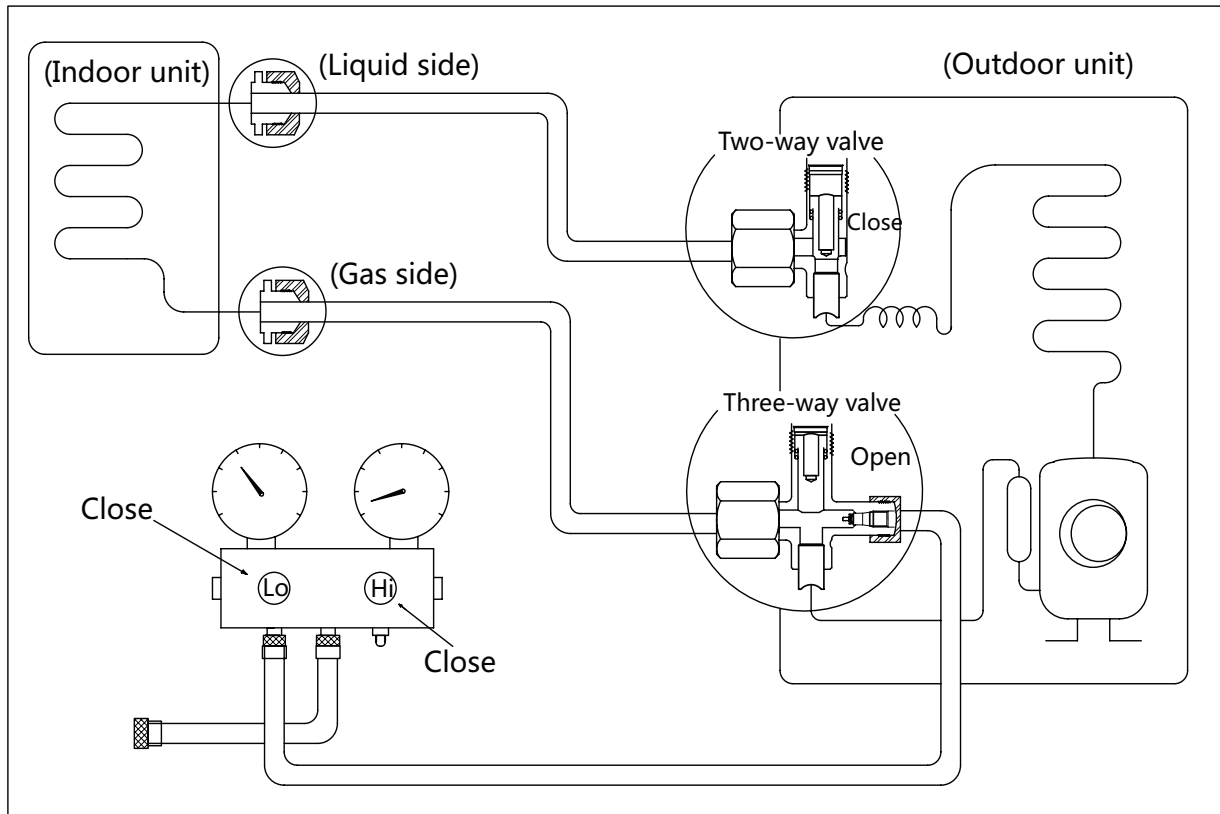
Procedure:

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.

3. Re-Installation

3.1 Indoor Unit

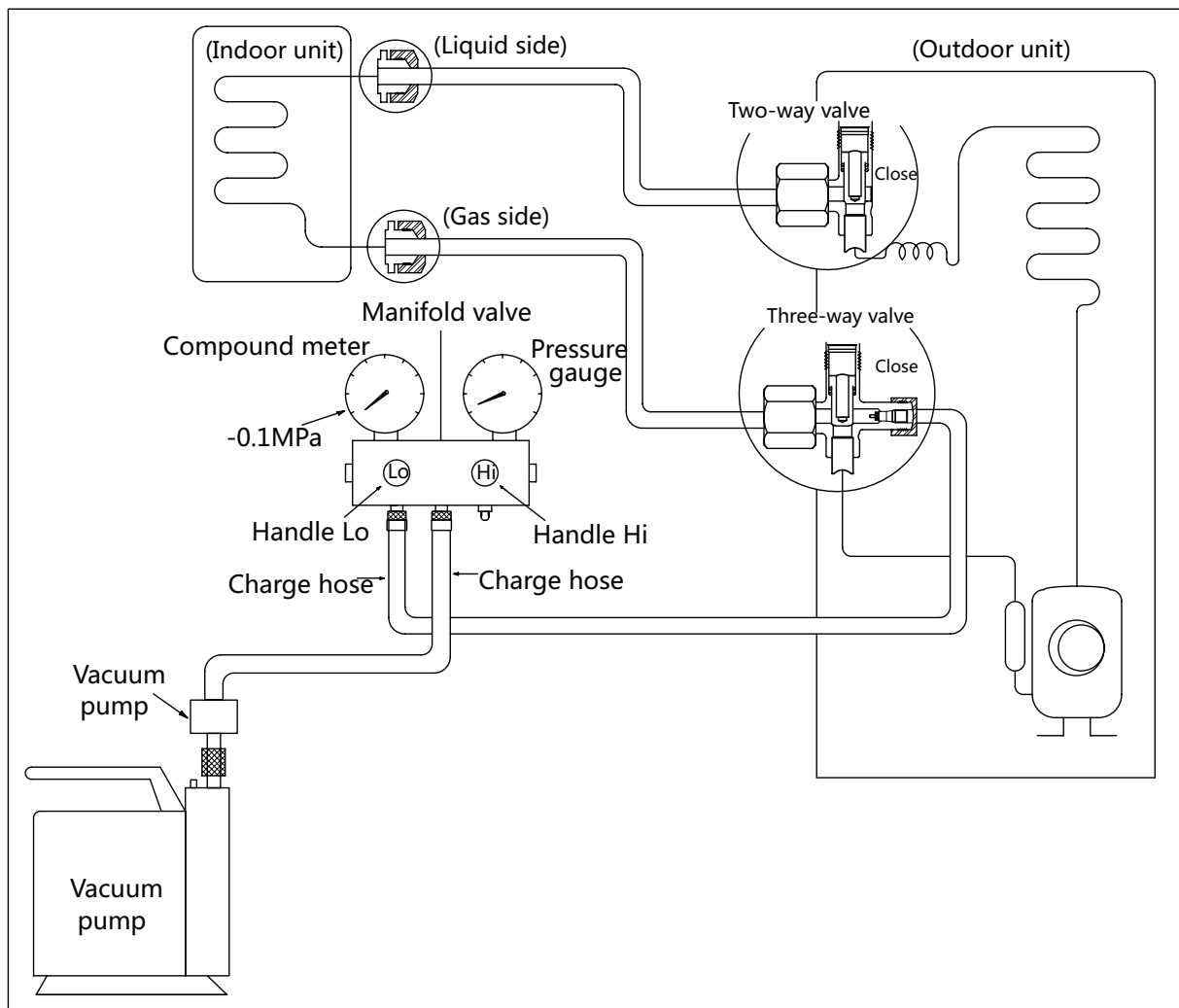
Collecting the refrigerant into the outdoor unit



Procedure:

1. Confirm that the 2- and 3-way valves are opened.
2. Connect the charge hose with the push pin of Handle Lo to the 3-way valve's gas service port.
3. Open the Handle Lo manifold valve to purge air from the charge hose for 5 seconds and then close it quickly.
4. Close the 2-way valve.
5. Operate the air conditioner in cooling mode. Cease operations when the gauge reaches 0.1 MPa (14.5 Psi).
6. Close the 3-way valve so that the gauge rests between 0.3 MPa (43.5 Psi) and 0.5 MPa (72.5 Psi).
7. Disconnect the charge set and mount the caps of service port and 2- and 3-way valves.
8. Use a torque wrench to tighten the caps to a torque of 18 N.m.
9. Check for gas leakage.

Air purging with vacuum pump

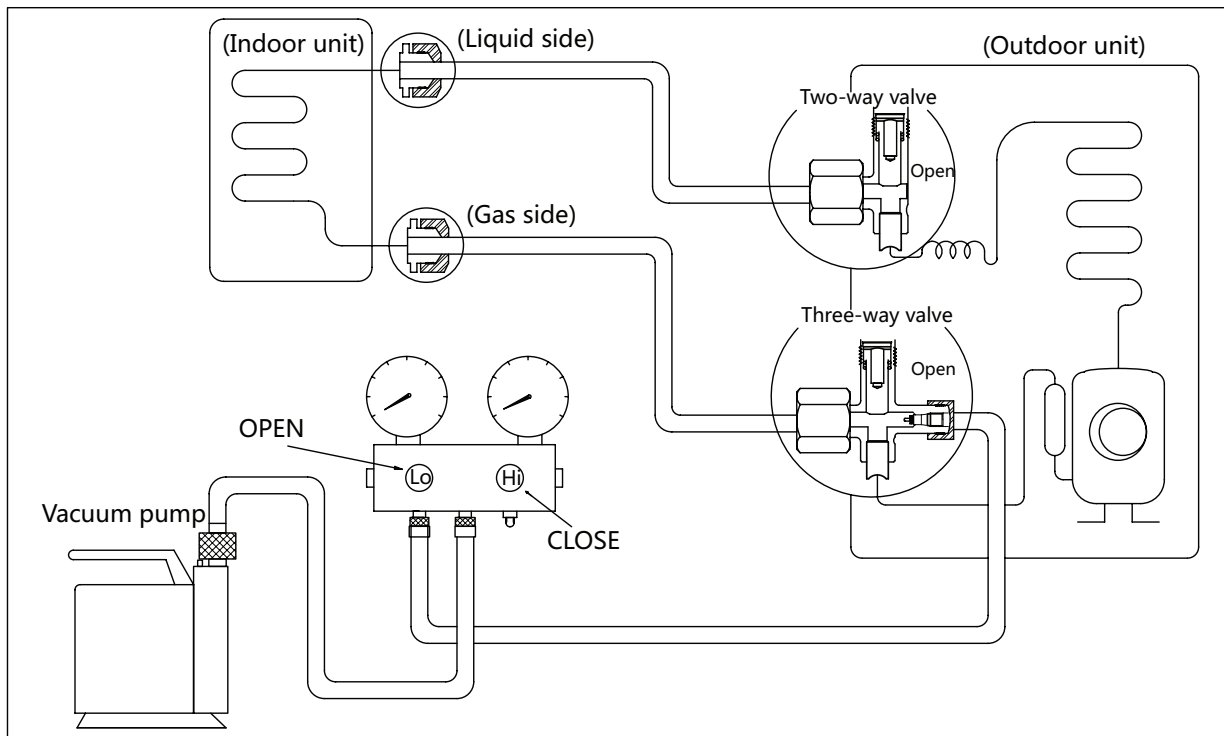


Procedure:

1. Tighten the flare nuts of the indoor and outdoor units, and confirm that both the 2- and 3-way valves are closed.
2. Connect the charge hose with the push pin of Handle Lo to the gas service port of the 3-way valve.
3. Connect another charge hose to the vacuum pump.
4. Fully open the Handle Lo manifold valve.
5. Using the vacuum pump, evacuate the system for 30 minutes.
 - a. Check whether the compound meter indicates -0.1 MPa (14.5 Psi).
 - If the meter does not indicate -0.1 MPa (14.5 Psi) after 30 minutes, continue evacuating for an additional 20 minutes.
 - If the pressure does not achieve -0.1 MPa (14.5 Psi) after 50 minutes, check for leakage.
 - b. If the pressure successfully reaches -0.1 MPa (14.5 Psi), fully close the Handle Lo valve, then cease vacuum pump operations.
6. Loosen the flare nut of the 3-way valve for 6 or 7 seconds and then tighten the flare nut again.
 - a. Confirm the pressure display in the pressure indicator is slightly higher than the atmospheric pressure.
 - b. Remove the charge hose from the 3-way valve.
7. Fully open the 2- and 3-way valves and tighten the cap of the 2- and 3-way valves.

3.2 Outdoor Unit

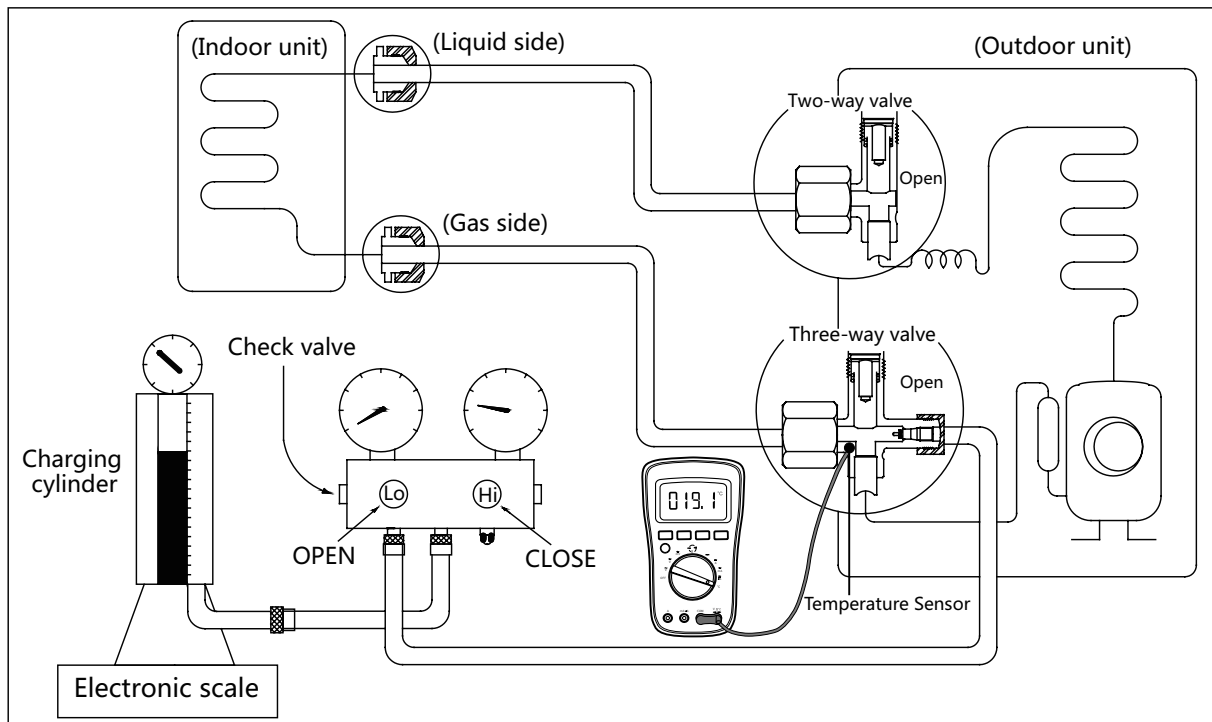
Evacuation for the whole system



Procedure:

1. Confirm that the 2- and 3-way valves are opened.
2. Connect the vacuum pump to the 3-way valve's service port.
3. Evacuate the system for approximately one hour. Confirm that the compound meter indicates -0.1 MPa (14.5Psi).
4. Close the valve (Low side) on the charge set and turn off the vacuum pump.
5. Wait for 5 minutes then check whether the gauge needle moves after turning off the vacuum pump. If the gauge needle moves backward, check whether there is gas leakage.
6. Disconnect the charge hose from the vacuum pump.
7. Mount the caps of service port and 2- and 3-way valves.
8. Use a torque wrench to tighten the caps to a torque of 18 N.m.

Refrigerant charging



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.

Note: 1. Mechanical connectors used indoors shall comply with local regulations.

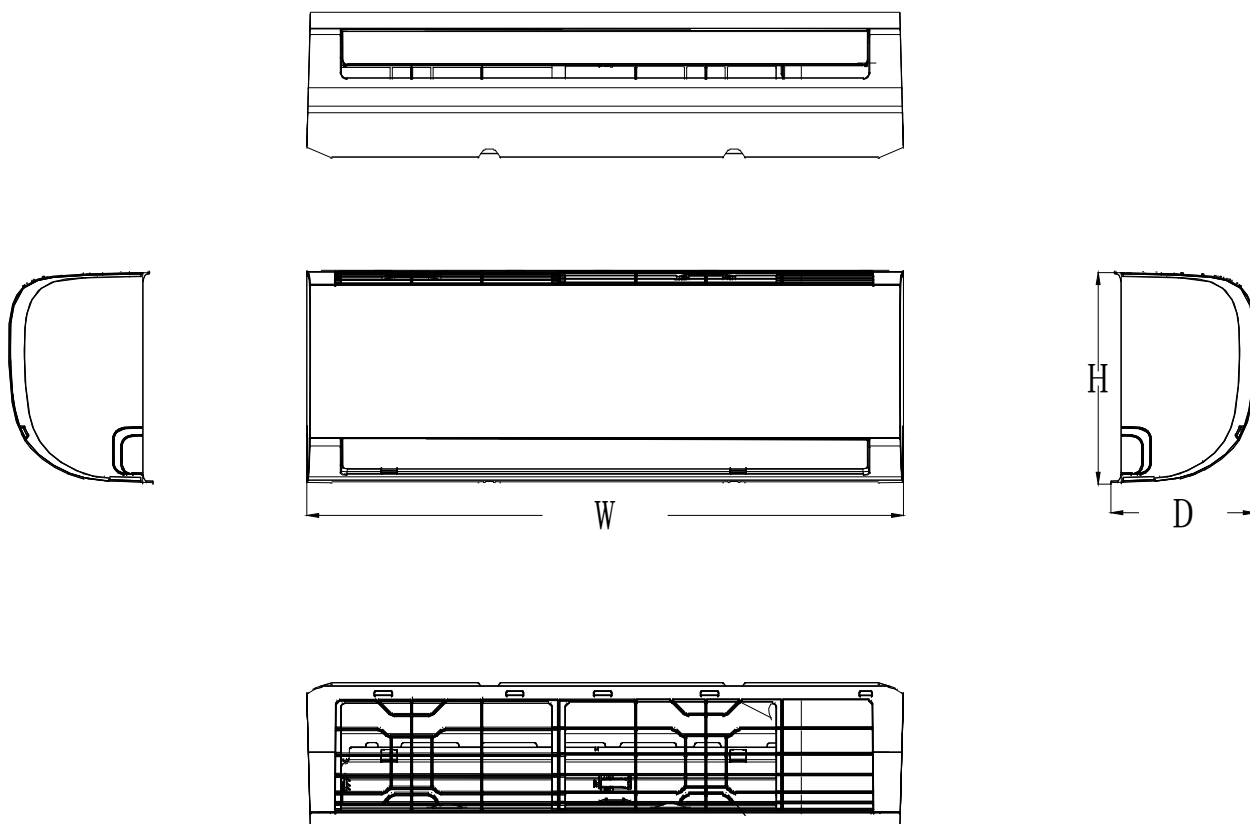
2. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated.

Indoor Unit Disassembly

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1. Dimension

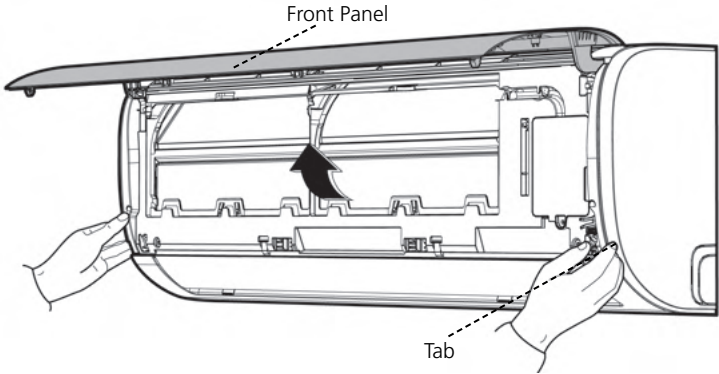
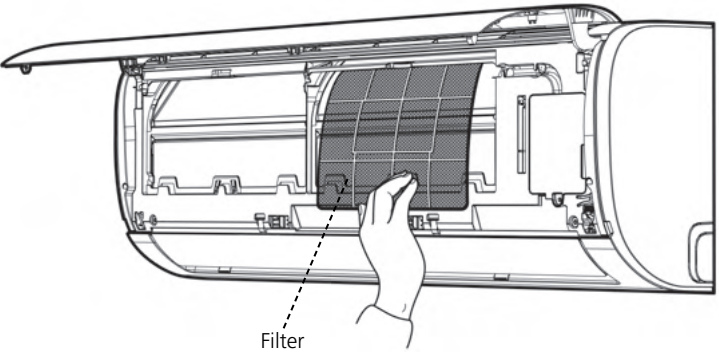


Capacity	Body Code	W(mm)	D(mm)	H(mm)
5K~11K	A	715	194	285
9K~14K	B	805	194	285
17K~18K	C	957	213	302
18K~24K	D	1040	220	327

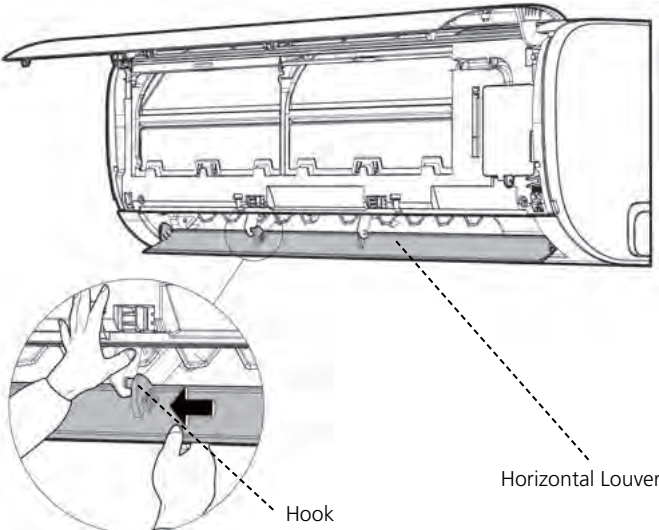
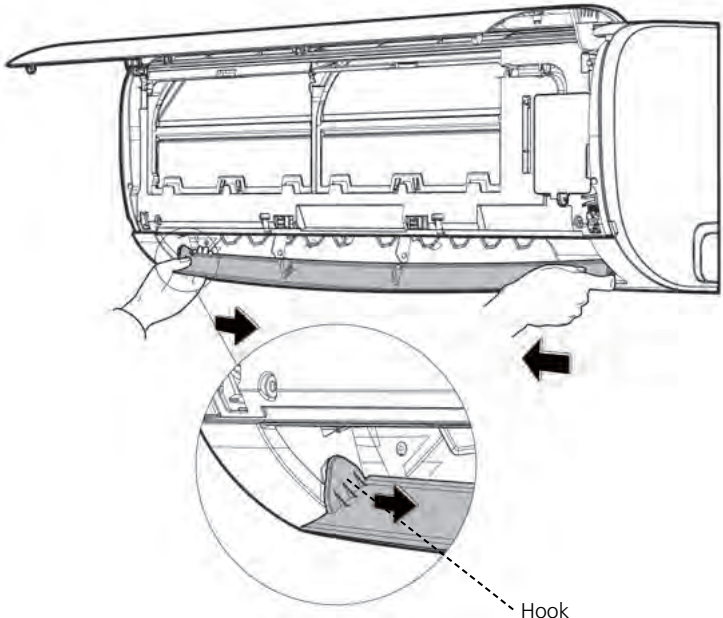
2. Disassembly

2.1 Indoor unit

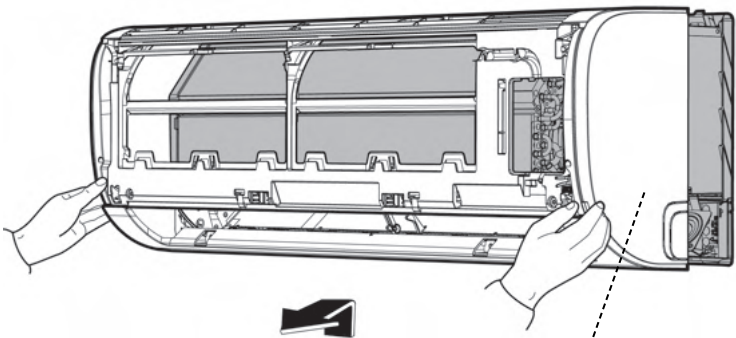
1. Front Panel

Procedure	Illustration
1) Hold the front panel by the tabs on the both sides and lift it (see CJ_AF_001).	 <p>CJ_AF_001</p>
2) Push up the bottom of an air filter, and then pull it out downwards (see CJ_AF_002).	 <p>CJ_AF_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>3) Open the horizontal louver and push the hook towards left to open it (see CJ_AF_003).</p>	 <p style="text-align: center;">CJ_AF_003</p>
<p>4) Bend the horizontal louver lightly by both hands to loosen the hooks, then remove the horizontal louver (see CJ_AF_004).</p>	 <p style="text-align: center;">CJ_AF_004</p>

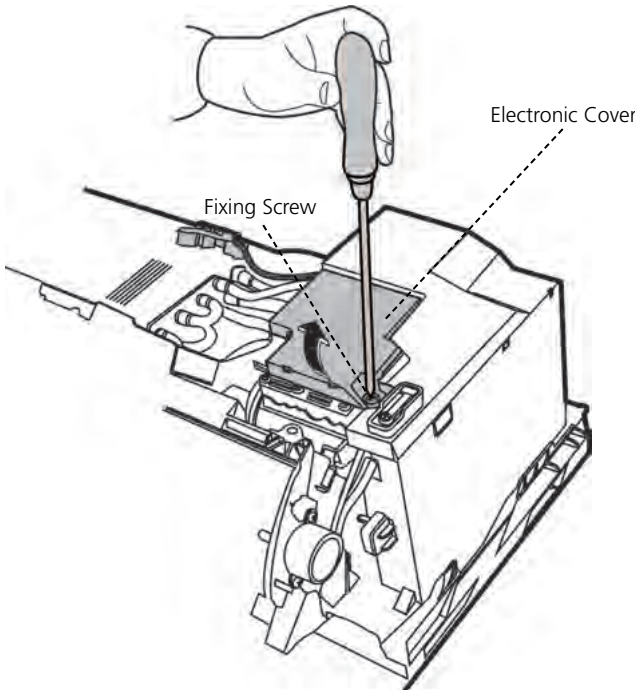
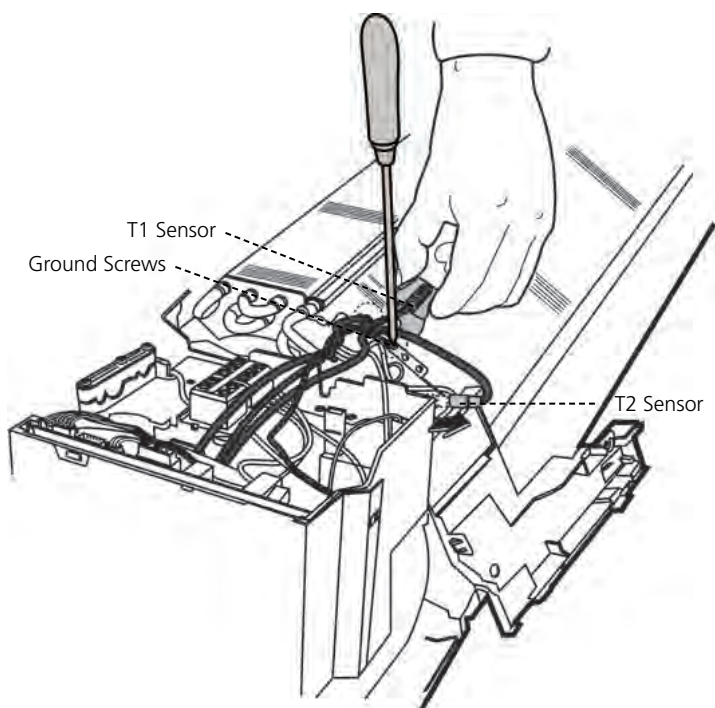
Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>11) Pull out the panel frame while pushing the hook through a clearance between the panel frame and the heat exchanger (see CJ_AF_008).</p>	 <p>CJ_AF_008</p> <p>Panel Frame</p>

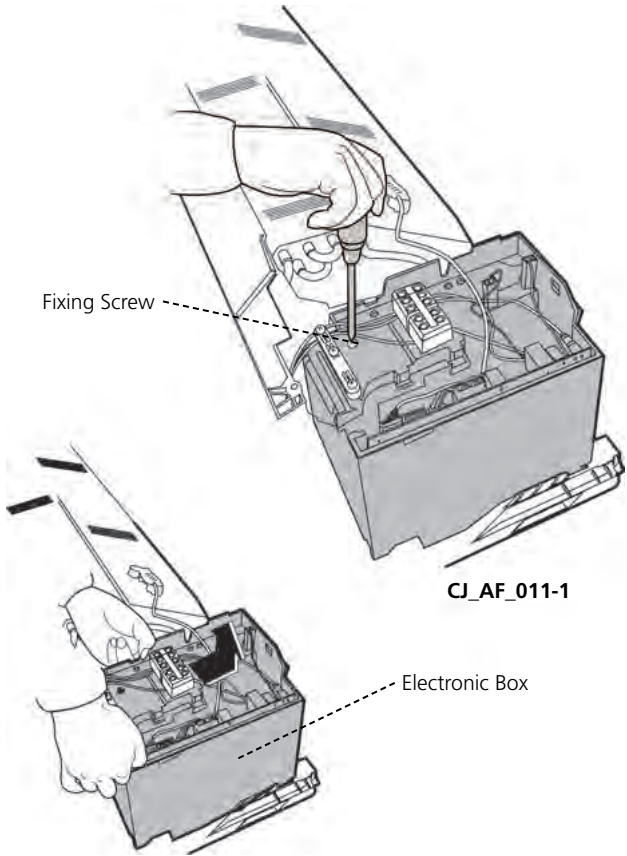
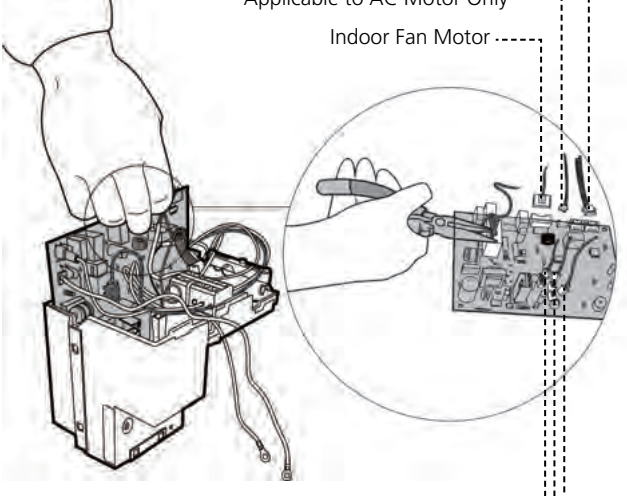
Note: This section is for reference only. Actual unit appearance may vary.

2. Electrical parts

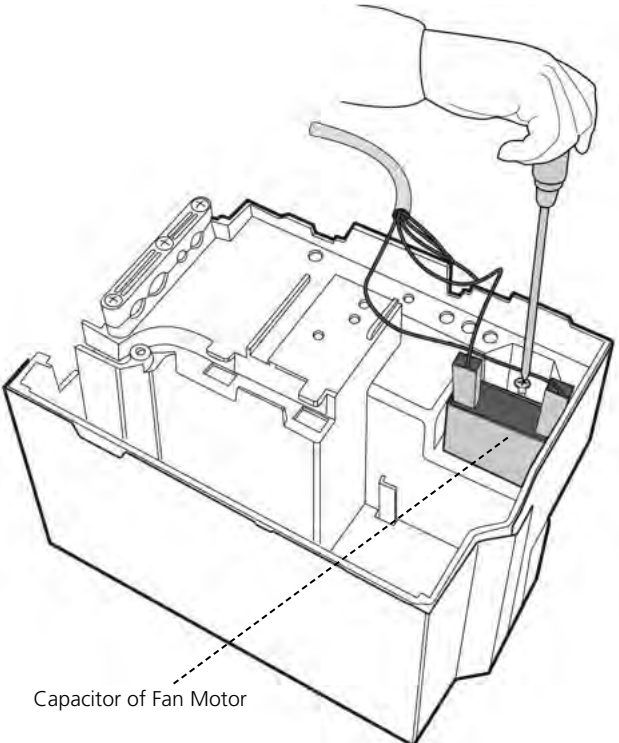
Note: Remove the front panel (refer to 1. Front panel) before disassembling electrical parts.

Procedure	Illustration
1) Remove the fixing screw and then remove the cover of electronic box and the terminal cover (see CJ_AF_009).	 <p>CJ_AF_009</p>
2) Pull out the room temperature sensor (T1) and the coil temperature sensor (T2) (see CJ_AF_010). 3) Remove the two screws used for the ground connection (see CJ_AF_010).	 <p>CJ_AF_010</p>

Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>4) Remove the fixing screw (see CJ_AF_011-1).</p> <p>5) Pull out the Electrical control box along the direction indicated in right image. to remove it (CJ_AF_011-2).</p>	 <p>Fixing Screw</p> <p>Electronic Box</p> <p>CJ_AF_011-1</p> <p>CJ_AF_011-2</p>
<p>6) Disconnect the wires. Then remove the electronic main board (CJ_AF_012).</p>	 <p>Swing Motor</p> <p>Applicable to AC Motor Only</p> <p>Indoor Fan Motor</p> <p>Display Board</p> <p>Pipe Temperature Sensor</p> <p>Room Temperature Sensor</p> <p>CJ_AF_012</p>

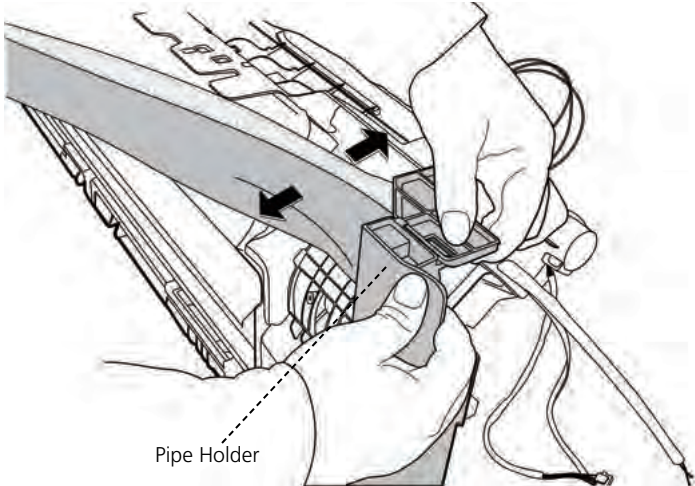
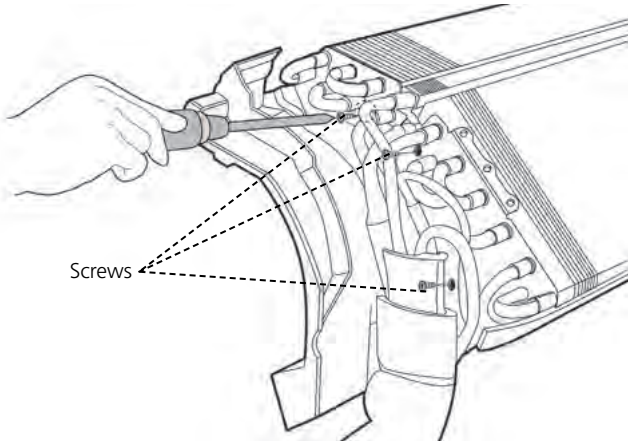
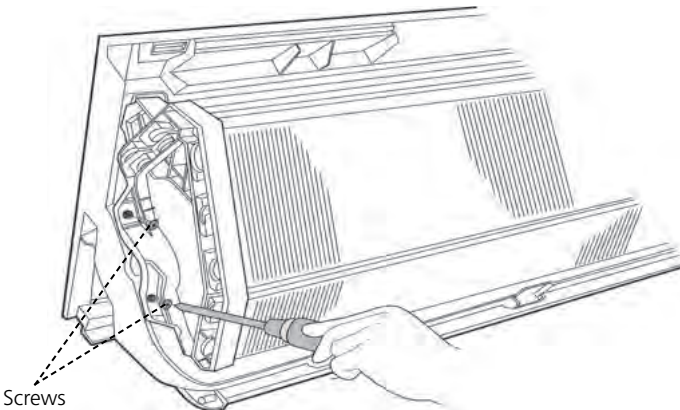
Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>7) Remove the fixing screw, then remove the capacitor of fan motor (see CJ_AF_013).</p>	 <p>Capacitor of Fan Motor</p> <p>CJ_AF_013</p>

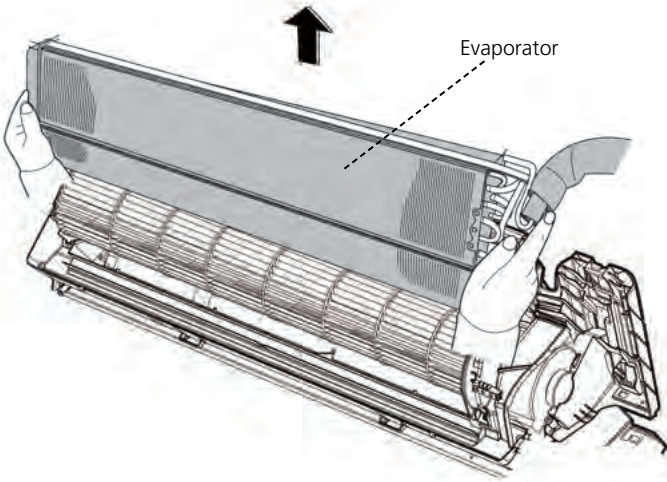
Note: This section is for reference only. Actual unit appearance may vary.

3. Evaporator

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

Procedure	Illustration
1) Disassemble the pipe holder located at the rear of the unit (see CJ_AF_014).	 <p>Pipe Holder</p> <p>CJ_AF_014</p>
2) Remove the screws on the evaporator located at the fixed plate (see CJ_AF_015).	 <p>Screws</p> <p>CJ_AF_015</p>
3) Remove the two screws on the evaporator located at the base of the bearing side (see CJ_AF_016).	 <p>Screws</p> <p>CJ_AF_016</p>

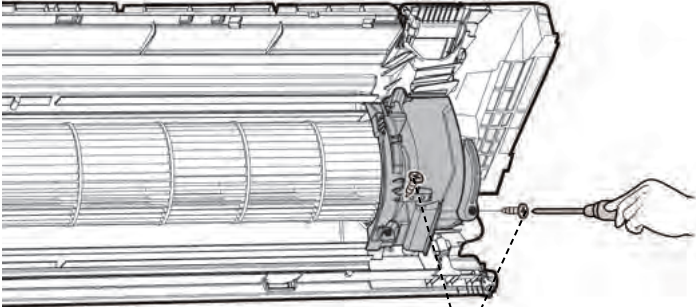
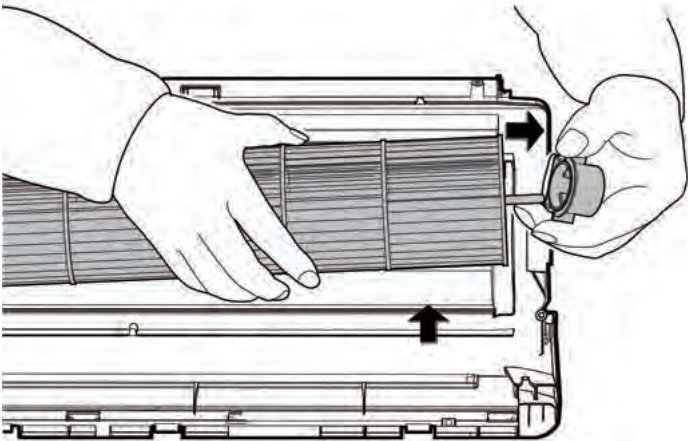
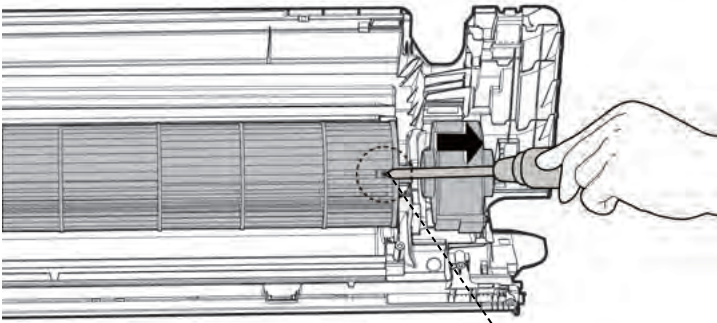
Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
4) Pull out the evaporator (see CJ_AF_017).	 <p data-bbox="970 860 1107 896">CJ_AF_017</p>

Note: This section is for reference only. Actual unit appearance may vary.

4. Fan motor and fan

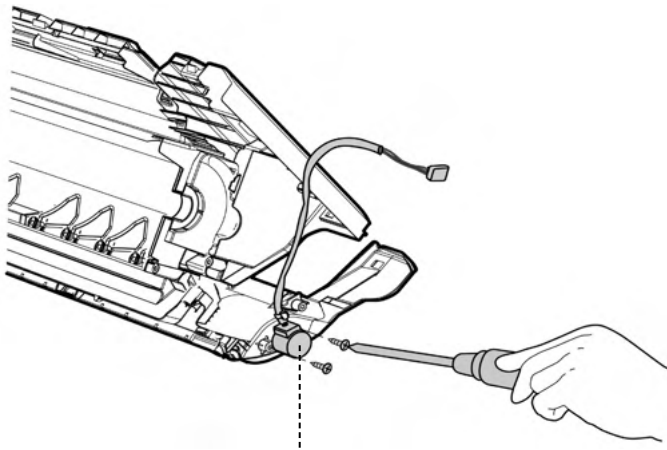
Note: Remove the front panel, electrical parts and evaporator (refer to 1. Front panel, 2. Electrical parts, and 3. Evaporator). before disassembling fan motor and fan.

Procedure	Illustration
1) Remove the two screws and remove the fixing board of the fan motor (see CJ_AF_018).	 <p>Screws</p> <p>CJ_AF_018</p>
2) Remove the Bearing sleeve(see CJ_AF_019).	 <p>CJ_AF_019</p>
3) Remove the fixing screw (see CJ_AF_020). 4) Pull out the fan motor and fan assembly from the side.	 <p>Fixing Screw</p> <p>CJ_AF_020</p>

Note: This section is for reference only. Actual unit appearance may vary.

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 two screws, then remove the stepping motor (see CJ_AF_021).	 <p>Stepping Motor</p> <p>CJ_AF_021</p>

Note: This section is for reference only. Actual unit appearance may vary.

Outdoor Unit Disassembly

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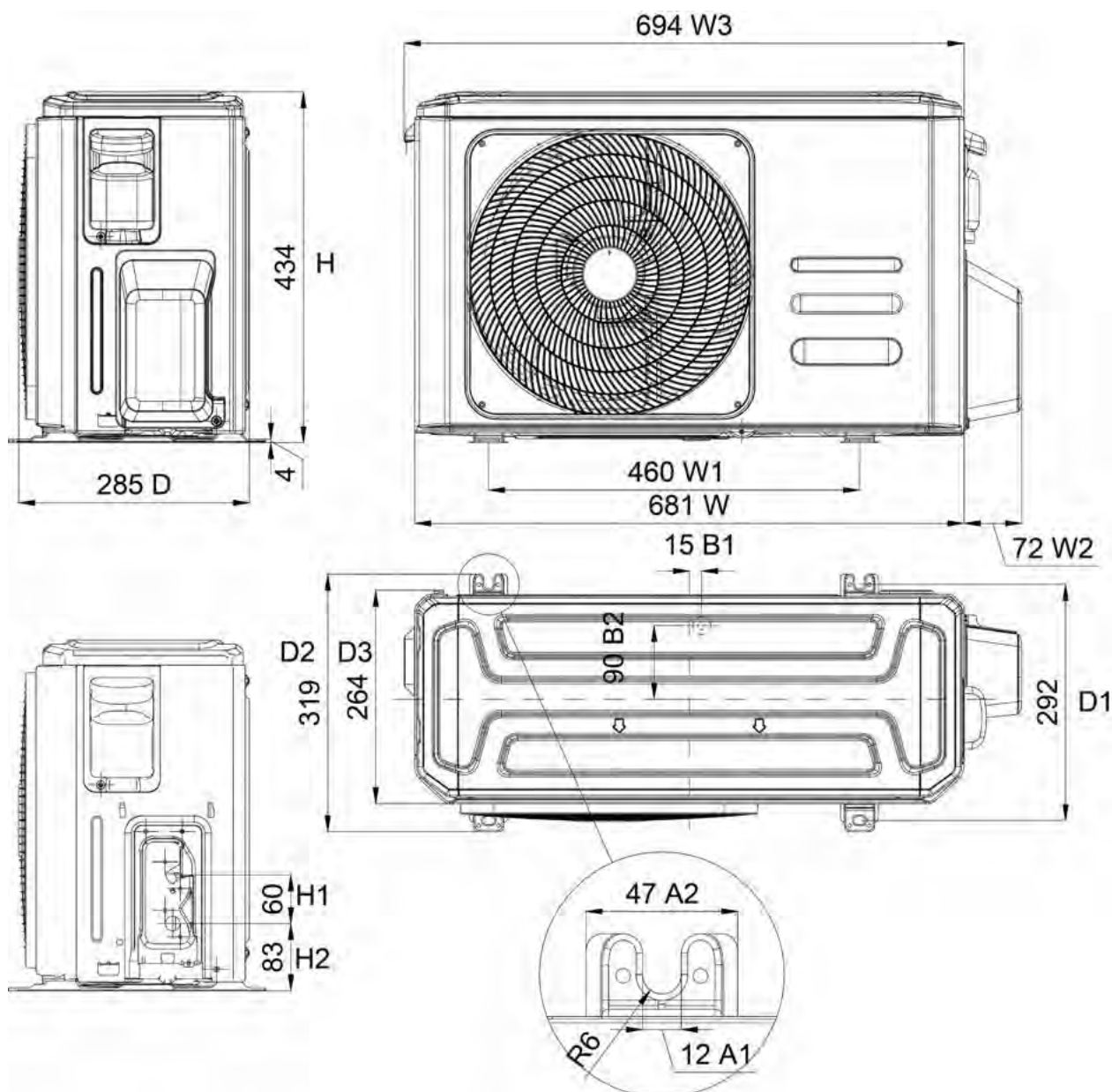
1. Outdoor Unit Disassembly

1.1 Outdoor Unit Table

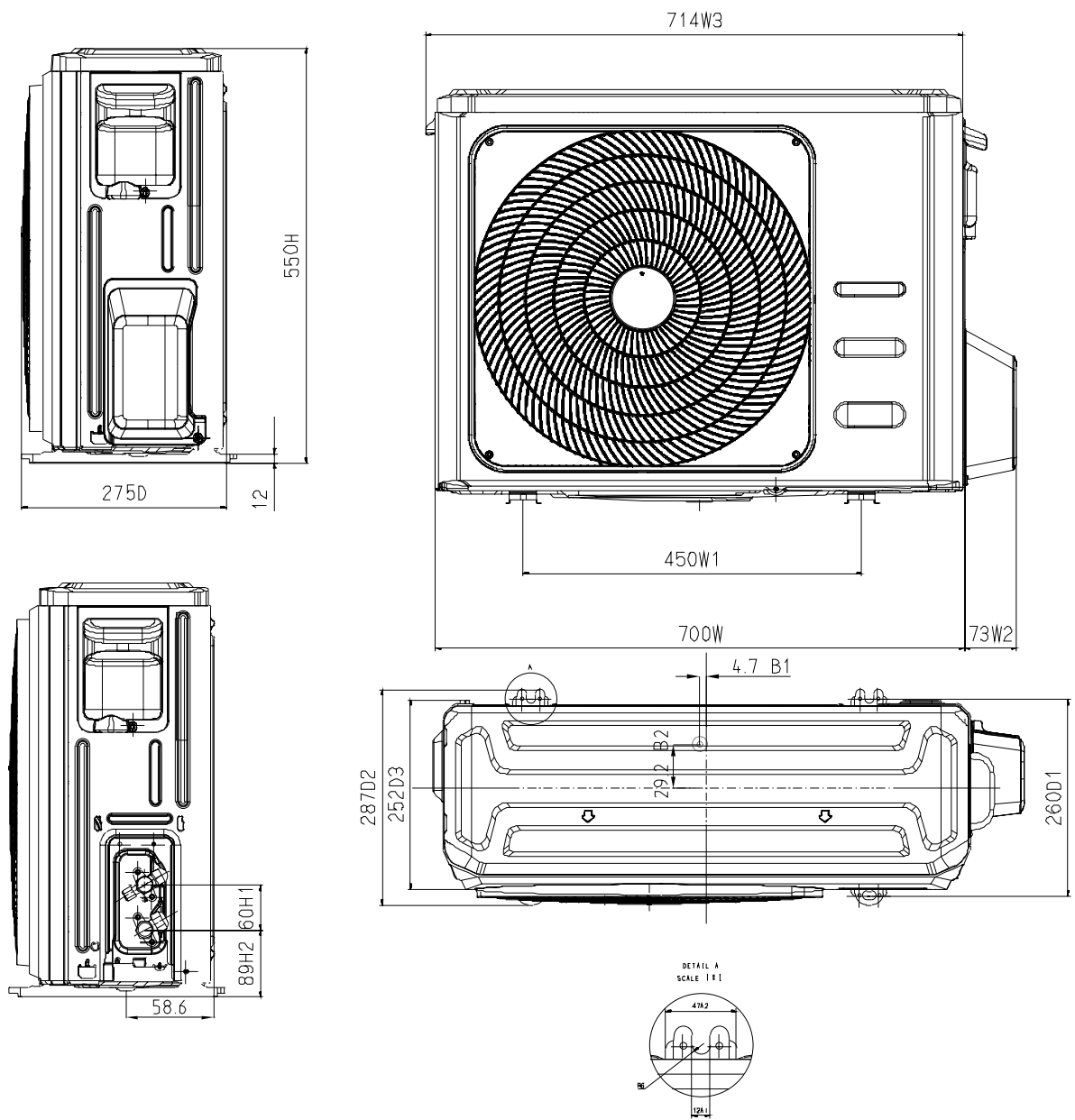
Outdoor Unit Model	Panel Plate	PCB Board
MOX130-09HN1-NB8	X130	PCB Board 1
MOX130-11HN1-NB6	X130	PCB Board 1
MOX130-12CN1-NB8	X130	PCB Board 1
MOX230-18CN1-NB8	X230	PCB Board 1
MOX330-24CN1-NB8	X330	PCB Board 1

2. Dimension

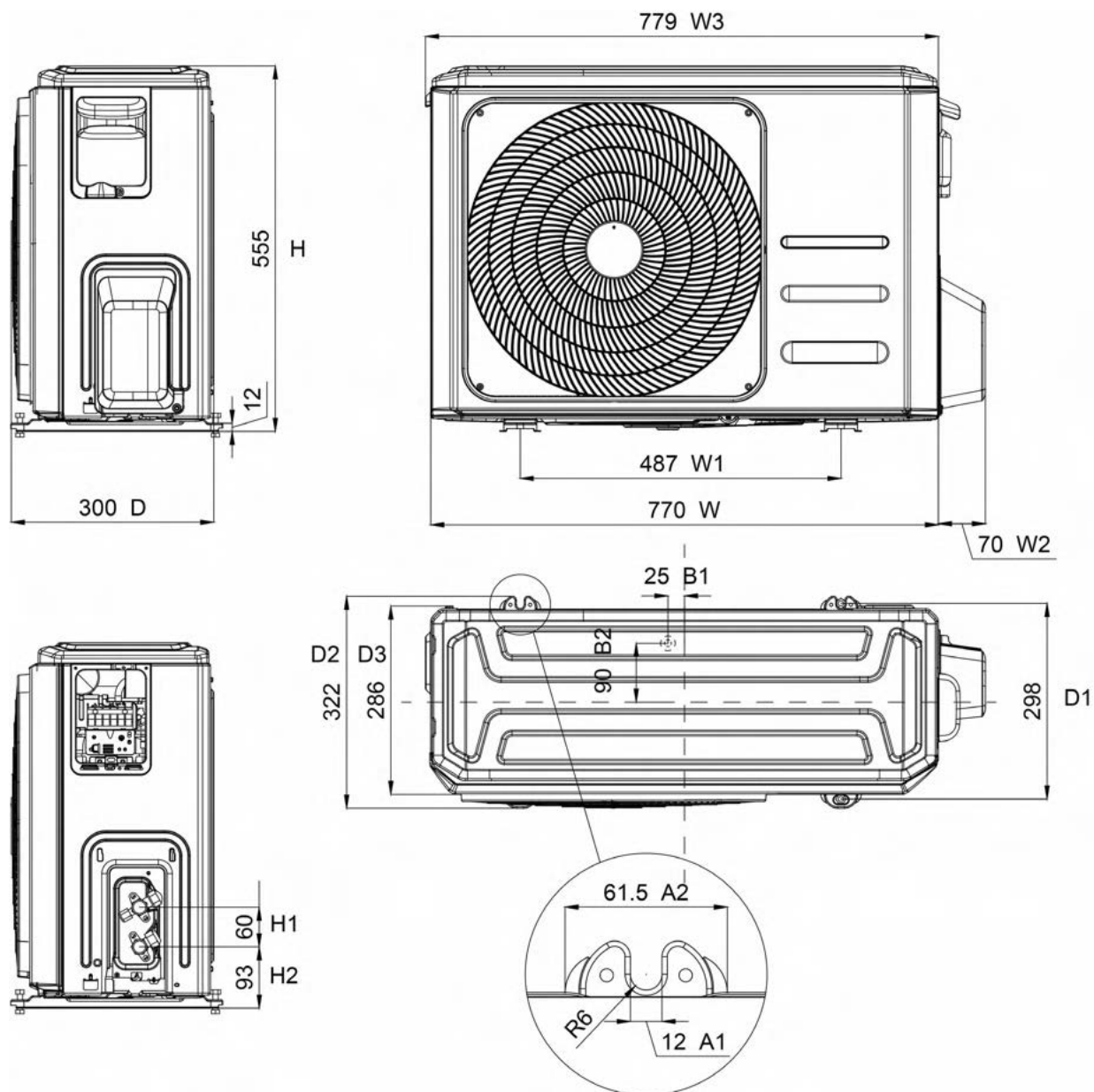
1. Panel Plate AA30



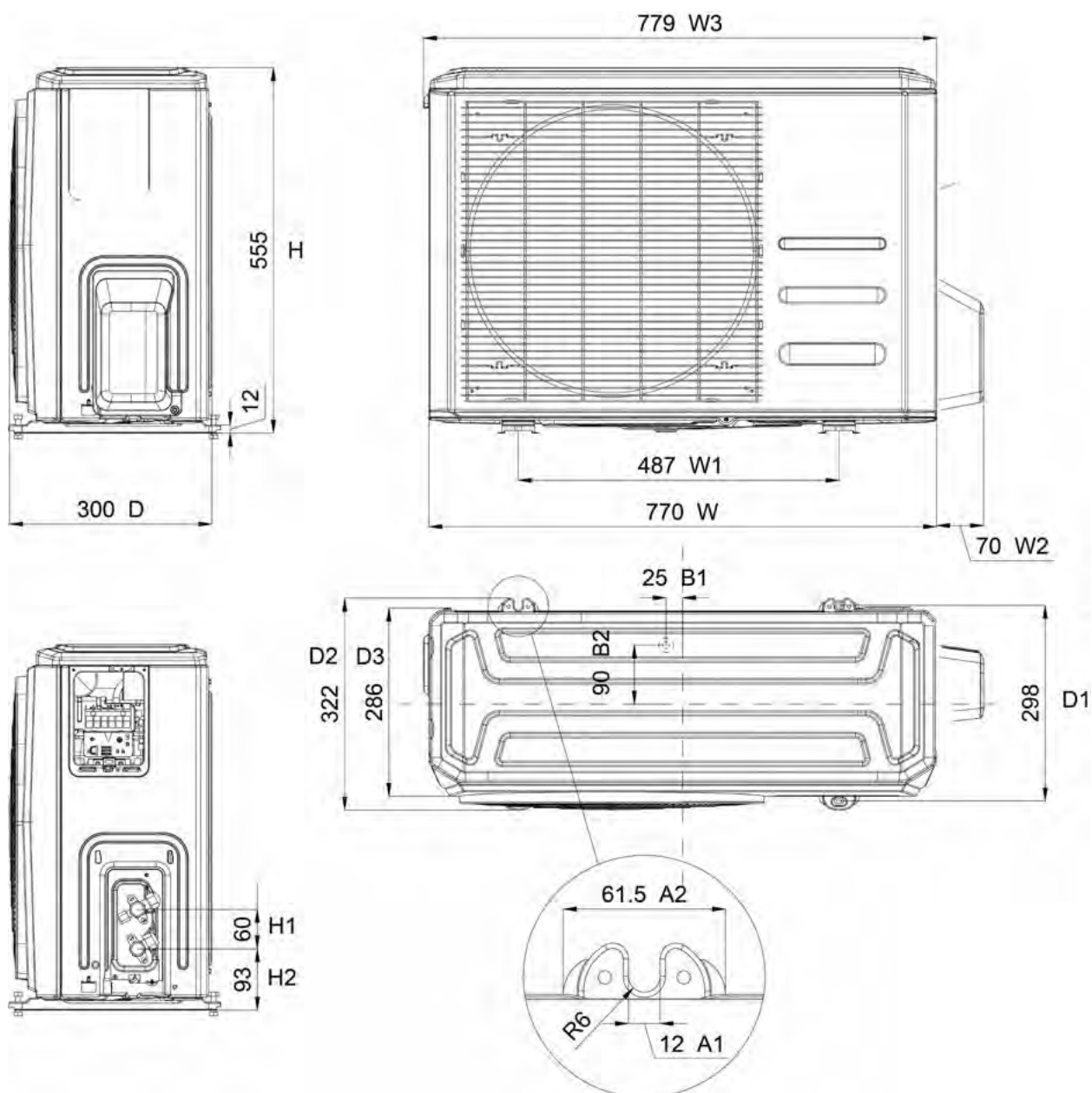
2. Panel Plate AB30



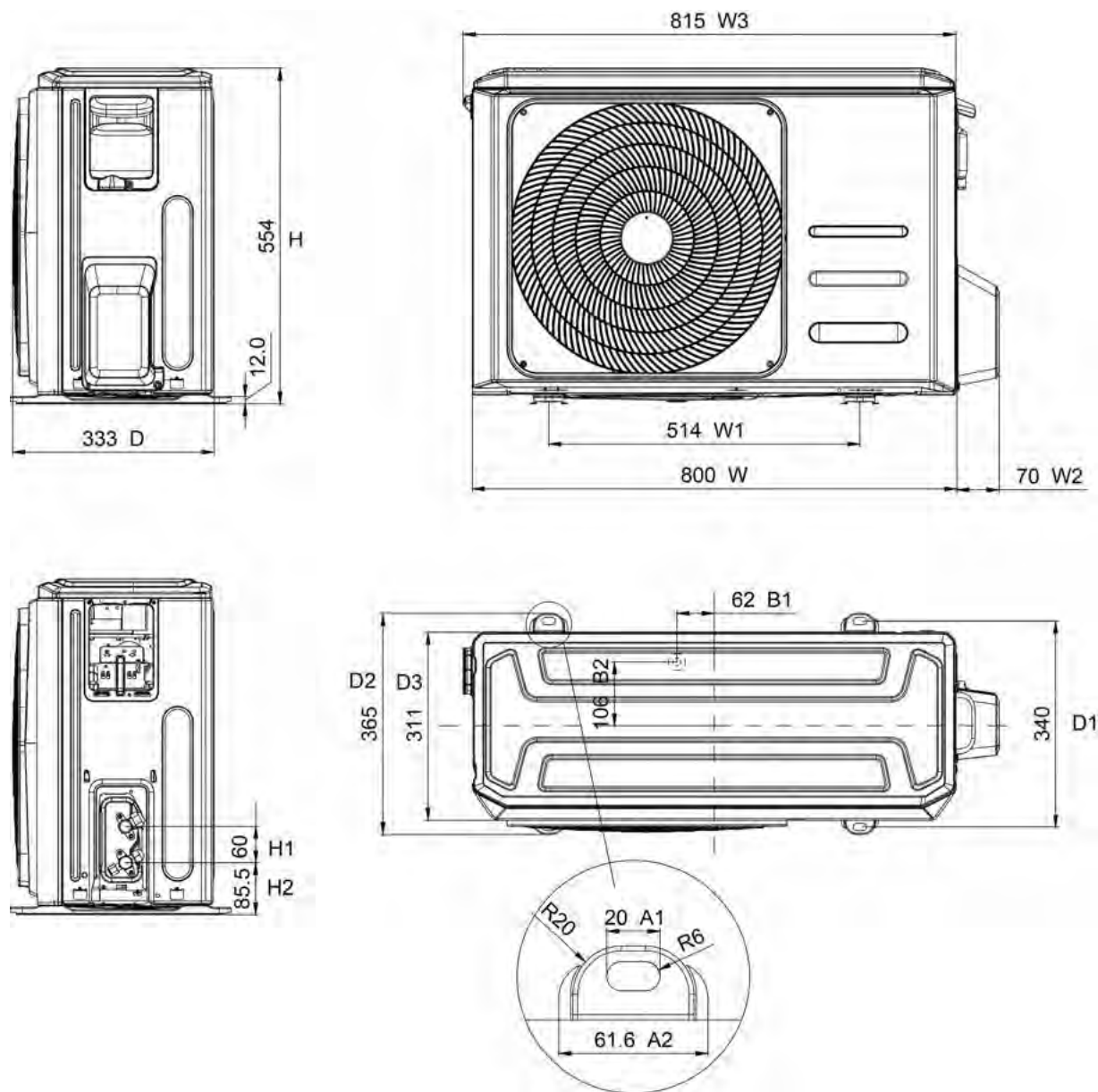
3. Panel Plate BA30



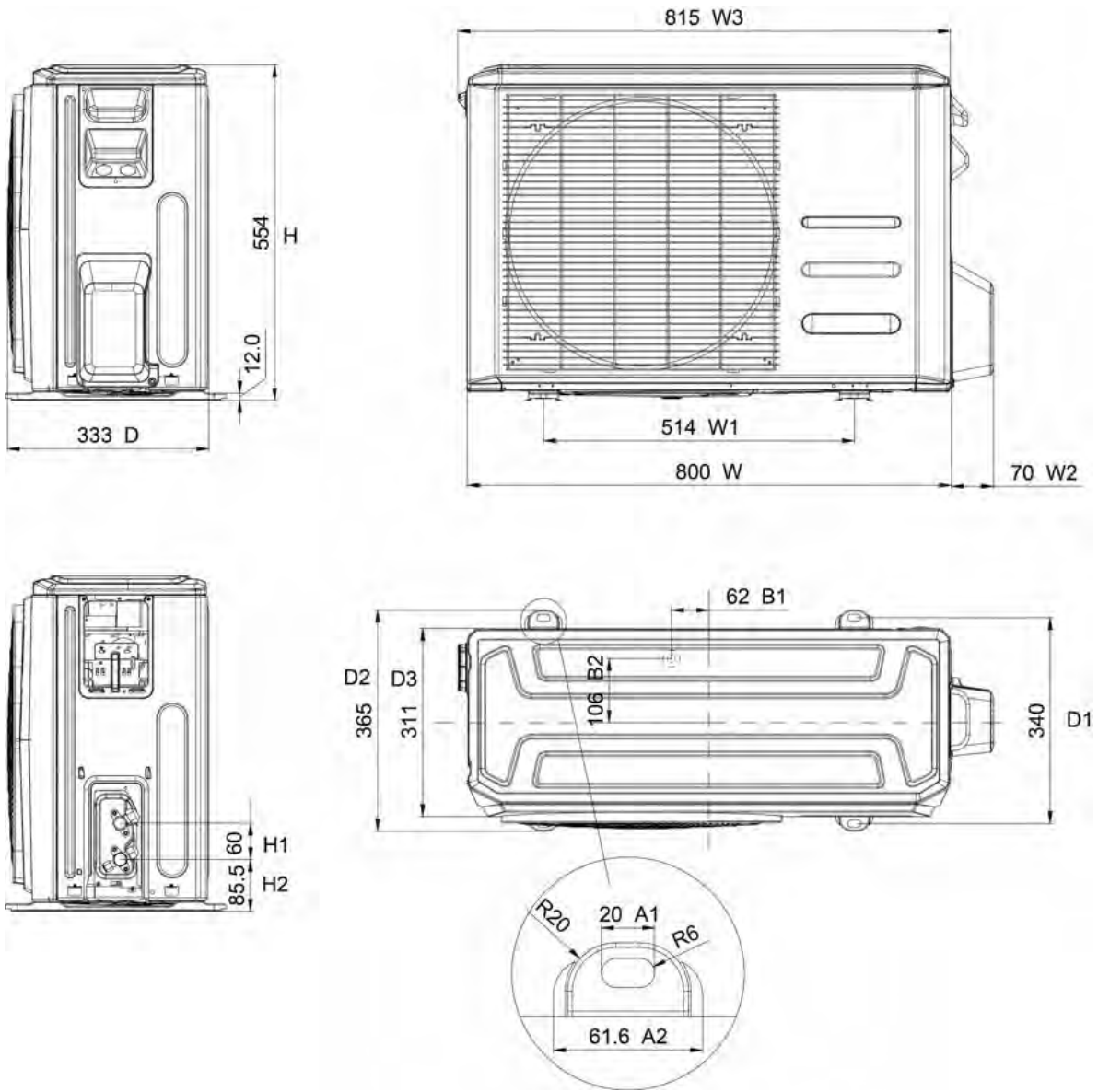
For US models:



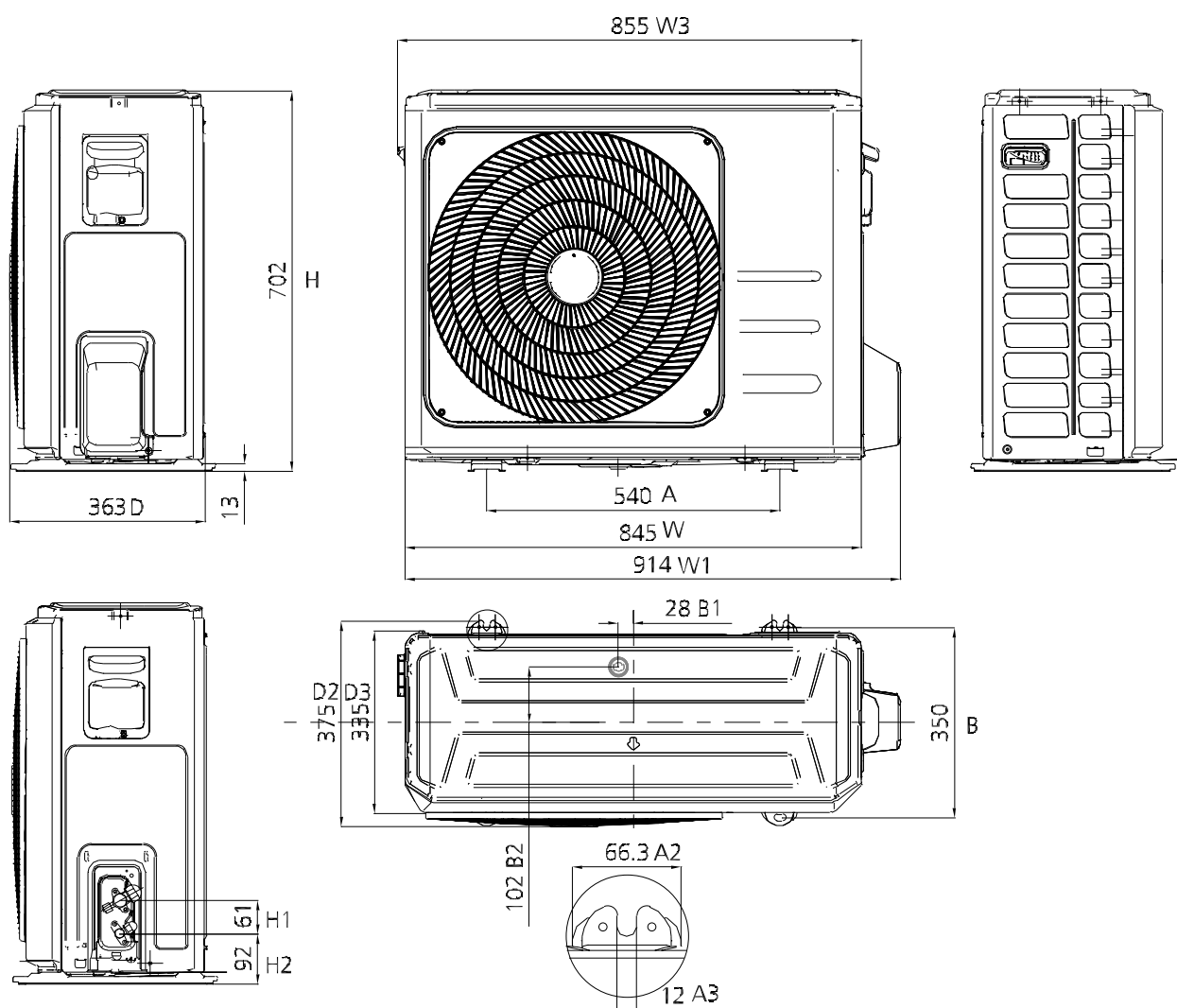
4. Panel Plate B30



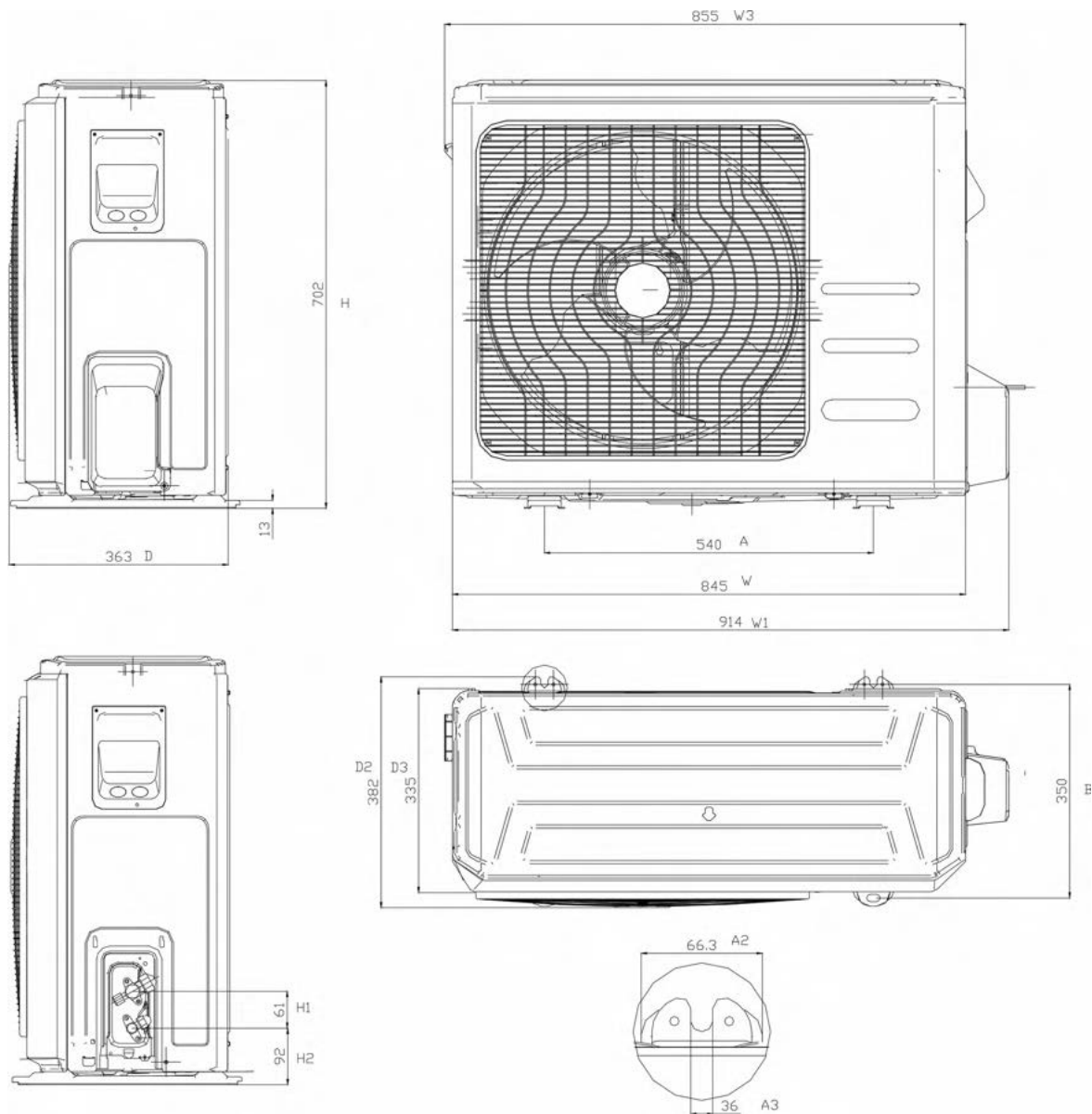
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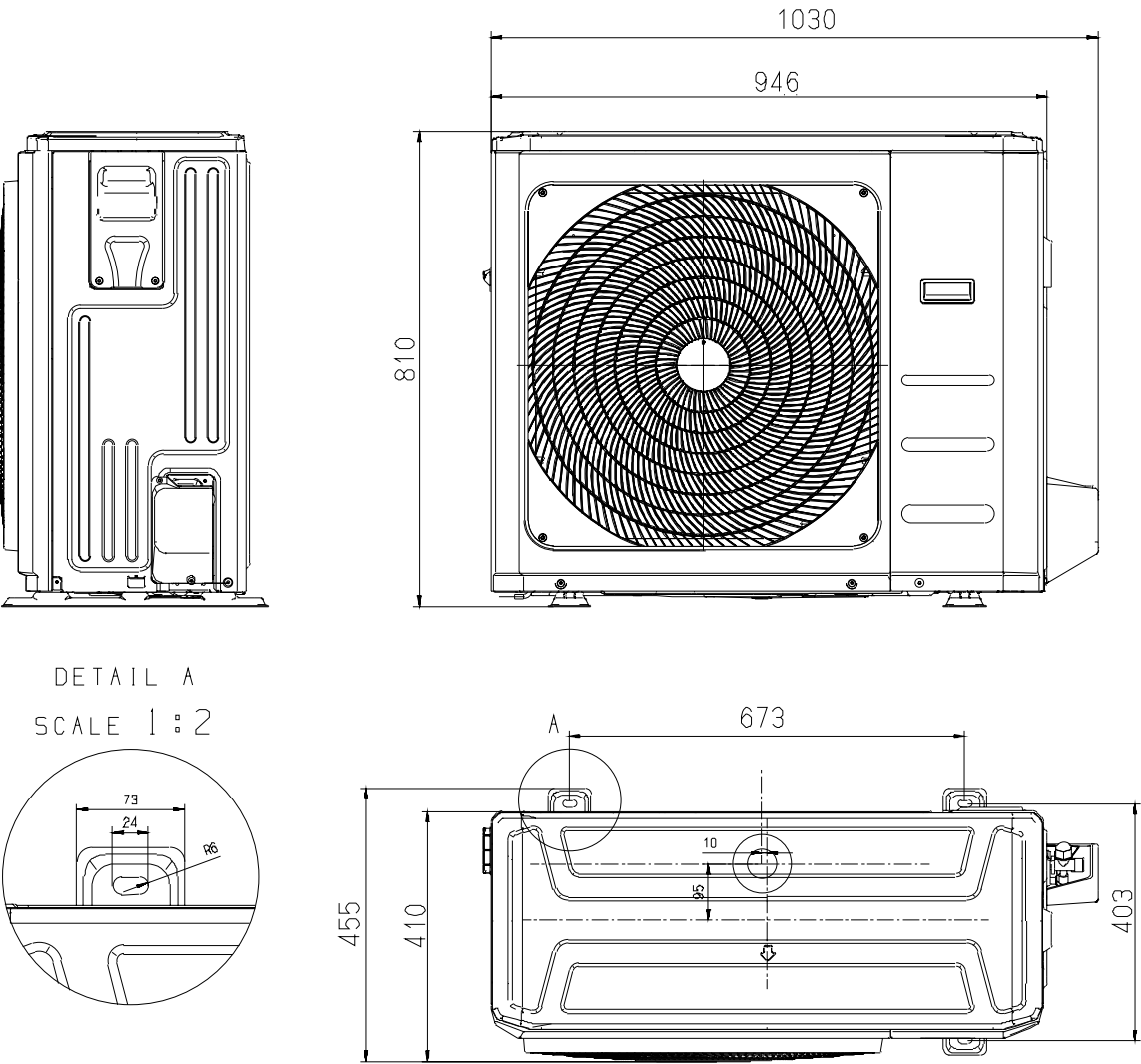
5. Panel Plate CA30



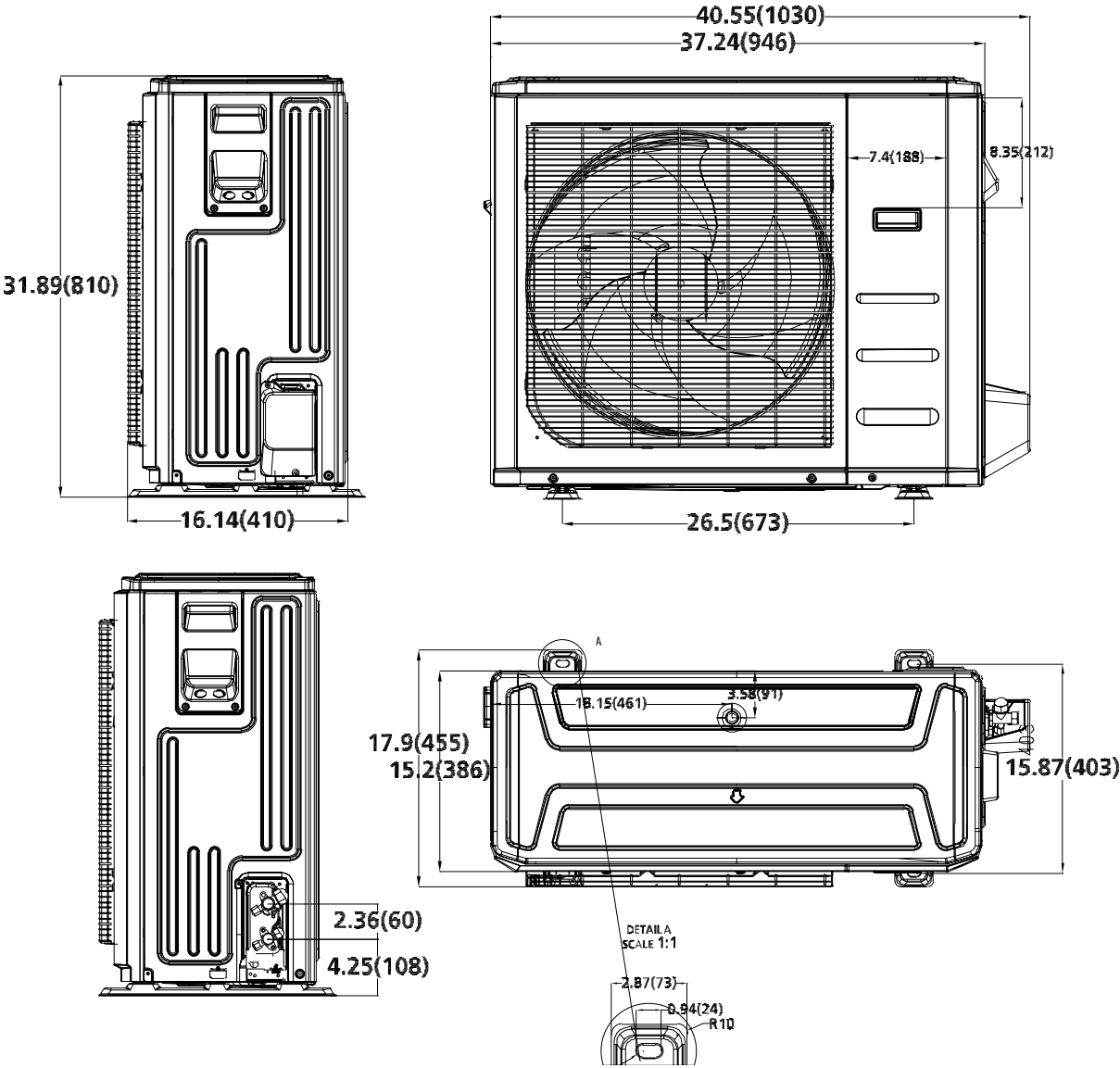
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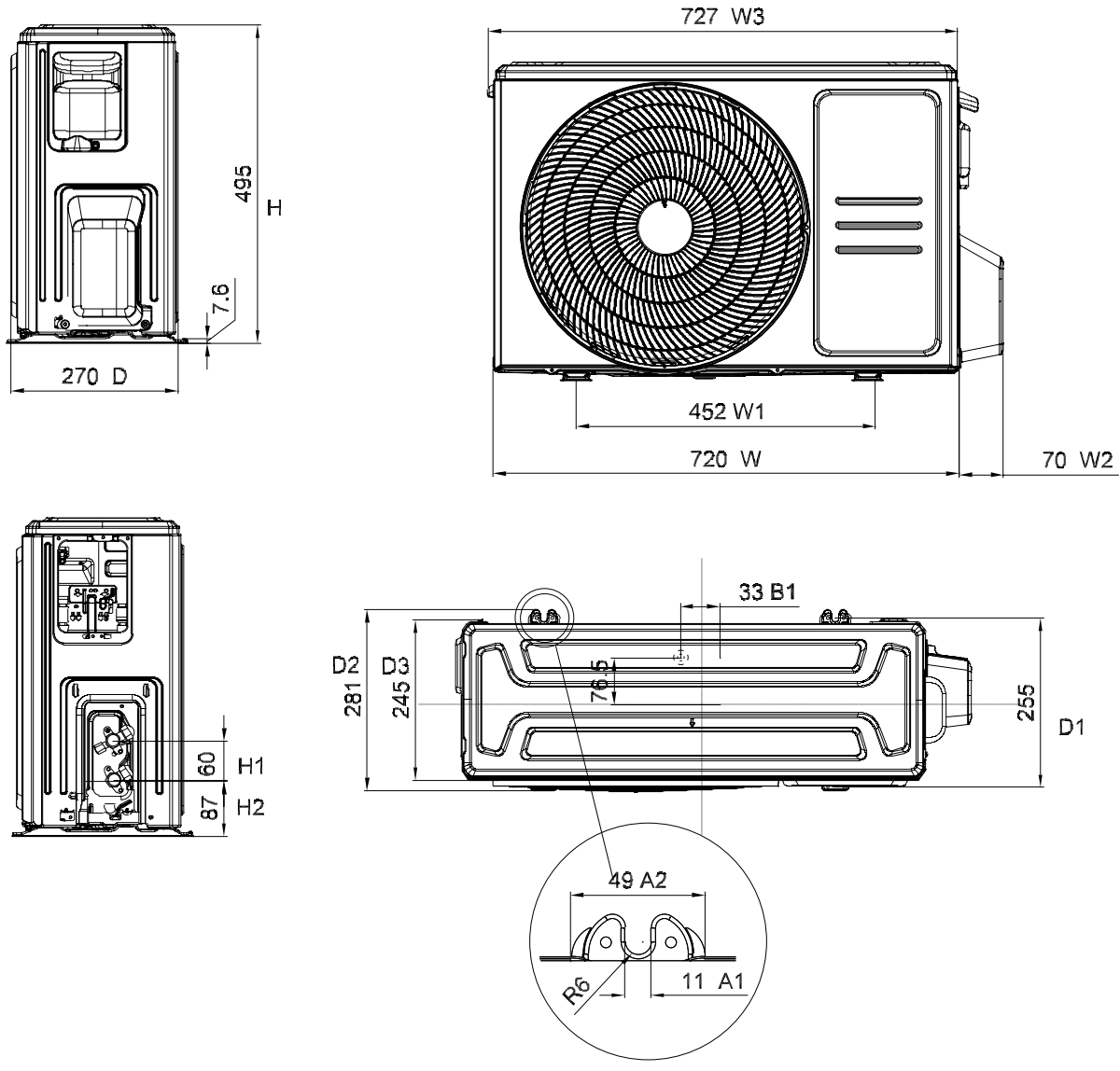
6. Panel Plate D30



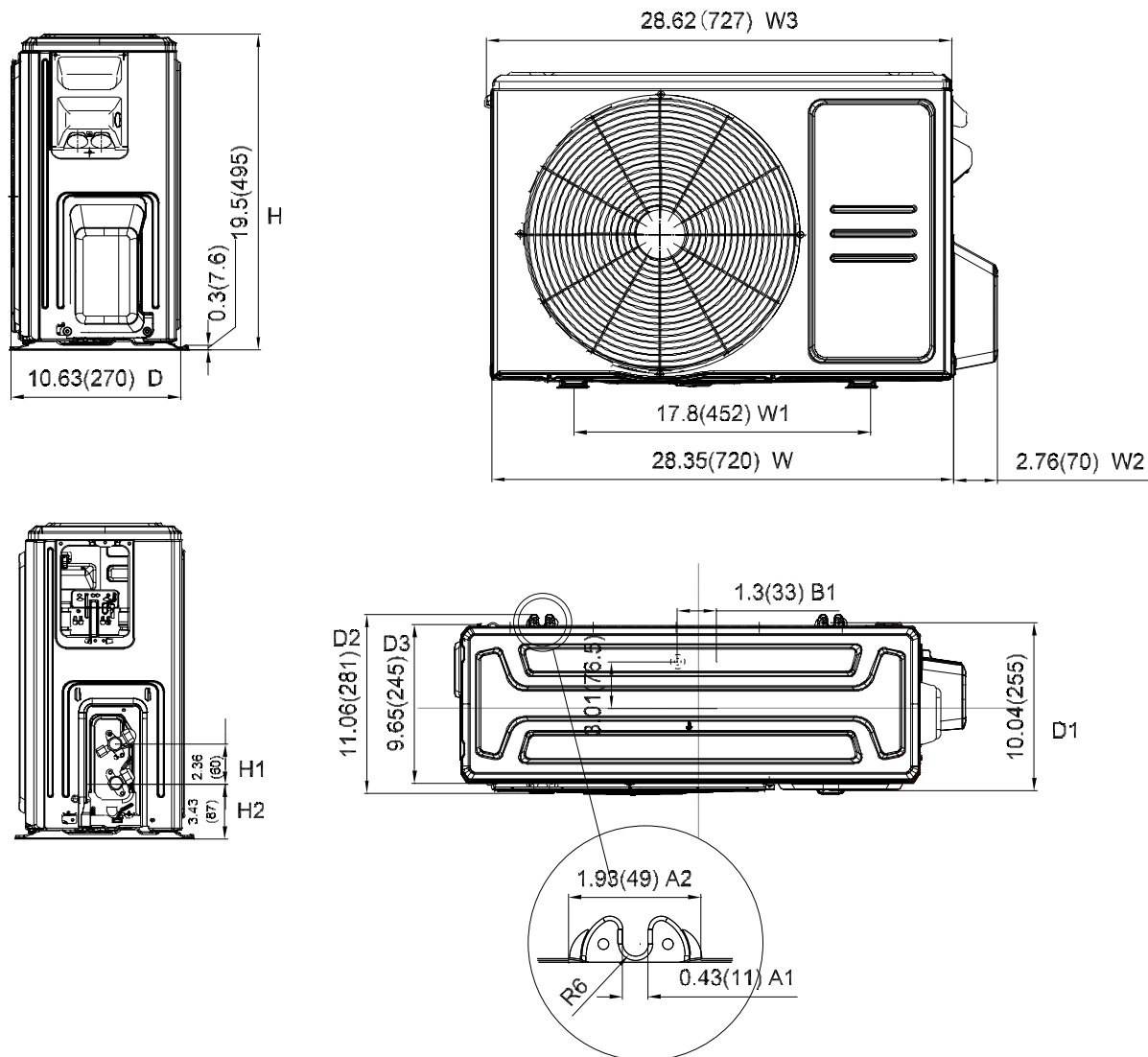
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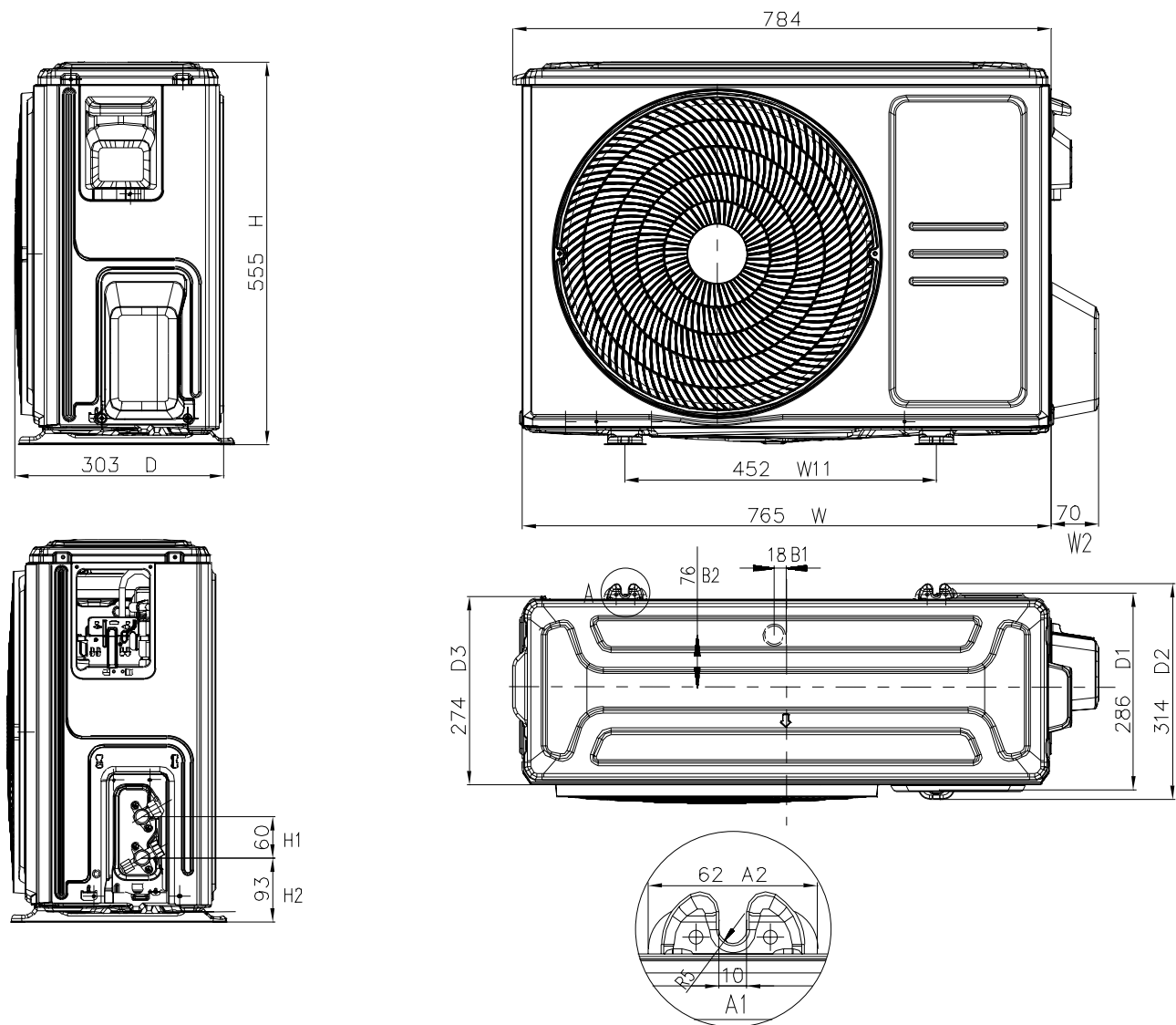
7. Panel Plate X130



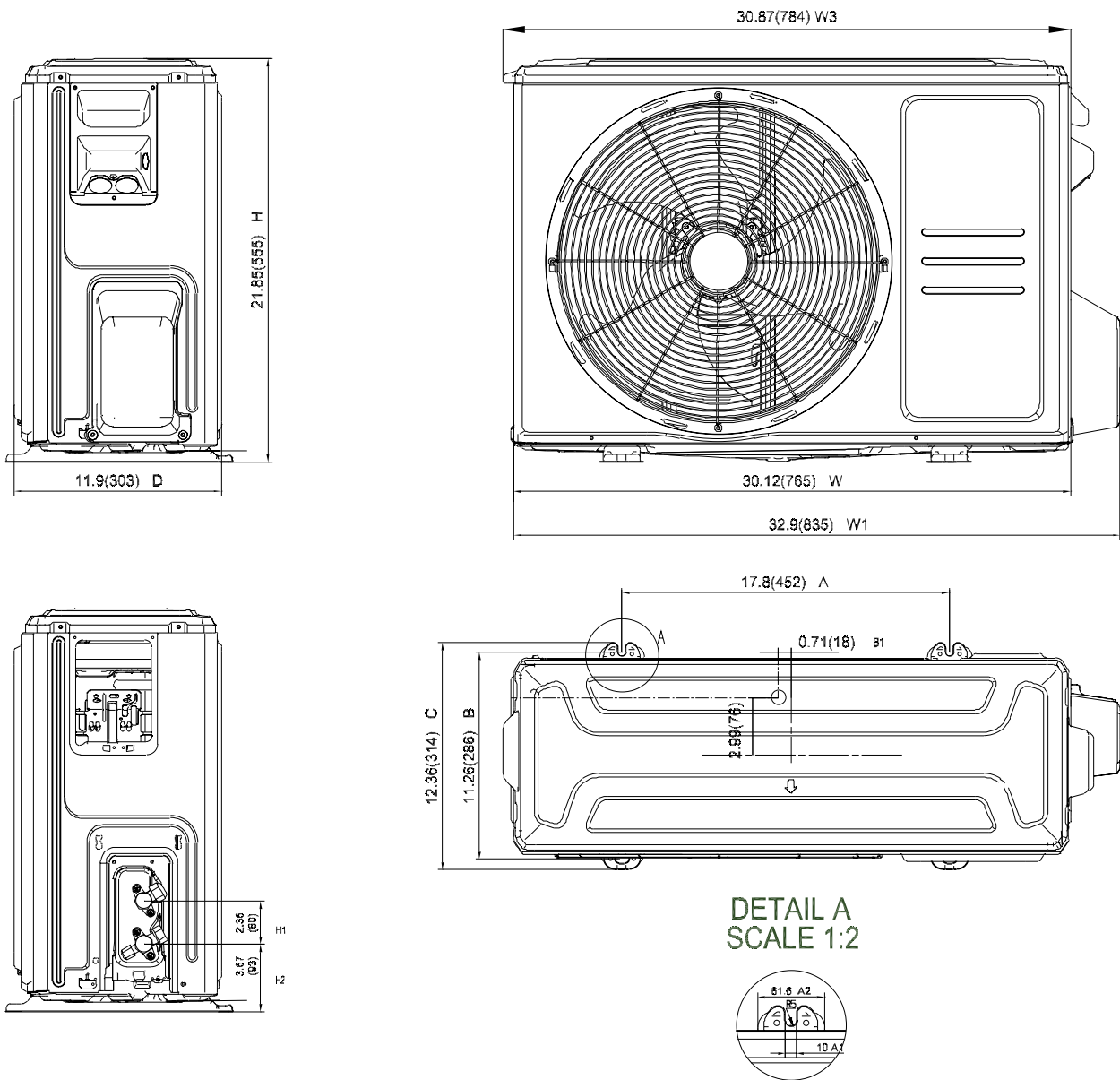
For US models:



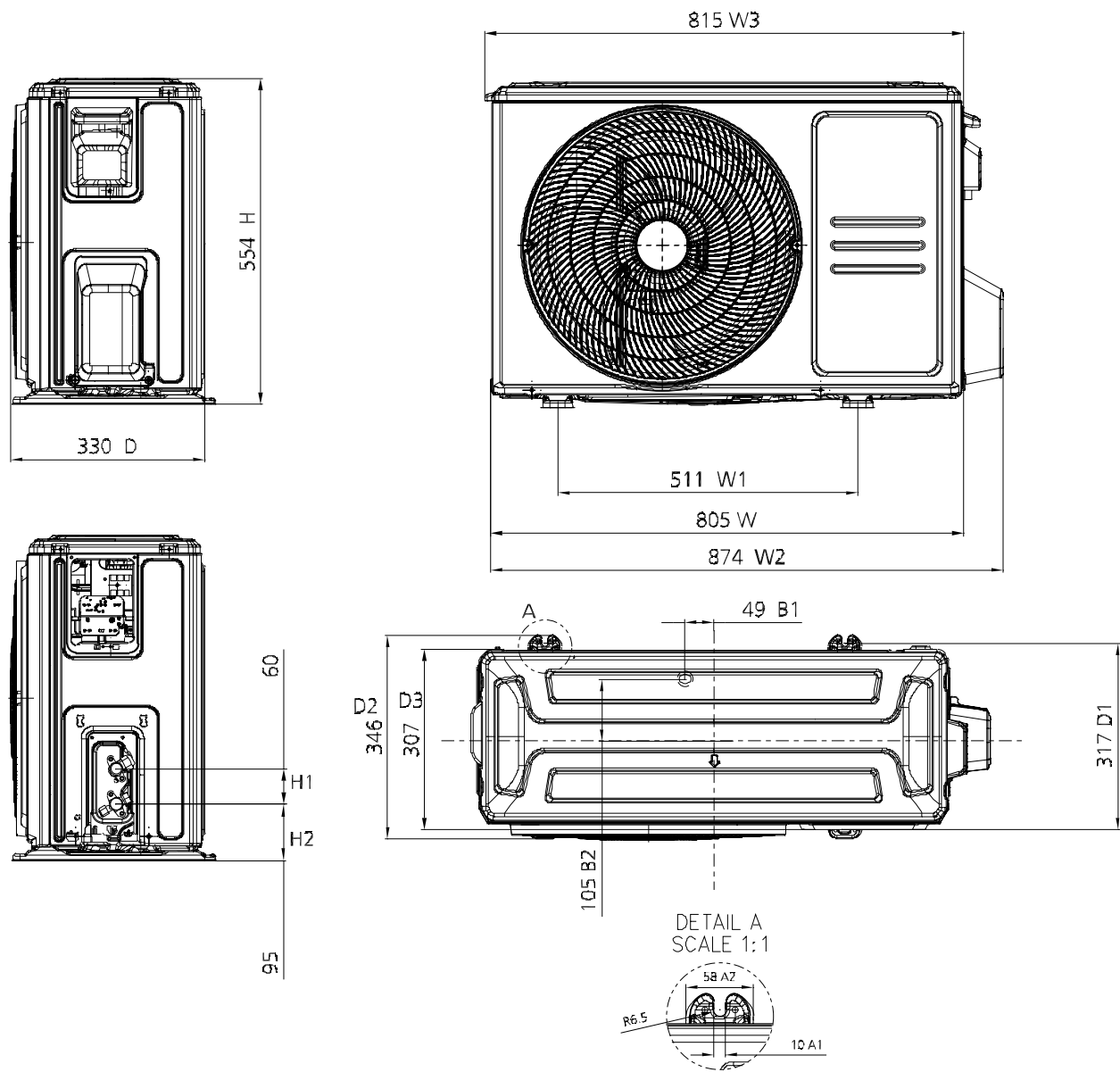
8. Panel Plate X230



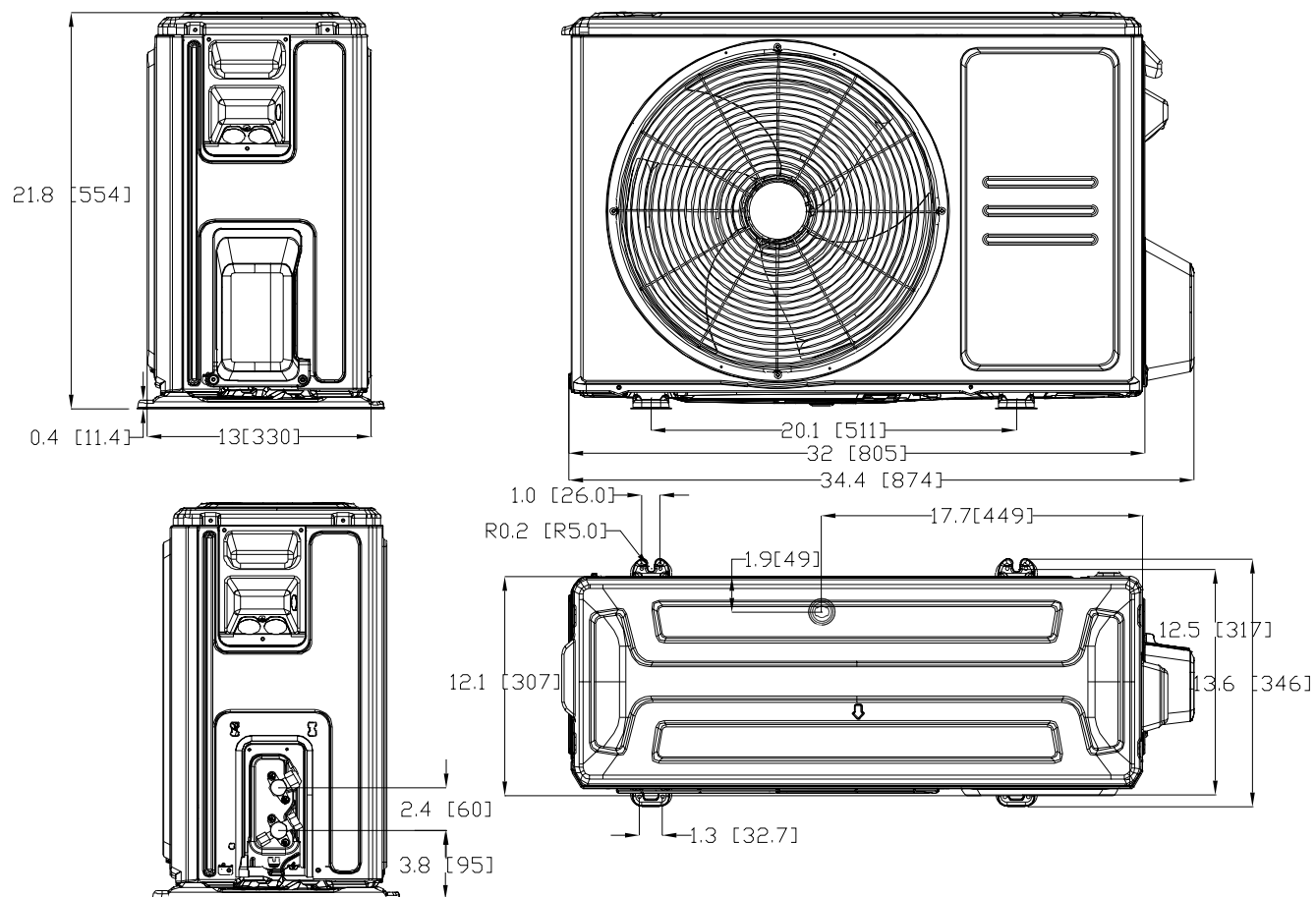
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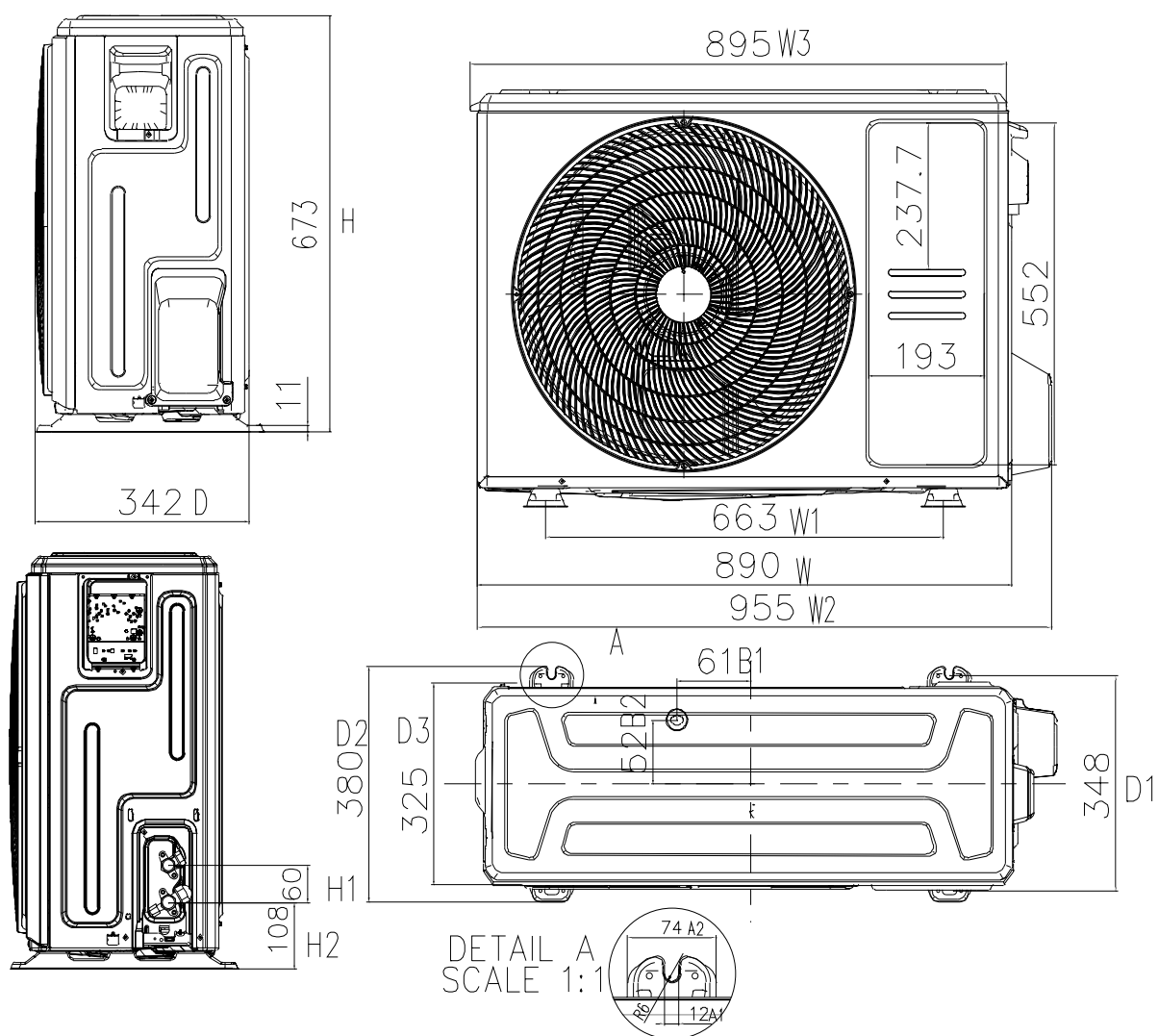
9. Panel Plate X330



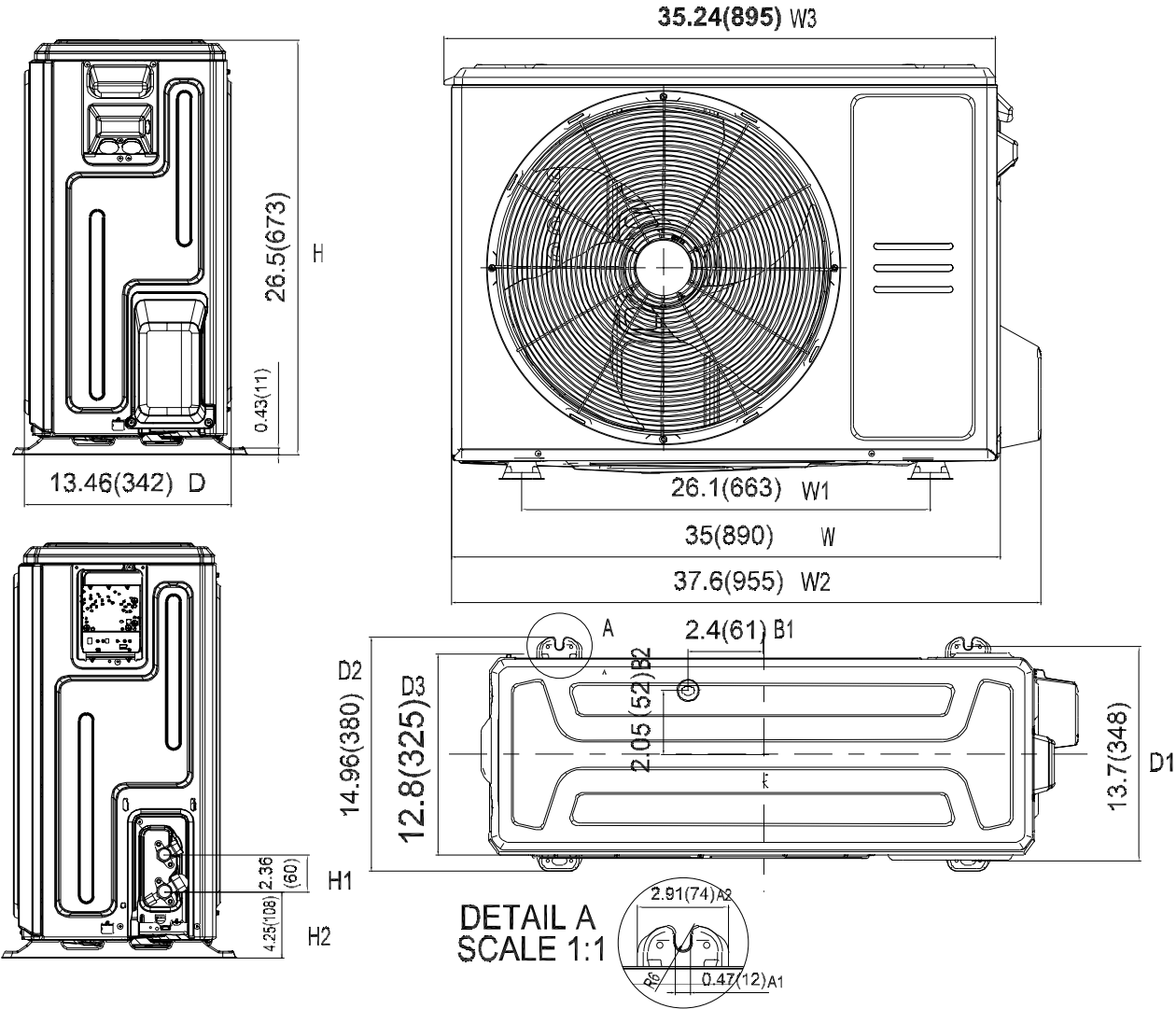
For US models:



10. Panel Plate X430



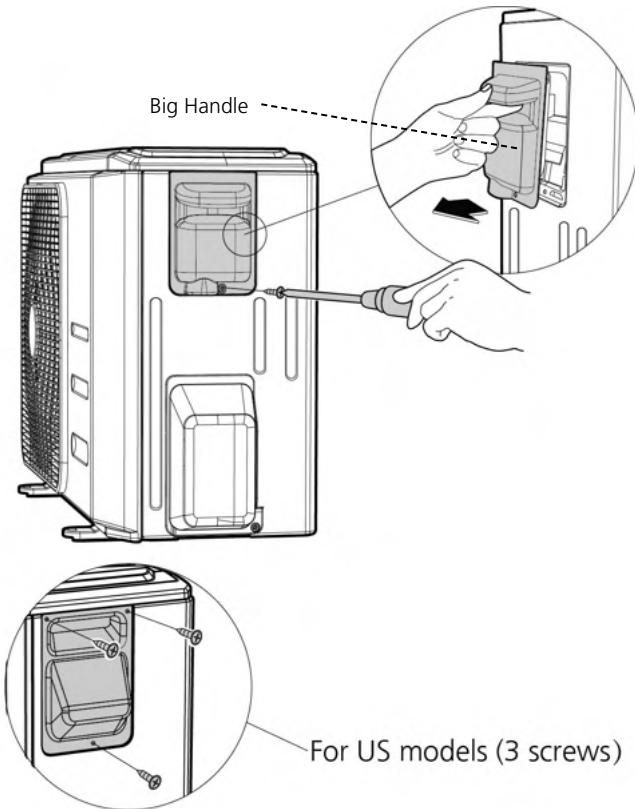
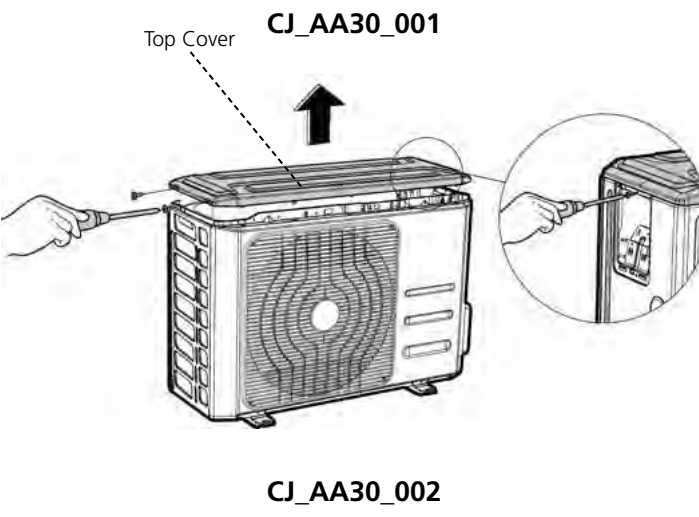
For US models:



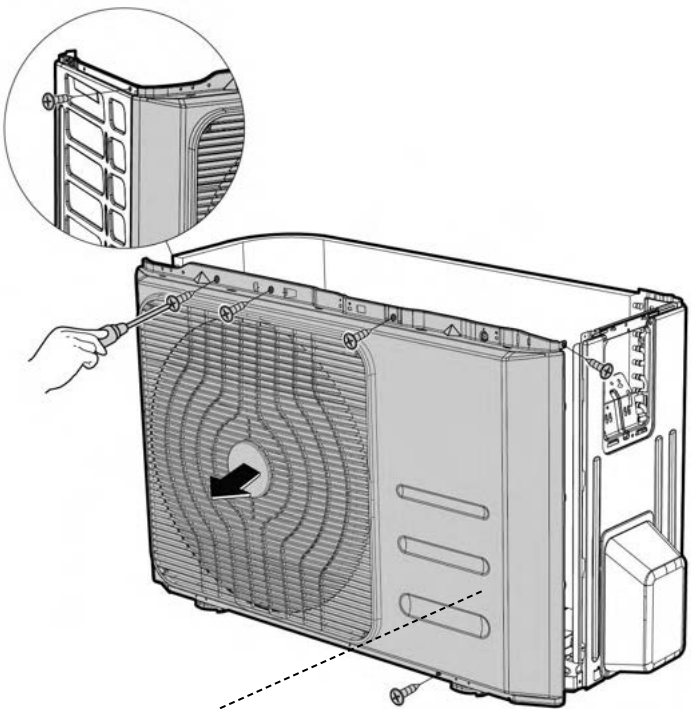
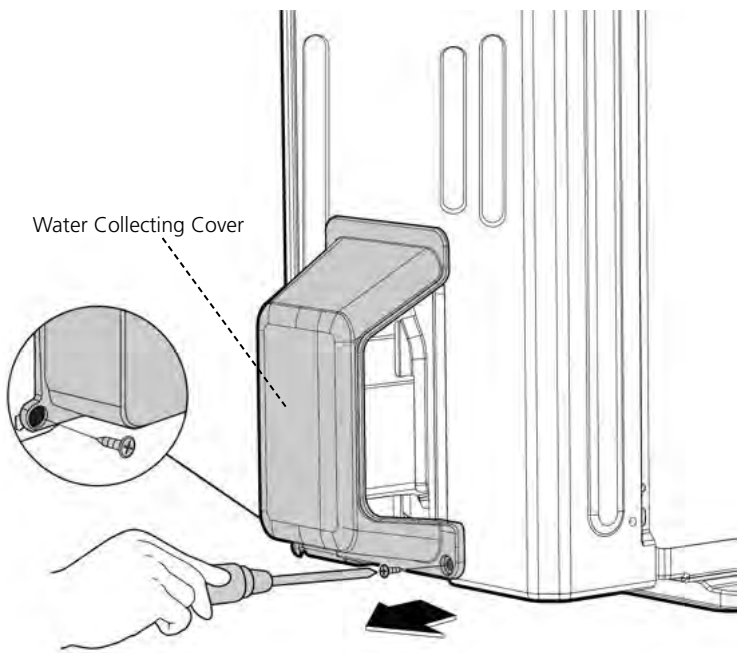
3. Outdoor Unit Disassembly

3.1 Panel Plate

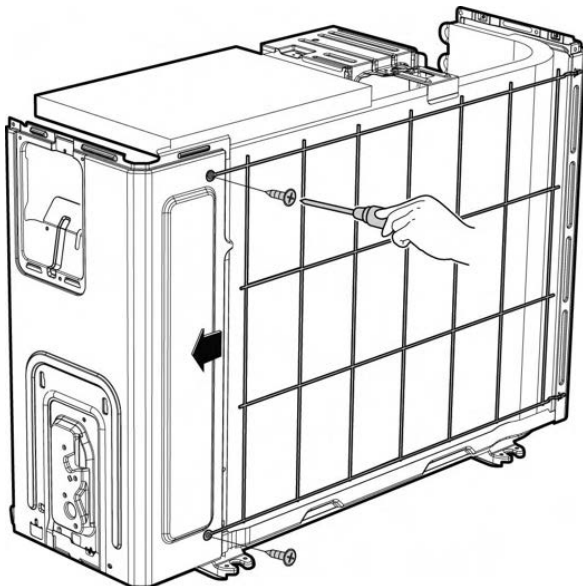
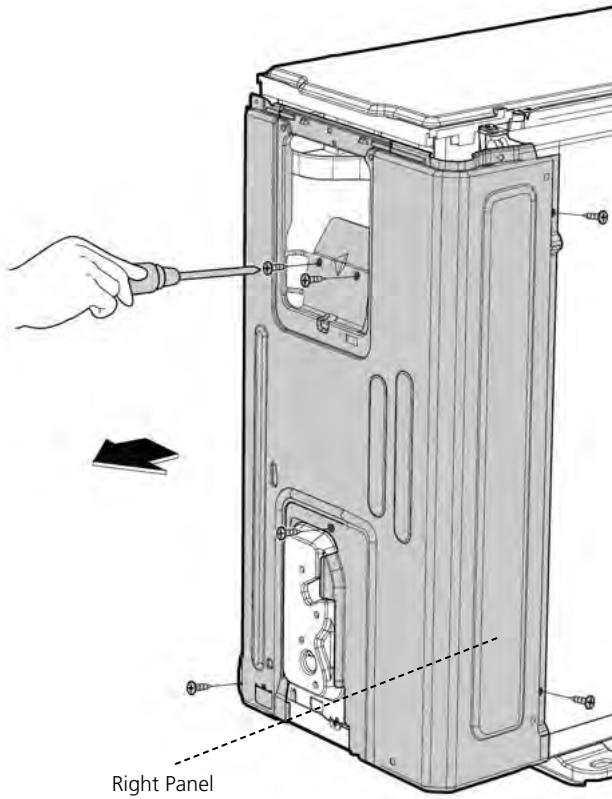
1. AA30 / AB30

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screws of the big handle and then remove the big handle (1 screws) (see CJ_AA30_001).</p>	 <p>Big Handle</p> <p>For US models (3 screws)</p>
<p>3) Remove the screws of the top cover and then remove the top cover (3 screws). One of the screws is located underneath the big handle (see CJ_AA30_002).</p>	 <p>Top Cover</p> <p>CJ_AA30_001</p> <p>CJ_AA30_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

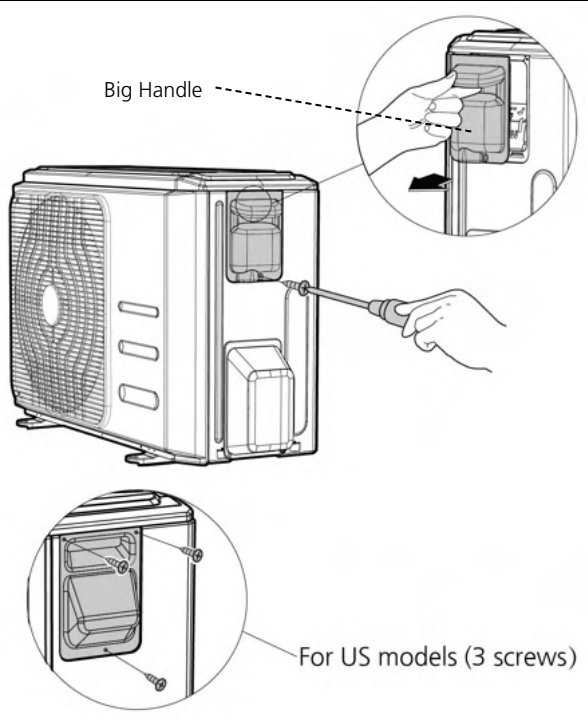
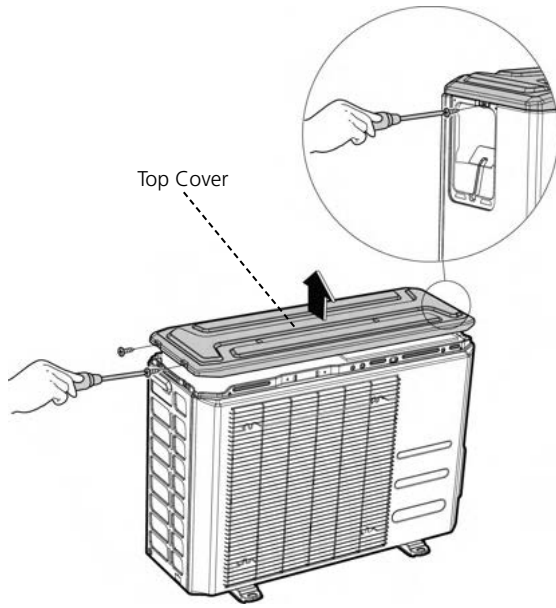
Procedure	Illustration
<p>4) Remove the screws of the front panel and then remove the front panel (6 screws) (see CJ_AA30_003).</p>	 <p>Front Panel</p> <p>CJ_AA30_003</p>
<p>5) Remove the screws of water collecting cover (2 screws) (see CJ_AA30_004).</p>	 <p>Water Collecting Cover</p> <p>CJ_AA30_004</p>

Note: This section is for reference only. Actual unit appearance may vary.

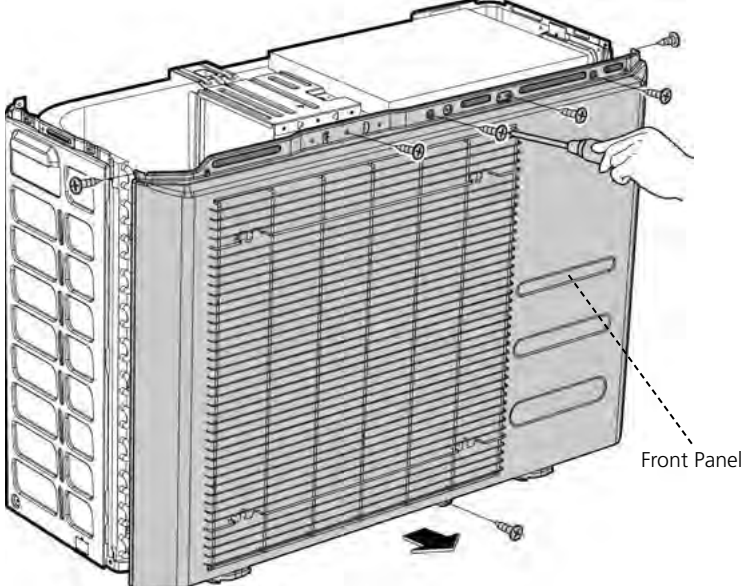
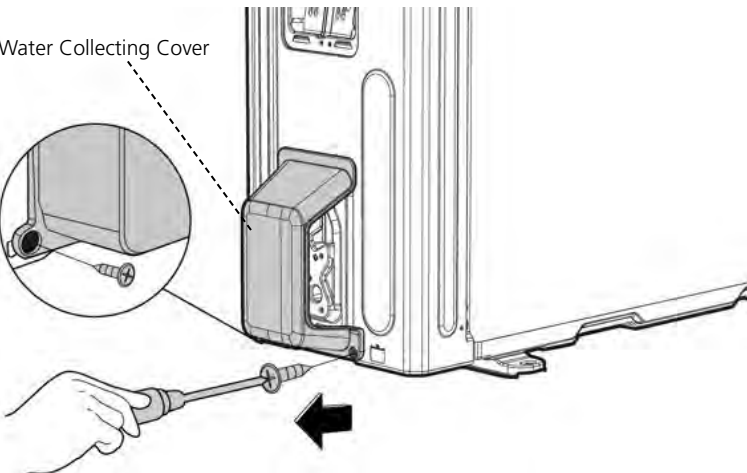
Procedure	Illustration
<p>6) Remove the screws of the rear net and then remove the rear net (2 screws) (see CJ_AA30_005). (for some models)</p>	 <p style="text-align: center;">CJ_AA30_005</p>
<p>7) Remove the screws of the right panel and then remove the right panel (6 screws) (see CJ_AA30_006).</p>	 <p style="text-align: center;">CJ_AA30_006</p>

Note: This section is for reference only. Actual unit appearance may vary.

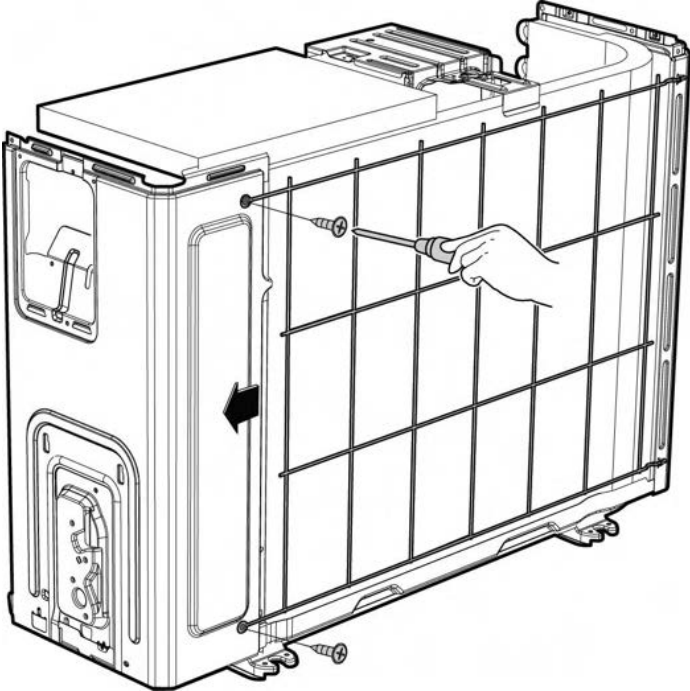
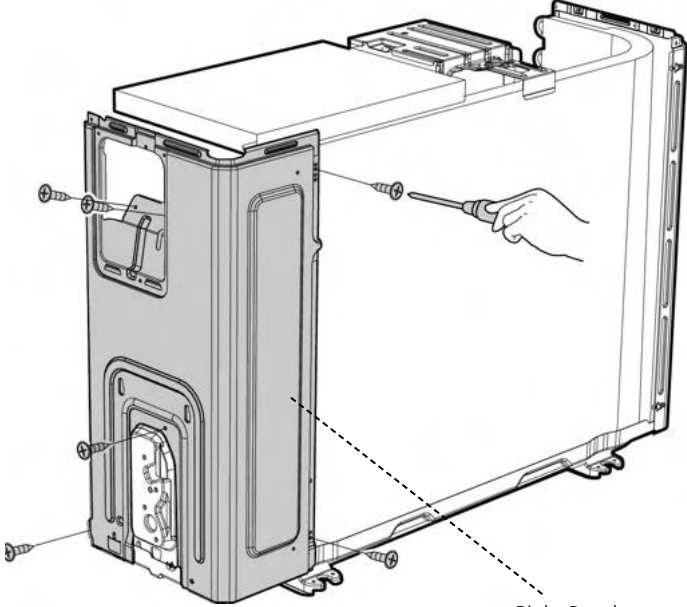
2. BA30

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screws of the big handle and then remove the big handle (1 screws) (see CJ_BA30_001).</p>	 <p>Big Handle</p> <p>For US models (3 screws)</p> <p>CJ_BA30_001</p>
<p>3) Remove the screws of the top cover and then remove the top cover (3 screws). One of the screws is located underneath the big handle (see CJ_BA30_002).</p>	 <p>Top Cover</p> <p>CJ_BA30_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

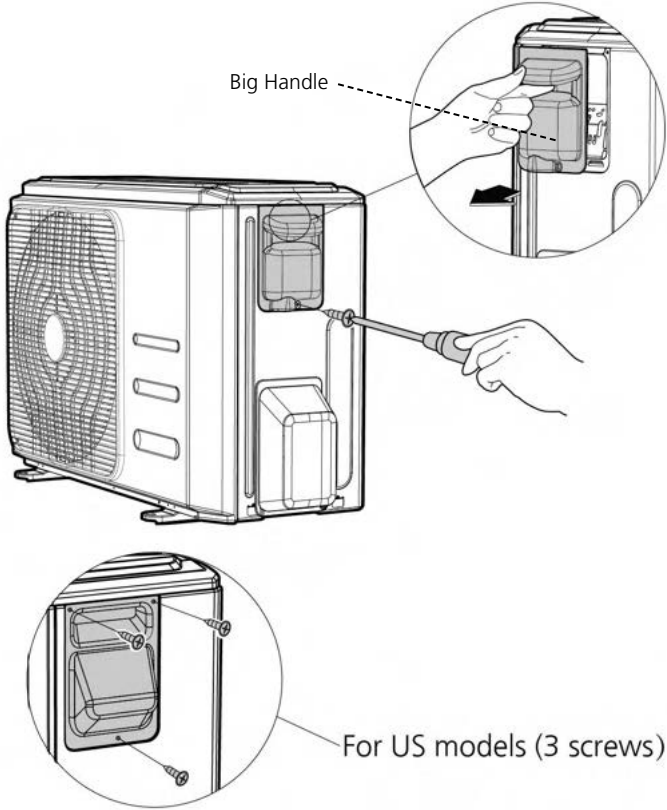
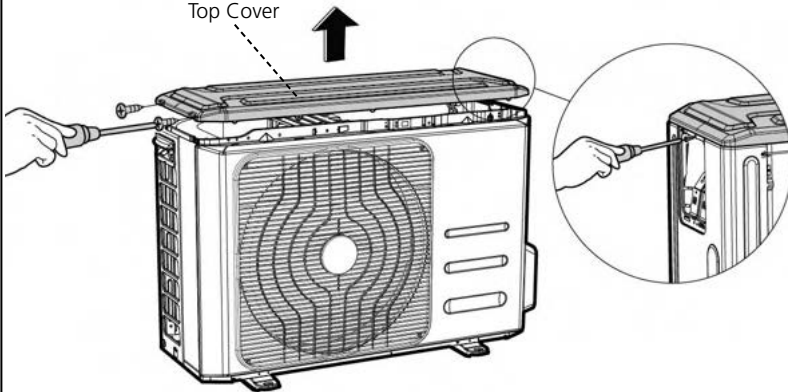
Procedure	Illustration
<p>4) Remove the screws of the front panel and then remove the front panel (7 screws) (see CJ_BA30_003).</p>	 <p style="text-align: center;">CJ_BA30_003</p>
<p>5) Remove the screws of water collecting cover (2 screws) (see CJ_BA30_004).</p>	 <p style="text-align: center;">CJ_BA30_004</p>

Note: This section is for reference only. Actual unit appearance may vary.

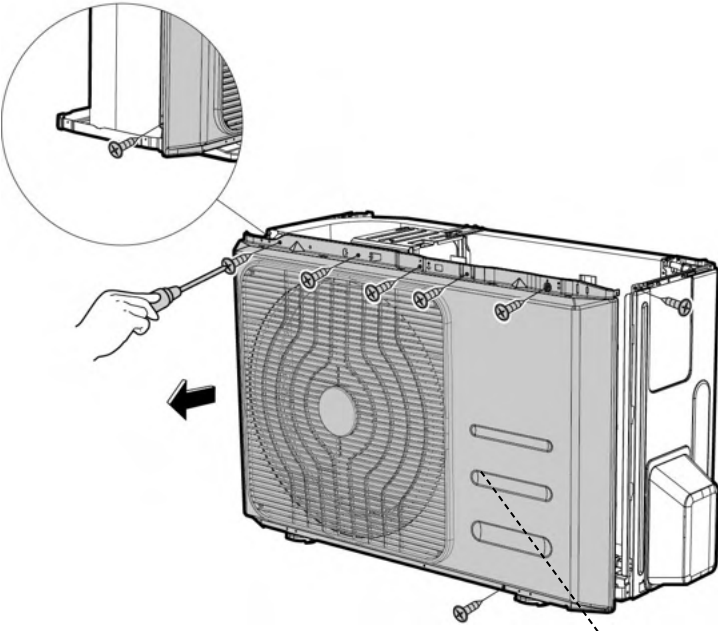
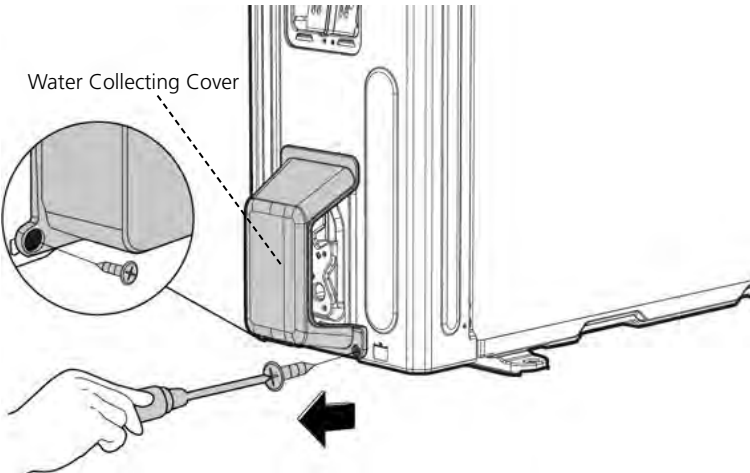
Procedure	Illustration
<p>6) Remove the screws of the rear net and then remove the rear net (2 screws) (see CJ_BA30_005). (for some models)</p>	 <p style="text-align: center;">CJ_BA30_005</p>
<p>7) Remove the screws of the right panel and then remove the right panel (6 screws) (see CJ_BA30_006).</p>	 <p style="text-align: center;">CJ_BA30_006</p> <p style="text-align: right;">Right Panel</p>

Note: This section is for reference only. Actual unit appearance may vary.

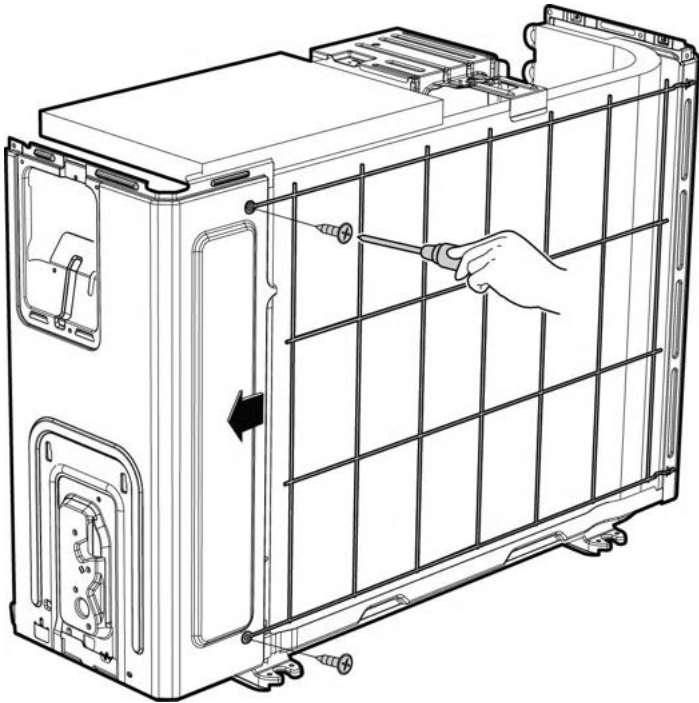
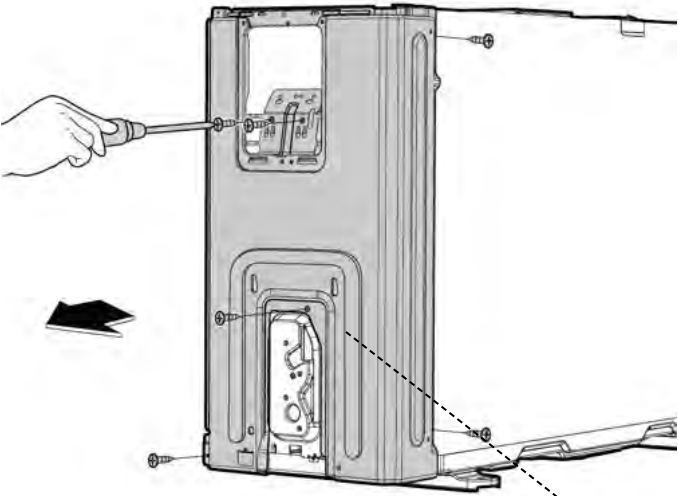
3. B30

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screws of the big handle and then remove the big handle (1 screws) (see CJ_B30_001).</p>	 <p>Big Handle</p> <p>For US models (3 screws)</p> <p>CJ_B30_001</p>
<p>3) Remove the screws of the top cover and then remove the top cover (3 screws). One of the screws is located underneath the big handle (see CJ_B30_002).</p>	 <p>Top Cover</p> <p>CJ_B30_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

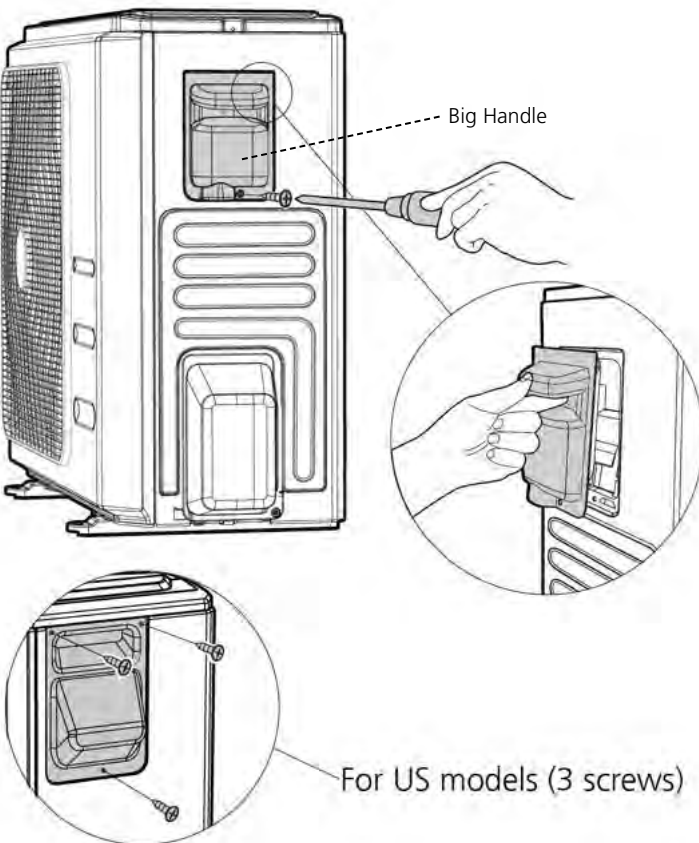
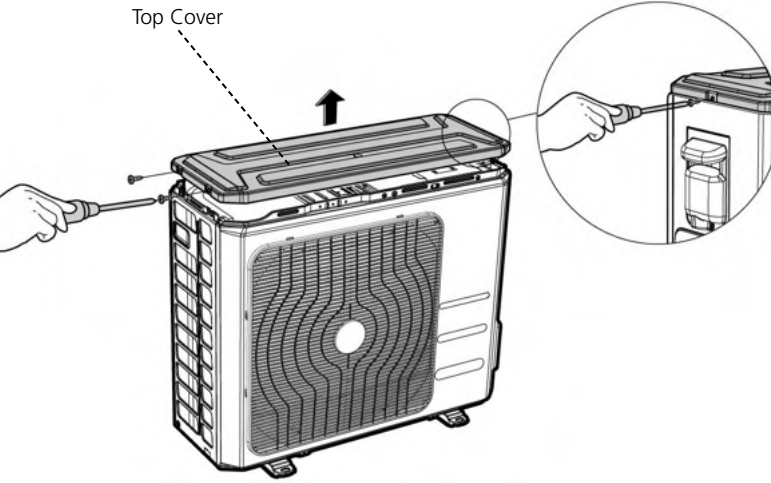
Procedure	Illustration
<p>4) Remove the screws of the front panel and then remove the front panel (8 screws) (see CJ_B30_003).</p>	 <p>CJ_B30_003</p> <p>Front Panel</p>
<p>5) Remove the screws of water collecting cover and then remove the water collecting cover (2 screws) (see CJ_B30_004).</p>	 <p>CJ_B30_004</p> <p>Water Collecting Cover</p>

Note: This section is for reference only. Actual unit appearance may vary.

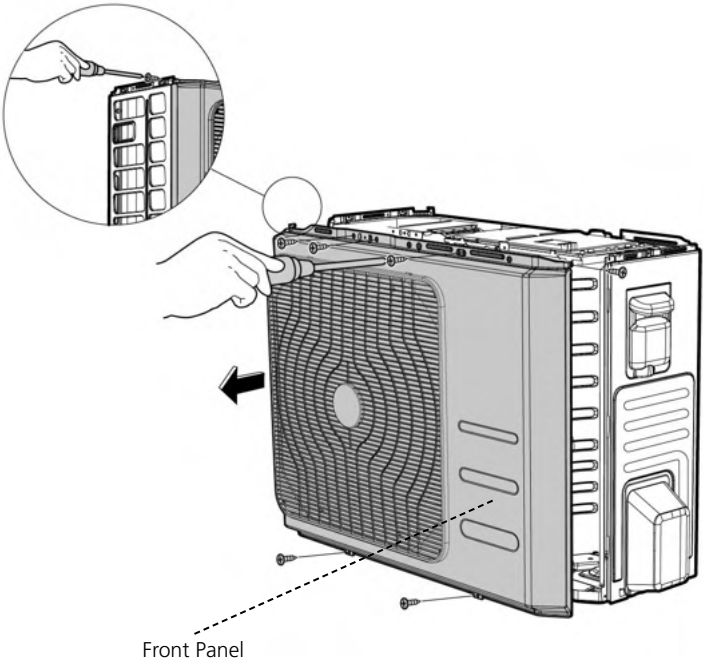
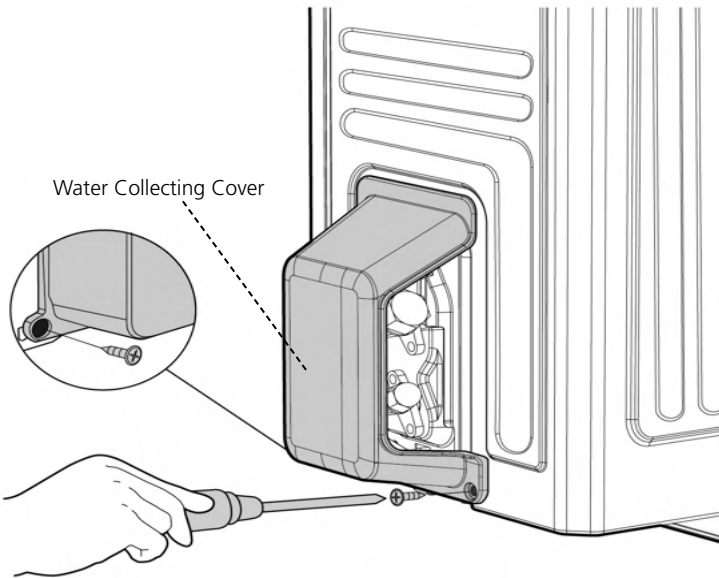
Procedure	Illustration
<p>6) Remove the screws of the rear net and then remove the rear net (2 screws) (see CJ_B30_005). (for some models)</p>	 <p style="text-align: center;">CJ_B30_005</p>
<p>7) Remove the screws of the right panel and then remove the right panel (5 screws) (see CJ_B30_006).</p>	 <p style="text-align: center;">CJ_B30_006</p> <p style="text-align: right;">Right Panel</p>

Note: This section is for reference only. Actual unit appearance may vary.

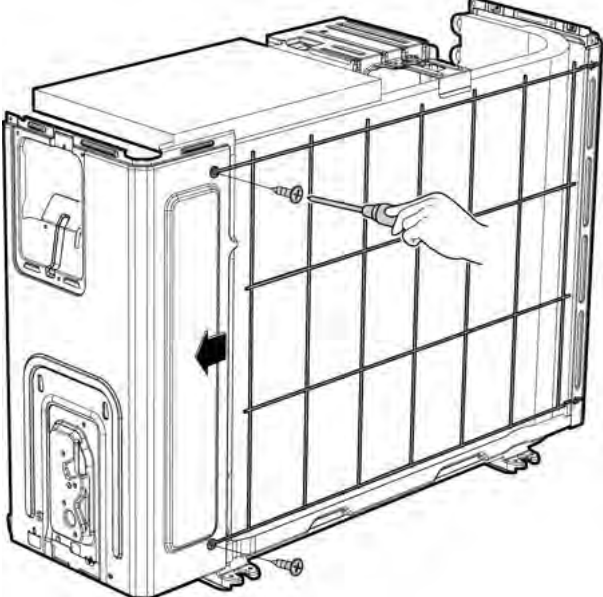
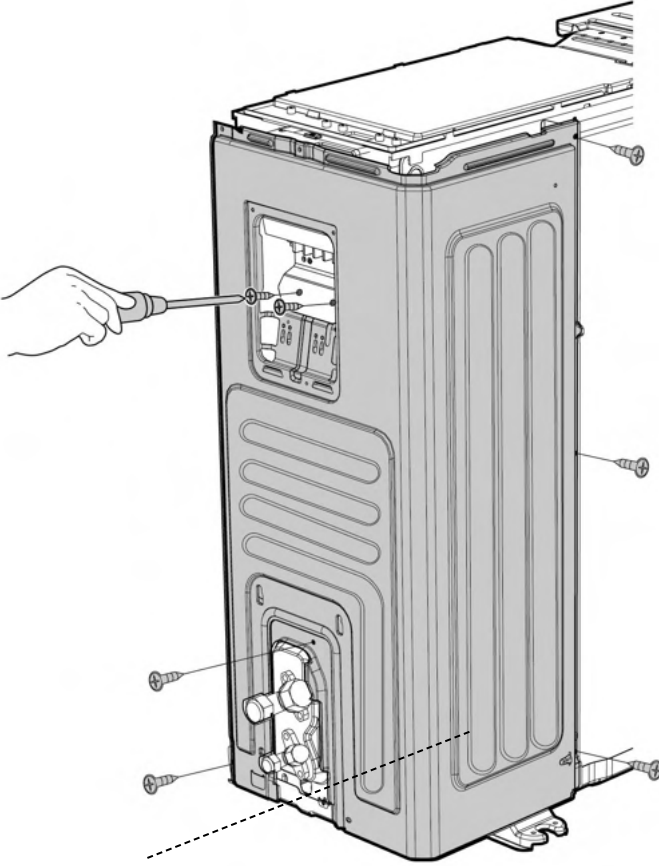
4. CA30

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screws of the big handle and then remove the big handle (1 screws) (see CJ_CA30_001).</p>	 <p>Big Handle</p> <p>For US models (3 screws)</p> <p>CJ_CA30_001</p>
<p>3) Remove the screws of the top cover and then remove the top cover (3 screws). One of the screws is located underneath the big handle (see CJ_CA30_002).</p>	 <p>Top Cover</p> <p>CJ_CA30_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

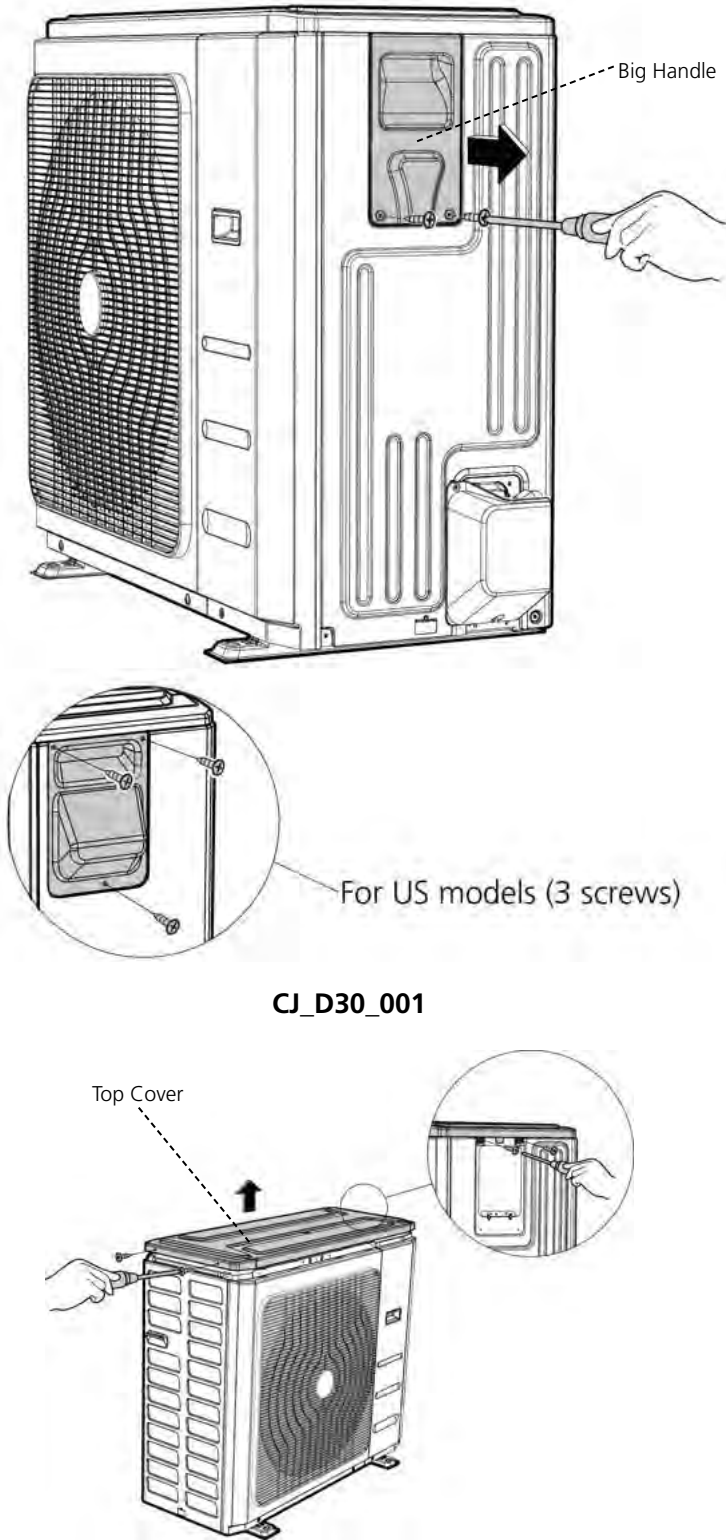
Procedure	Illustration
<p>4) Remove the screws of the front panel and then remove the front panel (7 screws) (see CJ_CA30_003).</p>	 <p>Front Panel</p> <p>CJ_CA30_003</p>
<p>5) Remove the screws of water collecting cover and then remove the water collecting cover (2 screws) (see CJ_CA30_004).</p>	 <p>Water Collecting Cover</p> <p>CJ_CA30_004</p>

Note: This section is for reference only. Actual unit appearance may vary.

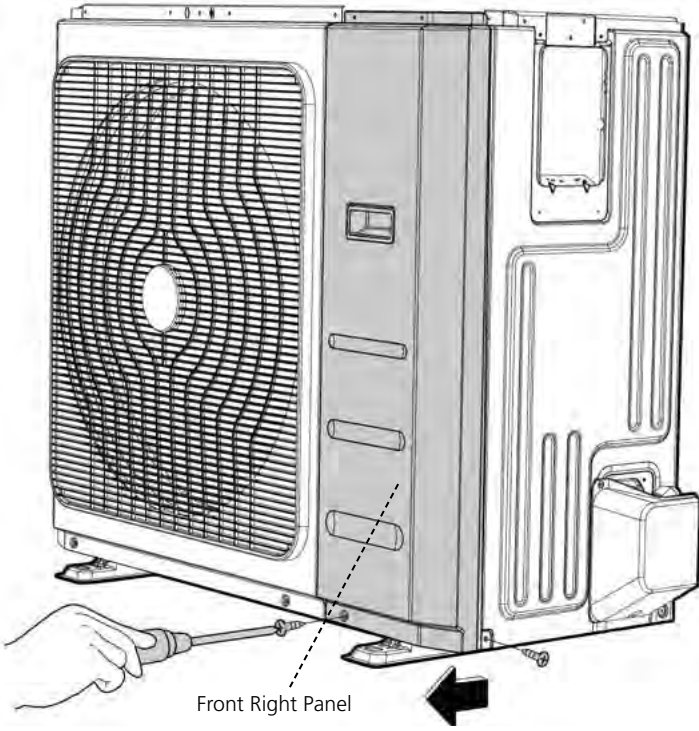
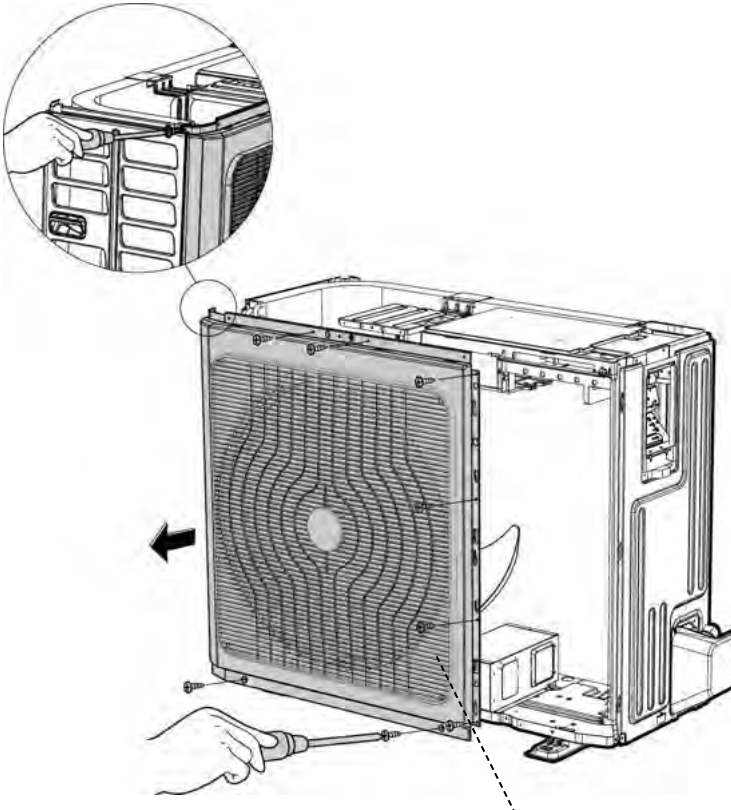
Procedure	Illustration
<p>6) Remove the screws of the rear net and then remove the rear net (2 screws) (see CJ_CA30_005). (for some models)</p>	 <p style="text-align: center;">CJ_CA30_005</p>
<p>7) Remove the screws of the right panel and then remove the right panel (7 screws) (see CJ_CA30_006).</p>	 <p style="text-align: center;">CJ_CA30_006</p>

Note: This section is for reference only. Actual unit appearance may vary.

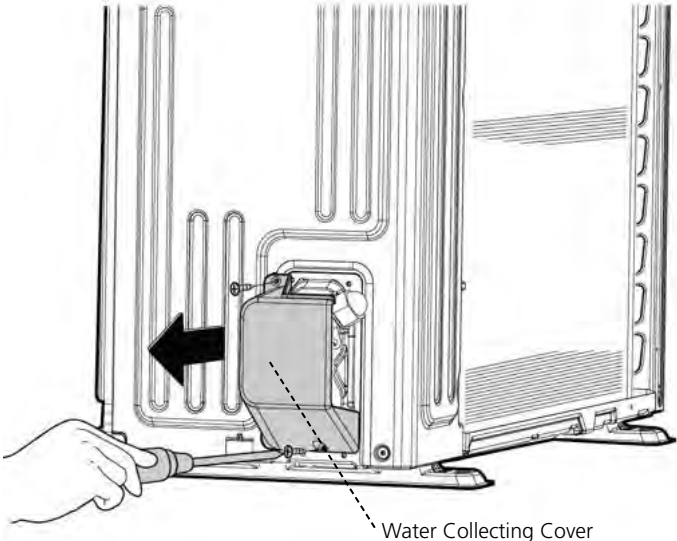
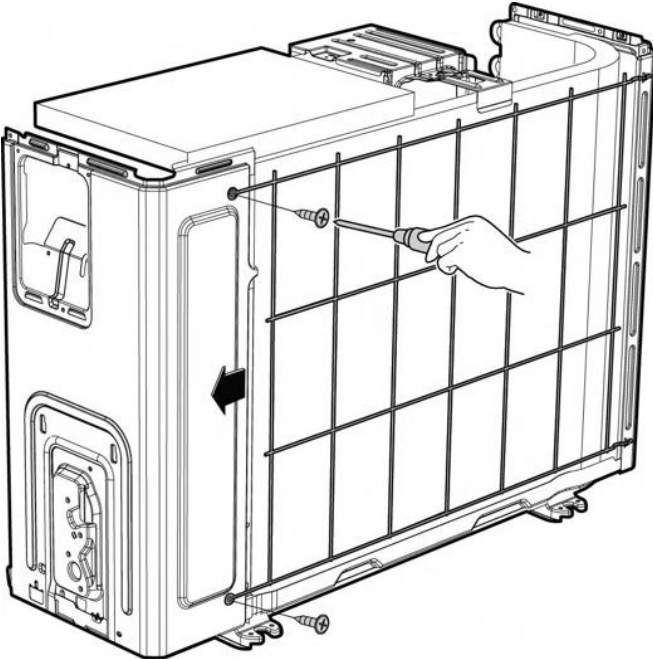
5. D30

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screws of the big handle and then remove the big handle (2 screws) (see CJ_D30_001).</p> <p>3) Remove the screws of the top cover and then remove the top cover (4 screws). Two of the screws is located underneath the big handle (see CJ_D30_002).</p>	 <p>The illustration consists of two parts. The top part, labeled CJ_D30_001, shows a side view of the outdoor unit with a hand using a screwdriver to remove screws from a 'Big Handle' on the right side. A circular inset shows a close-up of the handle being removed, with a note 'For US models (3 screws)'. The bottom part, labeled CJ_D30_002, shows a front view of the outdoor unit with a hand using a screwdriver to remove screws from the 'Top Cover'. A circular inset shows a close-up of the top cover being lifted, with an upward arrow indicating its removal.</p> <p style="text-align: center;">CJ_D30_001</p> <p style="text-align: center;">CJ_D30_002</p>

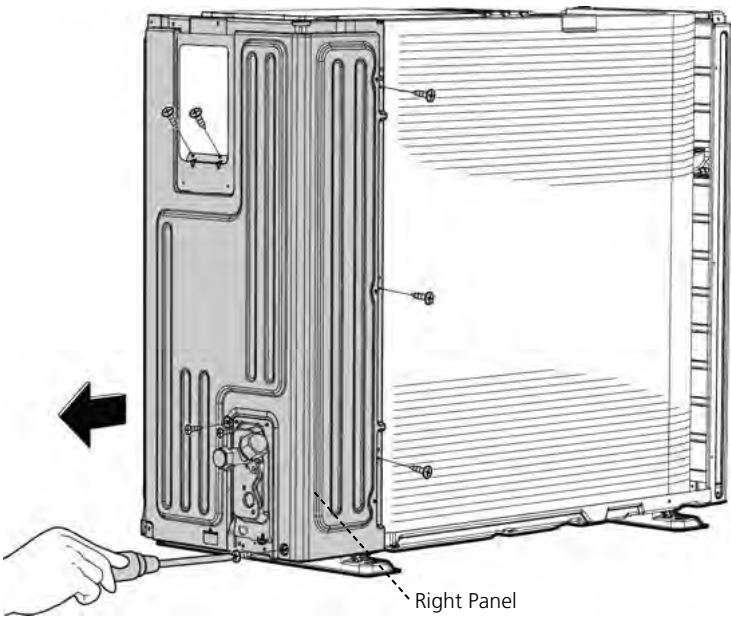
Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>4) Remove the screws of the front right panel and then remove the front right panel (2 screws) (see CJ_D30_003).</p>	 <p>Front Right Panel</p> <p>CJ_D30_003</p>
<p>5) Remove the screws of the front panel and then remove the front panel (9 screws) (see CJ_D30_004).</p>	 <p>Front Panel</p> <p>CJ_D30_004</p>

Note: This section is for reference only. Actual unit appearance may vary.

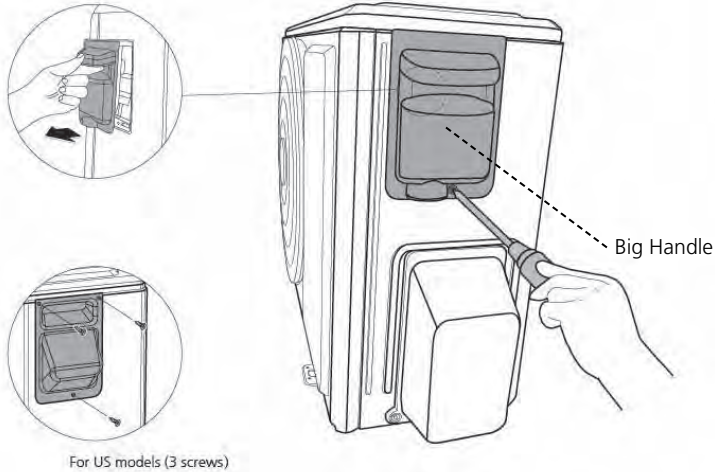
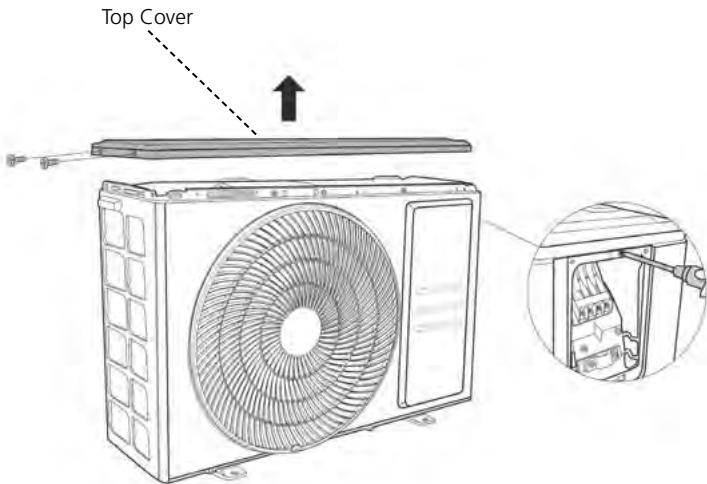
Procedure	Illustration
<p>6) Remove the screws of water collecting cover and then remove the water collecting cover (2 screw) (see CJ_D30_005).</p>	 <p>Water Collecting Cover</p> <p>CJ_D30_005</p>
<p>7) Remove the screws of the rear net and then remove the rear net (2 screws) (see CJ_D30_006). (for some models)</p>	 <p>CJ_D30_006</p>

Note: This section is for reference only. Actual unit appearance may vary.

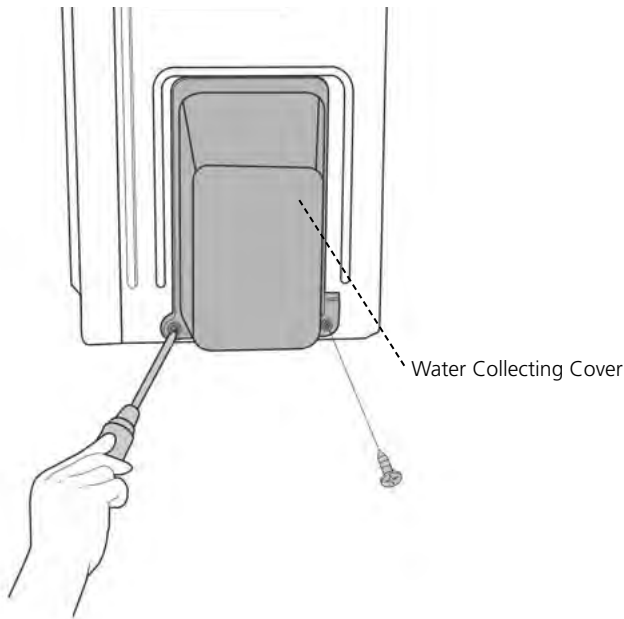
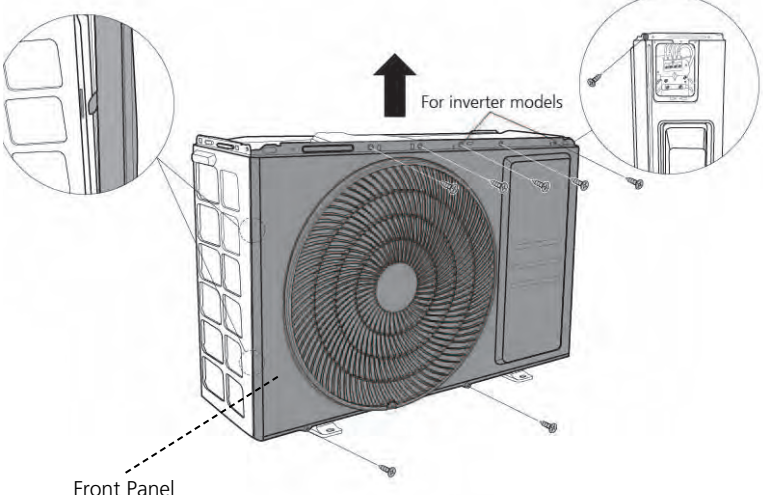
Procedure	Illustration
<p>8) Remove the screws of the right panel and then remove the right panel (8 screws) (see CJ_D30_007).</p>	 <p style="text-align: center;">CJ_D30_007</p>

Note: This section is for reference only. Actual unit appearance may vary.

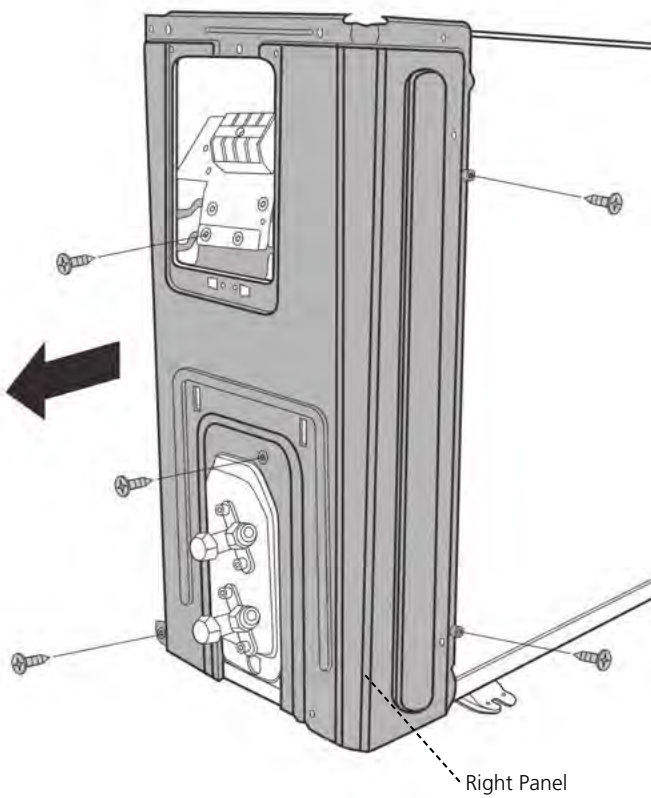
6. X130

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screw of the big handle and then remove the big handle (1 screw) (see CJ_X130_001).</p> <p>3) Remove the screws of the top cover and then remove the top cover (3 screws). One of the screws is located underneath the big handle (see CJ_X130_002).</p>	 <p style="text-align: center;">CJ_X130_001</p>  <p style="text-align: center;">CJ_X130_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

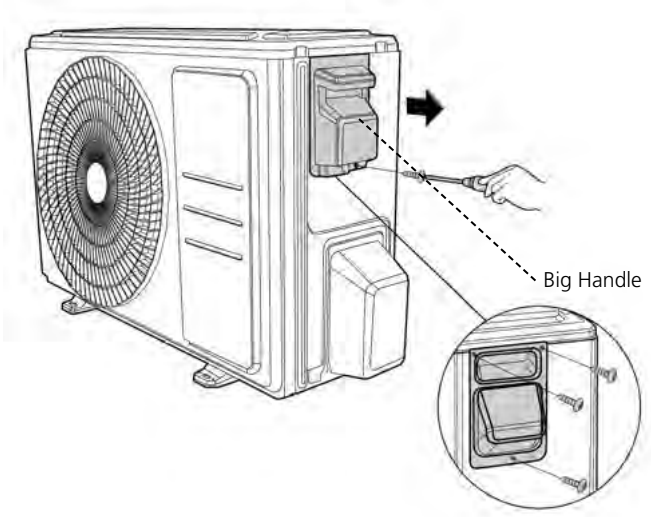
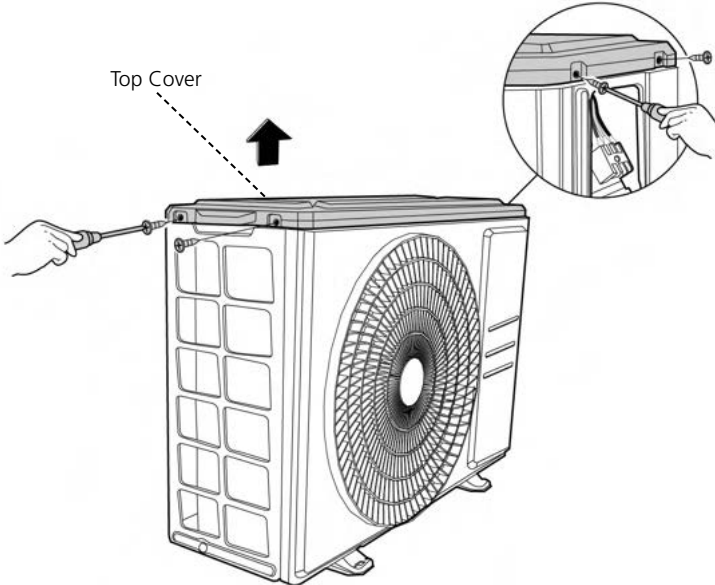
Procedure	Illustration
<p>4) Remove the screws of water collecting cover and then remove the water collecting cover (2 screws) (see CJ_X130_003).</p>	 <p>Water Collecting Cover</p> <p>CJ_X130_003</p>
<p>5) Remove the screws of the front panel and then remove the front panel (6 screws(onoff models) or 8 screws(inverter models) (see CJ_X130_004).</p>	 <p>For inverter models</p> <p>Front Panel</p> <p>CJ_X130_004</p>

Note: This section is for reference only. Actual unit appearance may vary.

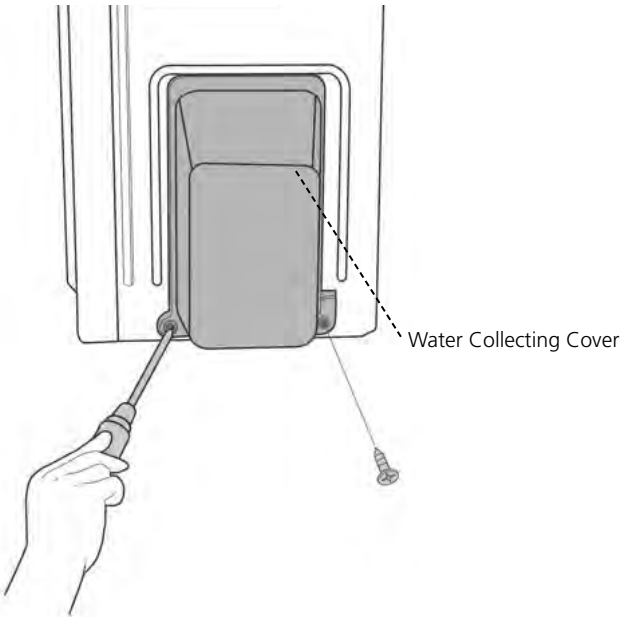
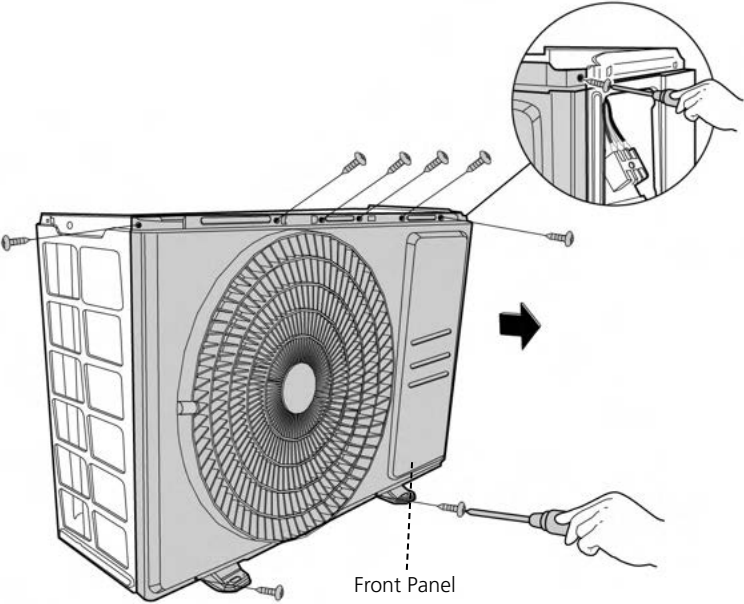
Procedure	Illustration
<p>6) Remove the screws of the right panel and then remove the right panel (5 screws) (see CJ_X130_005).</p>	 <p style="text-align: center;">CJ_X130_005</p>

Note: This section is for reference only. Actual unit appearance may vary.

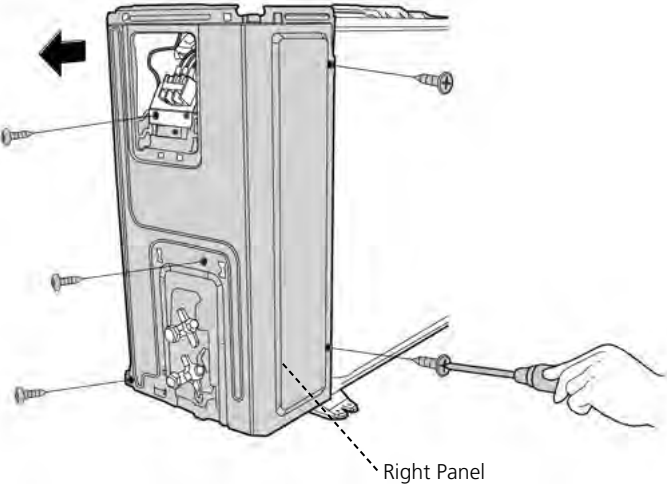
7. X230/X330

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screw of the big handle and then remove the big handle (1 screws) (see CJ_X230_001).</p> <p>3) Remove the screws of the top cover and then remove the top cover (4 screws). One of the screws is located underneath the big handle (see CJ_X230_002).</p>	 <p data-bbox="925 1019 1101 1064">CJ_X230_001</p>  <p data-bbox="925 1724 1101 1769">CJ_X230_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

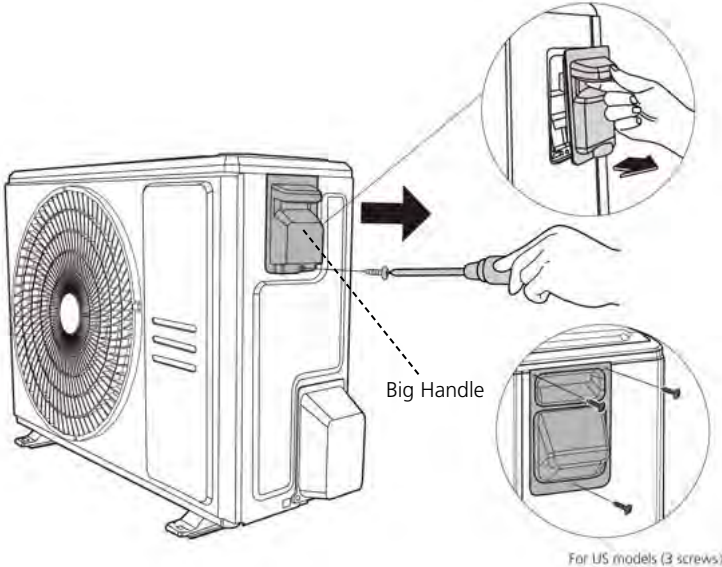
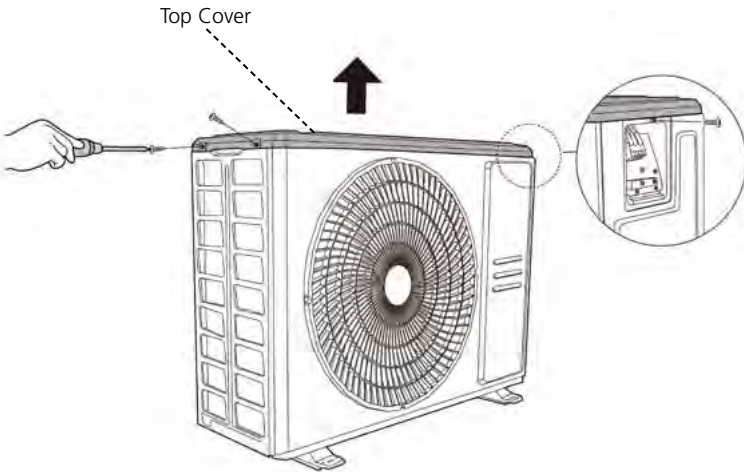
Procedure	Illustration
<p>4) Remove the screws of water collecting cover and then remove the water collecting cover (2 screws) (see CJ_X230_003).</p>	 <p style="text-align: center;">CJ_X230_003</p>
<p>5) Remove the screws of the front panel and then remove the front panel (7 screws(onoff models) or 9 screws(inverter models) (see CJ_X230_004).</p>	 <p style="text-align: center;">CJ_X230_004</p>

Note: This section is for reference only. Actual unit appearance may vary.

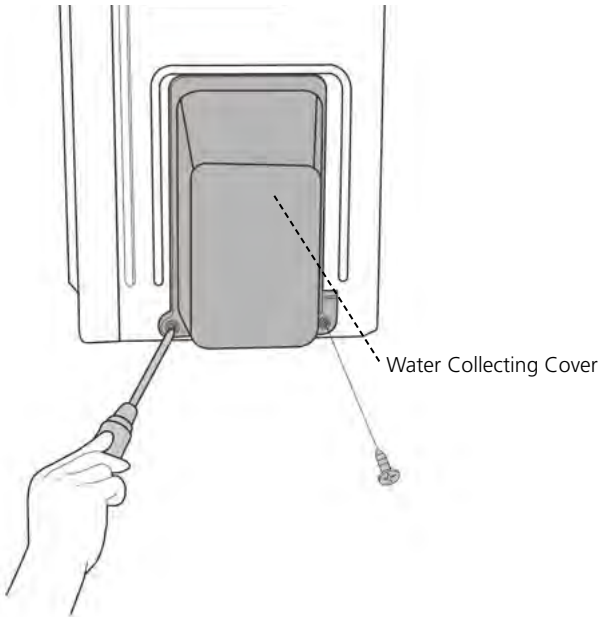
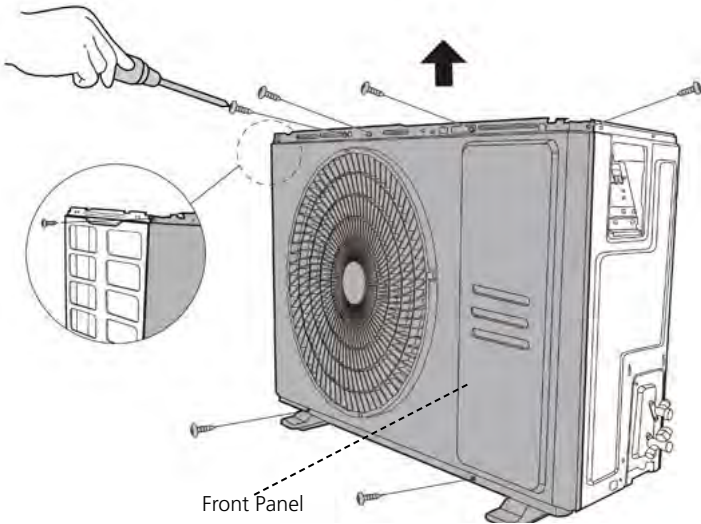
Procedure	Illustration
<p>6) Remove the screws of the right panel and then remove the right panel (5 screws) (see CJ_X230_005).</p>	 <p style="text-align: center;">CJ_X230_005</p>

Note: This section is for reference only. Actual unit appearance may vary.

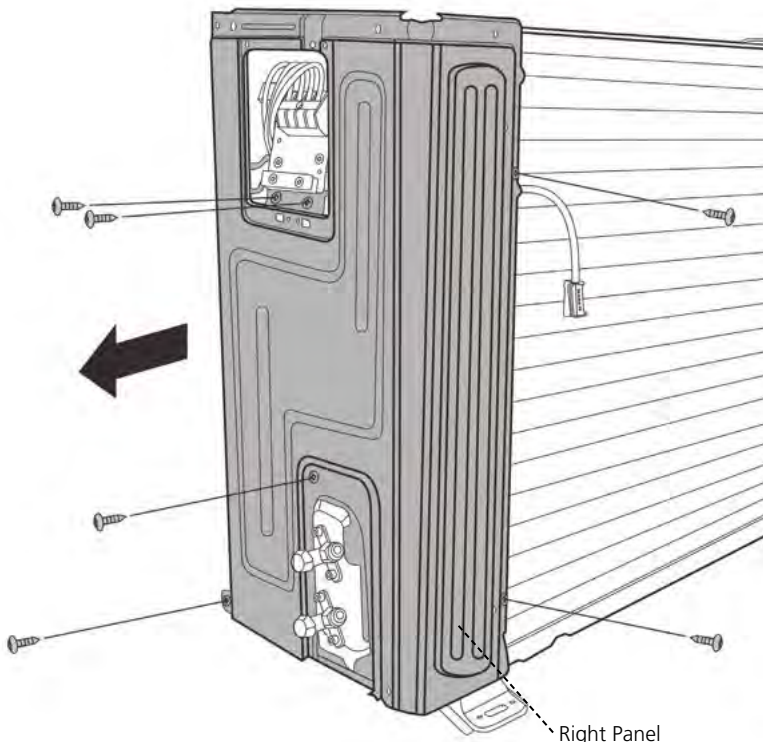
8. X430

Procedure	Illustration
<p>1) Turn off the air conditioner and the power breaker.</p> <p>2) Remove the screw of the big handle and then remove the big handle (1 screw) (see CJ_X430_001).</p> <p>3) Remove the screws of the top cover and then remove the top cover (3 screws). One of the screws is located underneath the big handle (see CJ_X430_002).</p>	 <p style="text-align: center;">CJ_X430_001</p>  <p style="text-align: center;">CJ_X430_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>4) Remove the screws of water collecting cover and then remove the water collecting cover (2 screws) (see CJ_X430_003).</p>	 <p style="text-align: center;">CJ_X430_003</p>
<p>5) Remove the screws of the front panel and then remove the front panel (7 screws(onoff models) or 9 screws(inverter models) (see CJ_X430_004).</p>	 <p style="text-align: center;">CJ_X430_004</p>

Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>6) Remove the screws of the right panel and then remove the right panel (6 screws) (see CJ_X430_005).</p>	 <p style="text-align: center;">CJ_X430_005</p>

Note: This section is for reference only. Actual unit appearance may vary.

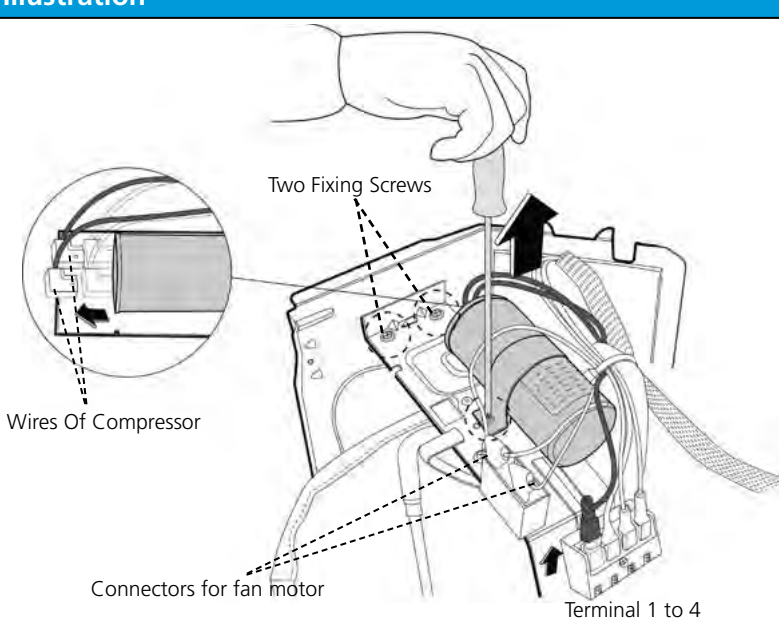
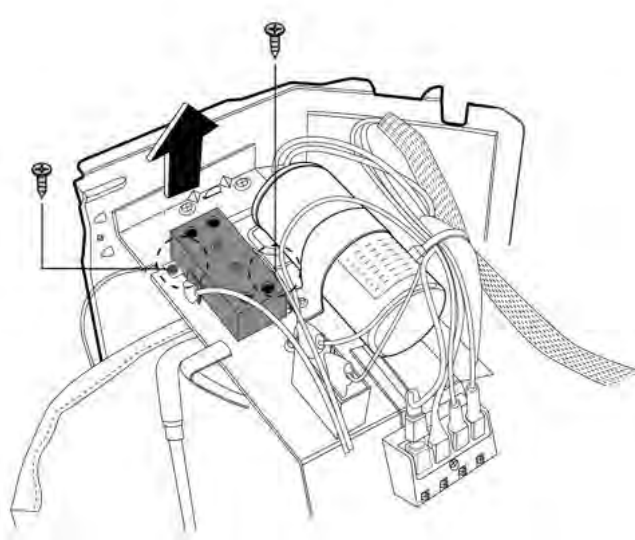
3.2 Electrical parts

⚠ WARNING: Antistatic gloves must be worn when you disassemble the electronic box.

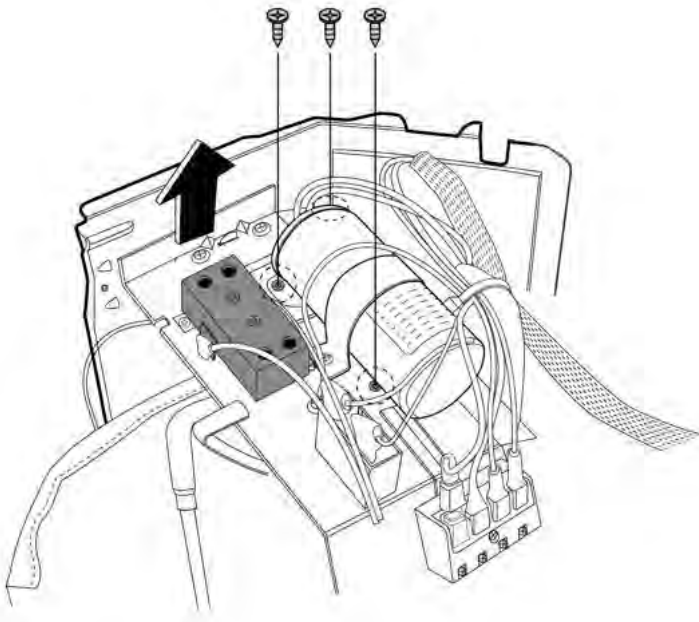
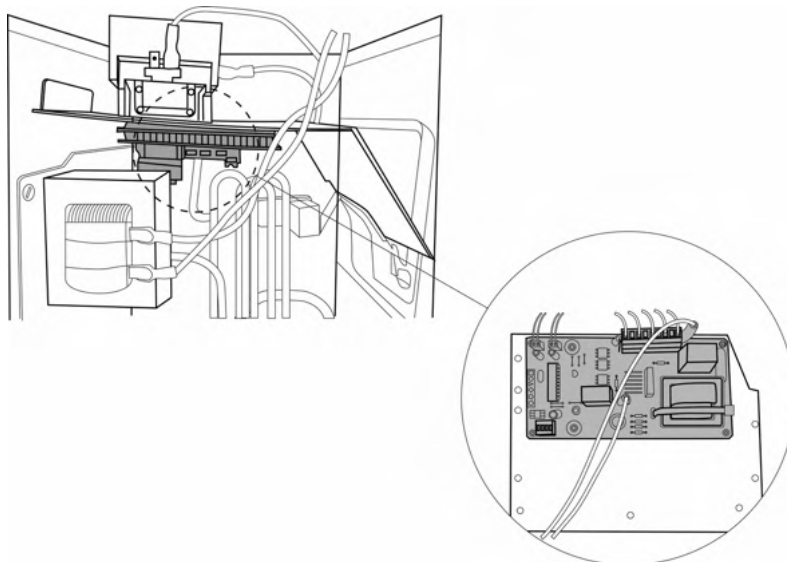
Note: Remove the air outlet grille(refer to 3.1 Panel Plate) before disassembling electrical parts.

i) PCB for ON-OFF Models

1. PCB board 1

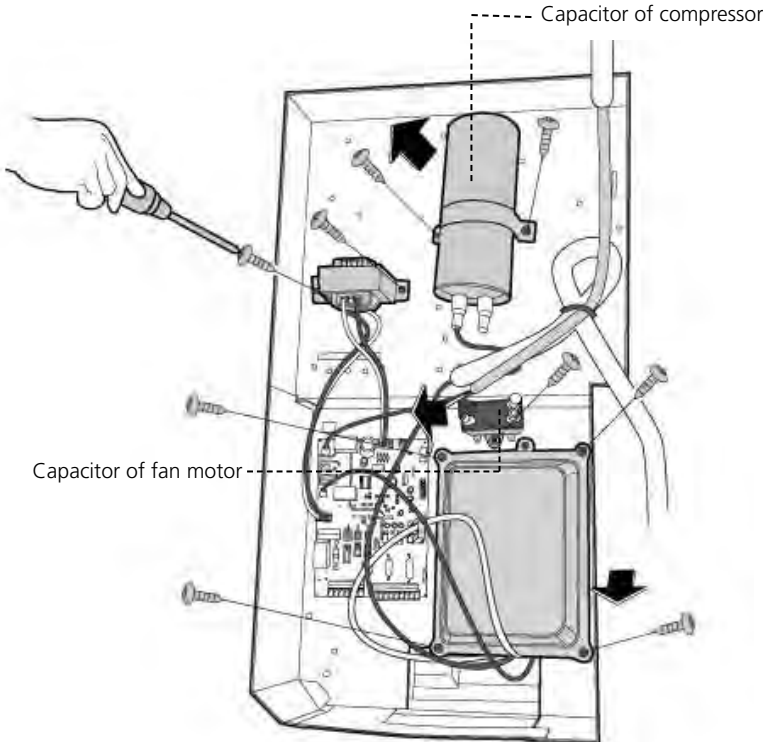
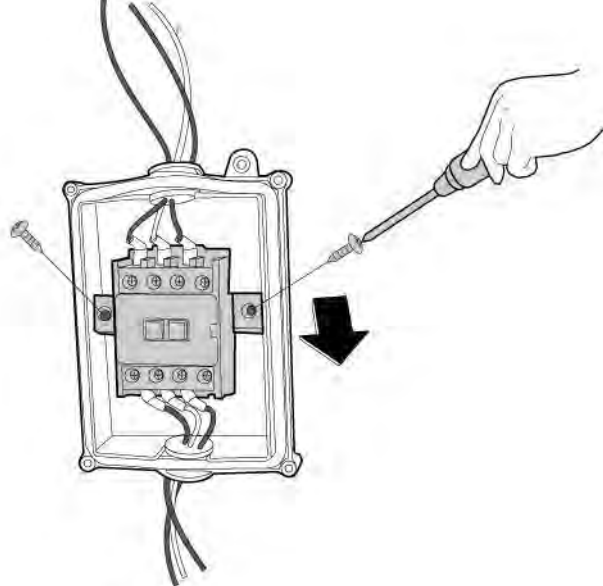
Procedure	Illustration
<ol style="list-style-type: none"> 1) Remove the two screws fixed the electronic control board (see CJ_ODU_PCB_001). 2) Disconnect the connectors for fan motor. (Blue wire, yellow wire, red wire, brown wire and black wire. The blue wire and red wire are on the capacitor. The black wire connects with terminal 4.) (see CJ_ODU_PCB_001) 3) Disconnect the wires connected to the compressor. (Black wire connects with terminal 1, blue wire and red wire connect with the compressor capacitor) (see CJ_ODU_PCB_001) 4) Disconnect the wires connected to 4-way valve. (Blue wires on terminal 2&3) (see CJ_ODU_PCB_001) 5) Remove the fixing screw of the compressor capacitor, then pull it out (see CJ_ODU_PCB_001) 6) Remove the electrical parts (see CJ_ODU_PCB_001) 7) For models with AC conductor, remove 2 screws of it showed in the figure. 	 <p>CJ_ODU_PCB_001-01</p>  <p>CJ_ODU_PCB_001-02</p>

Note: This section is for reference only. Actual unit appearance may vary.

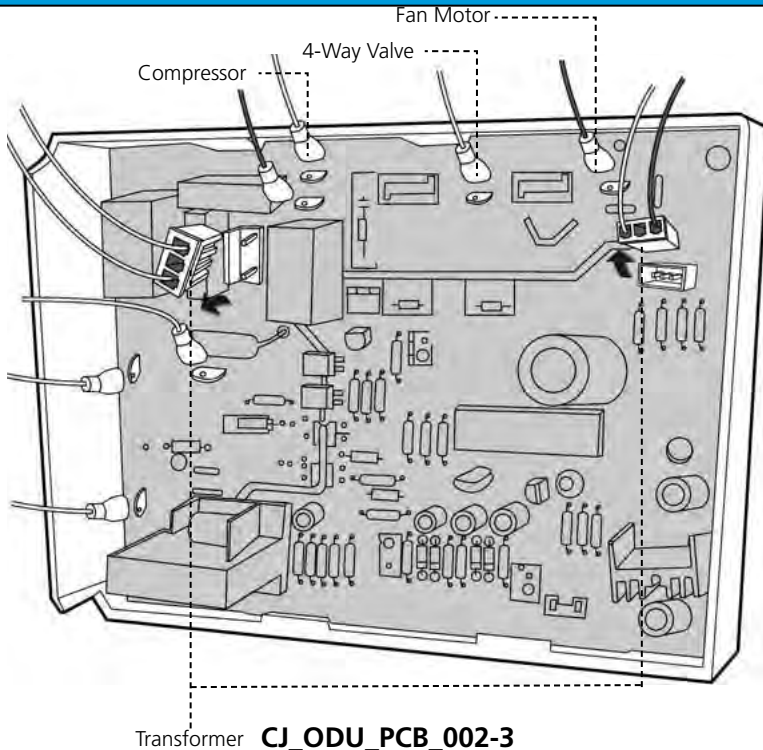
Procedure	Illustration
<p>8) For models with subzero refrigeration control board, remove 3 screws of it showed in the figure.</p>	 <p>CJ_ODU_PCB_001-03</p>
<p>9) The subzero refrigeration control board is in the back of the medal sheet.</p>	 <p>CJ_ODU_PCB_001-04</p>

Note: This section is for reference only. Actual unit appearance may vary.

2. PCB board 2

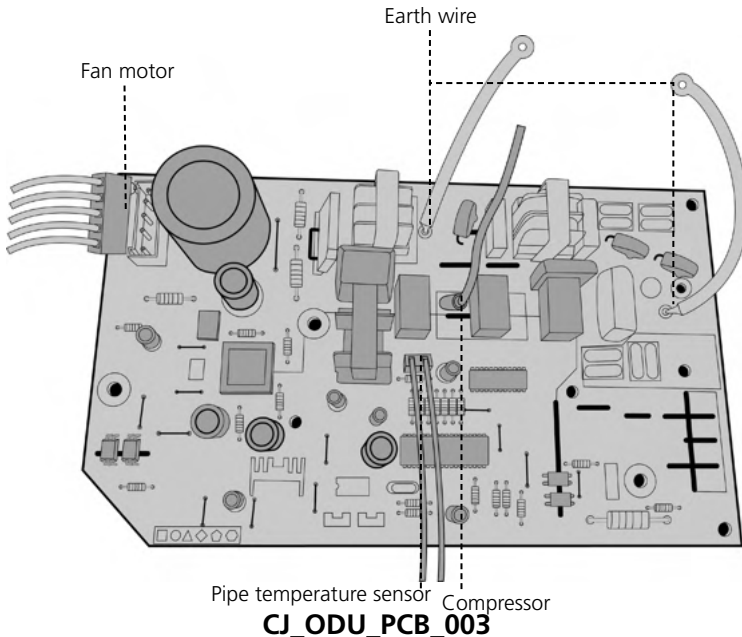
Procedure	Illustration
<ol style="list-style-type: none"> 1) Remove the fixing screws of the compressor capacitor, then pull it out (see CJ_ODU_PCB_002-1) 2) Remove 2 screws of the transformer and then remove it. (see CJ_ODU_PCB_002-1) 3) Remove the fixing screws of the fan motor capacitor, then remove it. (see CJ_ODU_PCB_002-1) 4) Remove the 4 screws of the electronic installing box and then remove it. (see CJ_ODU_PCB_002-1) (for some models) 	 <p style="text-align: center;">CJ_ODU_PCB_002-1</p>  <p style="text-align: center;">CJ_ODU_PCB_002-2</p>

Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>6) Disconnect the wires connected to the compressor. (Red wire connects with PCB board, others connects with terminals) (see CJ_ODU_PCB_002-3) (For some models)</p> <p>7) Disconnect the connectors for fan motor. (Blue wire, red wire, brown wire and black wire. The blue wire and brown wire are on the capacitor. The black wire connects with a terminal. And the red wire is on the board.) (see CJ_ODU_PCB_002-3)(For some models)</p> <p>8) Disconnect the wires connected to 4-way valve. (see CJ_ODU_PCB_002-3)(For some models)</p> <p>9) Disconnect the wires connected to the transformer. (see CJ_ODU_PCB_002-3)(For some models)</p> <p>10) Disconnect the other wires connected to terminals. (see CJ_ODU_PCB_002-3)(For some models)</p> <p>11) Remove the PCB board. (see CJ_ODU_PCB_002-3)(For some models)</p>	 <p>The illustration shows a detailed view of the CJ_ODU_PCB_002-3 PCB board. It is populated with various electronic components including capacitors, resistors, and integrated circuits. Four specific components are highlighted with dashed lines and labels: the Compressor, Fan Motor, 4-Way Valve, and Transformer. Wires are shown connected to these components and other terminals on the board.</p>

Note: This section is for reference only. Actual unit appearance may vary.

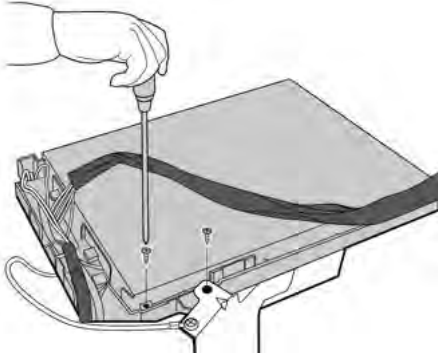
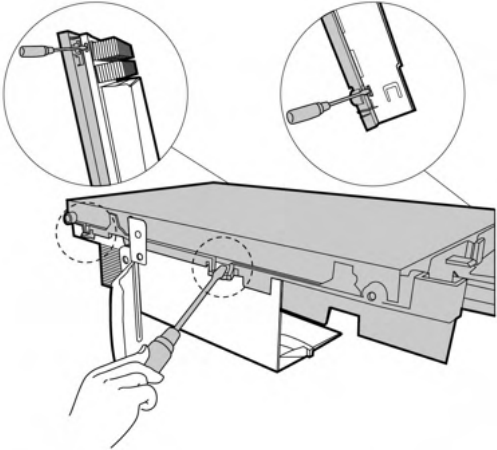
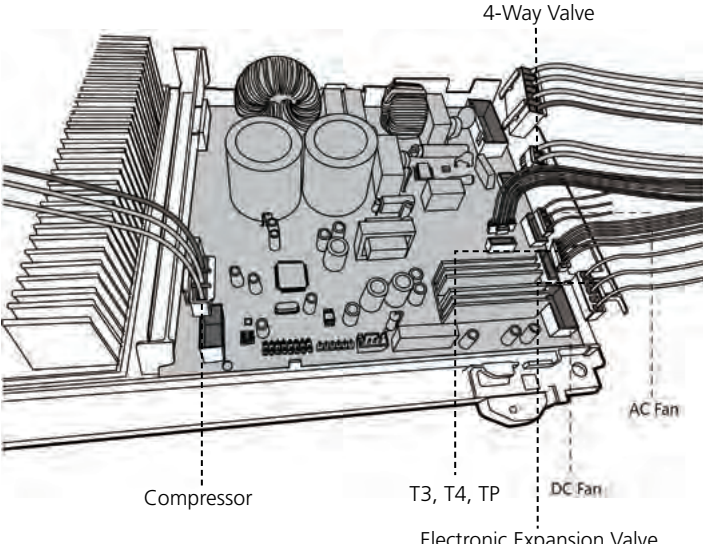
3. PCB board 3

Procedure	Illustration
<p>1) Disconnect the connectors for fan motor (see CJ_ODU_PCB_003).</p> <p>2) Disconnect the wires connected to the compressor (see CJ_ODU_PCB_003).</p> <p>3) Disconnect the wires connected to Pipe temperature sensor (see CJ_ODU_PCB_003).</p> <p>4) Disconnect the earth wire (see CJ_ODU_PCB_003).</p> <p>5) Remove the PCB board (see CJ_ODU_PCB_003).</p>	 <p>The illustration shows the CJ_ODU_PCB_003 PCB board. It features a fan motor, a pipe temperature sensor, and a compressor. An earth wire is also shown connected to the board. The components are labeled with dashed lines: Fan motor, Earth wire, Pipe temperature sensor, and Compressor. The board is populated with various electronic components and connectors.</p>

Note: This section is for reference only. Actual unit appearance may vary.

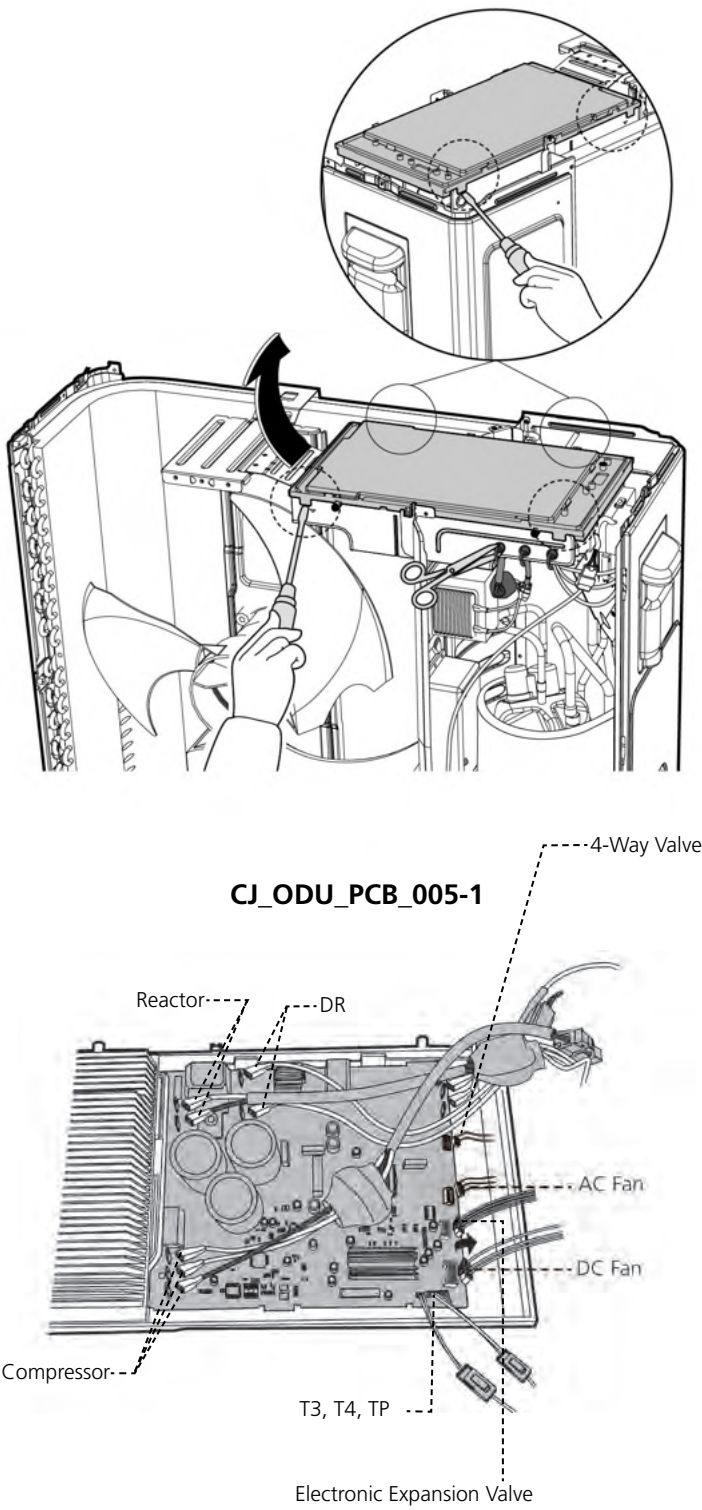
ii) PCB for Inverter Models

4. PCB board 4

Procedure	Illustration
<ol style="list-style-type: none"> 1) Remove the screws of the top cover. (2 screws) (see CJ_ODU_PCB_004-1). 2) Unfix the hooks and then open the electronic control box cover (4 hooks) (see CJ_ODU_PCB_004-2). 3) Disconnect the connector for fan motor from the electronic control board (see CJ_ODU_PCB_004-3). 4) Remove the connector for the compressor (see CJ_ODU_PCB_004-3). 5) Pull out the two blue wires connected with the four way valve (CJ_ODU_PCB_004-3). 6) Pull out connectors of the condenser coil temp. sensor(T3),outdoor ambient temp. sensor(T4) and discharge temp. sensor(TP) (CJ_ODU_PCB_004-3). 7) Disconnect the electronic expansion valve wire (CJ_ODU_PCB_004-3). 8) Then remove the electronic control board. 	 <p style="text-align: center;">CJ_ODU_PCB_004-1</p>  <p style="text-align: center;">CJ_ODU_PCB_004-2</p>  <p style="text-align: center;">CJ_ODU_PCB_004-3</p>

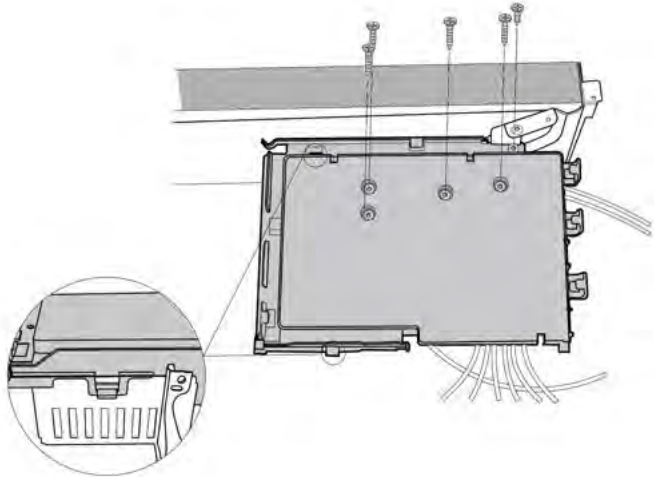
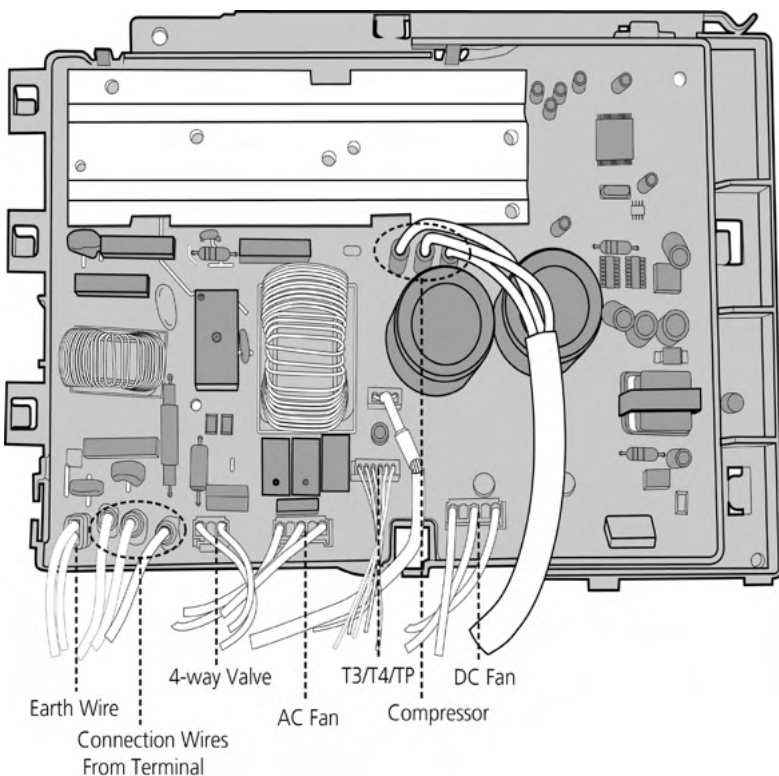
Note: This section is for reference only. Actual unit appearance may vary.

5. PCB board 5

Procedure	Illustration
<ol style="list-style-type: none"> 1) Unfix the hooks and then open the electronic control box cover (4 hooks) (see CJ_ODU_PCB_005-1). 2) Disconnect the connector for fan motor from the electronic control board (see CJ_ODU_PCB_005-2). 3) Remove the connector for the compressor (see CJ_ODU_PCB_005-2). 4) Pull out the two blue wires connected with the four way valve (see CJ_ODU_PCB_005-2). 5) Pull out connectors of the condenser coil temp. sensor(T3),outdoor ambient temp. sensor(T4) and discharge temp. sensor(TP) (see CJ_ODU_PCB_005-2). 6) Disconnect the electronic expansion valve wire (see Fig CJ_ODU_PCB_005-2). 7) Then remove the electronic control board. 	 <p>The illustration is divided into two parts. The top part shows a hand using a screwdriver to remove the electronic control box cover from the outdoor unit. The bottom part shows the electronic control board with various components labeled: Reactor, DR, 4-Way Valve, AC Fan, DC Fan, Compressor, T3, T4, TP, and Electronic Expansion Valve. The board is labeled CJ_ODU_PCB_005-1 and CJ_ODU_PCB_005-2.</p>

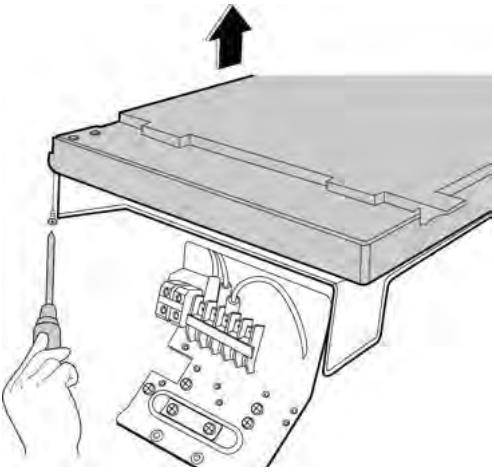
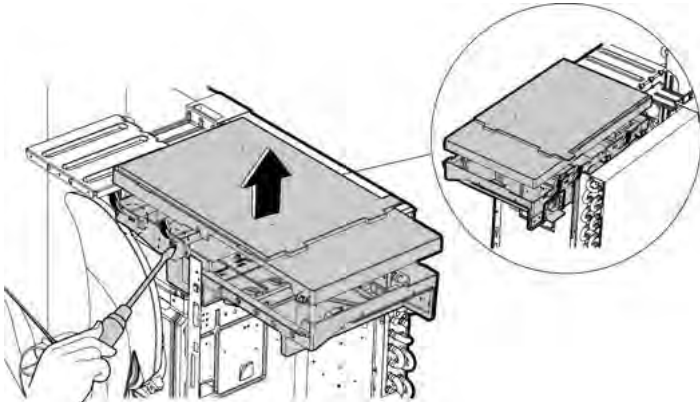
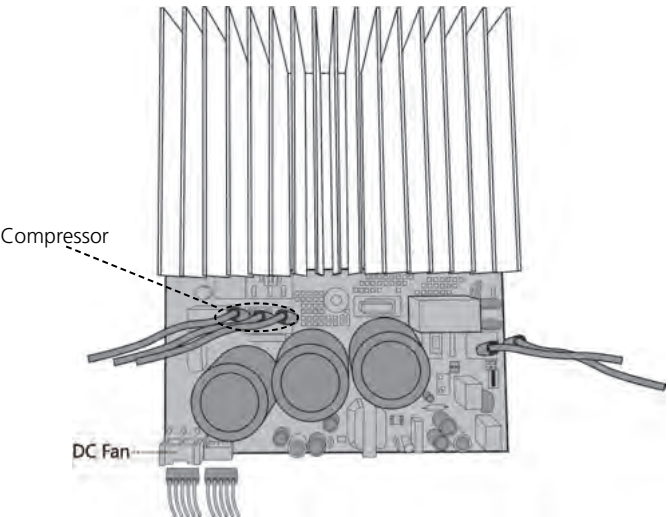
Note: This section is for reference only. Actual unit appearance may vary.

5. PCB board 6

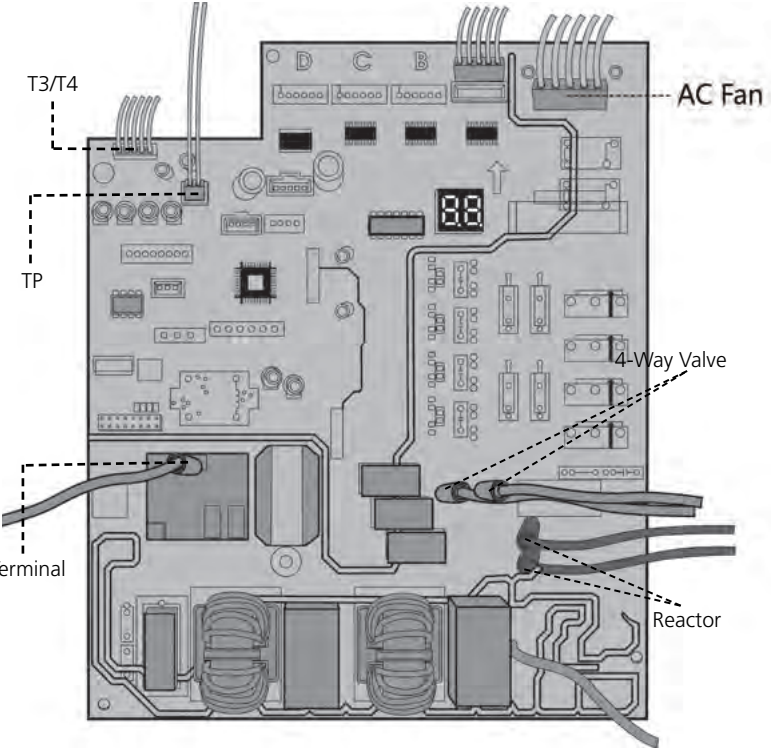
Procedure	Illustration
<p>1) Remove the screws and unfix the hooks, then open the electronic control box cover (5 screws and 2 hooks)(see CJ_ODU_PCB_006-1).</p>	 <p style="text-align: center;">CJ_ODU_PCB_006-1</p>
<p>2) Disconnect the connector for fan motor from the electronic control board (see CJ_ODU_PCB_006-2).</p> <p>3) Remove the connector for the compressor (see CJ_ODU_PCB_006-2).</p> <p>4) Pull out the two blue wires connected with the four way valve (see CJ_ODU_PCB_006-2).</p> <p>5) Pull out connectors of the condenser coil temp. sensor(T3),outdoor ambient temp. sensor(T4) and discharge temp. sensor(TP) (see CJ_ODU_PCB_006-2).</p> <p>6) Disconnect the electronic expansion valve wire (see Fig CJ_ODU_PCB_006-2).</p> <p>7) Remove the connector for the DR and reactor (see Fig CJ_ODU_PCB_006-2).</p> <p>8) Then remove the electronic control board.</p>	 <p style="text-align: center;">CJ_ODU_PCB_006-2</p>

Note: This section is for reference only. Actual unit appearance may vary.

6. PCB board 7

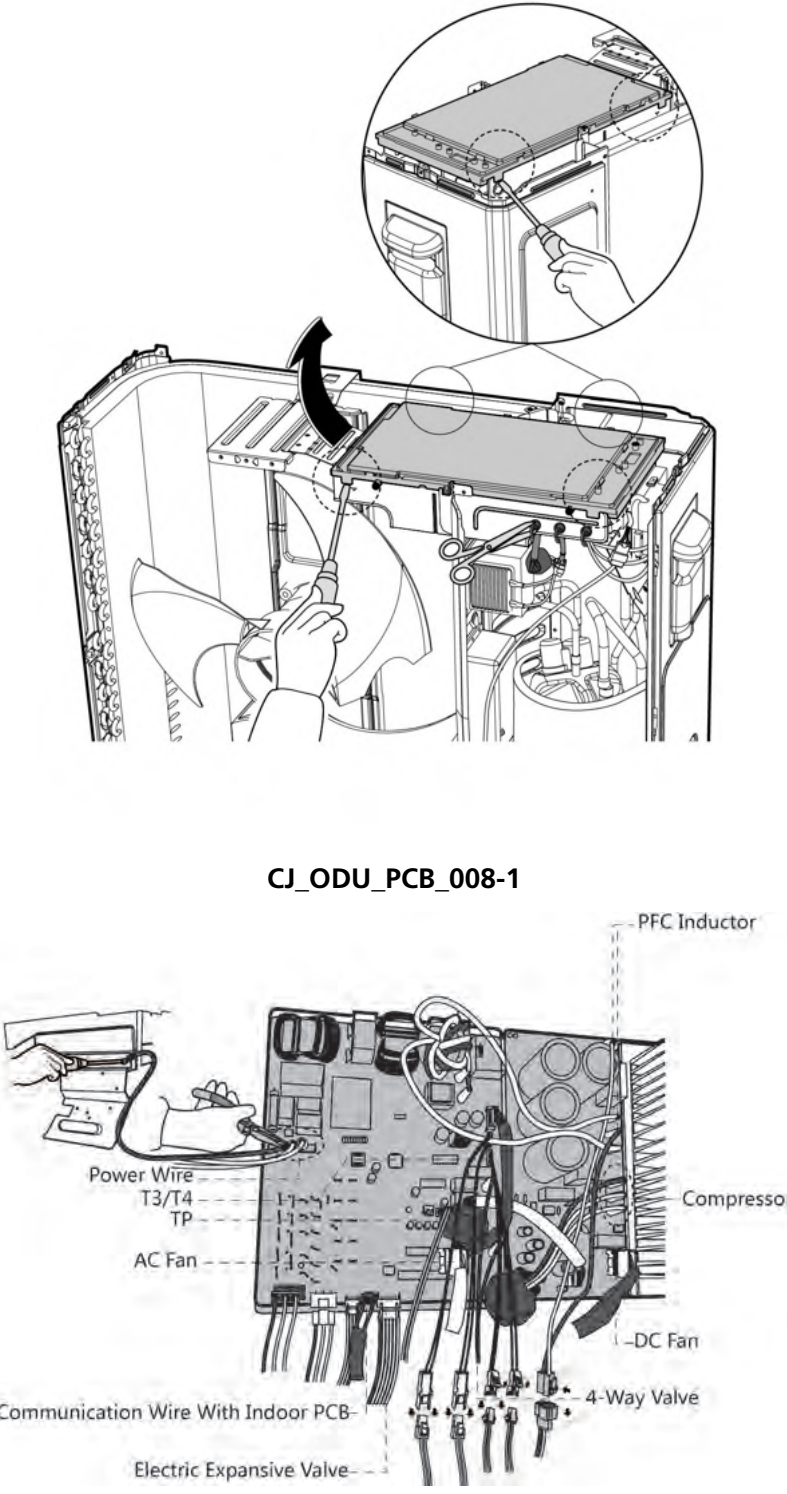
Procedure	Illustration
<p>1) Remove the screws of the top cover. (1 screws) (see CJ_ODU_PCB_007-1).</p> <p>2) Unfix the hooks and then open the electronic control box cover (5 hooks) (see CJ_ODU_PCB_007-2).</p> <p>3) Disconnect the connector for fan motor from the IPM board (see CJ_ODU_PCB_007-3).</p> <p>4) Remove the connector for the compressor (see CJ_ODU_PCB_007-3).</p>	 <p style="text-align: center;">CJ_ODU_PCB_007-1</p>  <p style="text-align: center;">CJ_ODU_PCB_007-2</p>  <p style="text-align: center;">CJ_ODU_PCB_007-3</p>

Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<ol style="list-style-type: none"> 5) Pull out the wire connected with the terminal. (see CJ_ODU_PCB_007-4). 6) Pull out connectors of the condenser coil temp. sensor(T3),outdoor ambient temp. sensor(T4) and discharge temp. sensor(TP) (see CJ_ODU_PCB_007-4). 7) Disconnect the electronic expansion valve wire (see Fig CJ_ODU_PCB_007-4). 8) Remove the connector for 4-way valve. (see Fig CJ_ODU_PCB_007-4). 9) Remove the connector for the reactor (see Fig CJ_ODU_PCB_007-4). 10)Then remove the electronic control box (see Fig CJ_ODU_PCB_007-4). 	 <p>The diagram illustrates the internal components of the outdoor unit's PCB assembly. Key components and their locations are labeled with dashed lines and text:</p> <ul style="list-style-type: none"> T3/T4: Points to the condenser coil temperature and outdoor ambient temperature sensor connectors at the top left. TP: Points to the discharge temperature sensor connector below T3/T4. AC Fan: Points to the fan motor at the top right. 4-Way Valve: Points to the electronic expansion valve connector on the right side. Reactor: Points to the reactor connector at the bottom right. Terminal: Points to a wire terminal on the left side. <p style="text-align: center;">CJ_ODU_PCB_007-4</p>


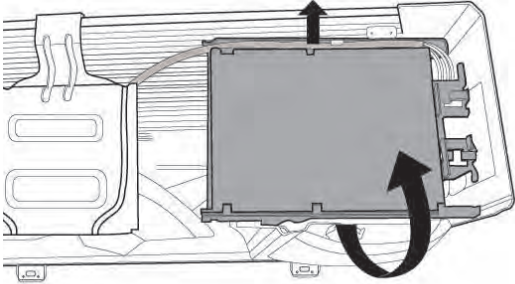
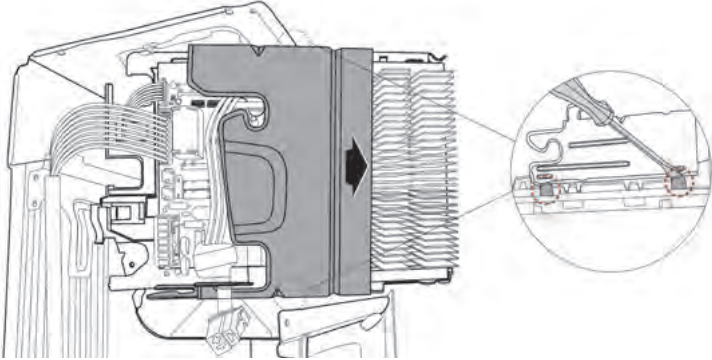
Note: This section is for reference only. Actual unit appearance may vary.

7. PCB board 8

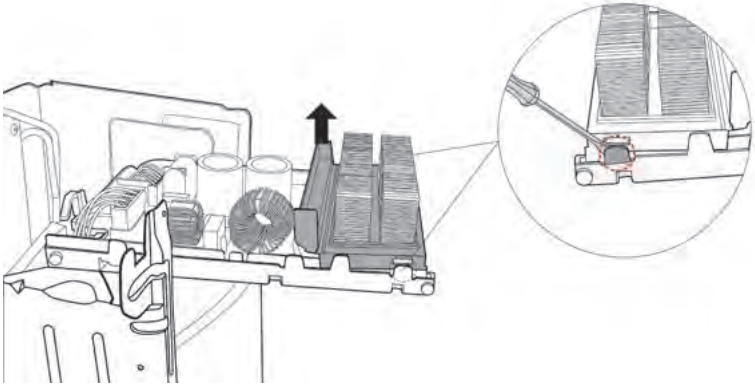
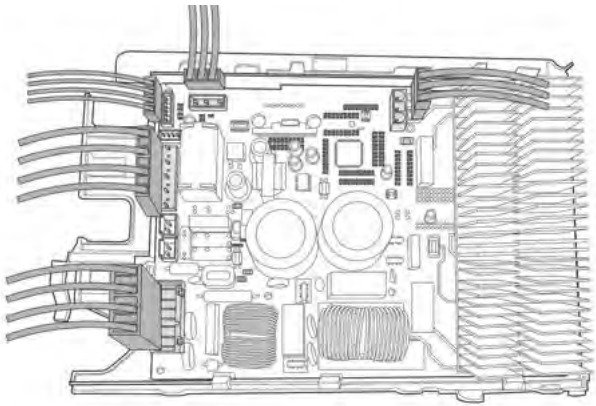
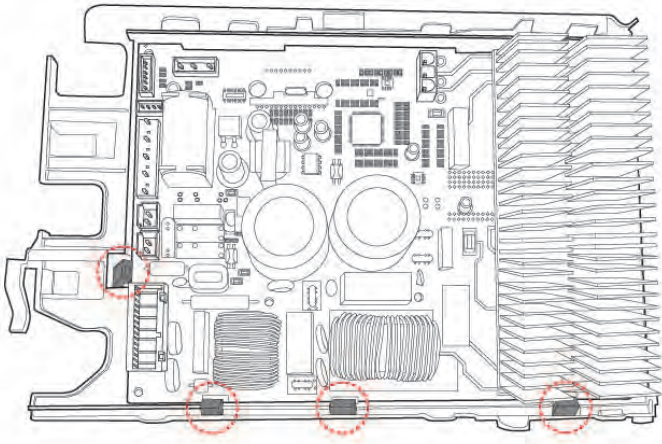
Procedure	Illustration
<ol style="list-style-type: none"> 1) Unfix the hooks and then open the electronic control box cover (4 hooks) (see CJ_ODU_PCB_008-1). 2) Disconnect the connector for outdoor DC fan from the electronic control board (see CJ_ODU_PCB_008-2). 3) Remove the connector for the compressor (see CJ_ODU_PCB_008-2). 4) Pull out the two blue wires connected with the four way valve (see CJ_ODU_PCB_008-2). 5) Pull out connectors of the condenser coil temp. sensor(T3),outdoor ambient temp. sensor(T4) and discharge temp. sensor(TP) (see CJ_ODU_PCB_008-2). 6) Disconnect the electronic expansion valve wire (see Fig CJ_ODU_PCB_008-2). 7) Disconnect the communication wire indoor PCB (see Fig CJ_ODU_PCB_008-2). 8) Disconnect the PFC inductor (see Fig CJ_ODU_PCB_008-2). 9) Then remove the electronic control box (see CJ_ODU_PCB_008-2). 	 <p style="text-align: center;">CJ_ODU_PCB_008-1</p> <p style="text-align: center;">CJ_ODU_PCB_008-2</p>

Note: This section is for reference only. Actual unit appearance may vary.

9. PCB board 9

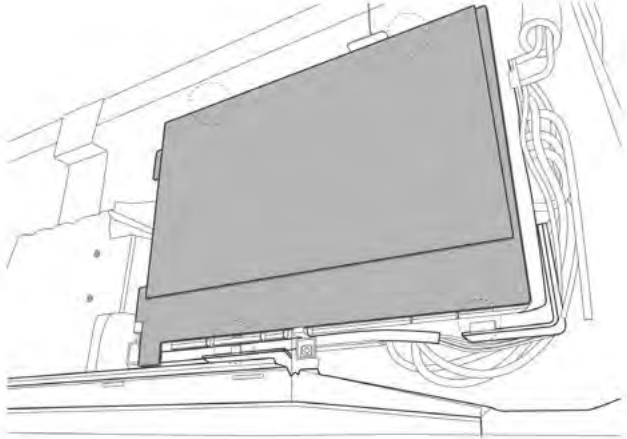
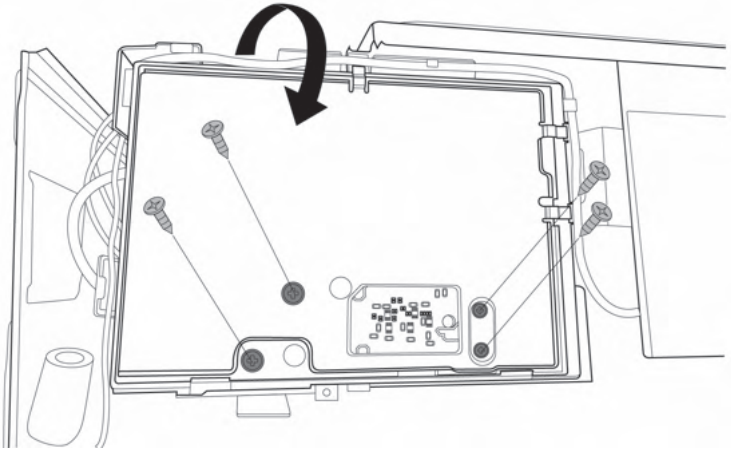
Procedure	Illustration
<p>1) Disconnect the connector for compressor and release the ground wire(1 screw). (see CJ_ODU_PCB_009-1).</p>	 <p>CJ_ODU_PCB_009-1</p>
<p>2) Pull out the wires from electrical supporting plate and turn over the electronic control assembly. (see CJ_ODU_PCB_009-2).</p>	 <p>CJ_ODU_PCB_009-2</p>
<p>3) Remove the electronic installing box subassembly (4 hooks) (see CJ_ODU_PCB_009-3).</p>	 <p>CJ_ODU_PCB_009-3</p>

Note: This section is for reference only. Actual unit appearance may vary.

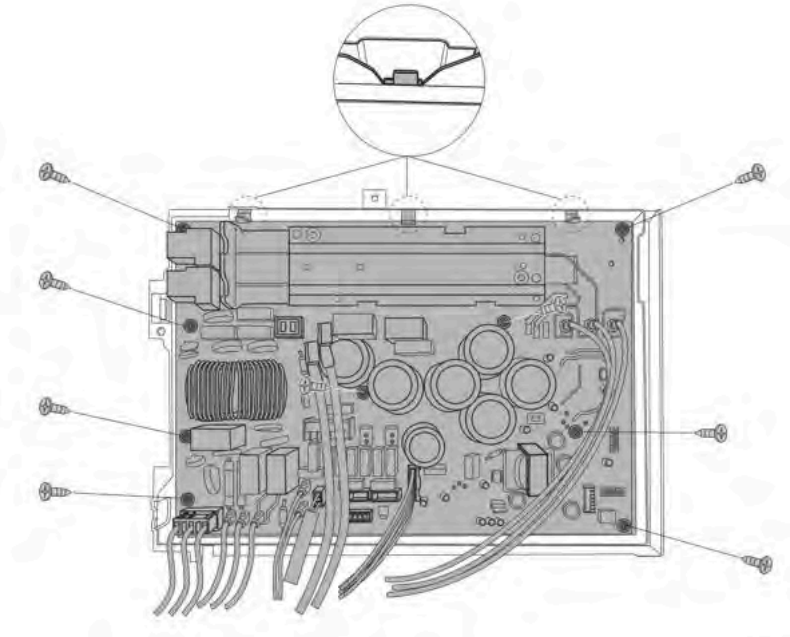
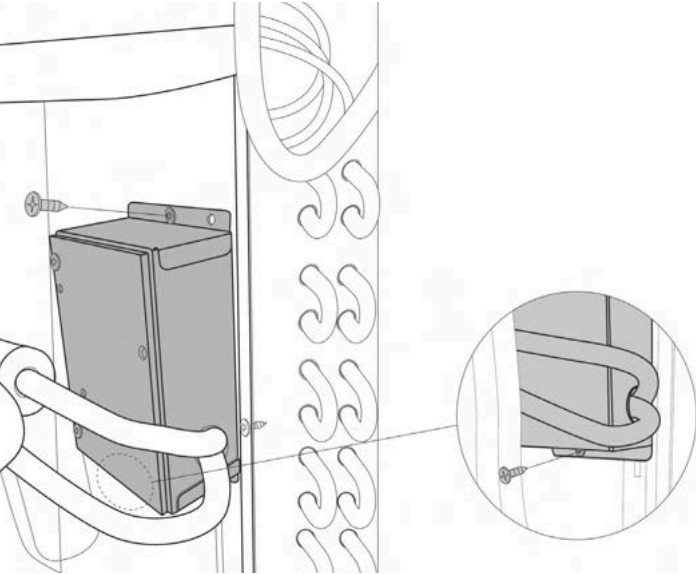
Procedure	Illustration
<p>4) Remove the fixing board (2 hooks) (see CJ_ODU_PCB_009-4).</p>	 <p style="text-align: center;">CJ_ODU_PCB_009-4</p>
<p>5) Disconnect the connectors from the electronic control board (see CJ_ODU_PCB_009-5).</p>	 <p style="text-align: center;">CJ_ODU_PCB_009-5</p>
<p>6) Then remove the electronic control board (4 hooks).(see CJ_ODU_PCB_009-6).</p>	 <p style="text-align: center;">CJ_ODU_PCB_009-6</p>

Note: This section is for reference only. Actual unit appearance may vary.

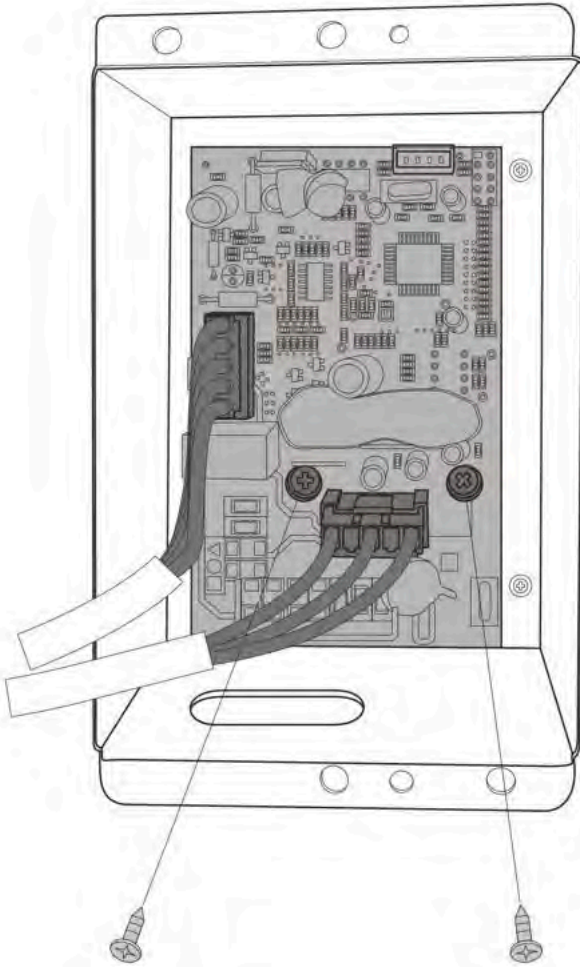
10. PCB board 10

Procedure	Illustration
<p>1) Unfix the hooks and then open the electronic control box cover (4 hooks) (see CJ_ODU_PCB_010-1).</p> <p>2) Remove 4 screws on the electronic control board and then turn over the electronic control board (see CJ_ODU_PCB_010-2).</p>	 <p data-bbox="879 958 1134 992">CJ_ODU_PCB_010-1</p>  <p data-bbox="879 1641 1134 1675">CJ_ODU_PCB_010-2</p>

Note: This section is for reference only. Actual unit appearance may vary.

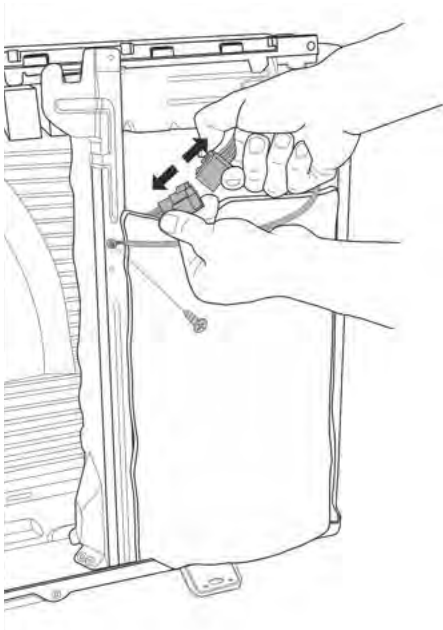
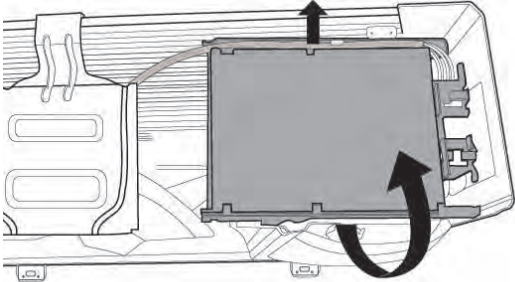
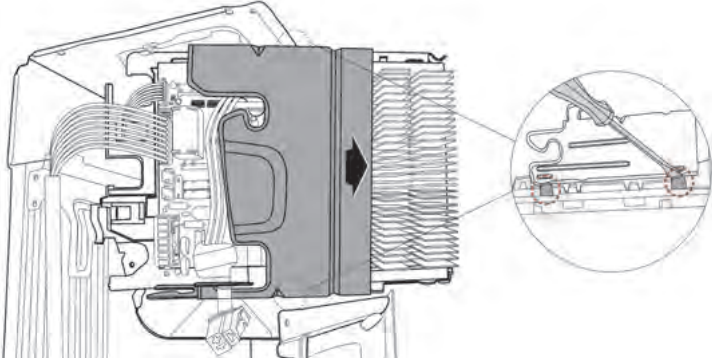
Procedure	Illustration
<p>3) Pull out the connectors (see CJ_ODU_PCB_010-3).</p> <p>4) Remove the 9 screws and unfix the 3 hooks and then remove the electronic control board(see CJ_ODU_PCB_010-3).</p>	 <p>The diagram shows the back of the electronic control board with 9 screws being removed. A circular inset shows a close-up of a hook being unfastened from the top of the board.</p> <p style="text-align: center;">CJ_ODU_PCB_010-3</p>
<p>5) Remove two screws and then remove the electronic control box subassembly on partition board assembly. (see CJ_ODU_PCB_010-4).</p>	 <p>The diagram shows the electronic control box subassembly mounted on a partition board. Two screws are indicated for removal. A circular inset shows a close-up of the subassembly being unhooked from the board.</p> <p style="text-align: center;">CJ_ODU_PCB_010-4</p>

Note: This section is for reference only. Actual unit appearance may vary.

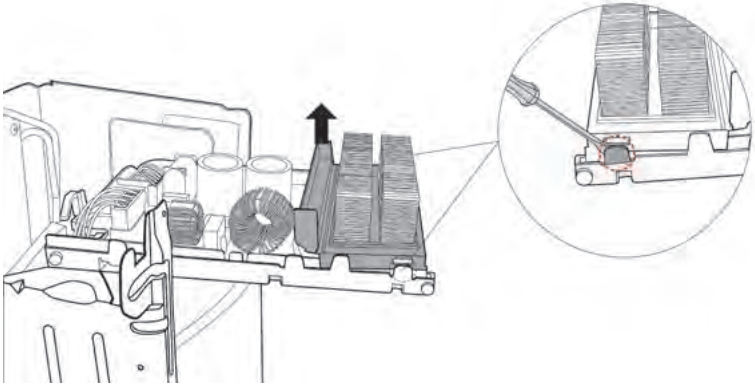
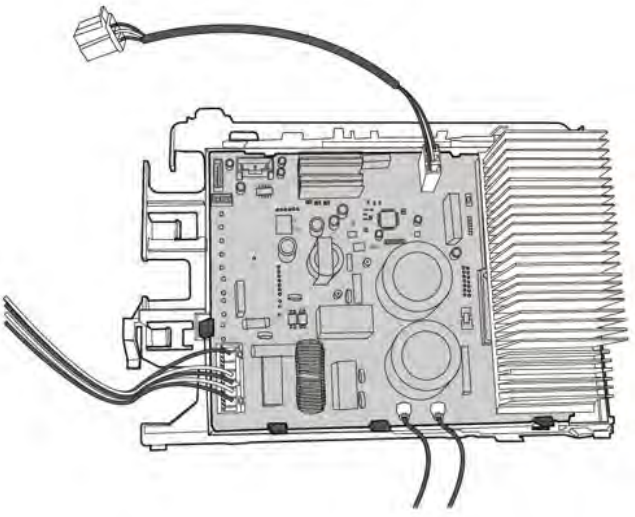
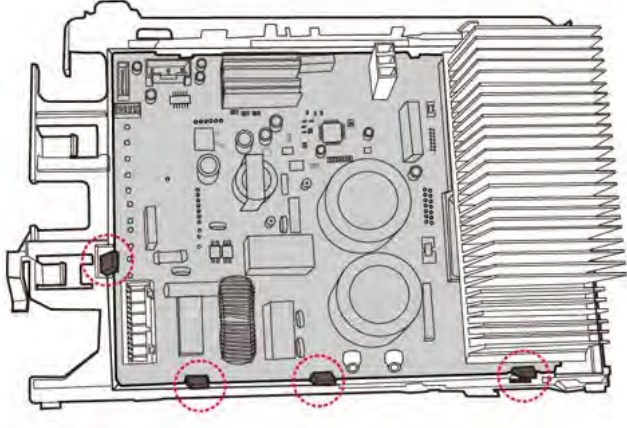
Procedure	Illustration
<p>6) Remove two screws and two connectors and then remove the inverter control board (see CJ_ODU_PCB_010-5).</p>	 <p style="text-align: center;">CJ_ODU_PCB_010-5</p>

Note: This section is for reference only. Actual unit appearance may vary.

11. PCB board 11

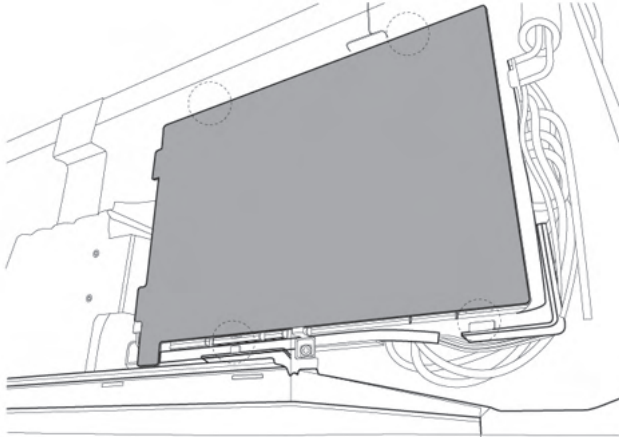
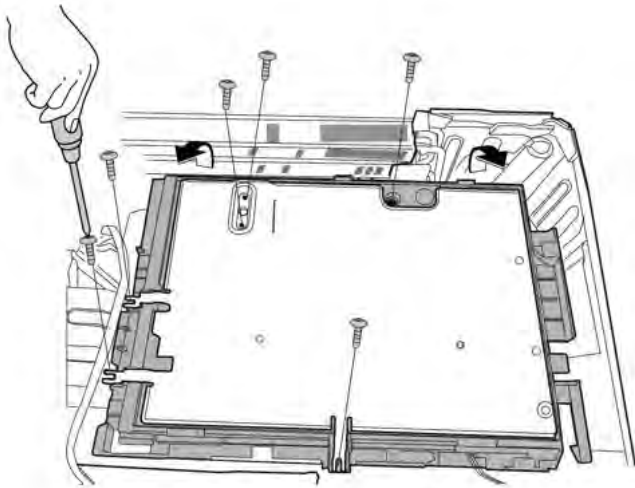
Procedure	Illustration
<p>1) Disconnect the connector for compressor and release the ground wire(1 screw). (see CJ_ODU_PCB_0011-1).</p>	 <p>CJ_ODU_PCB_011-1</p>
<p>2) Pull out the wires from electrical supporting plate and turn over the electronic control assembly. (see CJ_ODU_PCB_011-2).</p>	 <p>CJ_ODU_PCB_011-2</p>
<p>3) Remove the electronic installing box subassembly (4 hooks) (see CJ_ODU_PCB_011-3).</p>	 <p>CJ_ODU_PCB_011-3</p>

Note: This section is for reference only. Actual unit appearance may vary.

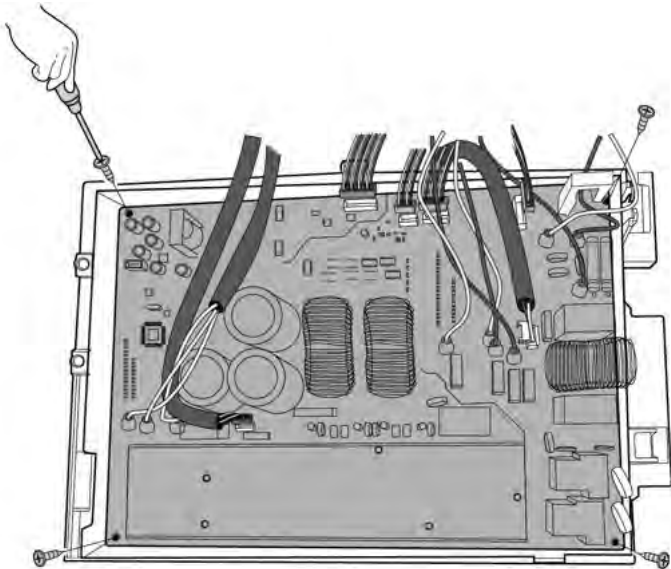
Procedure	Illustration
<p>4) Remove the fixing board (2 hooks) (see CJ_ODU_PCB_011-4).</p>	 <p style="text-align: center;">CJ_ODU_PCB_011-4</p>
<p>5) Disconnect the connectors from the electronic control board (see CJ_ODU_PCB_011-5).</p>	 <p style="text-align: center;">CJ_ODU_PCB_011-5</p>
<p>6) Then remove the electronic control board (4 hooks).(see CJ_ODU_PCB_011-6).</p>	 <p style="text-align: center;">CJ_ODU_PCB_011-6</p>

Note: This section is for reference only. Actual unit appearance may vary.

12. PCB board 12

Procedure	Illustration
<p>1) Unfix the hooks and then open the electronic control box cover (4 hooks) (see CJ_ODU_PCB_012-1).</p>	 <p>CJ_ODU_PCB_012-1</p>
<p>2) Remove 6 screws on the electronic control board and then turn over the electronic control board (see CJ_ODU_PCB_012-2).</p>	 <p>CJ_ODU_PCB_012-2</p>

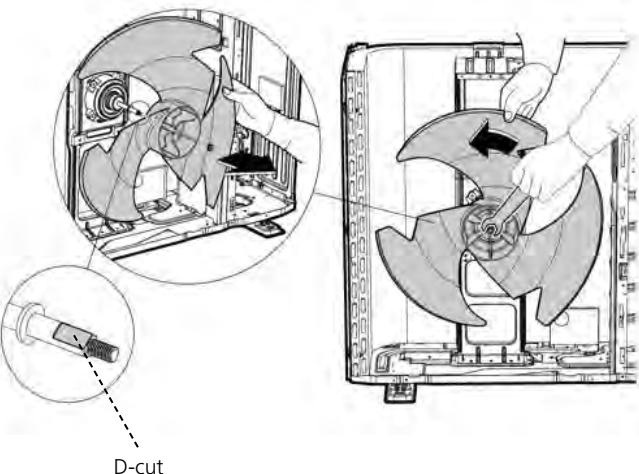
Note: This section is for reference only. Actual unit appearance may vary.

Procedure	Illustration
<p>3) Pull out the connectors (see CJ_ODU_PCB_012-3).</p> <p>4) Remove the 4 screws and then remove the electronic control board(see CJ_ODU_PCB_012-3).</p>	 <p style="text-align: center;">CJ_ODU_PCB_012-3</p>

Note: This section is for reference only. Actual unit appearance may vary.

3.3 Fan Assembly

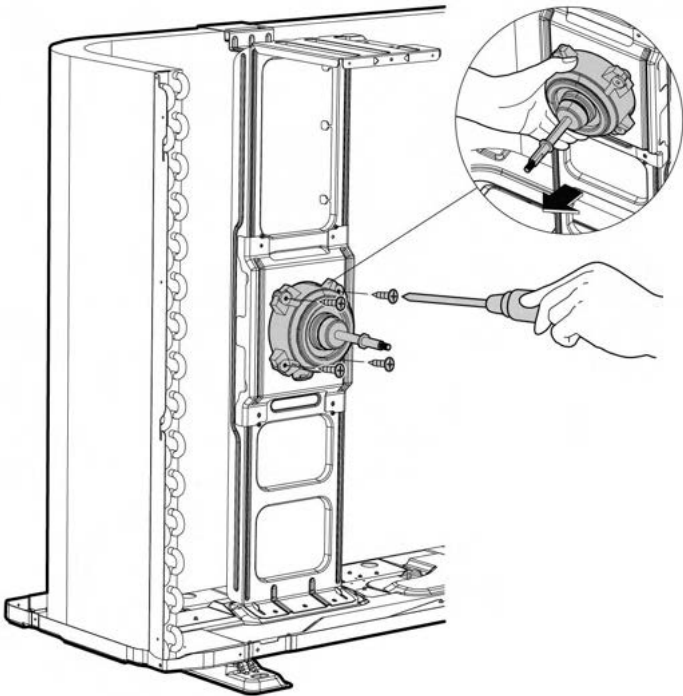
Note: Remove the panel plate (refer to 3.1 Panel Plate) before disassembling fan.

Procedure	Illustration
<div>1) Remove the nut securing the fan with a spanner (see CJ_ODU_FAN_001).</div> <div>2) Remove the fan.</div>	<div></div> <div>CJ_ODU_FAN_001</div>

Note: This section is for reference only. Actual unit appearance may vary.

3.4 Fan Motor

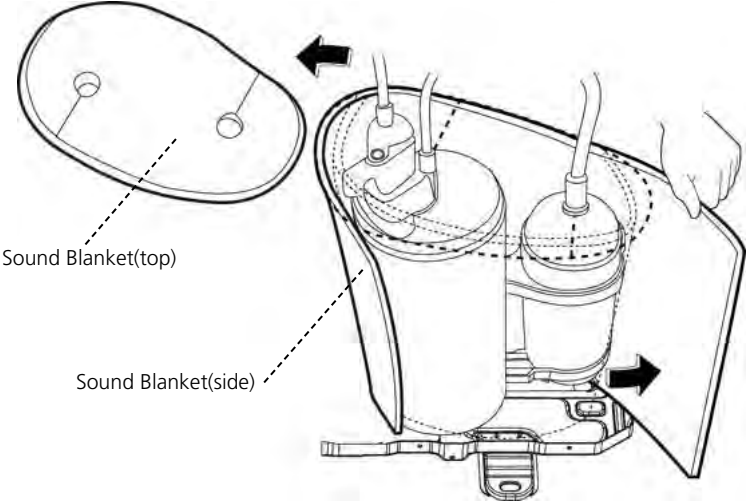
Note: Remove the panel plate and the connection of fan motor on PCB (refer to 3.1 Panel Plate and 3.2 Electrical parts) before disassembling fan motor.

Procedure	Illustration
<p>3) Remove the fixing screws of the fan motor (4 screws) (see CJ_ODU_MOTOR_001).</p> <p>4) Remove the fan motor.</p>	 <p>CJ_ODU_MOTOR_001</p>

Note: This section is for reference only. Actual unit appearance may vary.

3.5 Sound blanket

Note: Remove the panel plate (refer to 3.1 Panel plate) before disassembling sound blanket.

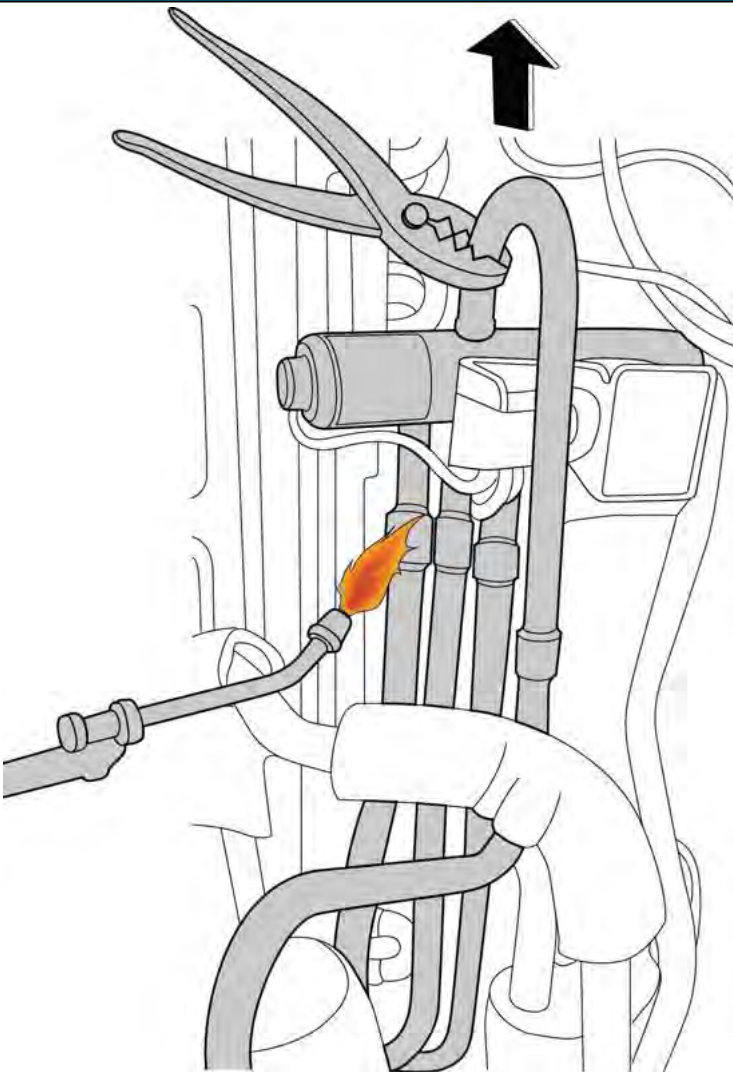
Procedure	Illustration
1) Remove the sound blanket (side and top) (see CJ_ODU_BLANKET_001).	 <p>Sound Blanket(top)</p> <p>Sound Blanket(side)</p> <p>CJ_ODU_BLANKET_001</p>

Note: This section is for reference only. Actual unit appearance may vary.

3.6 Four-way valve (for heat pump models)

⚠ WARNING: Evacuate the system and confirm that there is no refrigerant left in the system before removing the four-way valve and the compressor. (For R32 & R290, you should evacuate the system with the vacuum pump; flush the system with nitrogen; then repeat the two steps before heating up the brazed parts. The operations above should be implemented by professionals.)

Note: Remove the panel plate, connection of four-way valve on PCB (refer to 3.1 Panel plate and 3.2 Electrical parts) before disassembling sound blanket.

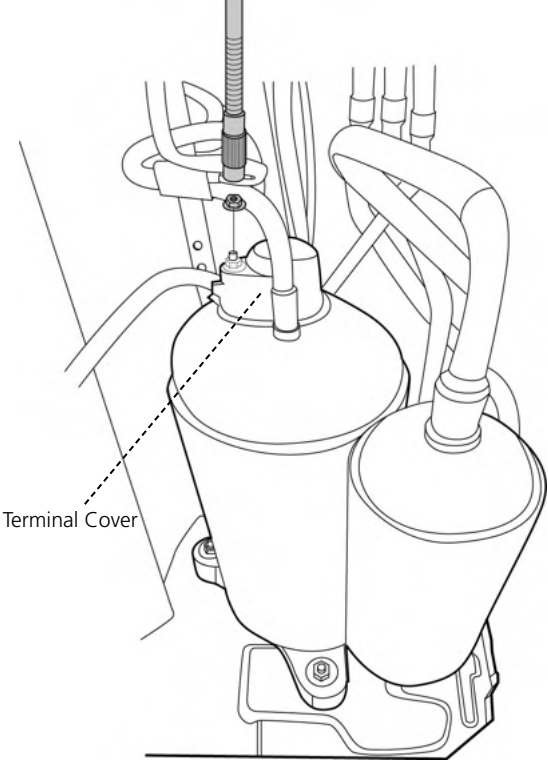
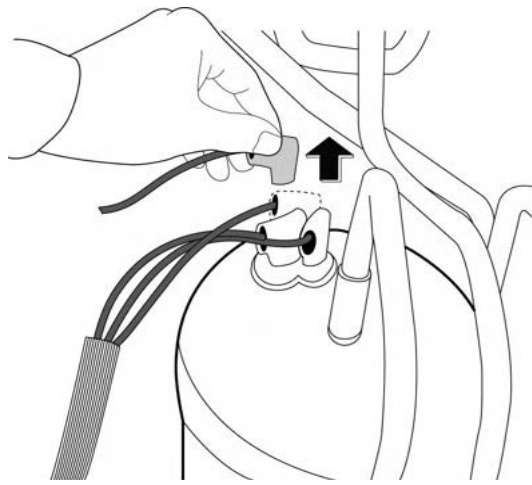
Procedure	Illustration
<ol style="list-style-type: none">1) Heat up the brazed parts and then detach the the four-way valve and the pipe (see CJ_ODU_VALVE_001).2) Remove the four-way valve assembly with pliers.	 <p>CJ_ODU_VALVE_001</p>

Note: This section is for reference only. Actual unit appearance may vary.

3.7 Compressor

⚠ WARNING: Evacuate the system and confirm that there is no refrigerant left in the system before removing the four-way valve and the compressor. (For R32 & R290, you should evacuate the system with the vacuum pump; flush the system with nitrogen; then repeat the two steps before heating up the brazed parts. The operations above should be implemented by professionals.)

Note: Remove the panel plate, connection of compressor on PCB (refer to 3.1 Panel plate and 3.2 Electrical parts) before disassembling sound blanket.

Procedure	Illustration
1) Remove the flange nut of terminal cover and remove the terminal cover (see CJ_ODU_COMP_001).	 <p>CJ_ODU_COMP_001</p>
2) Disconnect the connectors (see CJ_ODU_COMP_002).	 <p>CJ_ODU_COMP_002</p>

Note: This section is for reference only. Actual unit appearance may vary.

