



USER'S MANUAL

Split Wall-Mounted Air Conditioner

CONTACT US

- Email: service@grandtunnel.com

In order to receive assistance more quickly, please provide

THE FOLLOWING INFORMATION:

- Order number
- Purchase platform
- Purchase date
- Detailed description of the issue along with photos (if applicable)

Arrive in 2 separate boxes and may not be part of the same shipment;
Please install the product after receiving all the packages.

Split Wall-Mounted Air Conditioner

SKU:
D001270011
C001270012
D001270021
C001270022

V1.0

Please read the user's manual carefully before using the product

Thank you for choosing our air conditioning system!

Please read this installation manual carefully before installing and starting up the System. Take a moment to fill out the product and installation form on the back cover. Retain both the manual and installation record for future reference.

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Part 1 / Regulations & Safety



1.1 Important Notice

Packaging Notice

1. Multi-Box Shipping Notice

This product is packaged in 2 separate boxes for shipping and may arrive in batches at different times. To ensure a smooth assembly process, please make sure all boxes are received before unpacking and starting the installation.

2. Box and Packaging Verification

Each box is labeled with a corresponding number. Please refer to the packing list on the next page of this manual to verify that all boxes have been received.

If you find any missing boxes, damaged parts, or accessory shortages, please contact the customer service team of your purchasing channel immediately. We will resolve the issue as quickly as possible.

Warning

- For appliances using FLAMMABLE REFRIGERANTS, the flame symbol of the United Nations GHS and the operator's manual symbol described in Clause 7.6 shall be visible when viewing the appliance after it has been installed. The marking may be behind a detachable part that has to be detached before maintenance or repair work. The perpendicular height of the diamond used for the symbol shall be at least 30 mm. The refrigerant class A2L shall be in text not less than 1/3 the height of the symbol.
- The equipment must have red Pantone® Matching System (PMS) #185 or RAL 3020 marked service ports, pipes, hoses, or other devices through which the refrigerant passes, to indicate the use of a flammable refrigerant. This color must be applied at all service ports and other parts of the system where service puncturing or other actions creating an opening from the refrigerant circuit to the atmosphere might be expected and must extend a minimum of one (1) inch (25mm) in both directions from such locations and shall be replaced if removed.
- The symbols for "read operator's manual", "operator's manual; operating instructions" and "service indicator; read technical manual" (symbols ISO 7000-0790 (2004-01), and ISO 7000-1659 (2004-01))

including colour and format shall be placed on the appliance in a location visible to the persons required to know the information. The perpendicular height of the symbol shall be at least 10mm.



Part 1

Important Notice

4. A warning symbol (GHS or a combination of the United Nations GHS and ISO 7010-W021 symbols) shall be placed on the nameplate of the unit near the declaration of the refrigerant type and charge information. The size of the UN GHS and the ISO flame symbols shall be a minimum of 15 mm in height. The safety group shall be in text not less than 1/3 the height of the symbol.



5. Symbol of the United Nations GHS or a combination of the United Nations GHS and ISO 7010-W021 symbols, including the refrigerant class per ISO 817, shall be visible when accessing a SERVICE PORT and where service puncturing or otherwise creating an opening from the refrigerant circuit to the atmosphere might be expected (e.g., process tubes). The symbol shall be in color.



6. Appliances shall be marked in letters not less than 3.2 mm (1/8 in) high on all panels providing access to hazardous voltage uninsulated live parts with the substance of the following:
“WARNING: RISK OF ELECTRIC SHOCK. CAN CAUSE INJURY OR DEATH. DISCONNECT ALL REMOTE ELECTRIC POWER SUPPLIES BEFORE SERVICING”, or the equivalent.
7. For FIXED APPLIANCES, a wiring diagram shall be provided on the unit.
NOTE The wiring diagram may be on the inside of a cover that has to be removed to connect the supply conductors. Material may be paper or the equivalent.
8. Appliances using flammable refrigerants shall comply with the additional marking and instruction requirements.

Part 1

Important Notice

The instructions shall state the substance of the following: This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. For appliances intended for use at altitudes exceeding 2000m, the maximum altitude of use shall be stated. If it is necessary to take precautions during installation of the appliance, appropriate details shall be given. That the appliance shall be installed in accordance with national wiring regulations. The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures. Indication of which parts of the appliance are suitable for outdoor use, if applicable. The instructions for FIXED APPLIANCES shall state how the appliance is to be fixed to its support. The method of fixing stated is not to depend on the use of adhesives since they are not considered to be a reliable fixing means.

Part 1

1.2 FCC compliance statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with FCC RF exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm (8 inches) between the device and user body.

Part 1

1.3 ISED compliance statement

This device complies with Innovation, Science and Economic Development Canada (ISED) licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet appareil est conforme à la ou aux normes RSS exemptées de licence pour Innovation, Science et développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes: (1) ce dispositif ne peut pas causer d'interférence nocive, et (2) ce dispositif doit accepter toute interférence reçue, y compris les interférences pouvant causer un fonctionnement indésirable.

Cet équipement respecte les limites d'exposition aux rayonnements ionisants fixées pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20cm entre le radiateur et votre corps. Cet émetteur ne doit pas être localisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

Part 1

1.4 Safety Precautions

Please read the following before operation.

Recognize safety information.  This is the safety-alert symbol. When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words: **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety-alert symbol.

DANGER identifies the most serious hazards which will result in severe personal injury or death.

WARNING signifies hazards which could result in personal injury or death.

CAUTION is used to identify unsafe practices which may result in minor personal injury or product and property damage.

NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

NOTE: Your actual air conditioning & heating system and related devices may differ from the images shown in this manual.

 WARNING

This appliance is not intended for use by children without responsible adult supervision. Proper care should be taken to ensure safety.

 WARNING

Heat pumps, air conditioners & heating equipment should be installed, started up, and serviced only by qualified installers and service technicians. Air conditioning, heat pumps and refrigeration systems are hazardous due to high voltage electrical components, high refrigerant pressures, and moving parts.

 CAUTION

The appliance shall be installed in accordance with national wiring regulations. The unit must be installed by qualified personnel with a capacity certificated for handling refrigerant fluids. Refer to regulation and laws in use on installation location. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Part 1

Safety Precautions

 WARNING**ELECTRICAL SHOCK HAZARD**

Failure to follow this warning could result in personal injury or death.

Before installing, servicing or modifying the system, the main electrical disconnect switch must be in the OFF position. There may be more than one disconnect switch. Lock out and tag all switches with a warning label.

 WARNING

Do not exceed the rated voltage. Exceeding the rated voltage may cause damage to the product, fire, or electric shock.

General Safety Precautions

- A dedicated power supply circuit should be used in accordance with local electrical safety regulations and National Electrical Codes (NEC).
- Ensure that the entire system is properly grounded.
- Use a properly sized circuit breaker to protect equipment against short circuit and overload conditions.
- The system must be positioned at least 5 feet from combustible surfaces.
- Observe all local codes and regulations.

Installation Site Instructions

A proper installation site is vital for correct and reliable operation of the system.

Avoid the following installation locations:

- High heat sources, vapors, flammable gas or volatile liquids.
- High-frequency electro-magnetic waves, generated by radio equipment, welders or medical equipment.

Part 1

Safety Precautions

! Temperature Conditions

The optimal performance can be achieved within the following working temperature range. If the air conditioner is used outside of these conditions, the protection device may trip and stop the equipment operation.

*Heating	Outdoor Temperature: 5°F ~ 75°F	Cooling	Outdoor Temperature: < 109°F
	Room Temperature: 45°F ~ 81°F		Room Temperature: 70°F ~ 90°F

If the power is not cut off, and the machine is started immediately after stoppage or the mode is changed during operation, the protective device in the unit will work. The air condition compressor has to wait for 3 minutes to start running.

! Features in Heating Operation
(for both cooling and heating equipment)

Pre-heating:

After heating is started, the indoor unit will be pre-heated for 2 to 5 minutes.
After pre-heating process, the warm air comes out. When the room temperature is low, the electric heating will be activated. (for the cooling and heating equipment with auxiliary heater)

Defrosting:

During heating process, if the outdoor unit is frosted, the air conditioner will perform auto defrosting to enhance the heating effect. During defrosting, the fans of both indoor and outdoor unit will stop. After defrosting is finished, the heating process is recovered.

! Inspection before operation

Newly installed air conditioner	Check if the installation is reasonable; Check if the batteries are installed in the remote controller; Check if the power supply is connected.
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Part 1

1.5 Refrigerant R32

Introduction to refrigerant R32

Refrigerant R32 is environmentally friendly, combustible and odorless. R32 can burn and explode under certain conditions. However, there will be no risk of burning and explosion if you comply with the following table to install your air conditioner in a room with an appropriate area and follow the safety precautions.

Room area for air conditioner with refrigerant R32

Refrigerants	Capacity (Btu)	Room Size
R32	9,000	up to 400 Sq.Ft
	12,000	up to 600 Sq.Ft
	18,000	up to 1,000 Sq.Ft
	22,000/24,000	up to 1,200 Sq.Ft
	36,000	up to 1,800 Sq.Ft

Warnings (use of refrigerant R32)

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn.
- Be aware that the refrigerants may not contain an odour.
- Appliance 12K should be installed, operated and stored in a room with a floor area larger than 11 m².
- Appliance 9K should be installed, operated and stored in a room with a floor area larger than 10 m².
- Compliance with national gas regulations shall be observed.
- Keep ventilation openings clear of obstruction.
- The appliance shall be stored so as to prevent mechanical damage from occurring.

Part 1

Refrigerant R32

- A warning that the appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.
- Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.



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



IMPORTANT NOTE: Read this manual carefully before
installing or operating your new air conditioning unit.
Make sure to save this manual for future reference.

Explanation of symbols displayed on the unit (For R32 only)

	WARNING	This symbol shows that this appliance uses a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.
	CAUTION	This symbol shows that the operation manual should be read carefully.
	CAUTION	This symbol shows that a service personnel should be handling this equipment with reference to the installation manual.
	CAUTION	This symbol shows that information is available such as the operating manual or installation manual.

Part 1

Refrigerant R32

Warnings (use of refrigerant R32)

1. **Transport of equipment containing flammable refrigerants** See transport regulations.
2. **Marking of equipment using signs** See local regulations.
3. **Disposal of equipment using flammable refrigerants** See national regulations.
4. **Storage of equipment/appliances**

The storage of equipment should be in accordance with the manufacturer's instructions.

5. **Storage of packed (unsold) equipment**

Storage package protection should be constructed such that mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge. The maximum number of pieces of equipment permitted to be stored together will be determined by local regulations.

6. **Information on servicing**

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 minimised. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

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.

3) General work area

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 workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

4) Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure that 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. non-sparking, adequately sealed or intrinsically safe.

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.

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Refrigerant R32

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.

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.

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.

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.

Part 1

Refrigerant R32

• 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.

7. Repairs to sealed components

1) 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.

2) 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.

8. 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.

9. 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.

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Refrigerant R32

10. 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.

11. 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/ 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.

12. 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.

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Refrigerant R32

13. 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 minimise 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.

14. 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.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.
- c) 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.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with manufacturer's instructions.
- h) Do not overfill cylinders. (No more than 80 % volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) 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.
- k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

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Refrigerant R32

15. 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.

16. 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 number of cylinders for holding the total system charge is 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.

Note About Fluorinated Gasses

- Fluorinated greenhouse gases are contained in hermetically sealed equipment. For specific information on the type, the amount and the CO₂ equivalent in tonnes of the fluorinated greenhouse gas (on some models), please refer to the relevant label on the unit itself.
- Installation, service, maintenance and repair of this unit must be performed by a certified technician.
- Product uninstallation and recycling must be performed by a certified technician.

Part 2 / Unit Installation



2.1 Pre-Installation Notes

Installation Guidelines

Standard copper pipes and wires are 4 meters long.

Measure the installation distance in advance to confirm site compatibility before installing the split air conditioner.

Scenario 1: Same Exterior Wall Installation

Indoor and outdoor units are mounted back-to-back on the same exterior wall. The standard 4m copper pipes and connecting wires are fully sufficient. No extensions are required. Install and commission according to the user manual.



Scenario 2: Adjacent Wall Installation

Indoor and outdoor units are installed on adjacent vertical walls with a small turning angle. The standard 4m copper pipes allow gentle bending; maintain a sufficient bending radius to prevent pipe flattening and reduced cooling efficiency.

Accurately measure the total pipeline length first—long layouts may exceed the 4m standard length. We do not supply extension parts or on-site piping services. Contact customer support before installation.



Scenario 3: Long-Distance Cross-Room Installation

Horizontal or vertical piping distance far exceeds the standard 4m copper pipes and connecting wires. Custom extended refrigerant pipes, cables and drain kits are required.

This installation scenario is not compatible with this split air conditioner. Do not install by yourself; please contact customer service.



Important Note

Confirm your installation scenario before installation. Our 4-meter standard copper pipes and connecting wires have strict length limits. Incompatible scenarios or improper pipe bending may lead to poor cooling/heating, water leakage, or permanent unit damage.

Part 2

2.2 Tools & Accessories

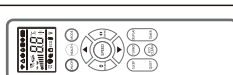
Tool	Diagram	Use
Adjustable/ Crescent Wrench		Tighten the nut or bolt
Screw drivers (Phillips & Flat blade)		Removing or fixing screws, wiring
Hex Keys(5mm)		Turn on or off the high and low pressure valves of the outdoor unit
Drill & Drill Bits		Drilling holes or installing screws
Hole Saw		Drill a hole through the wall
Level		Install the hanging board
Clamp on Amp Meter		Measuring current
Tape measure		Measurement
Marking pen		Mark the size information
Soapy water		Check if the pipeline is leaking
Safety glasses		Safety protection
Work Gloves		Safety protection
Expansion Bolt Assembly		Expansion Screw Kit (for Mounting Bracket), 3.9×19, 4 PCS per Set

Part 2

Tools & Accessories

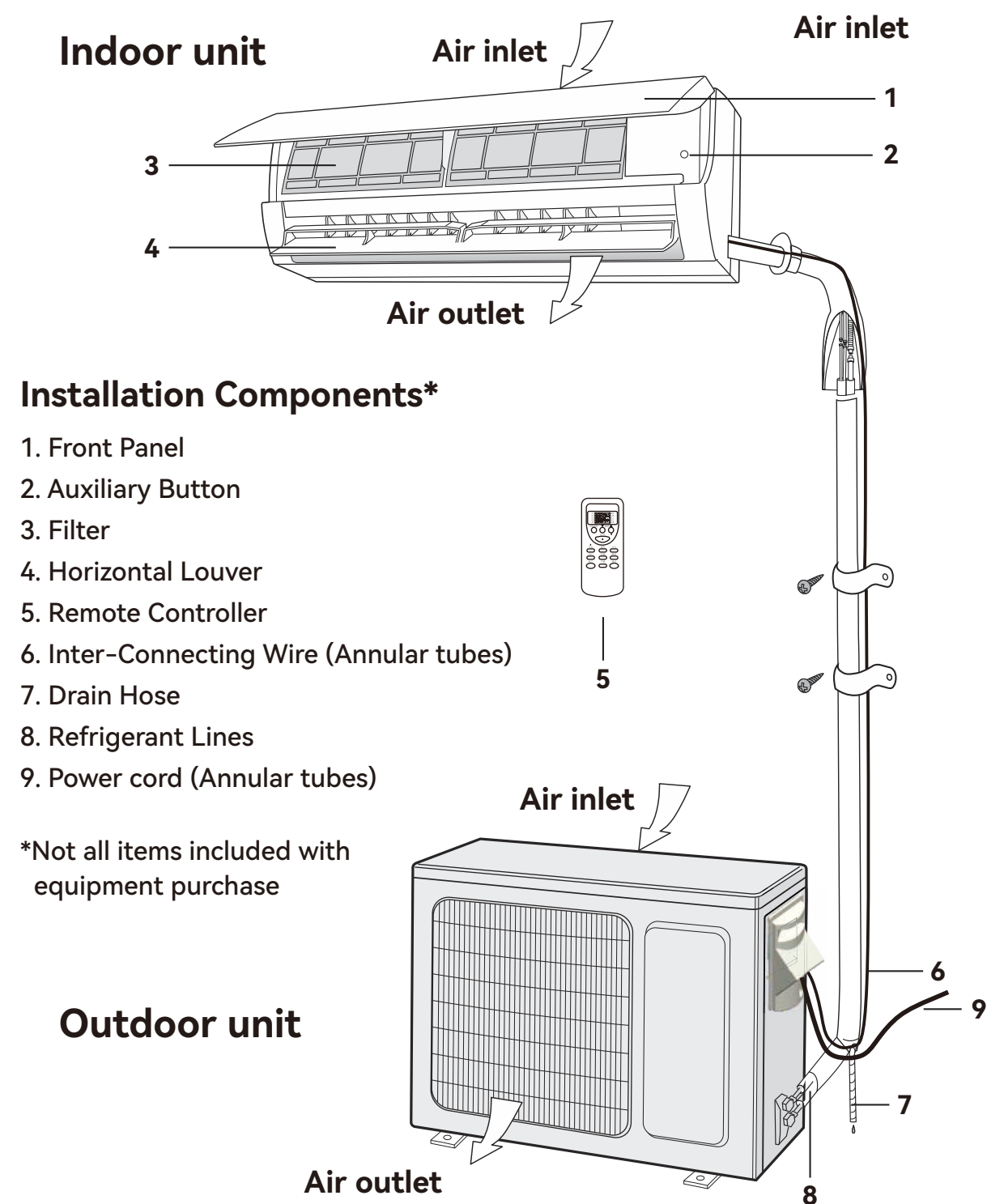
Overview - Accessories

This system comes with the following accessories. Use all of the installation parts and accessories to install the unit. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail. The items that are not included with the air conditioner must be purchased separately.

Part	Name	Diagram	Qty.
1	Manuals		1-2
	Mounting Plate & Template		1 1-Metal Mounting Plate, 1-Cardboard Template
2	Remote Control		1
	Remote Control Holder		1
3	Drain joint		1
	Seal		1
	Non-Adhesive Tape		1
	Wall-piercing sleeve		1
	Mastic		1
4	Drain Pipe		1
5	Quick Connect Line Set		1
Indoor Unit Carton	BOX1		All accessories listed above are contained in this box.
Outdoor Unit Carton	BOX2		No accessories inside this carton.

Part 2

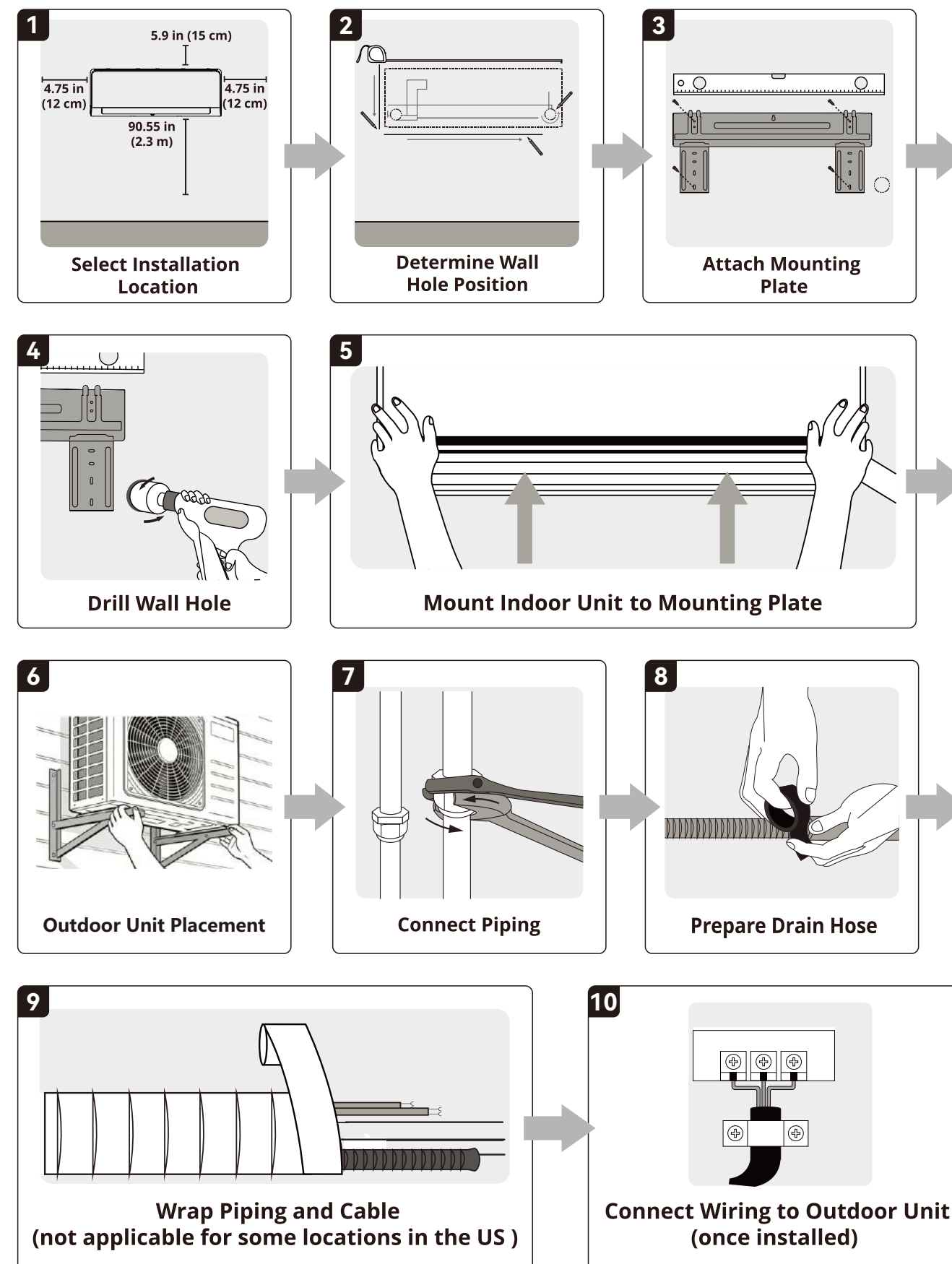
2.3 Installation Overview



Note: This diagram shows the installation overview. The custom quick-connect copper pipe is 4m long. Please choose your installation location accordingly.

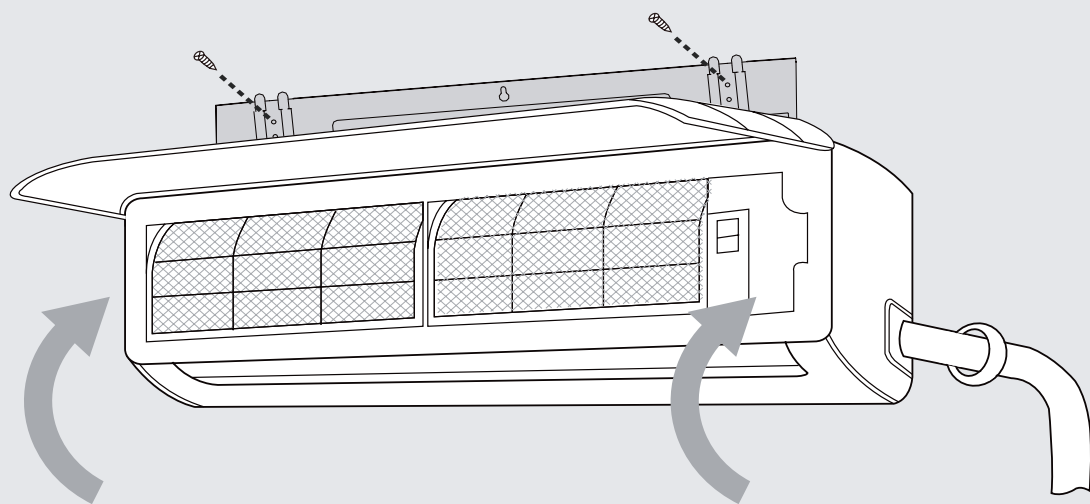
Part 2

Installation Overview



Part 2

2.4 Indoor Unit Installation

**PRIOR TO INSTALLATION:**

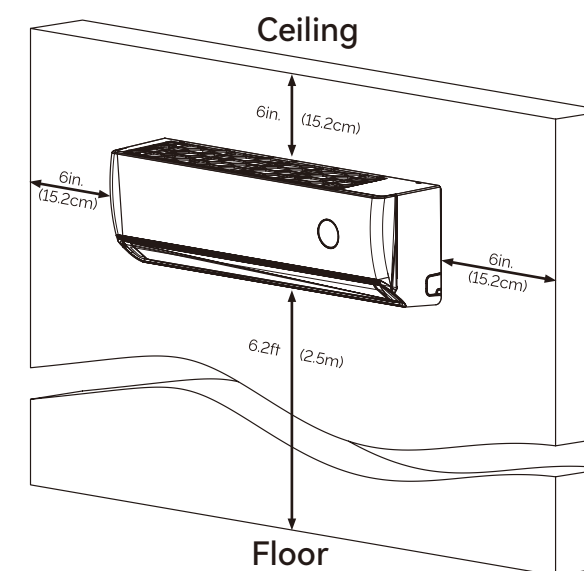
Before installing the indoor unit, refer to the label on the product box to make sure that the model numbers of the indoor unit and the outdoor unit match.

Step 1: Select a site that allows for the following:

1. Ensure the installation complies with the installation minimum dimensions (defined below) and meets the minimum and maximum connecting piping length and maximum change in elevation as defined in the System Requirements section.
2. Air inlet and outlet will be clear of obstructions, ensuring proper airflow throughout the room.
3. Condensate can be easily and safely drained.
4. All connections can be easily made to outdoor unit.
5. Indoor unit is out of reach of children.
6. A mounting wall strong enough to withstand four times the full weight and vibration of the unit.
7. Filter can be easily accessed for cleaning.
8. Leave enough free space to allow access for routine maintenance.
9. Install at least 10 ft. (3 m) away from the antenna of TV set or radio. Operation of the air conditioner may interfere with radio or TV reception in areas where reception is weak. An amplifier may be required for the affected device.
10. Do not install in a laundry room or by a swimming pool due to the corrosive environment.

Part 2

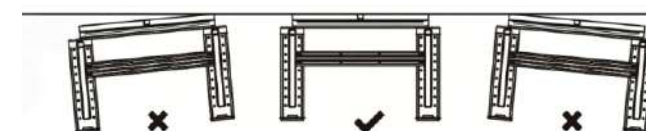
Indoor Unit Installation

Minimum Indoor clearances**Step 2: Attach mounting plate to wall**

The mounting plate is the device on which you will mount the indoor unit.

1. Remove the mounting plate attached to the back of the indoor unit.
2. Place the mounting plate against the wall in a location that meets the guidelines in the Selecting an Installation Location step. Refer to the Mounting Plate Dimensions section for detailed information on.
3. Drill holes for mounting screws in places that: have studs and can support the weight of the unit correspond to screw holes in the mounting plate.
4. Secure the mounting plate to the wall with the screws provided.
5. Make sure that mounting plate is flat against the wall.

NOTE: A cardboard template of the mounting plate is included to be used as a more manageable way of determining where to mount the mounting plate and drill the wall hole. It can be placed against the wall in place of the actual mounting plate for the previous step (See Fig).



Part 2

Indoor Unit Installation

Step 3: Drill wall hole for connective piping

You must drill a hole in the wall for the refrigerant piping, drainage pipe, and connect piping to pass through in order to connect the indoor and outdoor units.

1. Determine the wall hole position based on the mounting plate and its dimensions; use a 2.5in(65mm) or 3.54in(90mm) core drill (depending on model), drill at a slight downward angle, with the indoor end 5-7mm higher than the outdoor end.

NOTE: Use a 3.54in(90mm) core drill if gas piping $\geq 5/8$ in(16mm).

2. Insert the protective wall sleeve from the indoor side, trim excess to be flush with the exterior wall to protect the hole edge and facilitate subsequent sealing.

Table of Wall Hole Size per Unit Size

Unit Size (BtuH)	Wall Hole Size (Diameter)	
	inch	mm
12,000	2 1/4	55



Step 4: Prepare Indoor Unit Refrigerant Piping

The refrigerant piping of the indoor unit is located on the lower back of the unit, wrapped in insulation material, and accompanied by a drain pipe. Before passing the piping through the wall hole, it needs to be bent and prepared in advance.

1. Based on the position of the wall hole relative to the mounting plate, determine the required bending angle of the piping to ensure smooth passage through the wall hole after the unit is mounted on the bracket.
2. Grip the bottom of the refrigerant piping at the intended bend, slowly apply even pressure to bend it approximately 90 degrees away from the unit's back. Once done, the piping should extend straight out from the back of the unit.
3. After the piping is bent, lightly tape the refrigerant piping and drain pipe together in a bundle using electrical tape, making sure that the drain pipe is at the bottom. DO NOT tape the ends of the piping (connectors). Refer to the image for the correct orientation of the piping when taping.



CAUTION

Be extremely careful when bending the piping away from the unit; do not dent or damage it, as this will negatively affect the unit's performance.

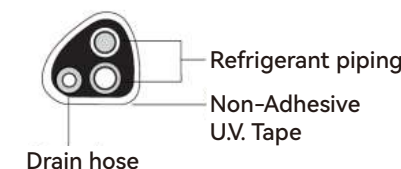
Part 2

Indoor Unit Installation

Step 5: Connect Drain Pipe

In this step you will connect the drain hose extension to the drain hose exiting the indoor unit that is within the piping bundle you wrapped in the previous steps.

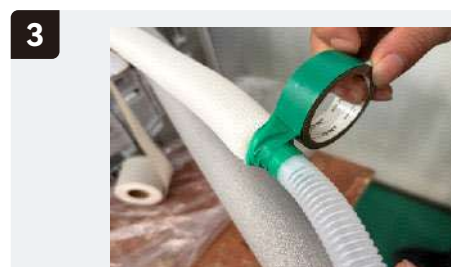
1. Securely connect the drain hose extension to the drain piping from the indoor unit.
2. Use the first example in the following images to make sure your drain pipe is run in a similar manner. The other examples represent things you should avoid when installing your drain pipe.
3. Remove the air filter from the indoor unit and pour a small amount of water across the coils to test the drain pan. Ensure that the water exits the bottom of the unit and flows through the drain and drain pipe smoothly.



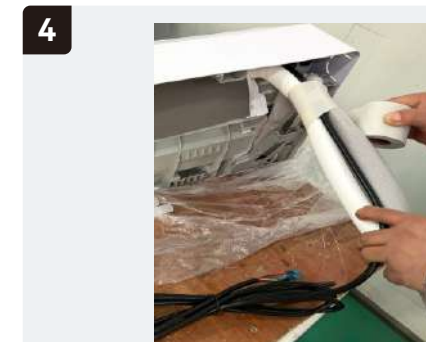
1 Locate the larger end of the drain hose and prepare it for connection.



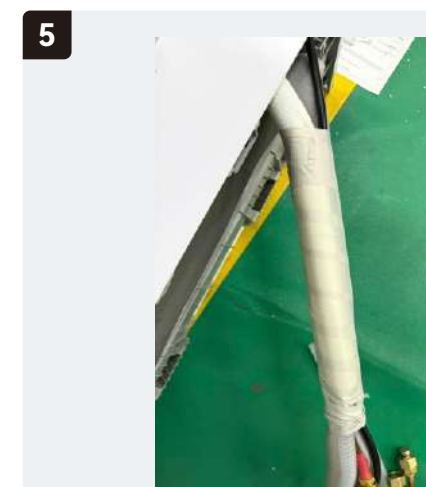
2 Connect the drain pipe to the indoor drain outlet.



3 If you have tape at home, it is recommended to further secure the connection.



4 Please wrap the tubes with the included adhesive tape, covering the power cord, copper tubing, and drain pipe. Please note that the drain pipe should be positioned at the bottom.



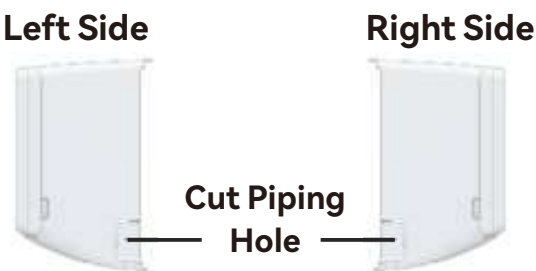
5 Wrap up to the connection point of the drain pipe.

Part 2

Indoor Unit Installation

If refrigerant piping is going through the right or left side of front panel:

Carefully cut hole in the side of the front panel for piping to enter indoor unit as shown below.
Find and mark the proper location for the wall hole.



NOTE: Whether you choose to drill a hole from the rear, left or right side, please ensure the copper tubing length is suitable for your installation location.
If the tubing is not long enough to pass through the wall, connect the indoor unit to the connecting pipes first.

Step 6: Mount the Indoor Unit

Next, you need to mount the indoor unit to the wall bracket and feed the piping and wires through the wall hole, with specific operations as follows.

- 1. Recheck the sealing of the refrigerant pipe ends (ensure the screw-on caps are still secure and in place) to keep dirt and other foreign objects out of the pipes.
- 2. Run the MC Cable/signal wire (which should be protected by a conduit
- 3. Carefully lift the indoor unit, and while aligning it with the wall bracket for installation, slowly feed the taped bundle of refrigerant pipes and drain hose through the wall hole.



NOTE: It is relatively difficult to feed the piping through the wall hole while mounting the indoor unit, so it is recommended to ask for assistance from another person for this step to ensure safe and smooth operation.

- 4. Tilt the top of the indoor unit slightly toward the wall, and hook the top of the unit onto the upper hooks of the wall mounting plate to ensure a secure fit.
- 5. Gently press the left and right sides of the indoor unit to check if it is firmly hooked on the mounting plate; the unit should not wobble or shift.
- 6. Apply even pressure to the lower half of the unit and keep pressing until it snaps securely onto the hooks at the bottom of the mounting plate.
- 7. Gently press the left and right sides of the unit again to confirm that it is firmly mounted on the wall bracket without any looseness.

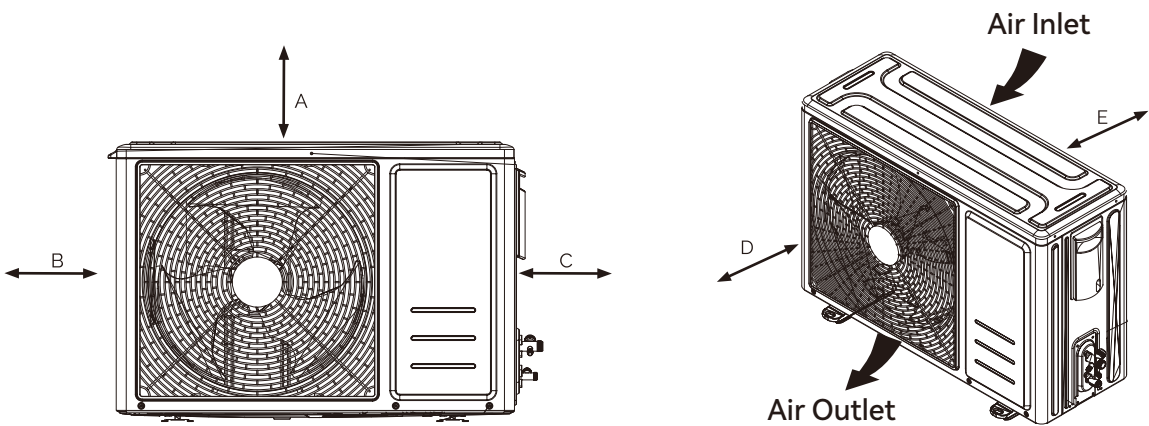
Part 2

2.5 Outdoor Unit Installation

Step 1: Select a site that allows for the following:

- 1. Outdoor location meets all minimum installation clearances defined below.
- 2. Sound from outdoor unit will not annoy neighbors.
- 3. All connections can be easily made to indoor unit.
- 4. Air inlet and outlet will be clear of obstructions to ensure proper airflow.
- 5. Wall or roof is strong enough to withstand the full weight and vibration of the outdoor unit (for wall or roof installation only).
- 6. Outdoor unit is out of reach of children and does not obstruct walkways.
- 7. Outdoor unit is not exposed to excessive dust or strong wind.
- 8. Condensate water can drain freely during heating
- 9. Maintenance and repairs can be easily performed on the outdoor unit.
- 10. Ensure the installation complies with the minimum and maximum connecting piping length and maximum change in elevation as defined in the System Requirements section.

Minimum Outdoor Clearances



Outdoor Unit	Minimum Distances inch(mm)
A	20(500)
B	12(305)
C	20(500)
D	24(610)
E	12(305)

Part 2

Outdoor Unit Installation

Step 2: Ground Pad or Wall Hangers Installation

1. Determine proper location for outdoor unit.
2. Follow all instructions provided by manufacturer for installing wall hangers or ground pad.
3. Verify the wall hangers or ground pad can safely support the weight of the outdoor unit.
4. Verify the wall hangers or ground pad is level and meets all outdoor dimensional clearances.

Outdoor Unit Risers Installation

If the outdoor unit requires added elevation above the ground, installing riser legs will provide a sturdy and stable solution. Follow all instructions provided by manufacturer for installing riser legs to outdoor unit.

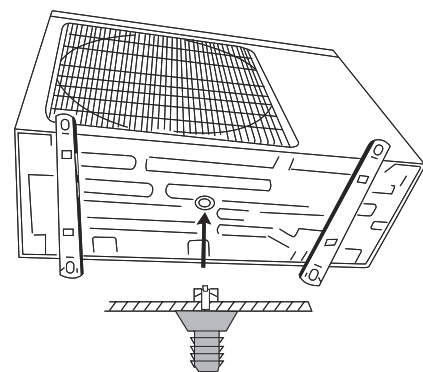
NOTE: Riser legs will also help absorb vibrations and noise while facilitating proper drainage.

NOTE: To meet Wind Load criteria, the outdoor unit must be anchored to concrete pad using four 3/8-in diameter Power Wedge Bolt Plus (or equivalent) with 1-in diameter fender washers. Anchor bolts must be embedded into 3,000 PSI minimum concrete at a distance of 4 1/2-in from any concrete edge. The concrete thickness must exceed 1.5 times the anchor depth.

Step 3: Condensate Drain Installation for Outdoor Unit

During normal heating and defrost operation, the outdoor unit will generate condensate water. The condensate water should be routed to a safe location through the drain hose.

1. Locate and select a drain hole on bottom of outdoor unit.
2. Install the outdoor drain fitting into hole on the bottom of outdoor unit as shown.
3. Connect the drain hose to drain fitting.
4. Route drain hose to safe location for proper drainage of excess condensate water.
5. All non-used drain holes should be plugged.



Drain Fitting Installation



Notice: Outdoor unit mounting bracket is not included. Please purchase one separately if needed.

Part 2

2.6 Piping Installation

Step 1: Prepare exterior wall hole

Before the refrigerant piping can be installed and connected to the indoor and outdoor units, some additional steps are required to prepare the exterior.

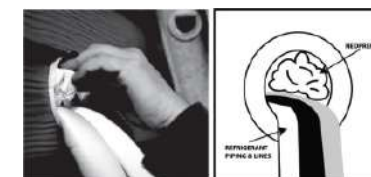
1. Install finishing ring/cap to the exterior portion of the wallhole.
2. Place your hand on the underside of the piping coming through the exterior wall hole (from indoor unit), close to the wall. With your other hand, using even pressure, carefully bend the piping downward toward the wall, being mindful not to damage or dent the piping in the process.



⚠ CAUTION

Be extremely careful not to dent or damage the piping while bending it down the exterior wall, as this could negatively affect the performance.

3. Pack the wall hole with the supplied Neoprene (or Spray Foam can be used) to seal the hole, filling any space that was not taken up by the refrigerant piping and lines.



Part 2

Piping Installation

Step 2: Unwind Quick Connect Line Set to necessary length

Use your hands to slowly unwind the copper piping of one end of the Quick Connect Line Set. The end you unwind will connect to the indoor unit piping. You should unwind the end until the connectors are close to flat on the ground (with little to no bend). If this is not done, it could make the line set difficult to maneuver when aligning the connectors with the air handler piping. Only unwind as much as necessary for your application, and allow any excess to remain coiled.



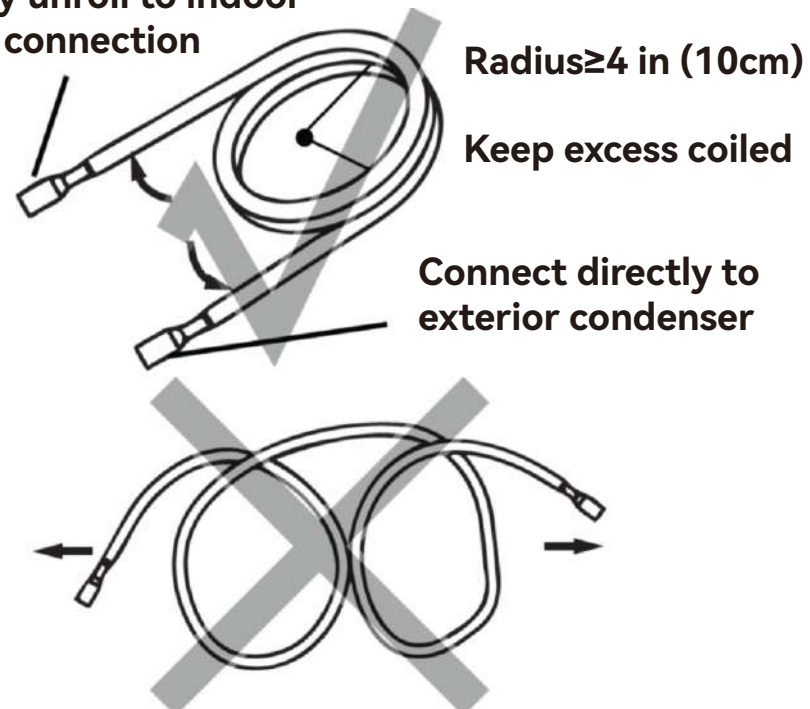
MINIMUM BEND RADIUS:

When bending connective refrigerant piping, it needs to have a minimum bend radius of 4 inches.

! CAUTION

If the pipe is repeatedly bent or extended, it will become hard and difficult to manipulate. Avoid bending or extending the pipe more than 3 times, or excessively, as it could break.

Carefully unroll to indoor handler connection



Connect directly to exterior condenser

Part 2

Piping Installation

Step 3: Connect Line Set to Indoor Unit

1. Tools Needed:

NOTE: Depending on the capacity rating of your unit, (12K,18K,24K,36K) the wrench sizes needed will vary, refer to the table below (the unit uses metric sizes, the standard sizes listed are approximations). Based on the availability of wrenches in some of the sizes needed, the recommended method is to use crescent wrenches that can be adjusted to fit the size each step requires.

- Open-ended wrench sizes needed (1 x of each of these)

12K&18K

3/4" (19 mm)
7/8" (22 mm)
15/16" (24 mm)
1" (26 mm)

Or 2 x Crescent
(adjustable-type)

- 1x HVAC Torque Wrench (if available)
- 1x Allen key, 5 mm
- 1x Phillips-head screwdriver
- 1x leak-detection spray or a soapy water solution (liquid detergent/mix, applied by brush or spray bottle)

2. IMPORTANT INFORMATION

PLEASE READ FULLY BEFORE PROCEEDING TO NEXT STEP.

- Follow the detailed instructions for connecting the line set to the indoor unit and outdoor units. We can only provide a warranty if the line set is installed correctly as described in the instructions.
- To prevent leaks, ensure that the Quick Connect connectors are free of dirt. Moisture or foreign bodies will adversely affect the function of the connectors and could lead to a risk of refrigerant loss (not covered by the warranty).
- Only install the line set outdoors in dry weather.
- The line set must not be plastered over after being installed.
- Always wear work gloves and goggles and use caution when handling refrigerant. Please make sure that refrigerant is never allowed to enter the environment. Improper handling of refrigerant may be harmful to your health.

Part 2

Piping Installation

- The equipment must never be operated without the line set connected, otherwise the equipment will be damaged immediately.
- Quick Connect line set connections must only be tightened using the appropriate open-ended or crescent (adjustable-type) wrenches.

DO NOT remove the sealing caps and stoppers from the line set or valves until immediately before they are to be connected.

DO NOT smoke during the installation.

Refrigerant Pipe Connectors(both ends):

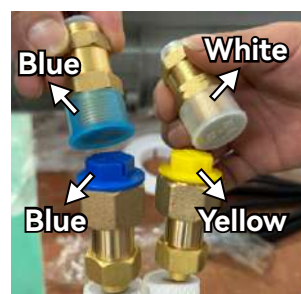
If the screw connections are tightened with too little torque, they will leak. If they are tightened with too much torque, the screw connections could suffer damage. Please refer to the torque requirements section for more information. If you do not feel confident connecting the line set connectors yourself, it is imperative that you contact the customer service team or an HVAC professional.



IMPORTANT: The seal within the line set cannot be guaranteed if the line sets are installed more than once. These components are designed to be installed only once. Installing them multiple times will void the warranty. They also contain a compression fitting for sealing and do not require a thread sealant (such as Teflon tape, etc.). Using a sealant may actually cause the connection to leak over time.

3. Connecting the Quick Connect Line Set to the piping from indoor unit

1. Do not remove the plastic seals of the piping connector from the indoor unit, or the appropriate line set connector, until immediately before they are to be connected. Match the blue seal to the blue pipe, and the white seal to the yellow pipe.
2. Align the refrigerant pipes correctly, making sure the dimensions of the connecting refrigerant pipe match. Unscrew the seals and place the screw connector of the line set just onto the threads of the piping from the indoor unit and tighten the first few threads by hands.



IMPORTANT: Before you continue, it is essential that you read the following instructions fully and carefully.

Part 2

Piping Installation

⚠ TORQUE REQUIREMENTS

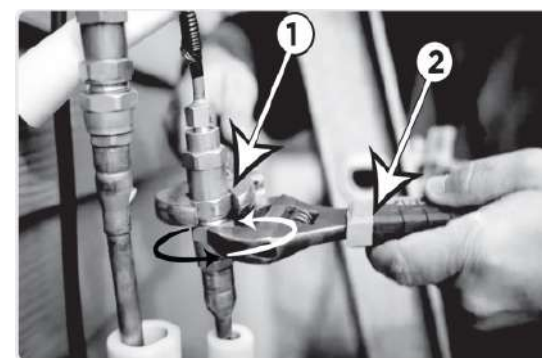
1. Excessive force can break the connector or damage the refrigerant piping. You must not exceed the torque requirements shown in the table below.
2. You can find the Outer Pipe Diameter stamped (in inches) on the valve set of the condenser. Refer to this when finding and applying the torque values in the table below.
3. Please note that there may be differences in Torque Wrenches (i.e. automotive torque wrench versus an HVAC torque wrench) and that a socket style wrench cannot be used in this installation.

NOTE: Torque ratings in the table below are to be used if you have access to an HVAC torque wrench. These are available for purchase from online retailers. However, it is possible to complete installation of refrigerant line sets with conventional open-ended/crescent wrenches. It is imperative, however, that you not overtighten the connector, and that once the lines have been fully connected, you follow the steps to check for leaks. If you do not feel comfortable attempting this, please contact a qualified HVAC technician.

3. Using the image below as a guide, and the steps outlined in this paragraph, you will now tighten the nuts of the screw connectors of the line set to the indoor unit. Using two appropriate-sized openended wrenches (depending on the dimensions of the connector) or adjustable crescent wrenches, place one of the wrenches on the nut marked "1" and the other wrench on the nut marked "2", as shown in the image below. Now, turn the wrench marked "2" in the direction of the rotational arrows, as shown, while holding the other wrench in place. Continue to tighten the connector until snug. **NOTE: Work quickly and make sure the screw connectors do not become crooked as you tighten them.**

***If an HVAC torque wrench is available:** Once the connector is snug, using the torque wrench, tighten the connector to the specified torque rating, as listed in the table to the right (based on pipe/coupling size).

***If an HVAC torque wrench is NOT available:** Using two wrenches you used to tighten the connector, once the connector is snug, turn the wrench slightly beyond that point to torque the connector, but do not overtighten it.



4. Repeat the same process for the second line.

Stamp (on connector)	Coupling Size in (mm)	Tightening Torque lb-ft (N-m)
FA06N (yellow)	1/4 in(6.3 mm)	11-14.6 lb/ft (15-20 Nm)
FA09N (blue)	3/8 in(9.5 mm)	23-26 lb/ft (31-35 Nm)

⚠ CAUTION

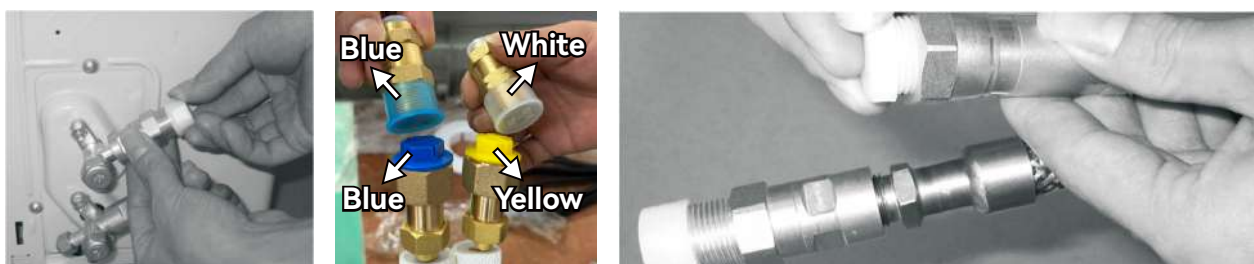
For your safety, always wear goggles and work gloves when connecting the pipes.

Part 2

Piping Installation

Step 4: Connect Line Set to the Outdoor Unit

1. First remove the water tray on the outdoor unit as shown in the illustration to the right.
2. Do not remove the plastic seals from the outdoor unit piping connectors and corresponding refrigerant pipes (line set to be attached) until immediately before you connect them.



NOTE: Match the blue seal to the blue pipe, and the white seal to the yellow pipe.

3. Align the refrigerant pipes so they line up with the corresponding valves and have enough slack. **NOTE: The refrigerant pipes must be connected to the valves with as little stress as possible.** Unscrew the plastic seals and place the screw connector of the refrigerant line just onto the threads of the outdoor unit, tightening the first few threads by hand.



IMPORTANT: Before you continue, it is essential that you read the following instructions carefully.

4. Using the first of the following images as a guide, you will now tighten the line set to the outdoor unit. Using two appropriate sized open-ended wrenches (depending on the dimensions of the connector), or adjustable crescent wrenches, place one of the wrenches on the nut marked "1", and the other wrench on the nut marked "2". Now, turn the wrench on nut "2" in the direction of the rotational arrow, while holding the other wrench in place, as seen in the first image. Continue to tighten the connector until snug.

NOTE: Work quickly and make sure the screw connectors do not become crooked as you tighten them.

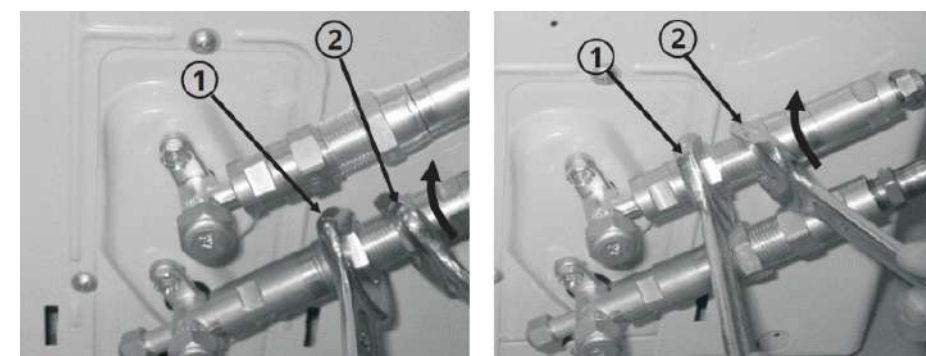
Part 2

Piping Installation

***If an HVAC torque wrench is available:** Once the connector is snug, using the torque wrench, tighten the connector to the specified torque rating, listed in the table on the next page (based on the pipe/coupling size).

***If an HVAC torque wrench is NOT available:** Using the two wrenches you used to tighten the connector, once the connector is snug, then turn the wrench slightly beyond that point to torque the connector, but do not overtighten it.

5. Repeat the same process for the top screw connector, using the second image as a guide.



IMPORTANT: The coupling of the outdoor unit uses tapping rings. If you disconnect and reconnect the refrigerant pipes, it could cause it to leak. This will also void the warranty.

NOTE: Keep excess refrigerant hose coiled. Wrap with protective tape and store behind the condenser in a horizontal position (flat with the ground).

⚠ TORQUE REQUIREMENTS

1. Excessive force can break the connector or damage the refrigerant piping. You must not exceed the torque requirements shown in the table below.
2. You can find the outer pipe diameter stamped (in inches) on the valve set of the condenser. Refer to this when finding and applying the torque values in the table below.
3. Please note that there may be differences in torque wrenches (i.e. automotive torque wrench vs. an HVAC torque wrench) and that a socket-style wrench cannot be used in this installation.

NOTE: Torque ratings in the table below are to be used if you have access to an HVAC torque wrench. These are available for purchase from online retailers. However, it is possible to complete installation of refrigerant line sets with conventional open-ended/crescent wrenches. It is imperative, however, that you not overtighten the connector, and that once the lines have been fully connected, you follow the steps to check for leaks. If you do not feel comfortable attempting this, please contact a qualified HVAC technician.

Part 2

Piping Installation

Step 5: Opening Refrigerant Valves

1. Using the images below as a guide, remove the cover on the top valve, using a 19mm open-ended wrench or a crescent (adjustable-type) wrench. Then, insert a 5mm Allen key and open the valve by turning it counter-clockwise as far as it will go. **DO NOT** force it. The valve is now open. Screw the cover back onto the top valve and tighten it well to ensure that it is properly sealed.



NOTE: Use a hex key to rotate this valve core about 6 turns until fully stopped. Avoid over-tightening to prevent valve core damage.

2. Using the images below as a guide, repeat the same process for the bottom valve. Remove the cover on the bottom valve, using a 19mm open-ended wrench or a crescent (adjustable-type) wrench. Then, insert a 5mm Allen key and open the valve by turning it counter-clockwise as far as it will go. **DO NOT** force it. Screw the cover back onto the bottom valve and tighten it well to ensure that it is properly sealed.



NOTE: Use a hex key to rotate this valve core about 4 turns until fully stopped. Avoid over-tightening to prevent valve core damage.

**CAUTION**

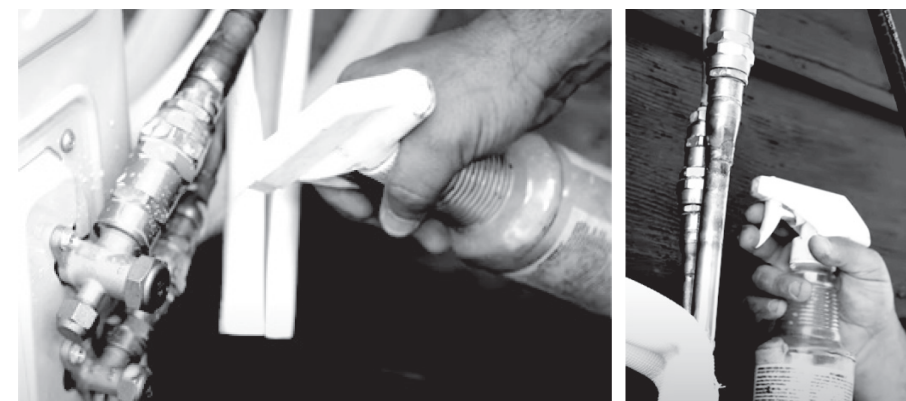
If the King Valves are not fully opened, the system could malfunction and suffer damage.

Part 2

Piping Installation

3. After completing steps 1 and 2, you will now need to check all of the piping connections (at indoor unit and outdoor unit) for leaks. You can do this by using leak detection spray, or applying a soapy water solution (liquid detergent/water mixture) to the connection via a spray bottle or brush. If any bubbles begin to form, that indicates there is a leak, and the connection needs to be re-tightened. Tighten the connection and recheck it for leaks.

IMPORTANT: You will be asked to check for leaks at the piping connections multiple times throughout the following steps of the installation, because the pressures within the lines will change once the unit is turned on and this could reveal leaks not present during the initial check. These are imperative to make sure your connections are not allowing refrigerant to escape the system. When checking for leaks, if any bubbles form, it indicates the system has a leak and the screw connector needs to be re-tightened.



Part 2

Piping Installation

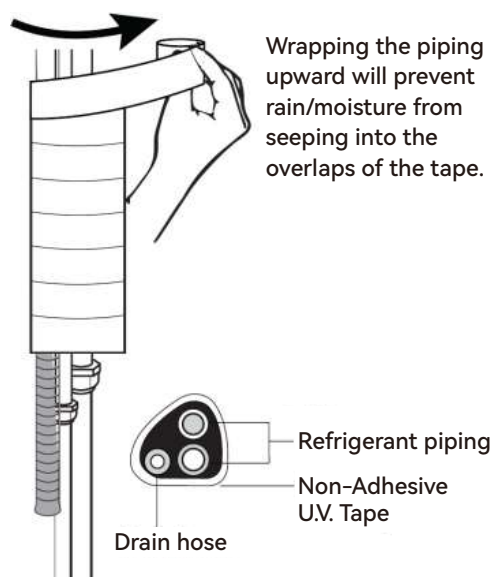
Step 6: Wrap Piping Connections

In this step you will wrap and insulate the exposed line connections coming from the indoor air handler.

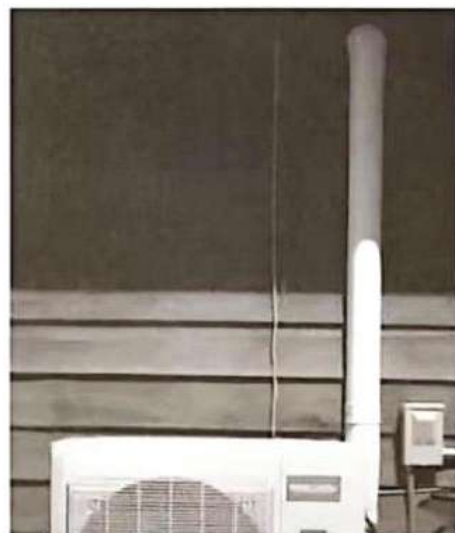
IMPORTANT: Do not complete these steps until all of the refrigerant piping connections have been checked for leaks.

Now, starting where the line set is not covered with the factory plastic (close to the indoor air handler connection), you will wrap the line set upward to the wall hole, using the supplied Non-adhesive U.V. tape. This will cover the insulated line set connections, cables, and drain hose. The drain pipe will need to be at the bottom of the bundle.

DO NOT wrap the end of the drain hose.

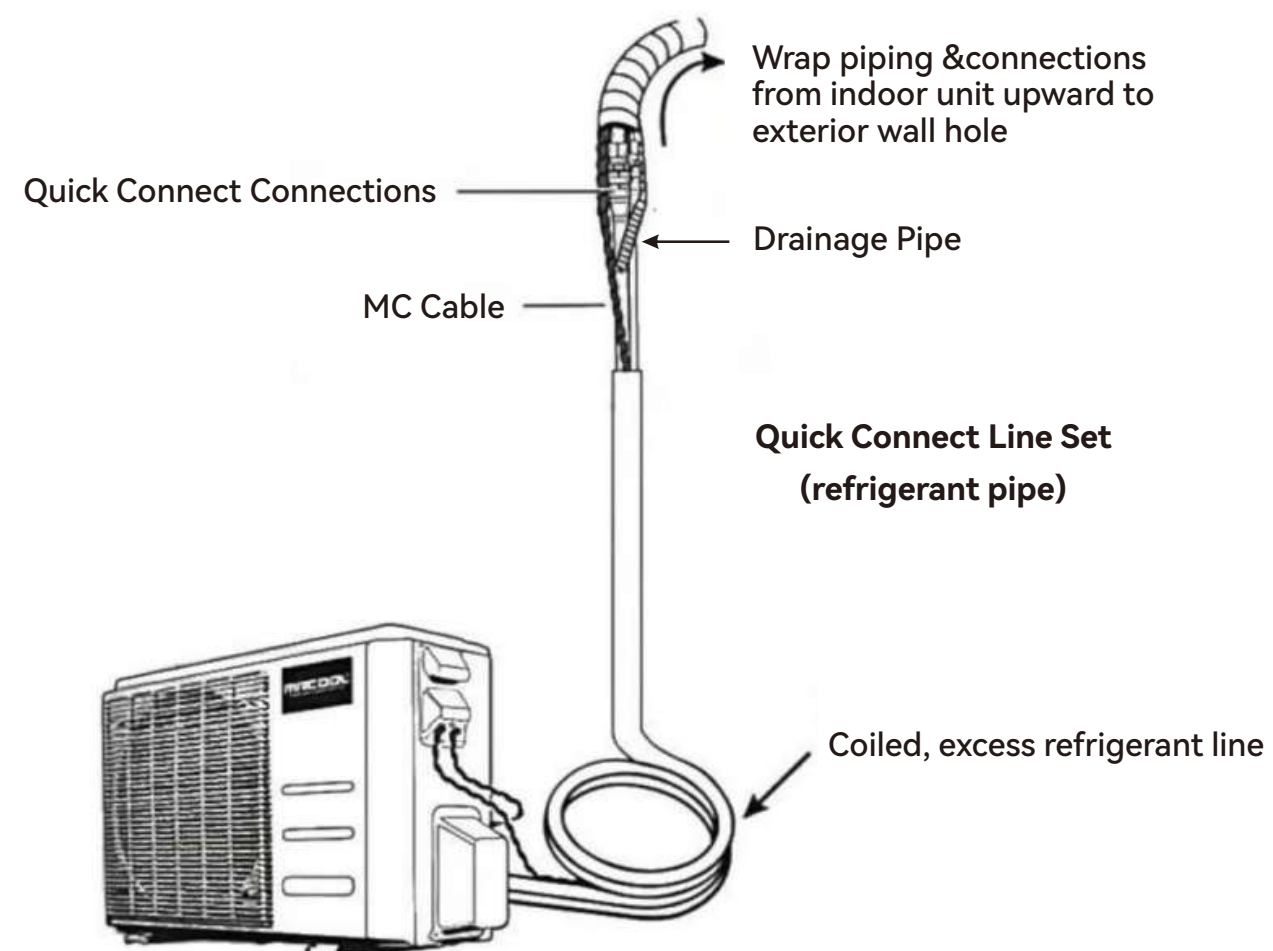


If you would like the exterior piping on the side of your home to have a sleeker, more attractive look and add some extra protection in the process, you can purchase a Line Set Cover. This will encase your refrigerant piping and lines, protecting them from harsh weather conditions and sun exposure, which will extend the life of your system. These covers are available in various sizes to fit your particular application.



Part 2

Piping Installation



Part 2

2.7 Indoor-Outdoor Connection

! BEFORE PERFORMING ELECTRICAL WORK, READ THESE REGULATIONS

DO NOT connect another appliance to the outlet for the unit. Only connect the unit to an individual branch circuit outlet.

DO NOT allow wires to touch or rest against the refrigerant piping, compressor, or any other moving parts within the unit.

1. All wiring must comply with local and national electrical codes, regulations, and must be installed by a licensed electrician.
2. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
3. If there is a serious safety issue with the power supply, stop work immediately. Explain the issue to the client, and refuse to continue the installation until the safety issue is properly resolved.
4. Power voltage should be within 90-110% of the rated voltage. An insufficient power supply can cause a malfunction, electrical shock, and/or fire.
5. If connecting power to fixed wiring, a surge protector and main power switch should be installed.
6. The circuit, including any switches, should have a capacity 1.5 times the maximum unit current (amps).
7. A qualified technician must use an approved circuit breaker or switch that disconnects all poles and has a contact separation of at least 1/8 in (3 mm) incorporated in the fixed wiring.
8. Make sure the unit/system is properly grounded.
9. Every wire must be firmly and securely connected. Loose wiring can cause the terminal to overheat, which could result in a malfunction and/or fire.
10. If the unit has an auxiliary electric heater, it must be installed as least 40 in (1m) away from combustible materials.
11. To avoid electrical shock, never touch the electrical components soon after the power supply has been turned off. Always wait 10 minutes or more before touching the electrical components once the power has been turned off.

! WARNING

ALL WIRING MUST BE INSTALLED BY A LICENSED ELECTRICIAN AND COMPLY WITH LOCAL, STATE, AND NATIONAL ELECTRICAL CODES.

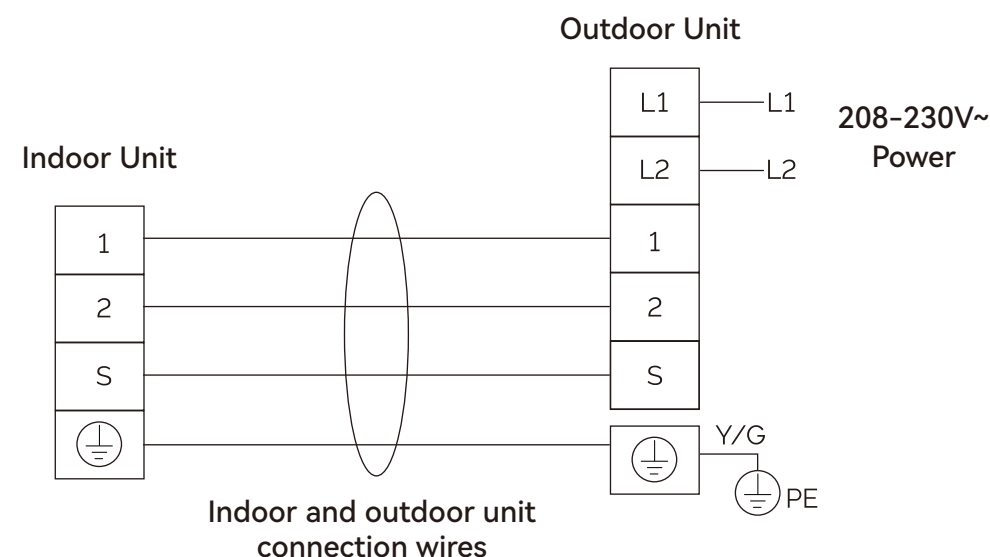
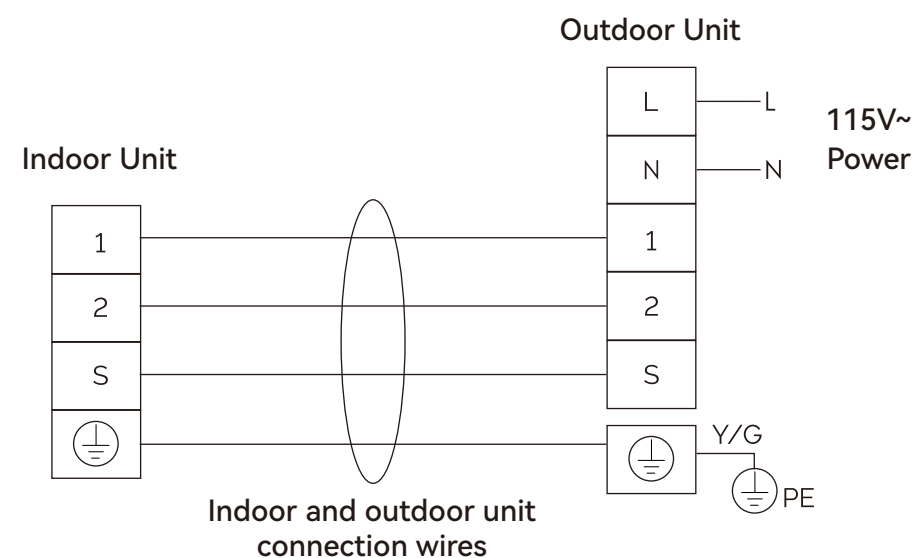
BEFORE PERFORMING ANY ELECTRICAL WORK, TURN OFF ALL POWER TO THE SYSTEM.

Note that wire colors of this series /model may differ from previous models, other series and general conventions. All wiring must be performed in accordance with the wiring diagrams shown and demonstrated in the images below.

Part 2

Indoor-Outdoor Connection

Replace field wiring cover and close front cover of indoor unit.



Part 2

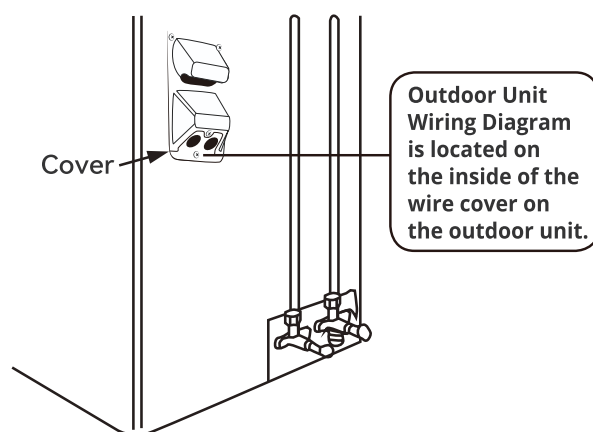
Indoor-Outdoor Connection

Outdoor Unit Wire Connections

! WARNING

Disconnect all electrical power to unit including disconnects, fuses and circuit breakers. Lockout and tag all disconnect switches.

1. Remove the single screw located at the bottom of the electrical wiring cover on the outdoor condenser, then take off the cover.

**SELECT THE CORRECT CABLE SIZE**

The size of the power supply cable, signal cable, fuse, and switch needed is determined by the maximum current of the unit. The maximum current is indicated on the nameplate located on the side panel of the unit.

NOTE: In North America, please choose the right cable size according to the Minimum Circuit Ampacity (MCA) indicated on the nameplate of the unit and that is also in accordance with local electric codes and regulations.

Minimum Wire Gauge for Power Cables

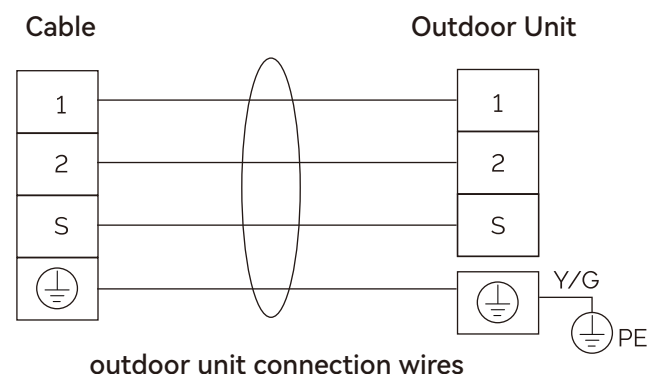
Model Series	Appliance Amps (A)		AWG	
	MOP	MCA	Min.	Pref.
9K	30	20	14	12
12K	30	20	14	12
18K	25	15.5	14	12
24K	35	21	12	10



Part 2

Indoor-Outdoor Connection

3. Then, you will connect the wires to the terminal block. Each wire should be numbered and correspond with a connection port on the terminal block. Match up each wire with the correct port, and firmly screw the u-lug of each wire to its corresponding terminal. Now, screw the ground wire into the bottom screw of the terminal block, as shown in the image below.



Ground wire Connection

4. Finally, reinstall the electrical wiring cover and secure it using the single bottom screw you removed from it.



Minimum Cross-Sectional Area of Power and Signal Cables (For reference) (Not applicable for North America)

Rated Current of Appliance (A)	Nominal Cross-Sectional Area (mm ²)
> 3 and ≤ 6	0.75
> 6 and ≤ 10	1
> 10 and ≤ 16	1.5
> 16 and ≤ 25	2.5
> 25 and ≤ 32	4
> 32 and ≤ 40	6

Part 2

2.8 Testing and Inspection

Electrical Safety Checks

After installation, confirm that all electrical wiring is installed in accordance with local and national regulations, and according to the Installation Manual.

IF ELECTRICAL LEAKAGE IS DETECTED

If electrical leakage is detected, turn off the unit immediately and call a licensed electrician to find and resolve the cause of the leakage.

WARNING-RISK OF ELECTRIC SHOCK

ALL WIRING MUST BE INSTALLED BY A LICENSED ELECTRICIAN AND COMPLY WITH LOCAL, STATE, AND NATIONAL ELECTRICAL CODES.

Gas Leak Checks

There are two different methods to check for gaseous leaks. Please refer to the illustration below for the areas to check for leaks.

Soap and Water Method

Using a soft brush or spray bottle, apply a soapy water solution to all of the pipe connection points of the indoor and outdoor units, watching to see if any bubbles form. The presence of bubbles indicates there is a leak.

Leak Detector Method

If using a leak detector, refer to the device's operation/ instruction manual for proper usage instructions.

AFTER PERFORMING GAS LEAK CHECKS

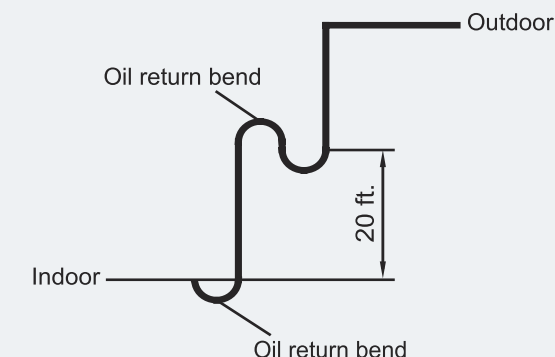
After confirming that all the pipe connection points DO NOT leak, replace the valve cover on the outside unit and wrap and insulate the piping connections of the indoor unit.

Part 2

Testing and Inspection

Oil Return Bend

When the outdoor unit is more than 30 feet above the indoor unit, an oil return bend must be added for every 20 feet of connection pipe.



Condensate Drain Pipe Testing

Carefully and slowly add 8-10 ounces of water to the indoor unit drain pan.

- Verify the water drains easily out the condensate drain hose.
- If water does not drain easily from the drain hose, then remove kinks, increase drain pitch, or add an auxiliary condensate drain pump.

Start-up Checklist

- **Turn on main power to indoor and outdoor units.**
 - Verify the system is not displaying an error code on the indoor unit display.
- **Add batteries and press the ON button on the remote controller.**
 - Verify the remote controller display turns ON and the indoor unit display is ON.
- **Press the Mode button to Cooling.**

Adjust the room setpoint to bring the system on in cooling mode. The system should start cooling mode within 3-5 minutes.

 - Verify the outdoor fan and compressor are operating.
 - Verify the indoor fan is operating.
 - Verify the indoor discharge air is cooling the room.
- **Press the Mode button to Heating.**

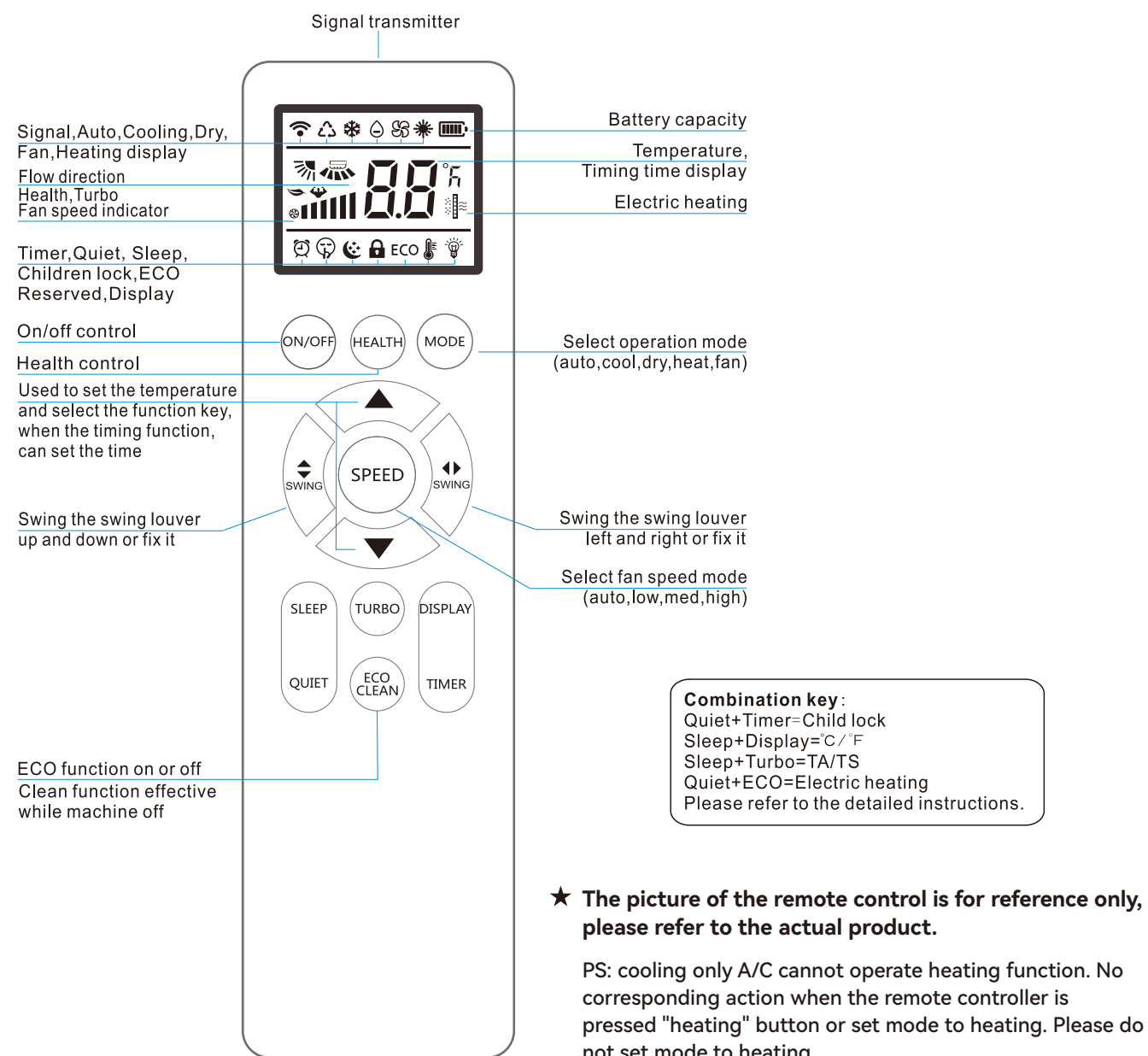
Adjust the room setpoint to bring the system on in heating mode. The system should start heating mode within 3-5 minutes.

 - Verify the outdoor fan and compressor are operating.
 - Verify the indoor fan is operating.
 - Verify the indoor discharge air is heating the room.
- **Press the OFF button on the remote controller.**
 - Verify remote controller display turns OFF and the system shuts OFF.

Part 3 / Operating Instructions



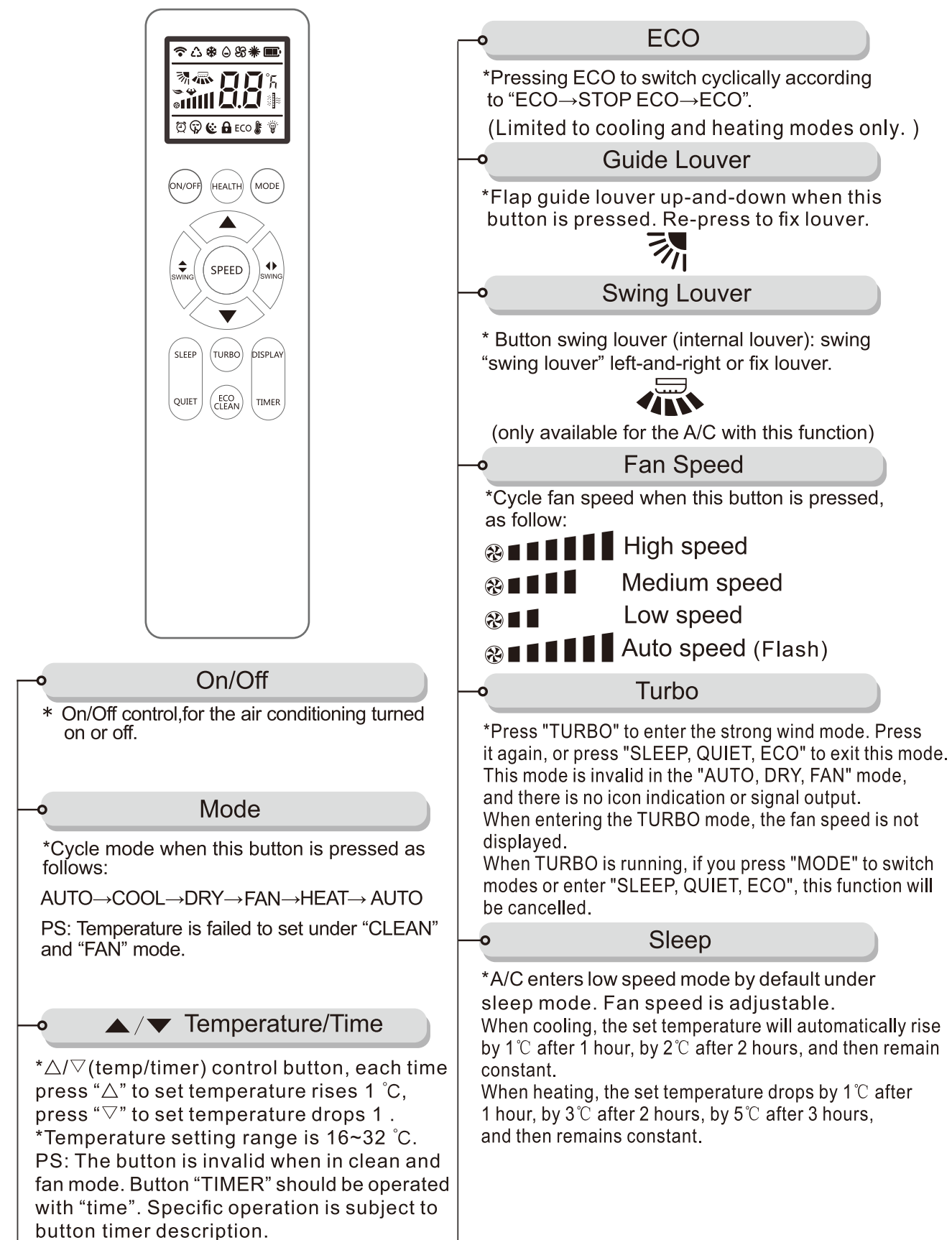
3.1 Use of Remote Controller



- On first use, insert battery and ensure the Plus-n-Minus is in correct connection.
- Ensure that remote controller is pointed at the signal receiver without any obstruction; Do not make the remote controller fall off or throw it carelessly; Any liquid cannot flow into the remote controller; Do not put the remote controller near the high temperature objects or on the place exposed to direct sunlight or strong light.
- If the remote controller is unable to be operated, please reinsert the batteries after removing it for 30 second. If it is still unable to be operated, please replace new batteries. The useless batteries should be disposed as relevant national regulations.
- Do not mix use of new-and-used batteries or different type batteries, otherwise, the remote controller should be unable to be operated.
- If the remote controller is not used for a long time, please take out the batteries to prevent the remote controller from being damaged by the leaked fluid.
- Please understand that this type of remote controller is general type, including the entire function button. The specific function is subject to the function of A/C.

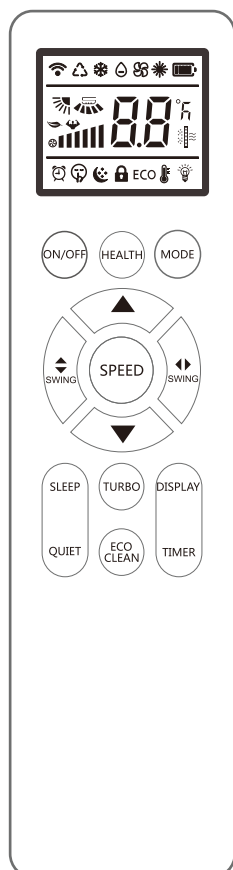
Part 3

Use of Remote Controller



Part 3

Use of Remote Controller



TIMER

*In the power-on state, press "TIMER" to power off at a scheduled time. In the power-off state, press "TIMER" to power on at a scheduled time. After pressing Timer once, use ▲▼ to adjust the time, which ranges from 1 to 24 hours. After the timing function is enabled, press the Shutdown button to exit the timing function.

*Timing setting should exit after 5s if the button is failed to press, but the timer will be valid.

Lock

* Press the TURBO and SLEEP keys at the same time to lock all the functions of the remote control, Press again to unlock.

QUIET

In Cooling、Heating mode, press "QUIET" to enter the quiet state and press again to exit.

DISPLAY

When the air conditioner is on, press "DISPLAY" to turn on the room machine display and press again to turn off the air conditioner.

CLEAN

*Only under remoter controller condition of power off, can it transmit "auto clean" signal when this button is pressed to power on.

The remote control and indoor unit will display CL. Press CLEAN or ON/OFF again to exit the automatic cleaning function. In automatic cleaning mode, the air conditioner will run for 10 to 15 minutes and then shut down automatically.

°C / °F

When the air conditioner is on, press the SLEEP and DISPLAY keys at the same time to switch between the °C and °F displays. The default value is Celsius.

TATS (only available for the A/C with this function)

In TR/TS function (Press SLEEP+TURBO), after press, the indoor unit display temperature is displayed as TS value (TS: the temperature set by the remote control), press again to switch to TR (TR: the current indoor ambient temperature), press again to display TS value, and cycle switching.

By default, this function is disabled.

Electric heating

In heating mode, pressing the "Quiet " and " ECO " keys simultaneously will turn on the electric heating function, and  will be displayed on the remote control.

Note:

The electric heating function is disabled by default.

Only heat pump air conditioners equipped with electric heating devices can turn on electric heating!

Health (only available for the A/C with this function)

* Only by adding related auxiliary components (such as UV lamp and anion generator) can it be realized. This feature is optional and is not available by default.

Part 3

3.2 Display icon

Running indicator	 
Timer indicator	    
Sleeping indicator	     
Cooling indicator	    
Heating indicator	   
Dehumidifying indicator	    
Ventilation run icon	    
Auto indication icon	  
Low wind run icon	
Stroke run icon	
The high wind run icon	
Strong run icon	  
Digital display tube icon	
Electric heating run icon	    
A. CLEAN	
HEALTH	 
QUIET	 

Above figure shows all indications for the purpose of the explanation but practically only the pertinent parts are indicated.

The indicator may be changed, but it does not affect your operation.

Note: You can check product parameters from the nameplate.

Part 3

3.3 Setting Up the WIFI APP

BEFORE YOU START

- Ensure your router provides a standard 2.4ghz connection.
- If your router is dual band ensure that both networks have different network names (SSID). The provider of your router / Internet service provider will be able to provide advice specific to your router.
- Ensure the router is as close as possible to the indoor unit during setup.
- Once the app has been installed on your phone, turn off the data connection, and ensure your phone is connected to your router via WIFI.

DOWNLOAD THE APP TO YOUR PHONE

Download the "TUYA SMART" app, from your chosen app store, using the QR codes below, or by searching for the app in your chosen store.



Android



iOS

CONNECTION METHODS AVAILABLE FOR SETUP

The air conditioner has two different setup modes, Quick Connection and AP (Access Point). The quick connection is a quick and simple way to set the unit up. The AP connection uses a direct local wifi connection between your phone and the air conditioner to upload the network details.

Before starting the setup, with the air conditioner plugged in, but turned off, quickly press the DISPLAY button on the remote 8 times.

Please ensure your device is in the correct WIFI connection mode for the connection type you are attempting, the flashing of the WIFI light on your air conditioner will indicate this.

Connection Type	Frequency of Flashes
Quick Connection	Flashes twice per second
AP (Access Point)	Flashes once per second

CHANGING BETWEEN CONNECTION TYPES

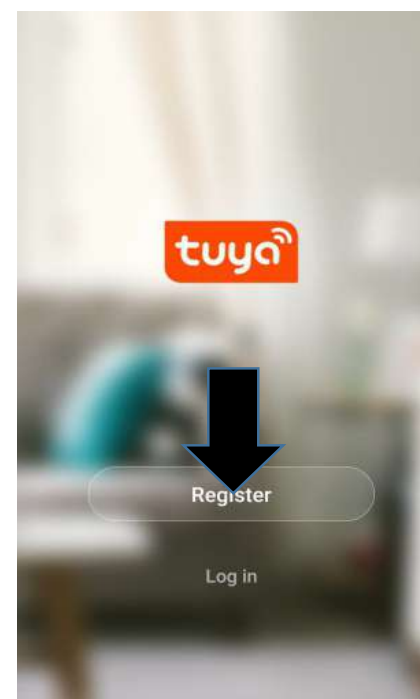
To change the unit between the two wifi connection modes, quickly press the DISPLAY button on the remote 8 times.

Part 3

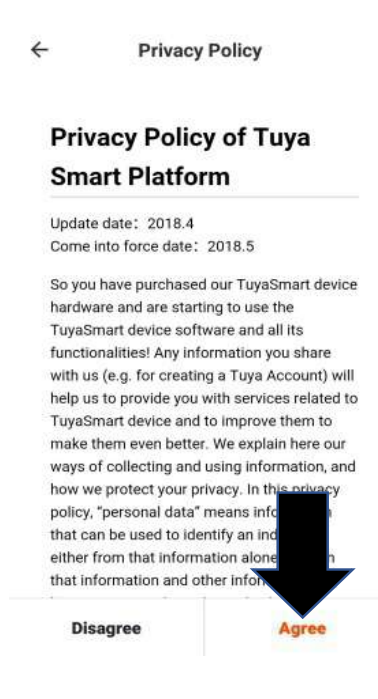
Setting Up the WIFI APP

REGISTER THE APP

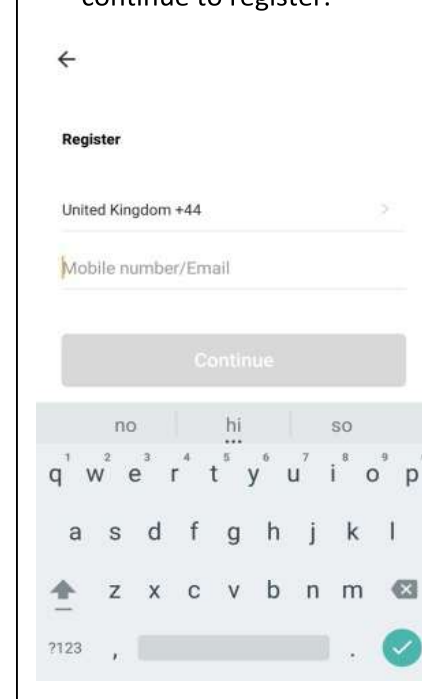
1. Press on the register button at the bottom of the screen.



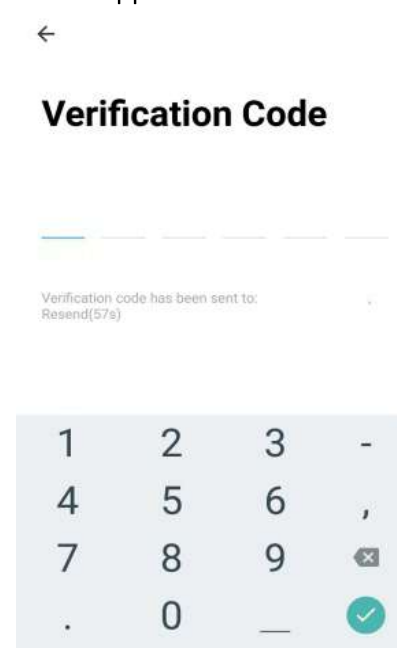
2. Read the Privacy policy and press the Agree Button.



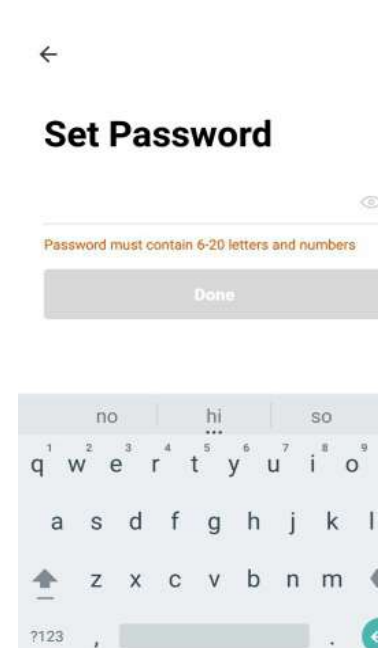
3. Enter your email address or phone number and press continue to register.



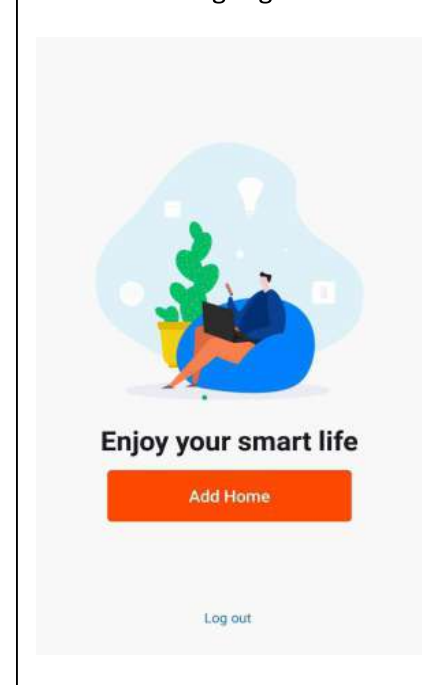
4. A verification code will be sent by the method selected in step 3. Enter the code into the app.



5. Type in the password you would like to create. This needs to be 6-20 characters, with letters and numbers.



6. The app is now registered. It will automatically log you in following registration.

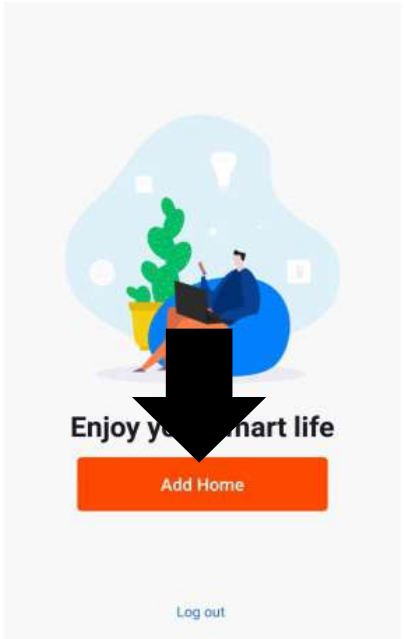
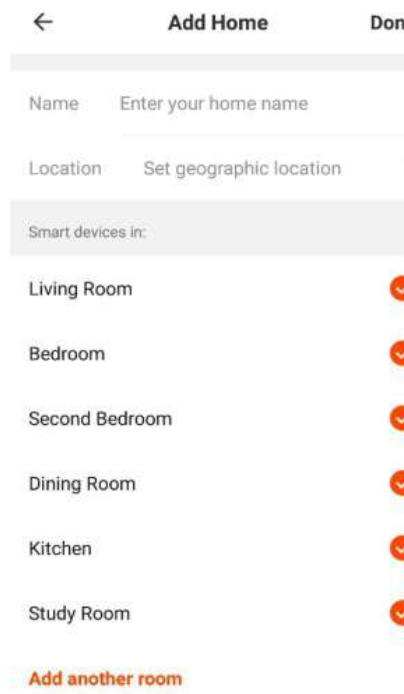
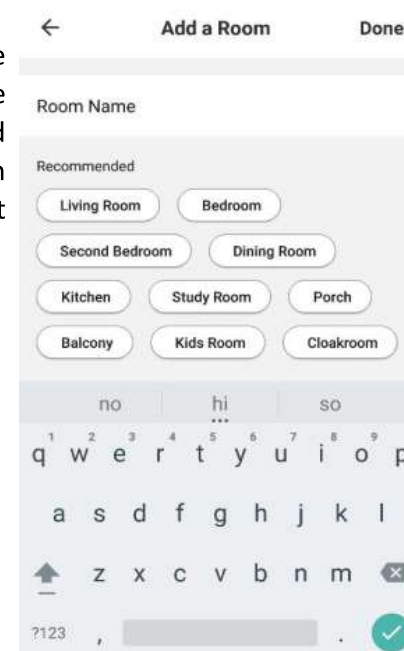


SETTING UP YOUR HOME WITHIN THE APP

Part 3

Setting Up the WIFI APP

TUYA is designed so it can work with a large number of compatible smart devices within your home. It can also be set up to work with multiple devices within different houses. As such during the setup process, the app requires that different areas are created and named to allow easy management of all your devices. When new devices are added, they are assigned to one of the rooms you have created.

1. Press on the ADD HOME button. 	2. Type in a name for your home, 3. Press on the location button to select the location of your home. (See SETTING YOUR LOCATION below) 4. New rooms can be added by pressing the ADD ANOTHER ROOM option at the bottom. (See ADD ANOTHER ROOM below) 5. Untick any rooms that are not required on the app. 6. Press DONE in the top right corner. 
SETTING YOUR LOCATION Use your finger to move the orange HOME symbol. When the symbol is in the approximate location of your home, press the confirm button in the top right corner. 	ADD ANOTHER ROOM Type in the name of the room, and press Done in the top right corner 

CREATING ROOMS

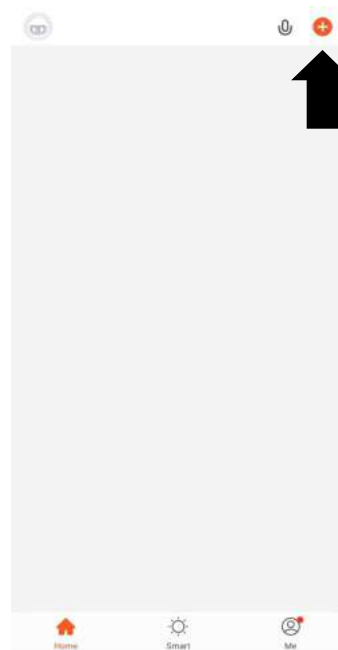
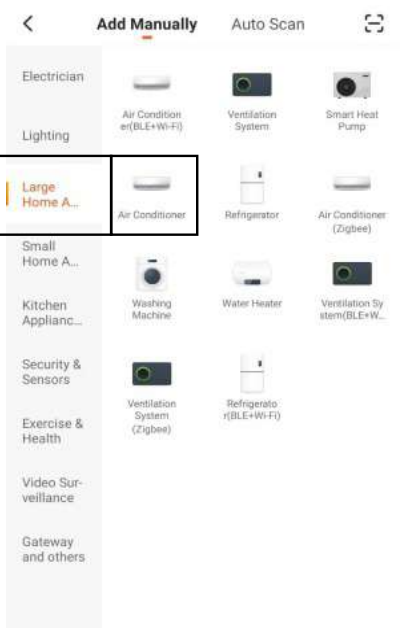
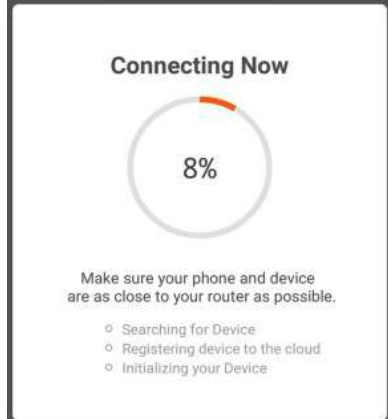
CONNECTING USING QUICK CONNECTION

Part 3

Setting Up the WIFI APP

CONNECTING USING QUICK CONNECTION

Before initiating the connection, make sure the unit is in standby mode, with the WIFI light flashing twice per second. If not follow the instructions for changing the connection mode. Also ensure your phone is connected to the WIFI network. (We advise turning mobile data off during setup)

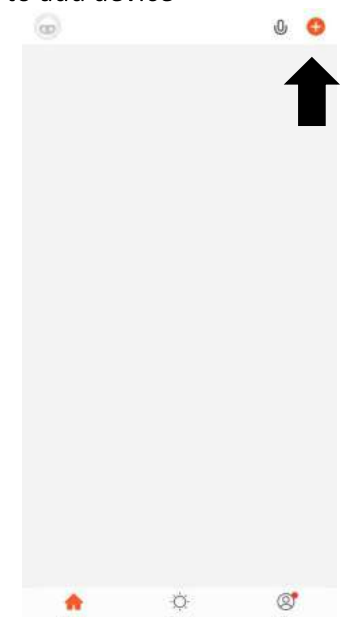
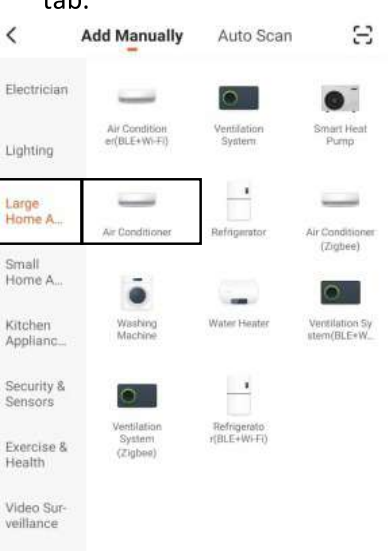
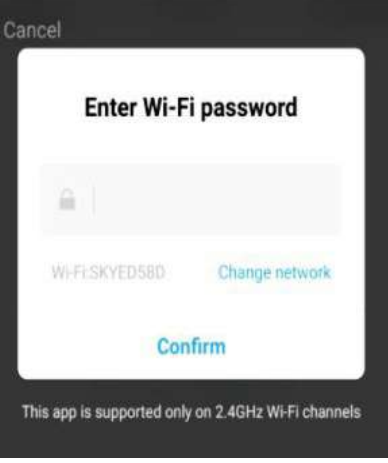
1. Open the app and press “+” to add device 	2. Select the type of device as “Air Conditioner” within the Large Home Appliance tab. 	3. Ensure the WIFI light on the air conditioner is flashing twice per second then press on the orange button at the bottom of the screen to confirm. 
4. Enter your WIFI password and press confirm. 	5. This will then transfer the settings to the air conditioner. Wait for this to complete. If this fails, retry. If still unsuccessful please review the troubleshooting section for further help. 	

Part 3

Setting Up the WIFI APP

CONNECTING USING AP MODE (ALTERNATIVE METHOD)

Before initiating the connection, make sure the unit is in standby mode, with the WIFI light flashing once per second. If not follow the instructions for changing the WIFI connection mode. Also ensure your phone is connected to the WIFI network. (We advise turning mobile data off during setup)

2. Open the app and press “+” to add device 	2. Select the type of device as “Air Conditioner” within the Large Home Appliance tab. 	3. Press on the AP mode button in the top right of the screen. 
4. Ensure the WIFI light on the air conditioner is slowly flashing (once per three seconds), then press on the orange button at the bottom of the screen to confirm 	5. Enter your WIFI password and press confirm. 	6. Go to network settings in your phone and connect to the “SmartLife xxx” connection. There is no password to enter. Then return back to the app to complete setup. 

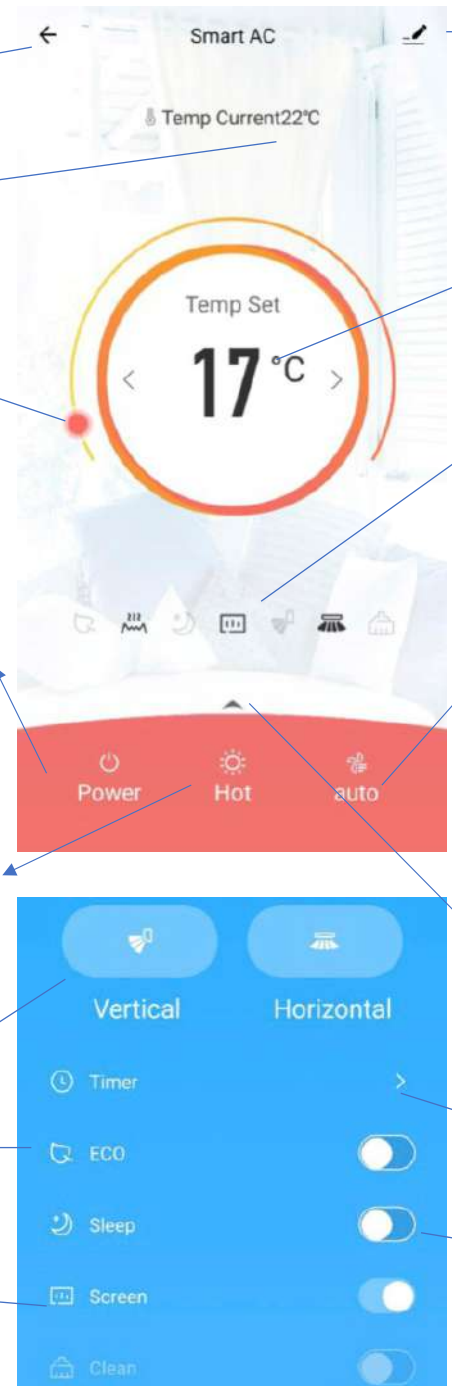
This will then transfer the settings to the air conditioner. Once the connection process has completed, go back to the network settings on your phone to ensure your phone has reconnected to your WIFI router.

Part 3

Setting Up the WIFI APP

DEVICE SCREEN

The device screen is the main control screen for the air conditioner, providing access to the controls to amend the functions and settings



Back: Returns to the Home Screen

Edit Name: Use to change the name of the air conditioner.

Current Room Temperature: Displays the current room temperature

Desired Room Temperature: Displays the desired temperature set on the air conditioner

Desired Temperature Dial: Move the circle around the dial to change the desired room temperature.

Functions: Displays the functions that are currently active

POWER: Use to turn the air conditioner on and off.

MODE: Change the operating mode of the air conditioner between Cool, Heat, Dry, Fan and Auto

SPEED: Use to change the Fan speed between Low, Medium, High and auto.

Swing: Activate Horizontal / Vertical oscillation

ECO: Activate ECO mode to reduce energy consumption.

Screen: Use to turn off the display

ADDITIONAL SETTINGS: Press to view additional settings / options for the air conditioner

Timer: Program to turn on or off at a specified time.

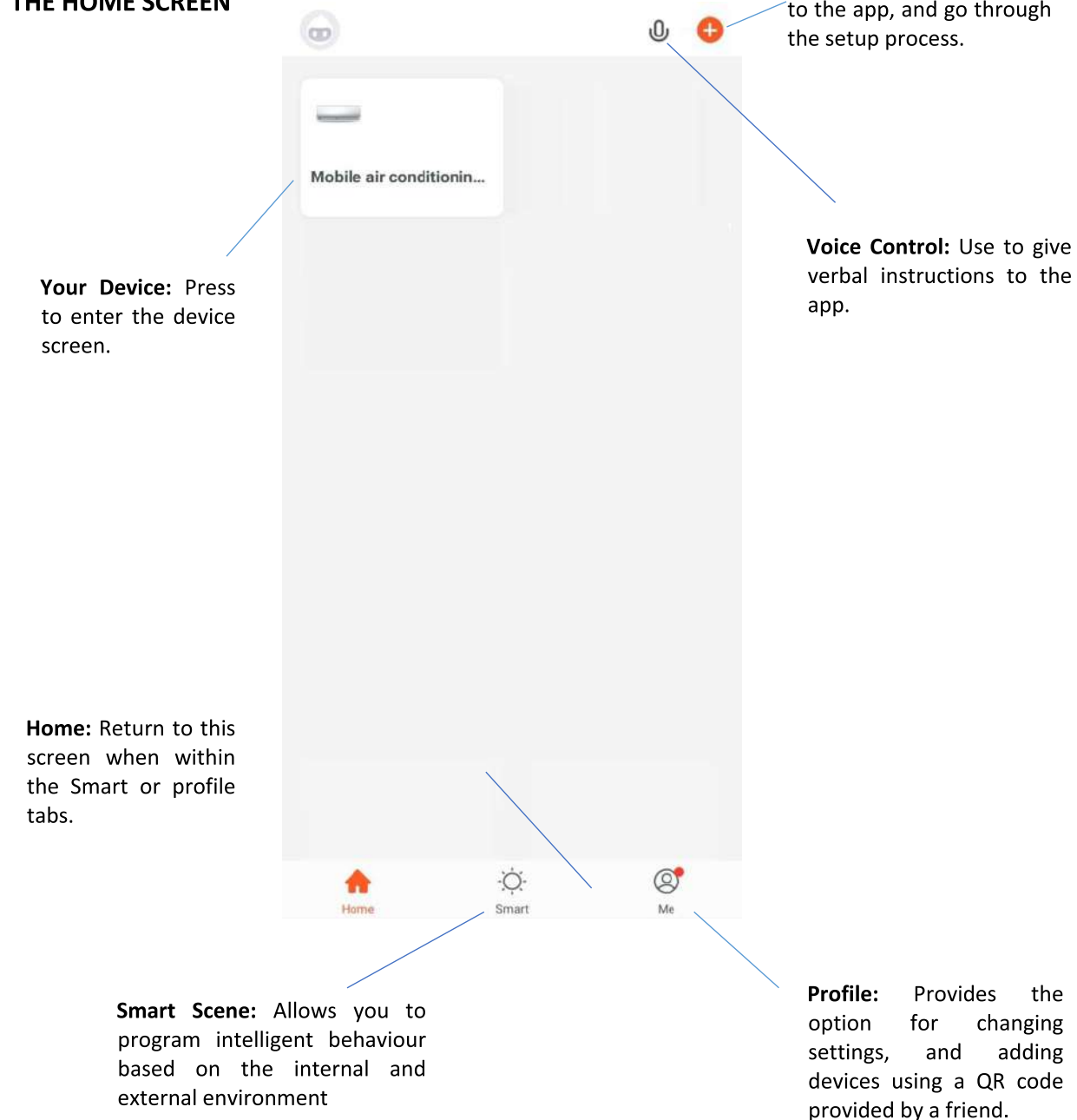
Sleep Mode: Activate sleep mode

Due to continuous development of the app, the layout and available features may be subject to change.

Part 3

Setting Up the WIFI APP

THE HOME SCREEN



Each device has its own entry on the home screen to allow the user to either quickly turn the unit on or off, or to enter the device screen to make other changes.

Part 3

Setting Up the WIFI APP

SMART SCENES

Smart Scenes is a powerful tool providing the option to customise the operation of the air conditioner based both on conditions within the room and outside influences. This gives the user the option of specifying much more intelligent actions. These are split into two categories Scene and Automation.

SCENE

Scene allows for a one touch button to be added to the Home screen. The button can be used to change a number of settings in one go, and can change all the settings within the unit. A number of scenes can easily be setup, allowing the user to easily change between a number of preset configurations.

Below is an example of how to set up a scene:

1. Press on the Smart Scene tab at the bottom of the Home screen	2. Press on the Plus in the top right corner to add a smart scene.	3. Select Scene to create a new Scene
4. Press the Pen next to "Please Enter Scene Name" to input the name for your Scene. Show on Dashboard: Leave this on if you require the scene to be displayed as a button on the Home Screen. Press the Red Plus to add the action required. Then select the air conditioner from the list of devices.	5. Chose the function, set the value for the function, and then press the back button in the top right corner, to return to the previous screen.	
6. Once all the functions required have been added, press the Save button in the top right corner to finalise and save your new Scene		

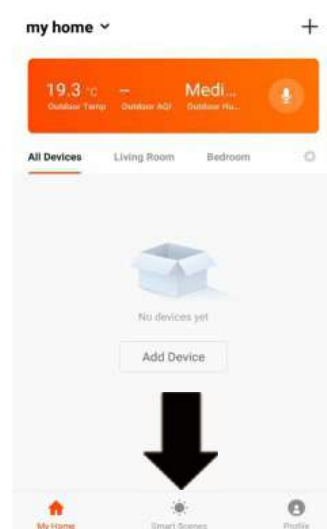
Part 3

Setting Up the WIFI APP

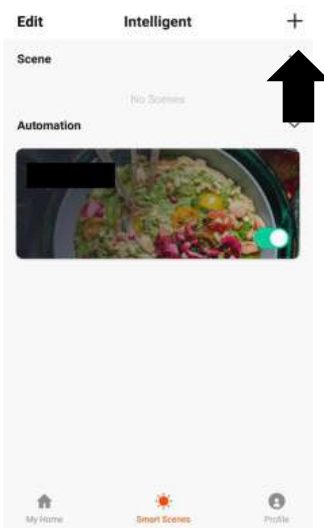
AUTOMATION

Automation allows an automatic action to be set up for the device. This can be triggered by the Time, indoor temperature, humidity of the room, weather conditions, and a range of other influences.

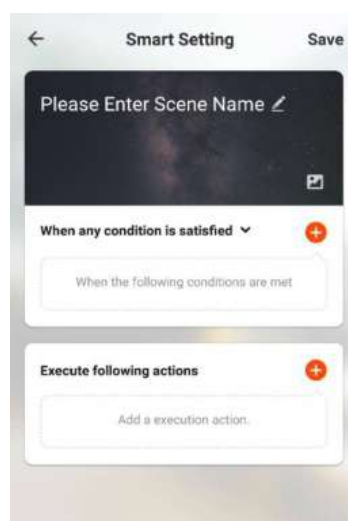
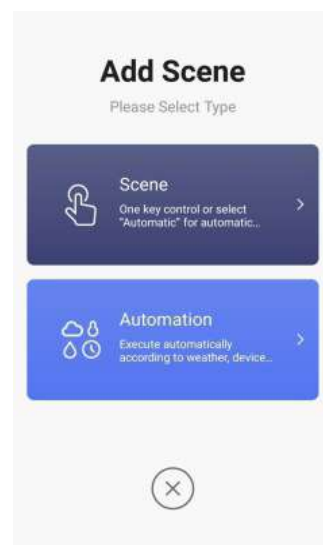
1. Press on the Smart Scene tab at the bottom of the Home screen



2. Press on the Plus in the top right corner to add a smart scene.



3. Select Automation to create a new Automation Scene



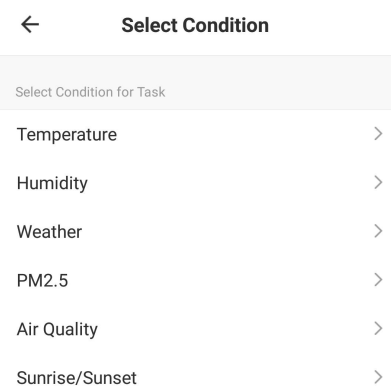
4. Setup is very similar to the scene setup on the previous page, and includes an extra section for specifying a trigger for the scene to start.

Press the Pen next to “Please Enter Scene Name” to input the name for your Scene

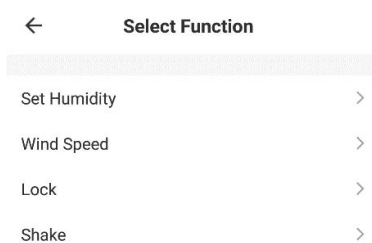
Press the Red Plus next to “When any condition is satisfied” to add the trigger

Press the Red Plus next to “Execute following actions” to add the action required. Then select the air conditioner from the list of devices.

5. Select the condition when the automation should start. A number of triggers can be combined.



6. Chose the function, set the value for the function, and then press the back button in the top right corner, to return to the previous screen.



7. Once all the functions required have been added, press the Save button in the top right corner to finalise and save your new scene. The automation is now set up, it can be turned on and off using the toggle on the image shown on step 2.

Part 3

Setting Up the WIFI APP

PROFILE

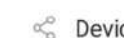
Settings



Tap to set your name >



Scenes >



Device Sharing >



Message Center >



Integration >



Experience Center >



Scan QR Code >



FAQ >



Feedback >

Devices

Scenes

Profile

PROFILE TAB

The profile tab gives you the option to edit both your detail, and use the added features of the unit.

CHANGING THE NAME OF YOUR DEVICE

When in any of the device screens further settings for the device can be accessed, by pressing on the three dots in the top right hand corner. The top option within this allows you to change the name of the device to something relevant to the use of the product, such as “Living Room Air Conditioner”. Within the menu, you also have the option of setting up a pattern lock or change your password.

DEVICE SHARING

This allows you to share access to the controls of your air conditioner with friends and family.

INTEGRATION

This allows the unit to be integrated with your favourite home automation hardware such as Google Home and the Amazon Echo.

Part 4 / Maintenance & Support



4.1 Care and Cleaning

! WARNING

Take notice of the following items before cleaning the Indoor wall unit.

- To avoid electric shock or injury, do not attempt to clean the unit unless it has been turned off and disconnected from the main power supply.
- Do not wash the unit with water; this may cause an electric shock.
- During cleaning, be sure to use a stable standing platform.

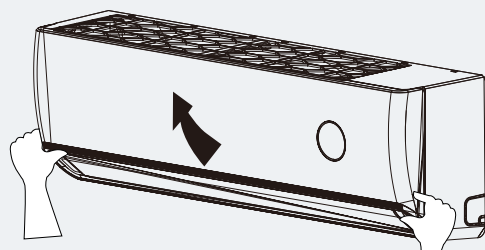
Air Filter Cleaning

Changing your air filter on a regular basis prevents many problems. Dirty air filters will affect the performance and the longevity of your unit. It is recommended that air filters be cleaned every three (3) months.

To access and clean the filter:

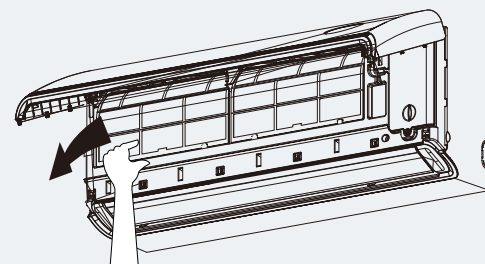
1. Open Front Panel

Firmly grasp both sides of the front panel and pull upward to about a 60° angle.



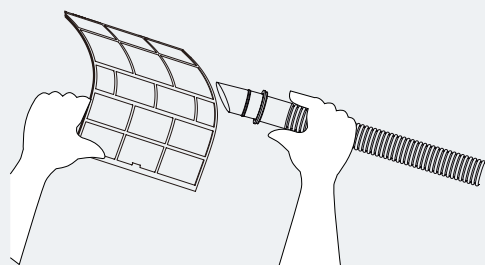
2. Remove Filter

Remove the filter as indicated.



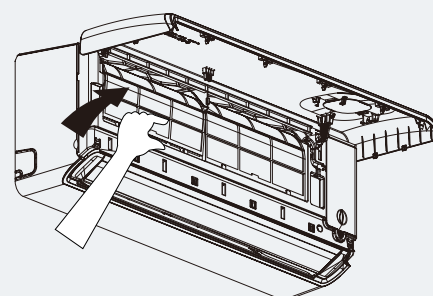
3. Clean Filter

Use a vacuum to clean the filter. When the filter is very dirty, use warm water (below 110°F) to clean it and then dry the filter before replacing.



4. Reinstall Filter

Reinstall the filter and then close the panel cover tightly.



Part 4

4.2 Troubleshooting

PROBLEM	CAUSE/SOLUTION
System does not restart.	Cause: The system has a built-in three-minute delay to prevent short and/or rapid cycling of the compressor. Solution: Wait three minutes for the protection delay to expire.
Indoor unit emits unpleasant odor when started	Cause: Typically unpleasant odors are the result of mold or mildew forming on the coil surfaces or the air filter. Solution: Wash indoor air filter in warm water with mild cleaner. If odors persist, contact a qualified service professional to clean the coil surfaces.
You hear a "water flowing" sound.	Cause: It is normal for the system to make "water flowing" or "gurgling" sounds from refrigerant pressures equalizing when the compressor starts and stops. Solution: The noises should discontinue as the refrigerant system equalizes after two or three minutes.
A thin fog or vapor coming out of the indoor unit when system is running.	Cause: It is normal for the system to emit a slight fog or water vapor when cooling extremely humid warm air. Solution: The fog or water vapor will disappear as the system cools and dehumidifies the room space.
You hear a slight cracking sound when the system stops or starts.	Cause: It is normal for the system to make "slight cracking" sounds from parts expanding and contracting during system starts and stops. Solution: The noises will discontinue as temperature equalizes after 2 or 3 minutes.
The system will not run.	Cause: There are a number of situations that will prevent the system from running. Solution: Check the following: • Circuit breaker is "tripped" or "turned off." • Power button of remote is not turned on. • Batteries in the remote controller are low. • Remote controller is in sleep mode or timer mode. • Otherwise, contact a qualified service professional for assistance.
The unit is not heating or cooling adequately.	Cause: There are a number of reasons for inadequate cooling or heating. Solution: Check the following: • Remove obstructions blocking airflow into the room. • Clean dirty or blocked air filter that is restricting airflow into the system. • Seal around door or windows to prevent air infiltration into the room. • Relocate or remove heat sources from the room.

Part 4

Troubleshooting

PROBLEM	CAUSE/SOLUTION
Water leakage from the outdoor unit.	Cause: It is normal for the outdoor unit to generate condensate water in the reverse cycle heating and defrost mode. Solution: This is normal. No action is required.
Water leaking from the indoor unit into the room	Cause: While it is normal for the system to generate condensate water in cooling mode, it is designed to drain this water via a condensate drain system to a safe location. Solution: If water is leaking into the room, it may indicate one of the following: • The indoor unit is not level right to left. Level indoor unit. • The condensate drain pipe is restricted or plugged. All restrictions must be removed to allow continuous drainage by gravity. • If problem persists, contact a qualified service professional for assistance.
Wireless remote controller does not work	Cause: There are a number of possible reasons. Solution: Check the following: • The remote controller was not matched to the indoor unit. See matching instructions. • The batteries might be low. Change the batteries. • The remote controller must be within 25 ft. (7.5 m) with no obstructions of the indoor unit. If remote controller needs to be replaced, contact a qualified service professional for assistance. In the meantime, use the Aux button to operate the system.
The unit will not deliver air	Cause: There are a number of system functions that will prevent air flow. Solution: Check for the following: • In heating mode, the indoor fan may not start for three minutes if the room temperature is very low (to prevent blowing cold air). • In heat mode, if the outdoor temperature is low and humidity is high, the system may need to defrost for up to 10 minutes before beginning a heating cycle. • In dry mode, the indoor fan may stop for up to three minutes during the compressor off delay. • Otherwise, contact a qualified service professional for assistance.
Moisture or condensation on the discharge air louvers or outlet vents	Cause: It is normal for the system to develop condensation or moisture on the discharge air louvers when cooling warm humid air for a long period of time. Solution: The condensation or moisture will disappear as the system cools and dehumidifies the room space.

Part 4

Troubleshooting

ERROR CODE & TROUBLESHOOTING METHODS			
(Outdoor lights flashing)	(Indoor display)	(Fault content)	(Simple elimination method)
/	CL (Normal function)	A.CLEAN	Press the "A.Lean" key to enter the automatic cleaning mode in the shutdown state. The whole process takes 20 to 30 minutes. After the end of the process, you can return to the shutdown state
25	EE	Indoor EE failure	1. Check all connecting wires of the indoor unit; 2. If there is no problem with the wiring, please replace the indoor PCB.
26	E1	Indoor fan failure	1. Check whether the indoor motor wire and feedback wire are normal; 2. If the wiring is normal, the electric control board or motor may be damaged. Replace the indoor electric control board first, and then choose to replace the motor;
27	E2	Zero crossing of the indoor fan is abnormal	1. please replace the indoor unit electric control board; 2. Please replace the indoor fan motor;
28	E3	Failure of indoor coil temperature sensor	1. Check whether the indoor coil temperature sensor is off; 2. If the connection is normal, use a multimeter to measure the resistance. It should be 10KΩ at 25°C, otherwise it may be short-circuited or broken. Please replace the sensor; 3. Replace the indoor PCB.
29	E4	Failure of indoor room temperature sensor	1. Check whether the indoor room temperature sensor is off; 2. If the connection is normal, use a multimeter to measure the resistance. It should be 10KΩ at 25°C, otherwise it may be short-circuited or broken. Please replace the sensor; 3. Replace the indoor PCB
/	E5	Outdoor unit is abnormal	1. Please judge the outdoor ambient temperature, which may be higher than 43 degrees; 2. Please check the ventilation of the outdoor unit. There may be other items blocking the heat exchanger or the heat exchanger is too dirty. 3. Check whether the outdoor fan is running normally and the speed is too slow or not turning; 4. Check whether the resistance value of the coil temperature sensor in the room is normal; 5. check whether the outdoor unit stop valve is all open, check whether the connecting pipeline has serious bending deformation; 6. Check the operating pressure of the refrigeration system and whether there is refrigerant leakage; 7. Check whether the compressor is running normally;
1	E0	Outdoor EE failure	1. Check all connecting wires of the outdoor unit; 2. If there is no problem with the wiring, please replace the outdoor electrical control board.

Part 4

Troubleshooting

2	E6	Communication failure of indoor and outdoor machines	1. Please ensure that the ground wire of the indoor unit power line is properly grounded, and that the ground wire of the indoor and outdoor unit connection line is properly grounded; 2. Check whether the connecting wires of indoor, outdoor and outdoor units are wrong or disconnected. If there is any problem, please re-wire; 3. Turn on the power and measure whether the indoor unit L and N have 220V voltage, if not, replace the indoor electromechanical control board; 4. If the indoor unit L and N have 220V, but there is no 220V when measuring to the outdoor unit, it means that the indoor and outdoor connection lines are faulty. Replace the indoor and outdoor connection lines; 5. If the outdoor unit L and N have 220V voltage, check whether the indicator light of the outdoor electric control board is on. If it does not, please turn off the power and check whether the internal wiring of the outdoor electric control board to the terminal and reactor is good; There is no problem with the wiring, please replace the outdoor electric control board; 6. If the indicator light of the outdoor unit is on, the communication circuit is faulty: when the whole unit is not powered on, use a multimeter to measure the resistance between NS (Need to cross measurement between positive and negative test leads), the normal resistance is infinite, if there is resistance, need disconnect the indoor and outdoor cables and measure again. If the resistance between indoor NS is not infinite, it is an indoor electric control failure; if the outdoor NS is not infinite, it is an outdoor electric control failure;
/	E8	Outdoor PCB failure	1. It is necessary to ensure that the power line of the air conditioner is properly grounded: please check whether the ground line of the power line of the indoor machine is properly grounded, please check whether the ground line of the connection line of the indoor and outdoor machine is properly grounded; 2. Shut down and power off for 3 minutes and then restart, whether the fault is solved; 3. Check whether the power supply voltage is normal; 4. check whether the indoor unit to outdoor unit wiring is normal, measurement of outdoor power supply is normal; 5. Check whether the outdoor unit internal connection line is normal; 6. Experienced engineers in the current circumstances, outdoor carefully open the machine chassis cover and electric control board cover plate (pay attention to safety when apart HouGaiBan electric control board, prevent to get an electric shock), after opening please observe machine board outside the red light is flashing and video records, below the red circle marked position, if still flashing, may be is a question of serial number 1 ~ 5, please check again, If it does not blink, it can be judged that the outdoor electric control board is faulty.
/	EF	WIFI module fault	The fault code "EF" is displayed only in self-check, not in other cases. In general, it will appear when the first power is turned on and the WIFI is not connected, please switch the machine again.
4	F1	Compressor starting abnormal(phase error,reverse)	1. Disconnect the power supply and check whether all the outdoor unit cables are normal. 2. Check whether all components of outdoor unit PCB are burned out or cracked; 3. disconnect the compressor connection line, measure the resistance between the compressor U/V/W, normal resistance 0.5~2 ohms; 4. All the above are normal. Please try to replace the outdoor unit PCB first.
5	F2	compressor out-of-step fault:	1. Check whether the power supply is normal; 2. Check whether the power supply line is normal; 3. Check the grounding of indoor and outdoor units; 4. Replace the outdoor unit PCB; 5. If the fault persists after replacing the outdoor unit PCB, check whether the coil resistance of the compressor is normal or even replace the compressor

Part 4

Troubleshooting

6	F3	IPM module is faulty	1, check whether the user power supply voltage is normal, check whether the outdoor unit condenser is too dirty to block, check whether the outdoor unit (compressor) wiring is wrong, check whether the refrigerant pressure is normal; 2. After 3 minutes of power-off, restart the indoor unit and check whether F3 fault occurs immediately. If not, please check the operating environment of the outdoor unit, whether the heat dissipation is good, whether the system pressure is normal, and whether the outdoor motor speed is normal; 3. Check whether the compressor wiring is correct; Disconnect the compressor cable and measure the U/V/W resistance of the compressor. The normal resistance is 0.5~2 Ω. 4, replace outdoor PCB; 5. Replace the compressor.
7	F4	Compressor housing top failure/protection	1. Check whether the power supply is normal; 2. Check whether the power supply line is normal; 3. Check the grounding of indoor and outdoor units; 4. Check the thermal protection device on the top of the compressor (if any); 5. Replace the outdoor unit PCB; 6. If the fault persists after replacing the outdoor unit PCB, check whether the coil resistance of the compressor is normal or even replace the compressor
8	F5	Exhaust temperature sensor malfunction	1. Check whether the outdoor exhaust temperature sensor is off; 2. If the connection is normal, use a multimeter to measure the resistance. It should be 50KΩ at 25°C, otherwise it may be short-circuited or broken. Please replace the sensor; 3. Replace the outdoor PCB
9	F6	Suction temperature sensor is faulty	1. Check whether the outdoor suction temperature sensor is off; 2. If the connection is normal, use a multimeter to measure the resistance. It should be 10KΩ at 25°C, otherwise it may be short-circuited or broken. Please replace the sensor; 3. Replace the outdoor PCB
10	F7	Failure of outdoor coil temperature sensor	1. Check whether the outdoor coil temperature sensor is off; 2. If the connection is normal, use a multimeter to measure the resistance. It should be 10KΩ at 25°C, otherwise it may be short-circuited or broken. Please replace the sensor; 3. Replace the outdoor PCB
11	F8	Failure of outdoor room temperature sensor	1. Check whether the outdoor ambient temperature sensor is off; 2. If the connection is normal, use a multimeter to measure the resistance. It should be 10KΩ at 25°C, otherwise it may be short-circuited or broken. Please replace the sensor; 3. Replace the outdoor PCB
12	F9	Outdoor DC fan is faulty	1, check whether the outdoor unit blade is stuck or damaged; 2, check the outdoor fan motor part of the line is not a problem, 3. Replace the outdoor fan motor;
13	P1	The outdoor unit stops with AC current protection	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, please check whether the power supply voltage is normal, the voltage may be unstable, too high or too low; 2. Check whether the ambient temperature of the outdoor unit is too high; 3, please check the indoor or outdoor ventilation, there may be other items blocking the heat exchanger or heat exchanger is too dirty; 4, check whether the outdoor fan is running normally, the speed is too slow or does not turn, replace the outdoor fan motor; 5, check whether the compressor has abnormal sound, shell temperature is too high; 6. Check whether the system is blocked.

Part 4

Troubleshooting

14	P2	The compressor stops with phase current protection	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, please check whether the power supply voltage is normal, the voltage may be unstable, too high or too low; 2. Check whether the ambient temperature of the outdoor unit is too high; 3, please check the indoor or outdoor ventilation, there may be other items blocking the heat exchanger or heat exchanger is too dirty; 4, check whether the outdoor fan is running normally, the speed is too slow or does not turn, replace the outdoor fan motor; 5, check whether the compressor has abnormal sound, shell temperature is too high; 6, check whether the system is mixed with air, too much refrigerant, compressor lack of oil and other problems.
15	P3	The outdoor unit AC voltage is too high or too low	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, please check whether the power supply voltage is normal, the voltage may be unstable, too high or too low; 2. Check whether the ambient temperature of the outdoor unit is too high; 3, please check the indoor or outdoor ventilation, there may be other items blocking the heat exchanger or heat exchanger is too dirty; 4, check whether the outdoor fan is running normally, the speed is too slow or does not turn, replace the outdoor fan motor; 5, check whether the compressor has abnormal sound, shell temperature is too high; 6. Check whether the system is blocked.
16	P4	Dc busbar overvoltage and undervoltage protection	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, please check whether the power supply voltage is normal, the voltage may be unstable, too high or too low; 2. Replace the outdoor unit PCB.
17	P5	The IPM stops when the temperature is too high	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, please check whether the power supply voltage is normal, the voltage may be unstable, too high or too low; 2. Replace the outdoor unit PCB.
18	P6	Outdoor Exhaust temperature overheating protection stop	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1. Please judge the outdoor environment temperature, it may be that the environment temperature is higher than 43 degrees; 2. Please check the ventilation of the outdoor unit, there may be other items blocking the heat exchanger or the heat exchanger is too dirty; 3. Check whether the outdoor fan is operating normally, the speed is too slow or does not rotate; 4. Check whether the resistance value of the outdoor exhaust temperature sensor is normal; 5. Check whether the shut-off valve of the outdoor unit is fully opened, and check whether the connecting pipeline is severely bent or deformed; 6. Check the operating pressure of the refrigeration system to see if there is refrigerant leakage;
19	P7	Refrigeration internal coil protection against freezing stop	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1. Please check the ventilation of the indoor unit. There may be other objects blocking the air inlet, or the filter is too dirty or the heat exchanger is too dirty to affect heat exchange; 2. Check whether the indoor fan is running normally, and the speed is too slow or not rotating; 3. Check whether the resistance value of the indoor coil sensor is normal; 4. Replace the indoor PCB.

Part 4

Troubleshooting

20	P8	Cooling outer coil overheating protection stop	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, check whether the outdoor unit heat dissipation is good; 2. Whether the outdoor unit coil temperature sensor is normal; 3. Check whether the outdoor unit refrigerant pressure is normal; 4. Replace the outdoor unit PCB
21	P9	Inner coil overheating protection stop	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, check whether the indoor heat dissipation is good; 2, indoor unit coil temperature sensor is normal; 3. Check whether the outdoor unit refrigerant pressure is normal; 4. Replace indoor unit PCB
22	PC	The cooling system stops when the ambient temperature is too low	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1. Determine whether the outdoor unit ambient temperature is too low. 2. Check whether the outdoor unit ambient temperature sensor is normal. 3. Replace indoor unit PCB
23	PH	In heating mode, the external ambient temperature is too high, triggering a protective shutdown.	1. Determine whether the outdoor unit ambient temperature is too high. 2. Check whether the outdoor unit ambient temperature sensor is normal. 3. Replace indoor unit PCB
31	L1	Drive bus overvoltage protection	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1. Check whether the power supply voltage is normal; 2. Check whether the outdoor unit circuit is normal; 3. Replace the outdoor unit PCB
32	L2	Drive bus undervoltage protection	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1. Check whether the power supply voltage is normal; 2. Check whether the outdoor unit circuit is normal; 3. Replace the outdoor unit PCB
33	L3	The phase current of the outdoor unit is overcurrent	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1, please check whether the power supply voltage is normal, the voltage may be unstable or too low; 2 please check the ventilation of the indoor machine, the filter screen may be too dirty, please clean the filter screen; 3, please check the outdoor ventilation, there may be other items to block the heat exchanger or heat exchanger is too dirty; 4. Check whether the resistance value of the outdoor exhaust temperature sensor is normal and replace the abnormal sensor; 5, check the refrigeration system operating pressure, whether there is refrigerant leakage, add refrigerant; 6, check whether the outdoor fan is running normally, the speed is too slow or does not turn, replace the outdoor fan motor; 7, Disconnect the compressor wiring and then start the compressor. If the module protection still occurs, the external controller is faulty and the external controller should be replaced. 8. The resistance values between U, V and W of the compressor are basically the same. If the deviation is too large, the compressor may fail. Measure the resistance of U, V, and W to the ground. If the resistance is less than 2 MEgohm, the compressor may be short-circuited. Replace the compressor.
34	L4	Phase current sampling is abnormal	Please try to shut down the machine first, then disconnect the power supply for 3 minutes, and then plug in the power again! 1. Check whether the power supply voltage is normal; 2. Check whether the outdoor unit circuit is normal; 3. Replace the outdoor unit PCB

Part 4**4.3 Product & Installation Record**

For your convenience, please record the model and serial numbers of your new equipment in the spaces provided. This information, along with the installation data and dealer contact information, will be helpful should your system require maintenance or service.

UNIT INFORMATION**Outdoor Unit:**

Model No. _____

Serial No. _____

Indoor Unit:

Model No. _____

Serial No. _____

INSTALLATION INFORMATION

Date Installed: _____

DEALERSHIP/INSTALLER INFORMATION

Company Name: _____

Address: _____

Phone Number: _____

Technician Name: _____