



User Manual

SPLIT AIR CONDITIONER

Before installing and using your TOSOT Air Conditioner, please read this user manual in its entirety.

MODEL NUMBERS

Indoor Unit

GWH09AFC-A3DNA2A/I
GWH09AFC-D3DNA2A/I
GWH12AFC-A3DNA2B/I
GWH12AFC-D3DNA2B/I
GWH18AFD-D3DNA2A/I

Outdoor Unit

GWH09AFC-A3DNA1A/O
GWH09AFC-D3DNA1A/O
GWH12AFC-A3DNA1A/O
GWH12AFC-D3DNA1A/O
GWH18AFD-D3DNA1A/O



Welcome to the TOSOT Direct Family!

We're extremely happy to welcome you as a new member of our family! Please read the tips below before using your product for the first time.

Tips for First-Time Use

1. The split-type air conditioner is a heavy object, which needs two or more people to lift and install. Failure to do so could result in injury or other accidents.
2. Allow the unit to sit upright for at least 3-4 hours before powering on. Shipping carriers may set the unit on its side, which causes the refrigerant to pool in certain areas. Standing the unit upright for 3-4 hours allows the refrigerant to move freely within the coils.
3. Some parts with sharp edges may cause injury, so gloves are highly recommended for unpacking and installing.
4. Run the unit continuously for 24 hours after installation. This allows the unit to work out any "kinks" that may have resulted during shipping from our factory to your doorstep.
5. If you have any problems with your product, please send us an email before submitting a return request, as there might be a simple solution for your issue.

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Safety Precautions

Your safety and the safety of others are very important to us. Please read the following safety precautions before use and installation. A digital version can be obtained from customer support.

Warning

Failed to do the following instructions might cause the possibility of death or serious injury.

1. **Do not** connect the power before finishing installation.
2. **Do not** spray or wash the air conditioner with water to avoid electric shock or malfunction.
3. **Do not** insert fingers or objects into the air inlet or air outlet. It may cause personal injury or damage.
4. **Do not** block the air outlet or air inlet. It may cause malfunction.
5. Installation must be performed according to installation instructions and in accordance with the requirement of NEC and CEC by authorized personnel only. Improper installation may cause water leakage, electrical shock, fire, or may void the warranty.
6. Service or maintenance must be performed by authorized and qualified professionals. Otherwise, it may cause serious damage or personal injury or death.
7. Make sure the power supply is cut off before proceeding with any work related to electricity or general maintenance.
8. If the refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.
9. The air conditioner must be properly grounded. The grounding resistance should comply with national electric safety regulations. Incorrect grounding may cause electric shock.
10. 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.

11. This appliance can be used by children ages 8 and above and persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.
12. After removing the filter, do not touch the metal fins in order to avoid injury.

Caution

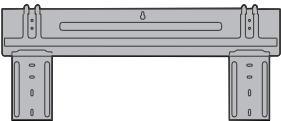
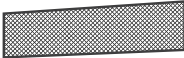
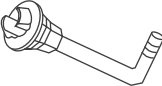
1. Please follow the instructions for installation and use of this product in this user manual.
2. The indoor unit should be installed close to the wall.
3. The appliance must be positioned so that the plug is accessible. The plug should be able to reach a properly-grounded wall outlet after finishing installation. Extension cords, power strips, or similar devices should not be used with this product.
4. The yellow-green wire in the air conditioner is grounding wire, which cannot be used for other purposes.
5. The temperature of the refrigerant circuit will be hot. Please keep wires and cables away from the copper refrigerant tube.
6. Do not spill water on the remote controller, otherwise the remote controller may be broken.
7. Do not use a hair dryer to dry the filter after washing to avoid deformation or fire hazard.
8. Do not step or put heavy objects on the top panel of the outdoor unit. It may cause damage or personal injury.
9. If any of the below issues occur, please turn off the air conditioner and disconnect power immediately. Contact the dealer or qualified professionals for service.
 - a. Power cord is overheating or damaged.
 - b. There are abnormal sounds during operation.
 - c. Circuit breakers trips frequently.
 - d. Air conditioner gives off a burning smell.
 - e. Indoor unit is leaking.

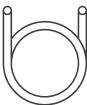


Electrical Safety Warning

1. **Do not** share the same electrical socket with other appliances as this may create a fire hazard.
2. **Do not** cover the power cord with a rug or carpeting.
3. **Do not** rest hot or heavy objects on the appliance and power cord.
4. Never plug or unplug the appliance with wet hands.
5. Never unplug the appliance by pulling on the power cord.
6. According to the local safety regulations, use a qualified power supply circuit and circuit breaker and make sure the power supply matches with the requirement of the air conditioner. Unstable power supply may result in electric shock, fire hazard or malfunction.
7. All wires of indoor unit and outdoor unit should be in accordance with national wiring regulations.
8. If the power cord is damaged, it must be replaced by the manufacturer or an authorized technical service center.
9. Make sure the power supply is cut off when cleaning the air conditioner. Otherwise, it may cause electric shock.

Parts List

PART	LOOKS LIKE	QUANTITY
Mounting plate		1
Drywall anchor		5
Mounting plate fixing screw		5
Fixing screw for remote controller holder		2
Remote control		1
Remote control holder		1
AAA battery		2
Air filter		1
Wall cuff		1
Drain joint		1

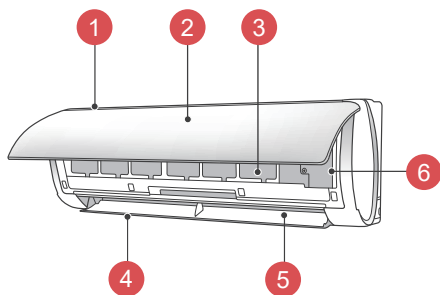
PART	LOOKS LIKE	QUANTITY
Pipe bundle (5 meters)		1
Electrical cables (6 meters)		1
Sealing gum		1
Drain hose (2 meters)		1
Tape		1

Required Tools

1. Bubble Level
2. Electric Drill with drill bit for pilot holes
3. Wire stripper/crimp tool
4. Screwdriver
5. Standard wrench
6. Open-end torque wrench
7. Drill with 2.2/2.8 inch hole saw
8. Vacuum pump

Parts Description

Indoor Unit

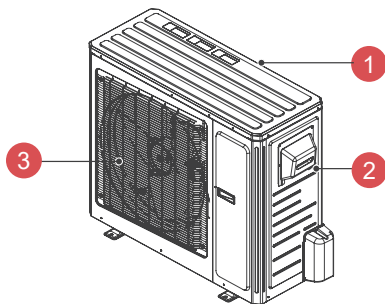


- 1 Air Inlet
- 2 Front Panel
- 3 Reusable Filter
- 4 Air Outlet
- 5 Horizontal Louver
- 6 Aux Button

Display

Temp Indicator	26
Power Indicator	⏻

Indoor Unit



- 1 Air Inlet
- 2 Wire Connection
- 3 Air Outlet

Note: This is a universal introduction for a variety of models. Display content may be different from the actual. Please refer to the actual unit

Remote Control



Function icons:

	I Feel
FAN	Fan Speed Setting
	Turbo Mode
	Send Signal
Operation Mode	Auto Mode
	Cool Mode
	Dry Mode
	Fan Mode
	Heat Mode
	Sleep Mode
	Freeze Guard Function
	X-FAN Function
Temp. Display Type	Set Temp.
	Indoor Ambient Temp.
	Outdoor Ambient Temp.
	Clock
	Temperature Setting
WIFI	WiFi Function
	Time Setting
ONOFF	Timer On/Off
	Light
	Up & Down Swing
	Child Lock

Note:

- This is a universal remote control for a variety of different models. If your model does not have a function listed on the remote control, when you press the corresponding button on the remote controller, the unit will keep the original setting and there will be no changes in the operation of your unit.

- Once the unit is powered on the air conditioner will give out a sound and the power indicator  will light up. After that you can operate the air conditioner by using remote control.
- When pressing a button on the remote control, the signal icon  on the remote control will blink once and the air conditioner will emit a single beep sound, which means the signal has been sent to the air conditioner. The remote control will display the active function icons.
- While powered off the set temperature and clock icons will be displayed. If the timer or light functions are set, the corresponding icons will be also displayed on the remote control.

Function Icons Description

 Press this button to turn on the unit. Press this button again to turn off the unit.

 Press this button to cycle through the following modes:



Auto mode: The air conditioner will adjust the fan speed automatically to maintain the set temperature. The set temperature and fan speed can be adjusted.

Cool mode: The air conditioner will operate under standard cooling mode. The set temperature and fan speed can be adjusted.

Dry mode: The air conditioner will run on low speed for dehumidification. The fan speed cannot be adjusted.

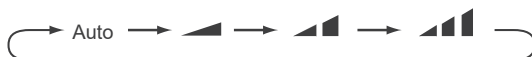
Fan mode: The air conditioner will not produce cool or warm air, only blow air from the current room temperature. The fan speed can be adjusted.

Heat mode: The air conditioner operates under heat mode instead of cooling. The set temperature and fan speed can be adjusted.

Note: After starting up the heat mode, the indoor unit will delay 1~5 minutes before it starts blowing air. The actual delay time will depend on the current indoor temperature.



Press this button to cycle through the Auto fan mode and 3 fan speeds (Low, Medium, High)

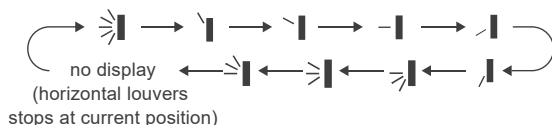


Note:

- Under AUTO fan mode, the air conditioner will select the proper fan speed automatically.
- X-FAN Function: Hold the fan speed button for 2 seconds in COOL or DRY mode. The icon will be displayed. Under this mode the indoor fan will continue operating for a few minutes after powering off in order to dry the indoor unit. X-FAN is not available in AUTO, FAN or HEAT modes. This function will help to dry the moisture on the evaporator to prevent mold. To shut the X-FAN off after powering the unit off, hold the fan speed button for 2 seconds.



Press this button to cycle through the following air flow directions:



When selecting , the horizontal louvers will automatically swing up & down across the maximum range. .

When selecting " ", the unit will blow air at a fixed position. The horizontal louvers will not move.

When selecting " ", the unit will blow air across a set range. The louvers will automatically swing up & down across this range.

To manually set a fixed air direction, press and hold the icon for 2 seconds until it reaches your desired angle, then release the button. The louvers will not move from this position.



Under cool or heat modes, press this button to enter quick cool or quick heat mode. The icon will display on the remote control. Press the button again to exit the turbo function and the icon will disappear.

- Pressing the ▲ or ▼ button will increase/decrease the set temperature by 1°F. Holding the button for 2 seconds will cause the temperature to change rapidly. Release the button once your desired temperature is reached.
- After pressing the Timer or Clock button, press the ▲ or ▼ button to adjust the time.



- Under cool or heat mode, press this button to enter the sleep operation mode. The ☾ icon will display on remote control. Press the button again to exit sleep mode. Sleep mode is only available in cooling or heating modes, as explained in detail below.
- During sleep, the set temperature of the air conditioner may no longer be suitable to the human body's optimal sleeping needs. By activating the sleep function with the remote control, the air conditioner will automatically adjust the set temperature to meet the optimal sleeping needs of the human body.

Sleep Mode Under Cooling Mode

1. If the temp is set to 61-74°F (16-23°C), the temp will increase 2°F per hour for 3 hours. Four (4) hours later the temp will decrease by 2°F and remain at this temp.
2. If the temp is set to 75-81°F (24-27°C), the temp will increase 2°F per hour for 2 hours. Five (5) hours later the temp will decrease by 2°F and remain at this temp.
3. If the temp is set to 82-84°F (28-29°C), the temp will increase 2°F per hour for 1 hour. Six (6) hours later the temp will decrease by 2°F and remain at this temp.
4. If the temp is set to 85°F (30°C), the temp will not increase. Seven (7) hours later the temp will decrease by 2°F and remain at this temp.

Sleep Mode Under Heating Mode

1. If the temp is set to 61°F (16°C), it will run at this temp with no change.
2. If the temp is set to 62-68°F (17-20°C), the temp will decrease 2°F per hour for 1 hour and remain at this temp.
3. If the temp is set to 69-81°F (21-27°C), the temp will decrease 2°F per hour for 2 hours and remain at this temp.
4. If the temp is set to 82-86°F (28-30°C), the temp will decrease 2°F per hour for 3 hours and remain at this temp.



Press this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on the indoor unit's display. The setting on remote control will cycle through as below:



When selecting "🏠" or no display with the remote control, the temperature indicator on the indoor unit displays the set temperature.

When selecting "🏠!" with the remote control, the temperature indicator on the indoor unit displays the indoor ambient temperature.

When selecting "🏠!" with the remote control, the temperature indicator on the indoor unit displays the outdoor ambient temperature.

Note: (This function might vary across different models)

When selecting the display of indoor or outdoor ambient temperature, the temperature indicator displays the corresponding temperature then automatically turns to display the set temperature after a few seconds.



Press this button to turn off the display light on the indoor unit. The 🌙 icon on the remote control will disappear. Press the button again to turn on the display light.



Press this button to set the clock time. The 🕒 icon on the remote control will blink. Press the "▲" or "▼" button within 5 seconds to set clock time. Each press of the "▲" or "▼" button will increase or decrease 1 minute. Holding the "▲" or "▼" button will change time rapidly. Release this button after reaching your required time. Press the "CLOCK" button again to confirm the time and the icon will stop blinking.



TIMER ON/OFF:

When the unit is not running, press this button to schedule when the unit will power on by using the "▲" or "▼" button to adjust the length of time before powering on. When the unit is running, press this button to schedule when the unit will power off. The timer setting will increase or decrease by

1 minute with each press of the "▲" or "▼" button. Holding the "▲" or "▼" button for 2 seconds will change the time rapidly. Release the button once it reaches your set time. . Press the button again to confirm the timer and the "ON"/"OFF" indicator on the remote control will stop blinking.

Note: "⏻" button takes no effect on the timer setting. If you don't need the timer, press the TIMER ON/OFF button to cancel and the timer indicator light will shut off.

Combination Buttons

• Energy-Saving Mode

Under cool mode, press and hold the TEMP and CLOCK buttons simultaneously to activate or turn off the energy-saving function. When the energy-saving function is activated, "SE" will be displayed on the remote control and the air conditioner will adjust the set temperature automatically to save on energy costs.

Under Energy-saving Mode the fan speed and temperature settings can't be adjusted and the TURBO mode is not available. Sleep mode and Energy-Saving Mode can't operate at the same time.

• Freeze Guard Heating Function

Under heat mode, press and hold the TEMP and CLOCK buttons simultaneously to activate or turn off the freeze guard function. When this function is activated, Ⓢ and "46°F/8°C" will be shown on remote control, and the air conditioner keeps the room temperature above 46°F/8°C.

Under the Freeze Guard Heating Function, fan speed and temperature settings can't be adjusted and the "TURBO" mode is not available. The sleep mode and the Freeze Guard Heating Function can't operate at the same time.

This function is typically used when away for vacation or holiday and is intended to save energy and protect pipes or plants from freezing when the building is unoccupied.

- **Child lock**

Press ▲ and ▼ simultaneously to turn the child lock function on or off. While in this mode the remote control will display a LOCK symbol and will not send any signal to the air conditioner.

- **Change Between °F and °C**

With the unit powered off, press the MODE and ▼ buttons simultaneously to switch between Fahrenheit and Celsius displays.

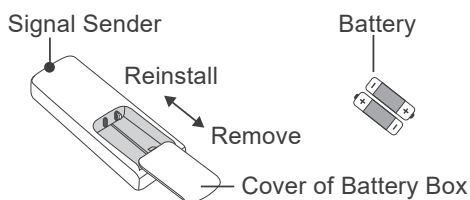
- **I FEEL**

Press the ▲ and MODE buttons simultaneously to activate I FEEL mode. The  icon will be displayed on the remote control. In this mode your unit will use a sensor located in the remote control to determine the temperature setting of your air conditioner.

Please put the remote control near the user when using this function. Do not put the remote control near any place with too high or too low temperature in order to avoid inaccurate temperature readings. When I FEEL is turned on, the remote control should be put within 20 ft of the indoor unit so the unit can receive the signal from the remote control.

Replacing the Batteries

- Press the back side of the remote control battery cover and slide out following the engraved arrow.
- Replace with two new AAA(1.5V) batteries of the same make and model. Make sure the polarities (+ & -) are aligned correctly.
- Reinstall the battery cover box.



Care and Maintenance

Precautions

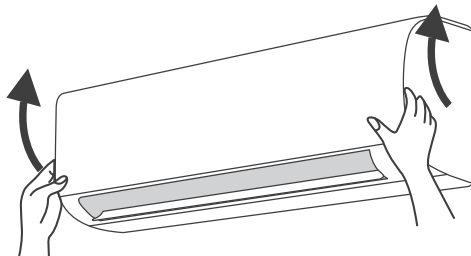
- **Disconnect from** power before cleaning and servicing. Failure to do so may cause electric shock.
- **Do not** wash the air conditioner with water as this may cause electric shock.
- **Do not** use volatile liquids (such as paint thinner or gas) to clean the air conditioner. This may damage the appearance of the air conditioner or cause parts to deteriorate.
- **Do not** use liquid or corrosive detergent to clean the appliance and do not splash water or other liquid onto it as this may damage plastic components or cause electric shock.

Cleaning the Indoor Unit

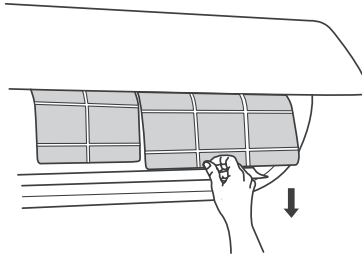
If there's dust on the surface of the outer case please use a soft cloth to wipe it clean. You might need to use mild detergent for cleaning.

Cleaning the Reusable Filter

1. Lift the front panel up towards the ceiling.

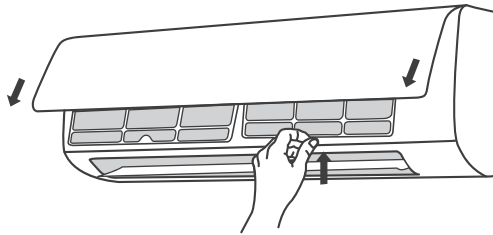


2. Remove the filter by pulling it downward.



3. Clean the filter with warm water mixed with a mild detergent. A soft bristle brush may help remove some dirt if needed. Dry completely in a cool area.

4. After the filter has dried, reinstall back into the air conditioner and close the front panel tightly.



Note:

- Clean the filter at least once per month.
- Do not touch the metal fins in the air conditioner after removing the filter as they may cause injury.
- Do not attempt to dry the filter with a hairdryer or other heating elements as this may deform or ignite the filter.
- Do not operate the air conditioner if the air filter is missing.

Offseason Maintenance

If you are going to put the unit into long-term storage, please do the following:

1. Disconnect from power supply.
2. Clean filter and outer case.
3. Remove dust and debris on the air conditioner.
4. Turn on the FAN mode for at least 8 hours to dry the indoor unit out completely.

Preseason Maintenance

If you are going to use the unit again after a long period of non-use, please do the following:

1. Check whether air inlets and air outlets are blocked.
2. Check whether plug and socket are in good condition.
3. Check whether the filter is clean.
4. Check whether batteries are installed in the remote control.
5. Check whether the unit is leaking any refrigerant or water.

Troubleshooting

You may meet some common issues listed below. We recommend you do a self check first, but if the problem is not resolved, please contact customer support at support@tosotdirect.com.

Issues	Self check	Solutions
No air emitted from the indoor unit	Is the air inlet or outlet of the indoor unit blocked?	Remove the obstacles.
	If using the heating and cooling mode, has the indoor temperature reached the set temperature?	Once the ambient indoor temperature reaches the set temperature, the indoor unit will stop blowing out air.
	Did you just turn the heating mode on?	After starting the heat mode the indoor unit will delay 1-5 minutes before blowing air.
Air conditioner will not operate	Power failure?	Wait after power recovery.
	Is the plug loose?	Reinsert the plug.
	Circuit breaker trips or fuse blown?	Contact customer support or qualified professionals.
	Did you just restart the unit after powering it off?	The unit is experiencing the 3-Minute Compressor Protection to help extend the lifespan of your unit. Wait for 3min, and then turn on the unit again.
	Are batteries in the remote control exhausted?	Replace with two new AAA(1.5V) batteries.
	Are batteries in the remote control installed properly?	Make sure the polarities (+ & -) are aligned correctly.

Issues	Self check	Solutions
White mist emitted from indoor unit	Are the indoor temperature or humidity levels high?	In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist. After a while, indoor temperature and humidity will decrease and the mist will disappear.
Strange odours emitted	Check whether there's odour source such as new furniture or smoking, etc.	Remove the odour source and clean the reusable filter.
Set temperature can't be adjusted	Unit is running under auto mode?	Temperature can't be adjusted under auto mode.
	Your desired temperature exceeds the set temperature range?	Temperature setting range: 61°F(16°C) - 86°F(30°C).
Poor cooling or heating performance	Is the air filter dirty?	Clean the air filter.
	Are the temperature and mode settings proper?	Adjust the temperature setting and mode.
	Is direct or strong sunlight shining into the room during cooling?	Close windows and curtains during periods of high heat or bright sunshine.
	Are doors and windows open to the room?	Make sure all doors and windows are closed.
Operation is unstable and abnormal	Check if there's interference such as cell phone towers, thunder, wireless devices, etc.	Disconnect power, wait 30 seconds and restart, then turn on the unit again.
Abnormal noises	Air conditioner was just turned on or turned off?	Low hissing sound when the system starts, has just stopped running, or is defrosting. This noise is normal and is caused by the refrigerant gas stopping or changing direction.

Issues	Self check	Solutions
Abnormal noises	Air conditioner was just turned on or turned off or adjusted temperature?	Cracking sound: Normal expansion and contraction of plastic and metal parts caused by temperature changes during operation.

- If you notice or experience any of the following conditions, please turn off the air conditioner, disconnect from power, discontinue use, and contact support immediately.
 - The power cord is overheating or otherwise damaged
 - Abnormal sound during operation
 - A strange odor is emitted from the unit
 - Excessive water leakage the unit
- Do not attempt to repair or retrofit the air conditioner by yourself. All repairs must be performed by qualified individuals.

Malfunction Codes

Error code	Troubleshooting
E5, E6, E8, H6, U8, F0, C5, F1, F2	When the air conditioner stops running, the indicator light on the indoor unit keeps flashing and displays the corresponding error code, please turn off the unit. It may be eliminated by waiting a few minutes and then restarting. If not, please contact customer support.

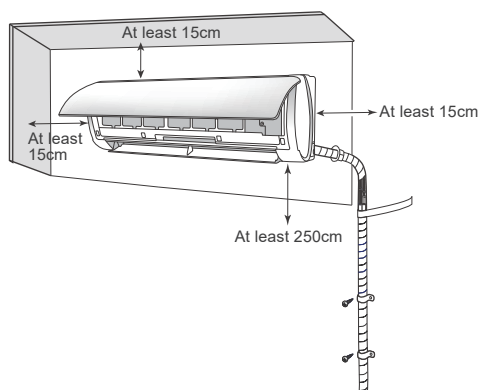
Quick Guide for Installation

These are basic instructions to help you quickly set up your unit. For a more detailed explanation, please read the Indoor Unit Installation (page 25) and Outdoor Unit Installation (page 34):

Indoor Unit:

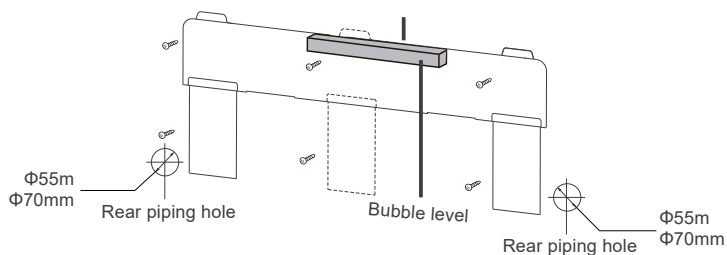
1

Select an Installation Site



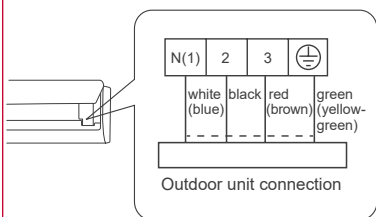
2

Attach the Mounting Plate to the Wall



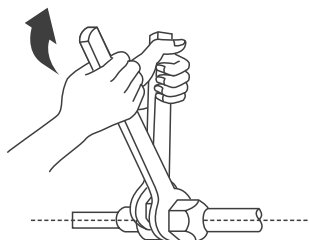
3

Connect the Wiring



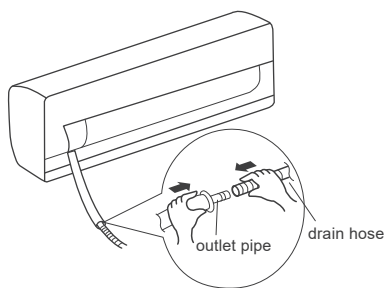
4

Connect the Piping



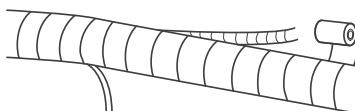
5

Connect the Drain Hose



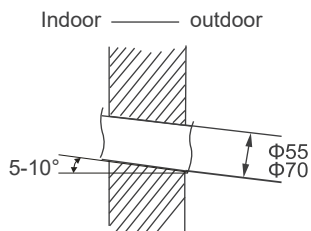
6

Wrap the Piping



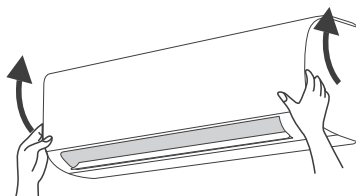
7

Drill Wall Hole



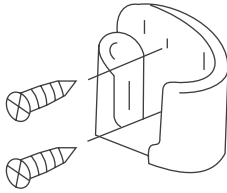
8

Mount the Indoor Unit



9

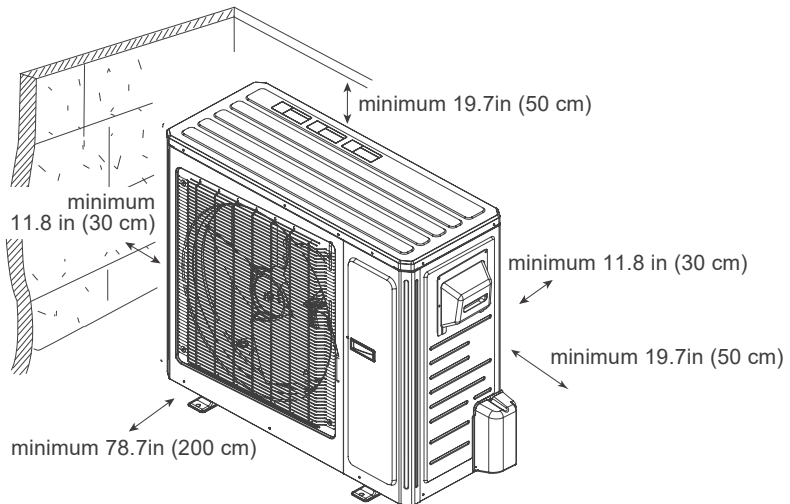
Secure the Remote Control Holder



Outdoor Unit:

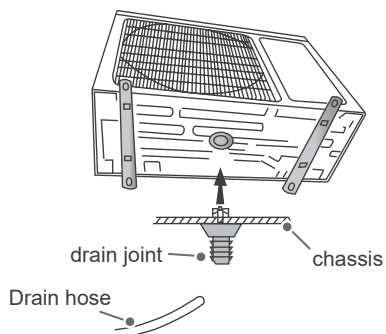
1

Select a Installation Site



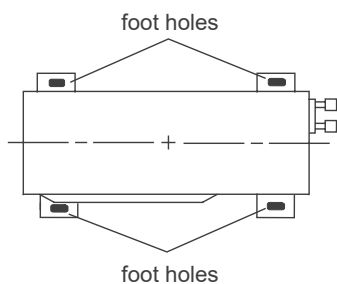
2

Install the Drain Joint



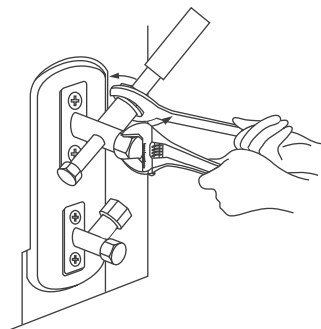
3

Secure the Outdoor Unit



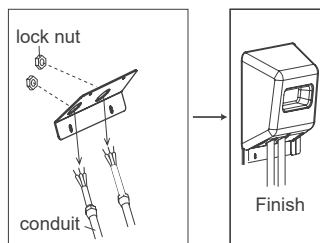
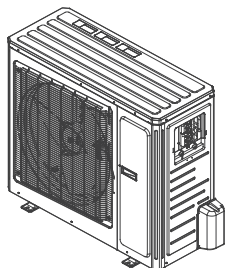
4

Connect the Refrigerant Pipe



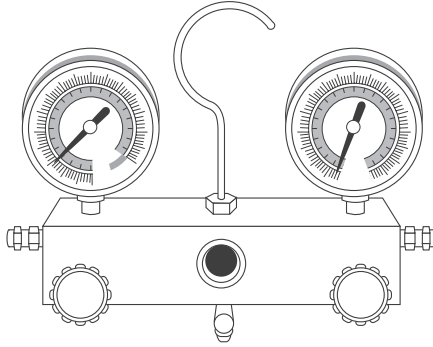
5

Connect the Signal and Power Cables



6

Air Evacuation



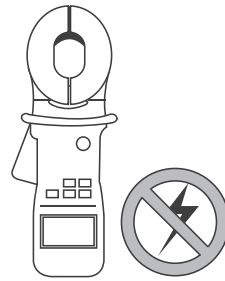
7

Gas Leak Checks



8

Electrical Safety Checks



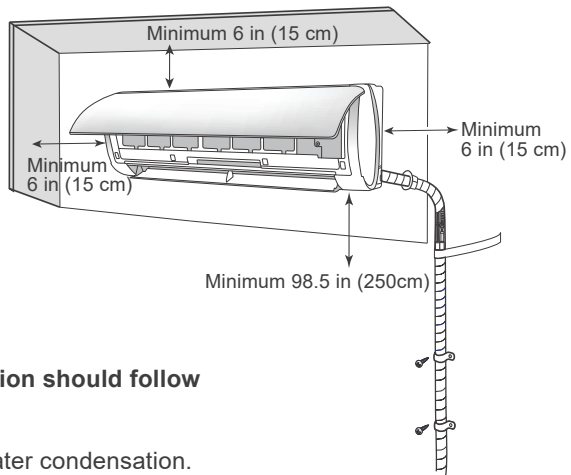
Indoor Unit Installation



Before installing the indoor unit, you need to check the label on the product box and make sure that the model number of the indoor unit matches the model number of the outdoor unit.

1. Select an Installation Site

Refer to the following diagram to ensure proper distance from walls and ceiling:



An appropriate install location should follow these standards:

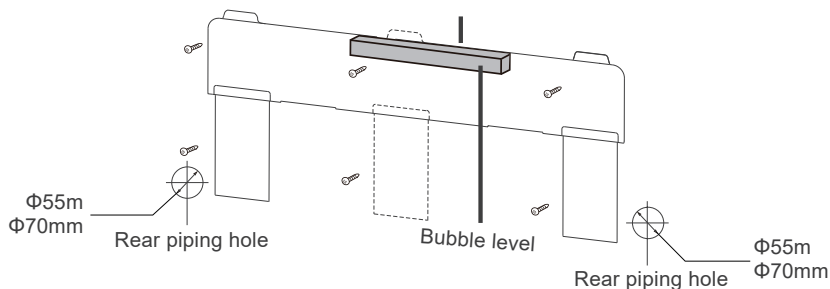
- Convenient drainage for water condensation.
- Convenient to connect the outdoor unit
- Near a properly-grounded wall outlet
- Not easily accessible for children.
- Strong enough to support the weight of the unit.
- Away from other electric appliances (e.g. TV, radio, computer, etc.)
- Not near fluorescent lamps.

DO NOT install the unit in the following locations:

- Near strong heat sources or where vapors, flammable or explosive gas, or volatile objects can be spread in the air.
- Near high-frequency devices such as welding machines or medical equipment.
- Corrosive environments such as the laundry room or swimming pool.
- Any filled with oil, sulfured gas or fumes in the air.

2. Attach the Mounting Plate to the Wall

The mounting plate is where you will mount the indoor unit.

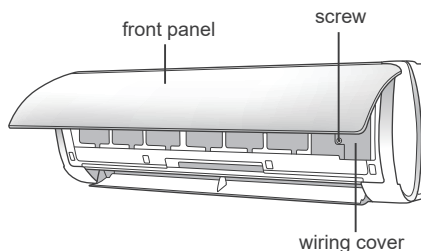


- Hold the mounting plate against the wall and adjust the plate using a bubble level until perfectly level.
- Mark screw holes on the wall and drill pilot holes with a drill. You may need a stud finder to find wooden studs to securely anchor the mounting plate. Do not just drill holes through drywall as this is not strong enough to support the indoor unit.
- Secure the mounting plate to the wall with the provided screws until the mounting plate is firmly attached to the wall.

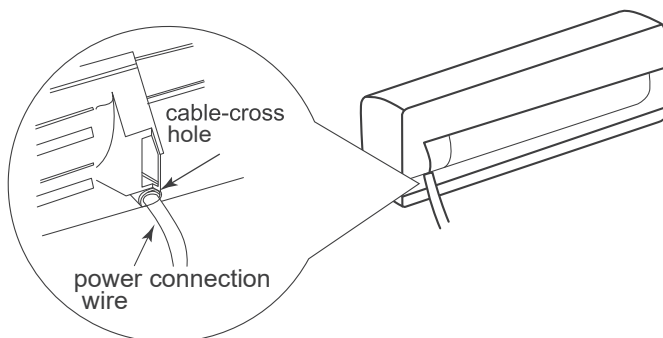
3. Connect the Wiring of the Indoor Unit

Notice: All wiring of the indoor and outdoor units should be completed by a professional electrician or HVAC installer.

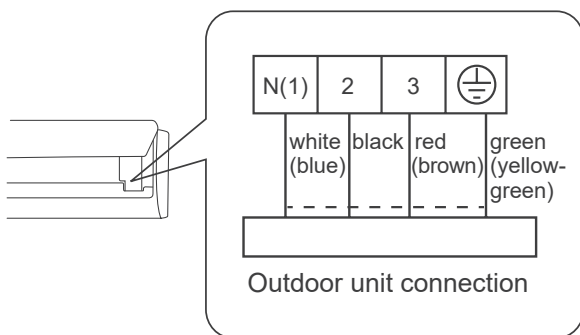
- Open the front panel of the indoor unit and use a screwdriver to pry open the wiring cover located on the right side. This will reveal the terminal block.



- Using wire strippers, remove the rubber insulation from both ends of the signal cable in the lineet to reveal approx. 6 inches (15cm) of wiring.
- Using a crimp tool, crimp U-Type lugs (not included) on both ends of the wires.
- Feed the power connection wire from the rear right of the unit though the cable cross hole and pull it through from the front of the unit.



- Match the colored wires to the correct labels on the terminal block. Connect the power connection wire and firmly screw each wire to its corresponding terminal.

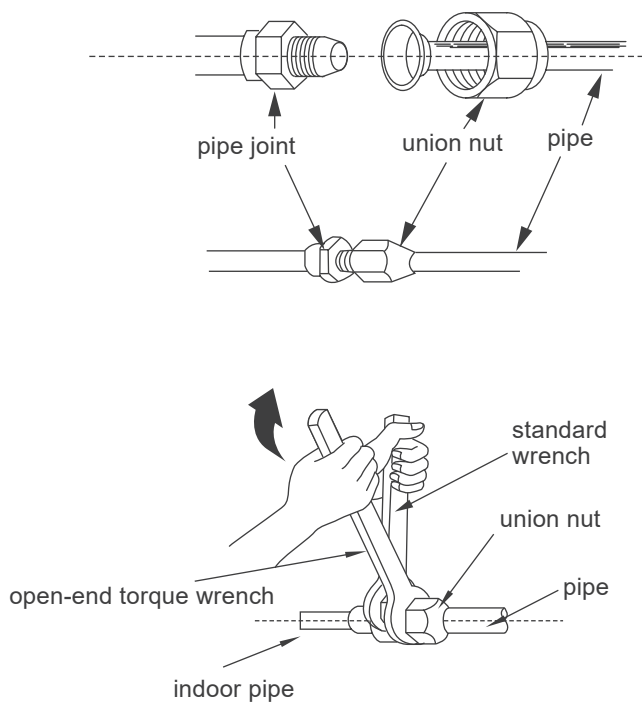


- After ensuring that each connection is secure, tightly screw down the cable clamp.
- Snap the wiring cover back into place and shut the front panel.

4. Connecting the Refrigerant Pipings

- Align both ends of the refrigerant pipings and start to twist on the union nut by hand.
- Use a standard wrench on the pipe joint and an open-end torque wrench on the union nut to apply the proper torque as shown in the torque table below.

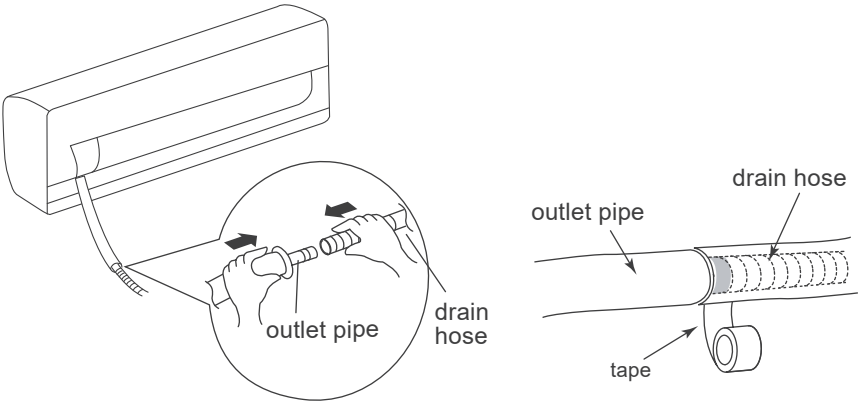
NOTE: If the union nut is too loose it will cause leaks. Over-tightening may damage connections and cause leaks. Carefully tighten the union nut to the correct torque level referring to the Torque Table below. If you need help on this step, please contact customer support.



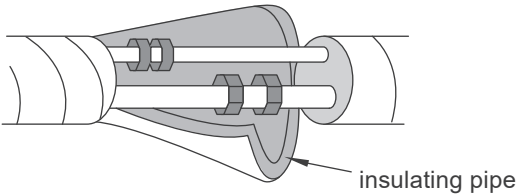
Torque Table

Pipe Diameter	Nut Size	Tightening Torque	
		ft-lbs	N-m
1/4 (6)	1/4 (17)	10 to 13	15 to 20
3/8 (9.5)	3/8 (22)	25 to 30	30 to 40
1/2 (12.7)	1/2 (25)	36 to 45	45 to 55
5/8 (16)	5/8 (29)	50 to 60	60 to 65

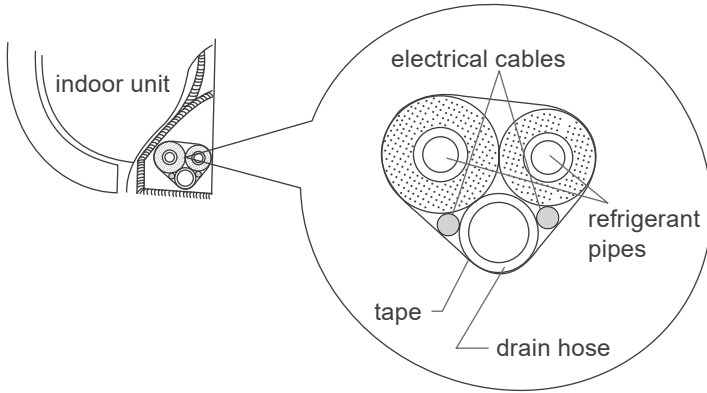
- Connect the drain hose to the outlet pipe of the indoor unit and secure the joint with tape.



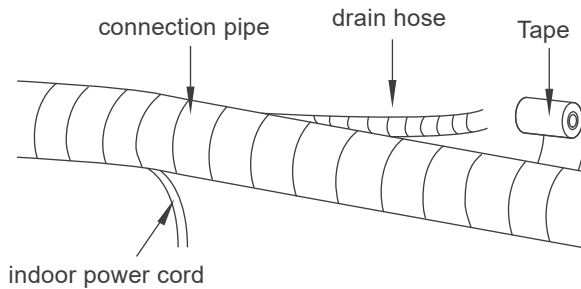
- Wrap the joints with the included insulating material to prevent condensation.



- Wrap the refrigerant pipes, electrical cables, and drain hose with tape so it looks like the below figure



- Reserve a few inches of drain hose and power cable. When wrapping to a certain length, separate the indoor power cord and then separate the drain hose.

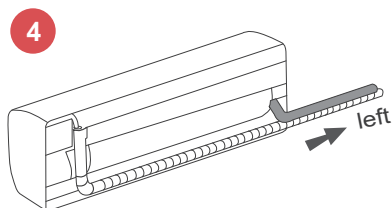
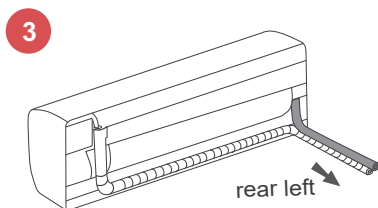
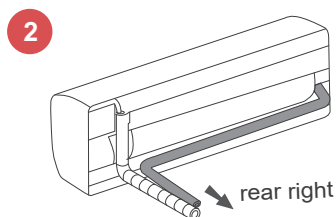
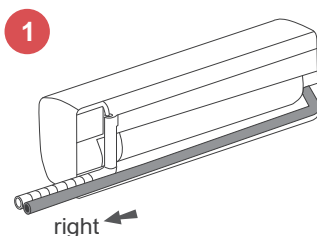


Note: When wrapping the bundle, keep the ends of the piping unwrapped. You need to access them to test for leaks at the end of the installation process.

5. Drilling the piping hole on the wall

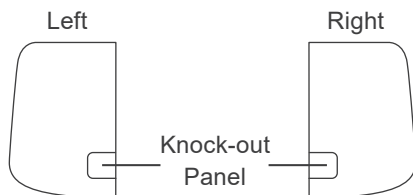
You must drill a hole in the wall for the wrapped bundle of pipes to connect the indoor and outdoor units.

- Choose an appropriate location for the piping hole based on the position of the mounting plate and the direction of the pipe. There are four directions you could choose:
 1. Out of the right side of the indoor unit
 2. Out of the rear right side of the indoor unit
 3. Out of the rear left side of the indoor unit
 4. Out of the left side of the indoor unit

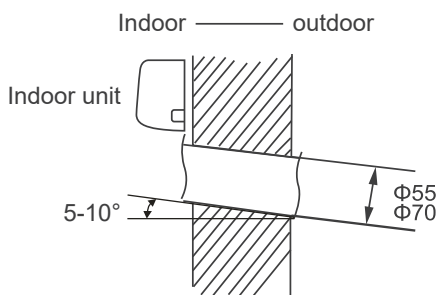


Be extremely careful not to dent or damage the piping while bending them away from the unit. Any dents in the piping will affect the unit's performance.

- If you choose a pipe direction out of the left or right side of the indoor unit, you will need to knock out the corresponding hole on the bottom of the side panel.



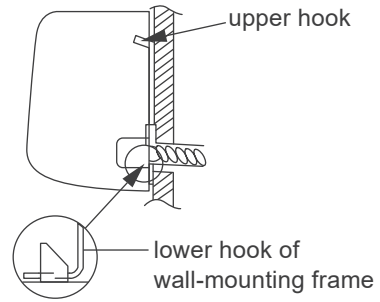
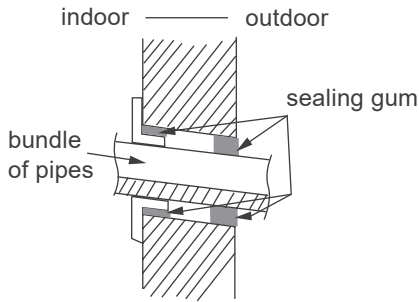
- Drill a hole with a 2.2/2.8 inch (55/70 mm) diameter through the wall where you want the pipe to go through. To ensure better drainage, slope the hole at a slight 5-10 degree angle downwards. The hole should be drilled lower than the mounting plate, as shown in the example figure below.



- Place the protective wall cuff in the hole. This protects the edges of the hole and will help seal the hole when you finish installation.

6. Mount the Indoor Unit

- Insert the wrapped bundle of pipes and cables through the hole you just drilled. Use some of the included sealing gum if there are any gaps between the bundle and the wall hole.
- Mount the indoor unit onto the mounting plate.
- Make sure the indoor unit is securely mounted by applying pressure to the left and right sides of the unit.



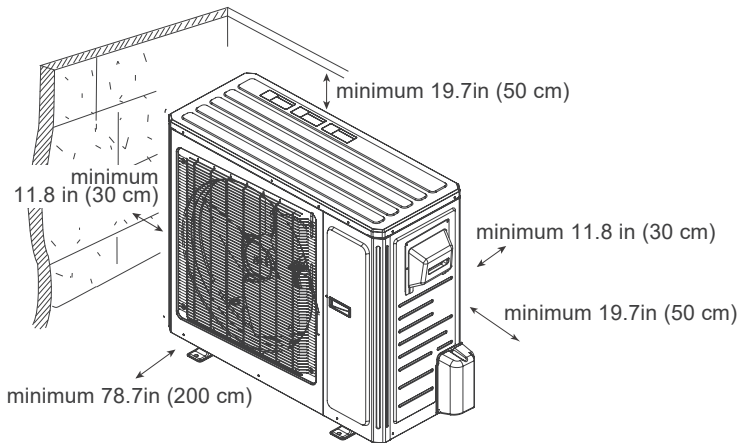
7. Extend the pipe by unwinding it

- Extending the pipes should be clung to the wall, bent slowly. The minimum radius of bending the pipe should not exceed 4 in (10 cm).
- If the pipe is repeatedly bent or extended, it will become hard and difficult to manipulate. Avoid bending or extending the pipe for more than 3 times.
- Make sure the pipe connector is protected from dirt and debris when the pipe passes through the wall. Covering the connections with tape could do the trick.

Outdoor Unit Installation

1. Select a Installation Site

Refer to the following diagram to ensure proper space around the unit:



Appropriate install locations should follow these standards:

- Open ventilation space around the air conditioner to ensure airflow.
- Location must be convenient to install and not disturb others.
- Protected from prolonged periods of direct sunlight exposure.
- Strong enough to support the weight of the unit.

DO NOT install the unit in the following locations:

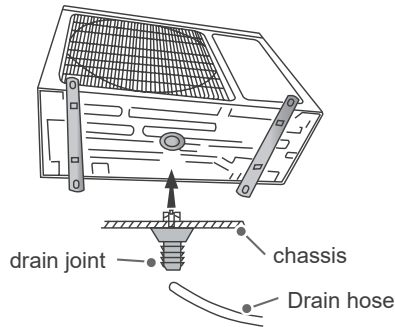
- Near an obstacle that will block air inlets and outlets.
- Near a public street, crowded areas, or where noise from the unit will disturb others.
- Near animals or plants that will be harmed by hot air discharge.
- Near any source of combustible gas or area that is exposed to large amounts of dust.
- Near excessive amounts of salty air.

Note: If the unit is frequently exposed to heavy rain or snow. Build a shelter above the unit to protect it. Be careful not to obstruct airflow around the unit.

2. Install the Drain Joint

Heat pump units require a drain joint if the unit is elevated off the ground. Before bolting the outdoor unit in place, you must install the drain joint at the bottom of the unit.

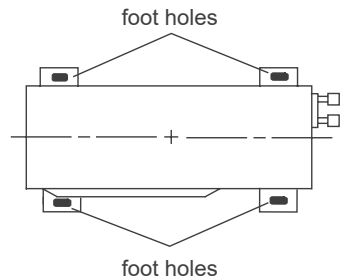
- Connect the outdoor drain joint into the hole in the base pan of the unit, as shown in the picture below.
- Connect the drain hose into the drain joint.



Note: In cold climates make sure that the drain hose is as vertical as possible to ensure swift water drainage. If water drains too slowly it can freeze and cause malfunction.

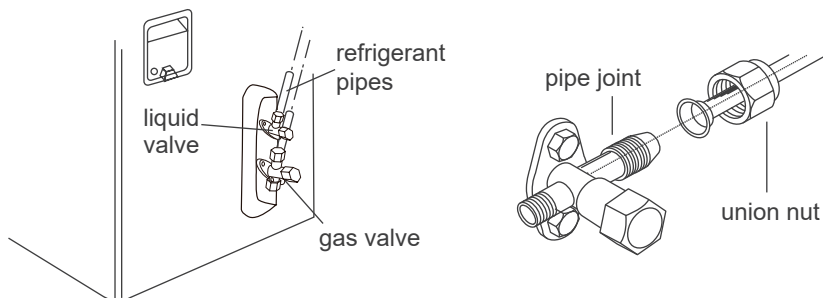
3. Secure the Outdoor Unit

Place the outside unit firmly on the ground or attach it to a secure metal wall bracket or pad (not included). Secure the foot holes of the outdoor unit with the bolts.



4. Connect the Refrigerant Pipe to Outdoor Unit

- Remove the screw cap of the valve and aim the pipe joint at the bellmouth of pipe.



- Align both ends of the refrigerant piping and start to twist on the union nut by hand.
- Use a standard wrench on the pipe joint and an open-end torque wrench on the union nut to apply the proper torque as shown in the torque table below.

Note: Over tightening may damage connections. Carefully tighten union nuts to correct torque level referring to the Torque Table below.

Torque Table

Pipe Diameter	Nut Size	Tightening Torque	
		ft-lbs	N-m
1/4 (6)	1/4 (17)	10 to 13	15 to 20
3/8 (9.5)	3/8 (22)	25 to 30	30 to 40
1/2 (12.7)	1/2 (25)	36 to 45	45 to 55
5/8 (16)	5/8 (29)	50 to 60	60 to 65

Note On Pipe Length

The length of refrigerant piping will affect the performance and energy efficiency of the unit. Nominal efficiency is tested on units with a pipe length of 16.5ft (5 meters). Refer to the table below for specifications on the maximum length.

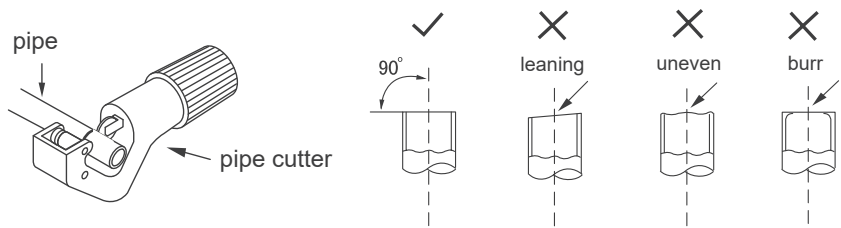
Capacity (BTU/h)	Min. Length (ft/m)	Max. Length (ft/m)
5,000 - 9,000	10 ft (3 m)	49 ft (15 m)
12,000		65 ft (20 m)
18,000 - 24,000		82 ft (25 m)
28,000 - 48,000		98 ft (30 m)

Refrigerant Piping Connection Instructions

Improper pipe shorten or expanding might cause refrigerant leakage. Please take extra care to cut and flare them properly to ensure the efficient operation and minimize the need for future maintenance.

a. Cut pipes

- Measure the distance between the indoor and outdoor units.
- Using a pipe cutter, cut the pipe a little longer than the measured distance.
- Make sure that the pipe is cut at a perfect 90° angle.

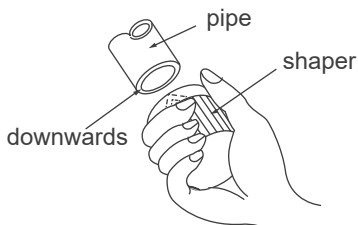


Be extra careful not to damage, dent, or deform the pipe while cutting. This will drastically reduce the heating efficiency of the unit.

b. Remove burrs

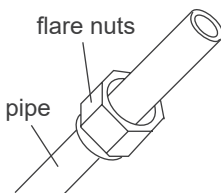
Burrs can affect the air-tight seal of refrigerant piping connection. They must be completely removed.

- Hold the pipe at a downward angle to prevent burrs from falling into the pipe.
- Using a reamer or deburring tool, remove all burrs from the cut section of the pipe.

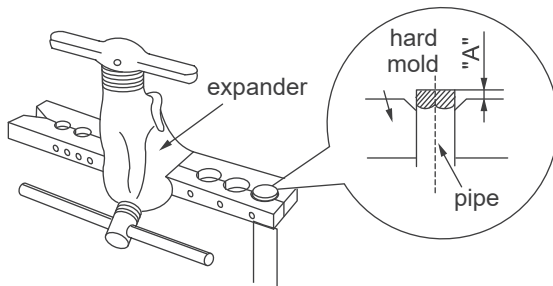


c. Flare pipe ends

- After removing burrs from the cut pipe, seal the ends with tape to prevent foreign materials from entering the pipe.
- Sheath the pipe with insulating material.
- Place flare nuts on both ends of the pipe. Make sure they are facing in the right direction, because you can't put them on or change their direction after flaring.



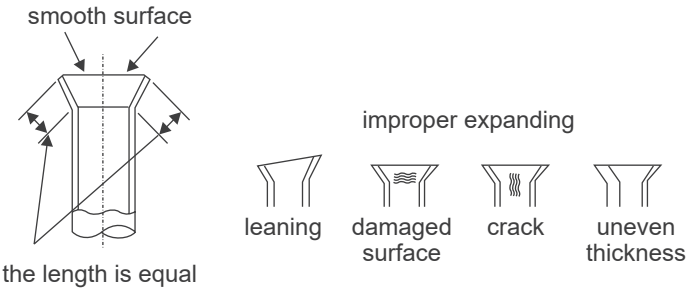
- Remove the tape from ends of pipe when ready to perform flaring work.
- Clamp flare form on the end of the pipe. Place flaring tool onto the form. Turn the handle of the flaring tool clockwise until the pipe is fully flared.



The end of the pipe("A") must extend beyond the edge of the flare form in accordance with the dimensions shown in the table below.

Outer diameter (mm)	A(mm)	
	Max	Min
Φ6 - 6.35(1/4")	1.3	0.7
Φ9 - 9.52(3/8")	1.6	1.0
Φ12-12.7(1/2")	1.8	1.0
Φ15.8-16(5/8")	2.4	2.2

- Remove the flaring tool and flare form, then inspect the end of the pipe for cracks and even flaring. If there is any blemish, do it again according to the steps above.



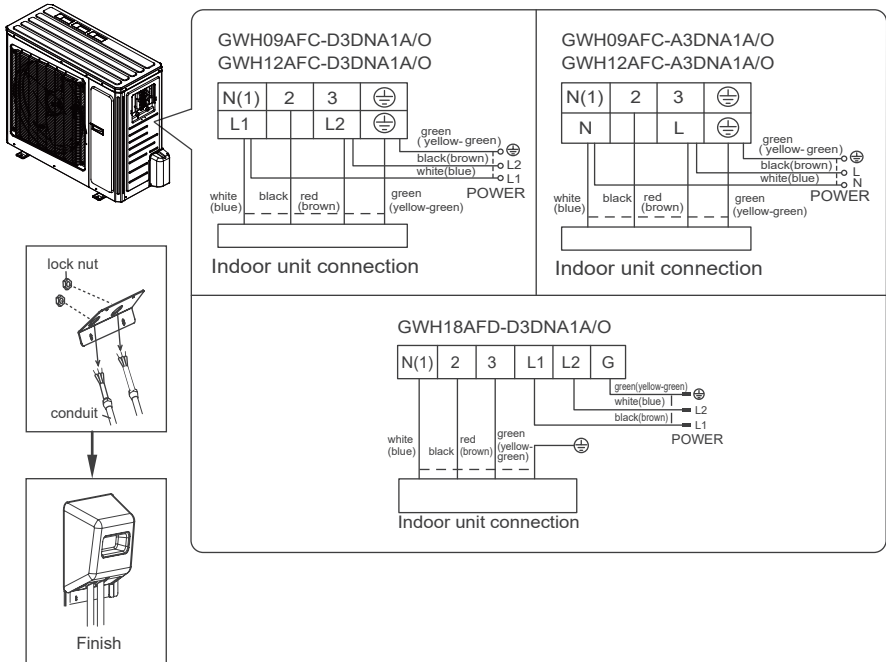
d. Connect pipes

When connecting refrigerant pipes, be careful not to use excessive torque or to deform the piping in any way. You should first connect the low-pressure pipe, then the high-pressure pipe.

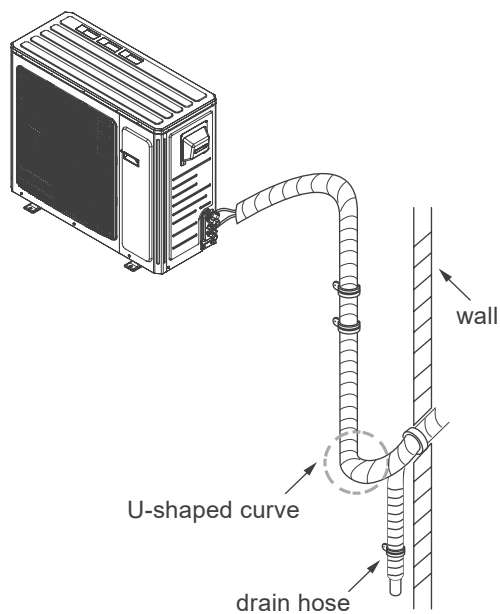
5. Connect the Signal and Power Cables

- Remove the wire cover on the outdoor unit. All wiring must be performed in accordance with the wiring diagrams shown below.
- Match the wire colors with the labels on the terminal block and firmly screw the U-Lug of each wire to its corresponding terminal on the terminal block.
- After checking to make sure every connection is secure, loop wires around the terminals to secure the connection.
- Use a cable clamp to fasten the cable to the unit. Screw the cable clamp down tightly.
- Insulate unused wires with PVC electrical tape. Arrange them so that they do not touch any electrical or metal parts.
- Replace the wire cover on the side of the unit and screw it in place.

WIRE CONNECTING DIAGRAM



Note: If the outdoor unit is placed higher than the wall hole you will need to set a U-shaped curve in the pipe before the pipe goes into the room, in order to prevent rain from getting into the room.

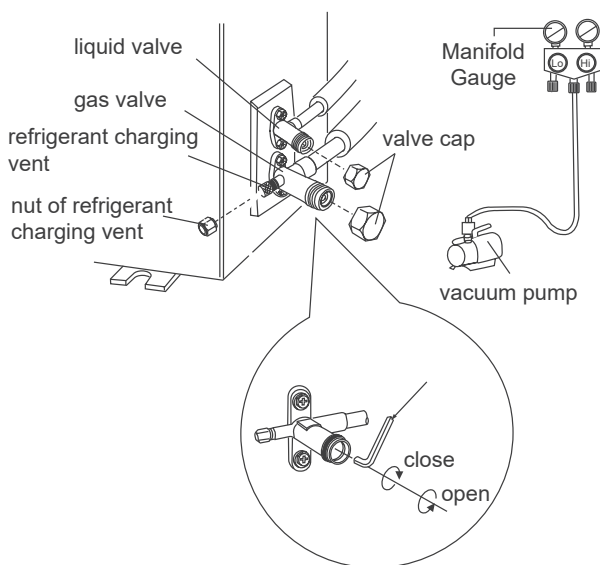


Air Evacuation

Preparations and Precautions

Air and foreign matter in the refrigerant circuit can cause abnormal rises in pressure, which can damage the air conditioner, reduce its efficiency, and **cause injury**. Use a vacuum pump and manifold gauge to evacuate the refrigerant circuit, removing any non-condensable gas and moisture from the system. Evacuation should be performed upon initial installation or when the unit is relocated.

Evacuation Instructions



- Remove the valve caps from the liquid valve and gas valve and remove the nut of the refrigerant charging vent.
- Connect the charging hose of the manifold gauge to the refrigerant charging vent of the gas valve and then connect the other charging hose from the manifold gauge to the vacuum pump.
- Open the manifold gauge completely and operate for 10-15min to check if the pressure of the manifold gauge remains in -0.1MPa .

- Close the vacuum pump and wait for 5 minutes to ensure there has been no change in system pressure. If the pressure decreases there may be leakage, please refer to the Gas Leak Check section.
- Remove the manifold gauge, open the valve core of the liquid valve and gas valve completely by turning clockwise with a hexagonal allen wrench.
- Tighten the screw caps of the valves and refrigerant charging vent once complete.

Gas Leak Checks

There are two different methods to check for gaseous leaks.

1. Soap and Water Method

Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor unit and outdoor unit for more than 3 minutes. If there are bubbles coming out, there's a leak.

2. Leak Detector Method

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

Note: After confirming that all the pipe connection points DO NOT leak, replace the valve cover on the outside unit.

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.

1. Check Grounding Work

Measure grounding resistance by visual detection and with a grounding resistance tester. Grounding resistance must be less than 4 ohms.

Note: This may not be required for some locations in the US.

2. Check for Electrical Leakage

During the Test Run, use an electroprobe and multimeter to perform a comprehensive electrical leakage test.

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

Note: This may not be required for some locations in the US.

Note: All wiring must comply with local and national electrical codes and must be installed by a licensed electrician.

Test Run

Only perform test run after you have completed the following steps

- Electrical Safety Check – Confirm that the unit's electrical system is safe and operating properly
- Gas Leak Check – Check all flare nut connections and confirm that the system is not leaking
- Confirm that gas and liquid (high and low pressure) valves are fully open

Warranty & Customer Support

Warranty Information

1. 5-Year warranty:

TOSOT Split-type Air Conditioner comes with a 5-year warranty from the date of purchase.

This warranty covers manufacturing and material defects. Please visit <https://tosotdirect.com/warranty> for more details.

2. Additional 6-Month warranty extension:

You can get a 6-month warranty extension by registering your new product at www.tosotdirect.com/extend.

Customer Support

Questions? We are here to help

✉ support@tosotdirect.com

🌐 www.tosotdirect.com



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