



Important Safety Information

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

SAFETY PRECAUTIONS

Incorrect installation due to ignoring instructions can cause serious damage or injury.

- When connecting refrigerant piping, do not let substances or gases other than the specified refrigerant enter the lines as this will lower the unit's capacity and can cause abnormally high pressure in the refrigeration system, which can lead to explosion or injury.
- Installation must be performed by a certified HVAC technician. Defective installation can cause water leakage, electrical shock or fire.
- In North America, installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.
- Contact an HVAC technician or the sales agent for information on repair or maintenance of this appliance.
- Only use the included accessories, parts and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire and can cause the unit to fail.
- Install the appliance in a firm location that can support the unit's weight. If the chosen location cannot support the appliance's weight, or if the installation is not completed properly, the appliance may fall and cause serious injury or damage.
- For all electrical work, follow all local and national wiring standards and regulations and this manual. You must use an independent circuit and single outlet to supply power. Do not connect other appliances to the same outlet. Insufficient electrical capacity or defects in electrical work can cause electrical shock or fire.
- For all electrical work, use all specified cables. Connect cables tightly and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause electrical shock or fire.
- All wiring must be correctly arranged to ensure that the control board can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to overheat, catch fire or cause electrical shock.
- In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air conditioning units is highly recommended.

- This appliance is not intended for use by persons (including children) whose physical, sensory or mental capabilities may be different or reduced, or who lack experience or knowledge, unless such persons receive supervision or training to operate the appliance by a person responsible for their safety.
- Do not install the appliance in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the appliance, it may cause fire.
- Do not operate this appliance in a wet room such as a bathroom or laundry room. Too much exposure to water can cause electrical components to short circuit.
- The appliance must be properly grounded or electric shock can occur.
- Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage.

NOTE ABOUT FLUORINATED GASES













- This appliance contains fluorinated gasses. For specific information on the type and amount of gas, refer to the relevant label on the appliance itself.
- Installation, service, maintenance and repair of this appliance must be performed by a certified HVAC technician.
- Uninstallation and recycling must be performed by a certified HVAC technician.
- If the appliance has a leak detection system installed, it must be checked for leaks at least every 12 months. When the appliance is checked for leaks, proper record keeping of all checks is strongly recommended.

SAVE THESE INSTRUCTIONS!

INSTALLATION INSTRUCTIONS

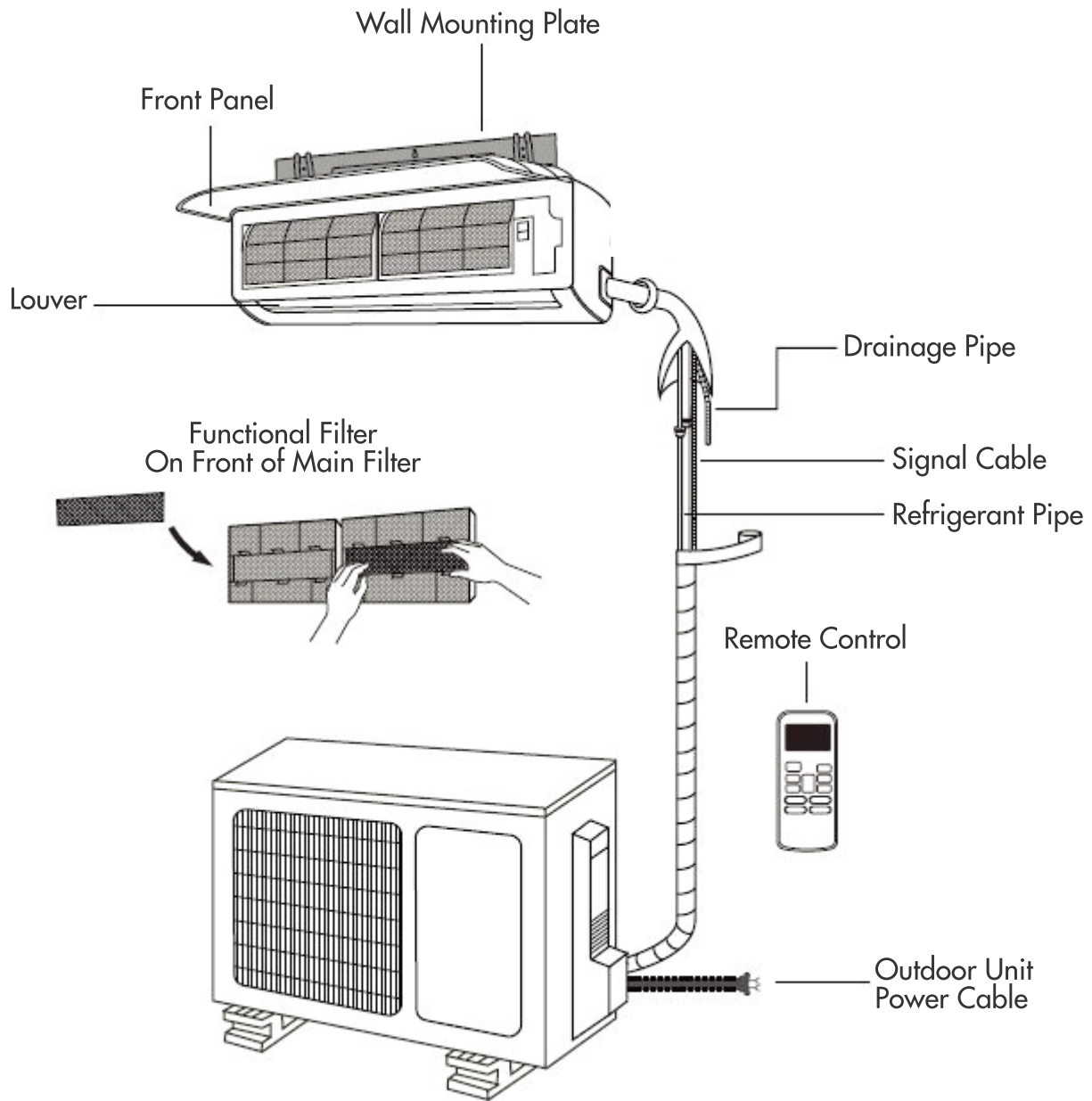
ACCESSORIES

The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may result in water leakage, electrical shock, fire or may cause the equipment to fail.

Part	Image	Quantity
Mounting plate		1
Mounting plate fixing screw ST3.9 x 25		2
Clip anchor		2
Remote control		1
Dry battery AAA.LR03		2
Drain joint		1
Tie		1
Putty		1
Wear protective ring wall		1
Power line		1
Drain-pipe		1
Connecting pipe		1
Remote control stand		1

INSTALLATION INSTRUCTIONS

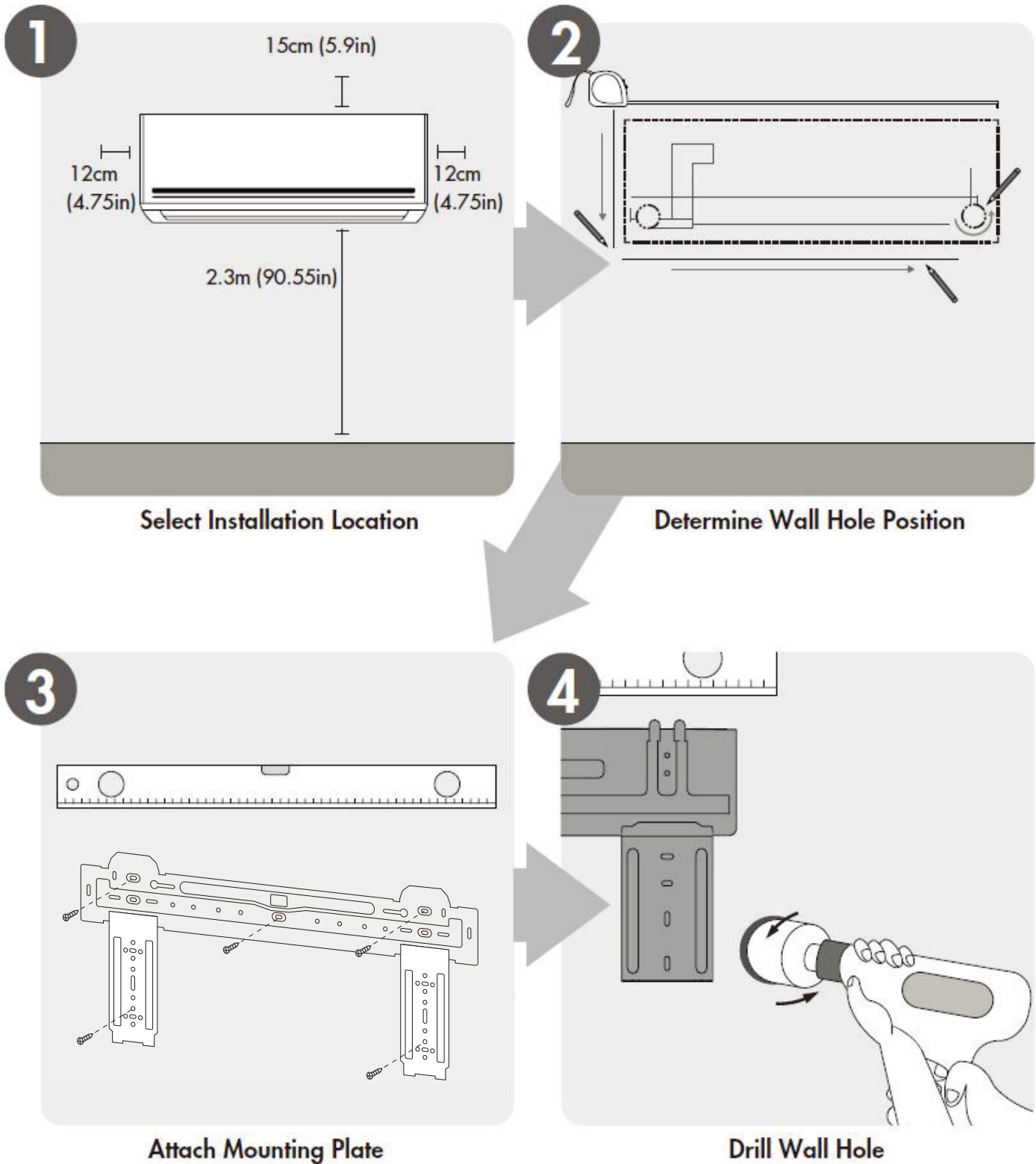
INSTALLATION SUMMARY - INDOOR UNIT



Note: Illustrations in this manual are for explanatory purposes only. The actual shape of the appliance may be slightly different. The actual shape shall prevail.

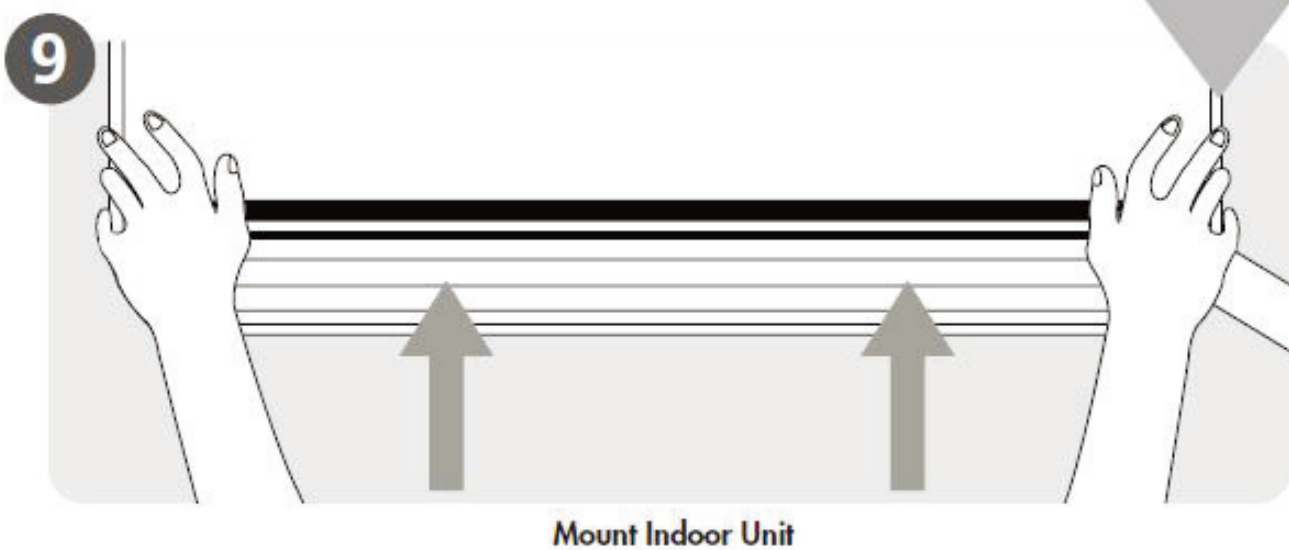
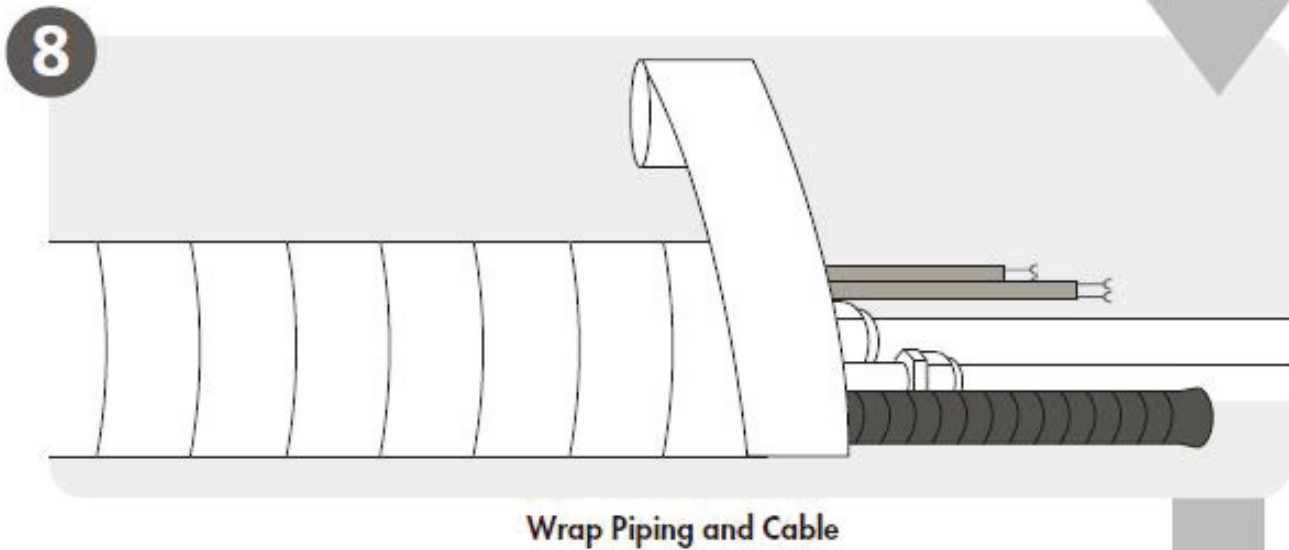
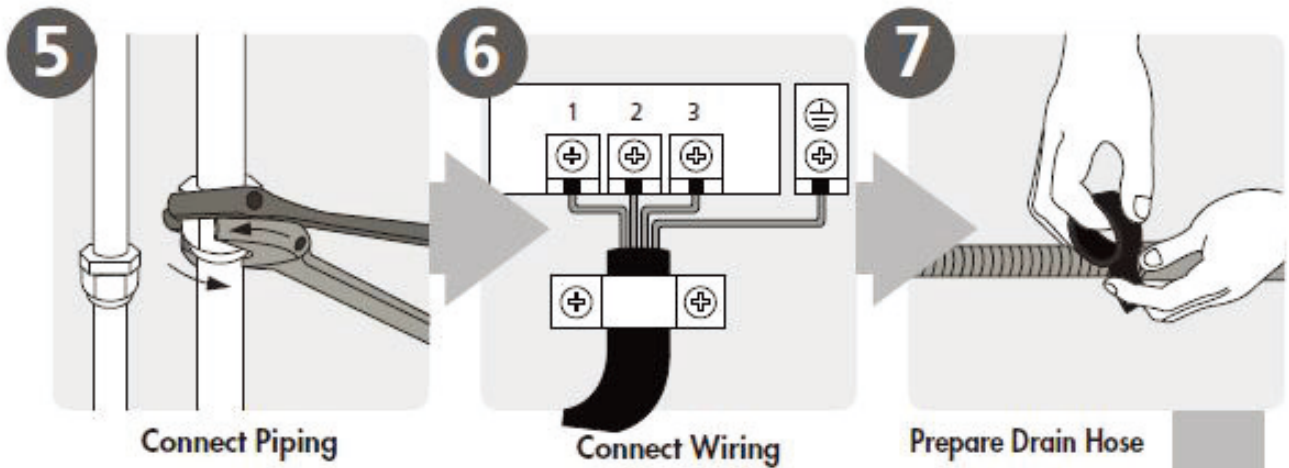
INSTALLATION INSTRUCTIONS

INSTALLATION SUMMARY - INDOOR UNIT



INSTALLATION INSTRUCTIONS

INSTALLATION SUMMARY - INDOOR UNIT



INSTALLATION INSTRUCTIONS

INDOOR UNIT INSTALLATION

Before installing the indoor unit, refer to the label on the product box to ensure that the model number on the indoor unit matches the model number on the outdoor unit. The indoor unit model number will end with a “-I” and the outdoor unit model number will end with a “-O”, otherwise they should be identical.

Step 1: Select Installation Location

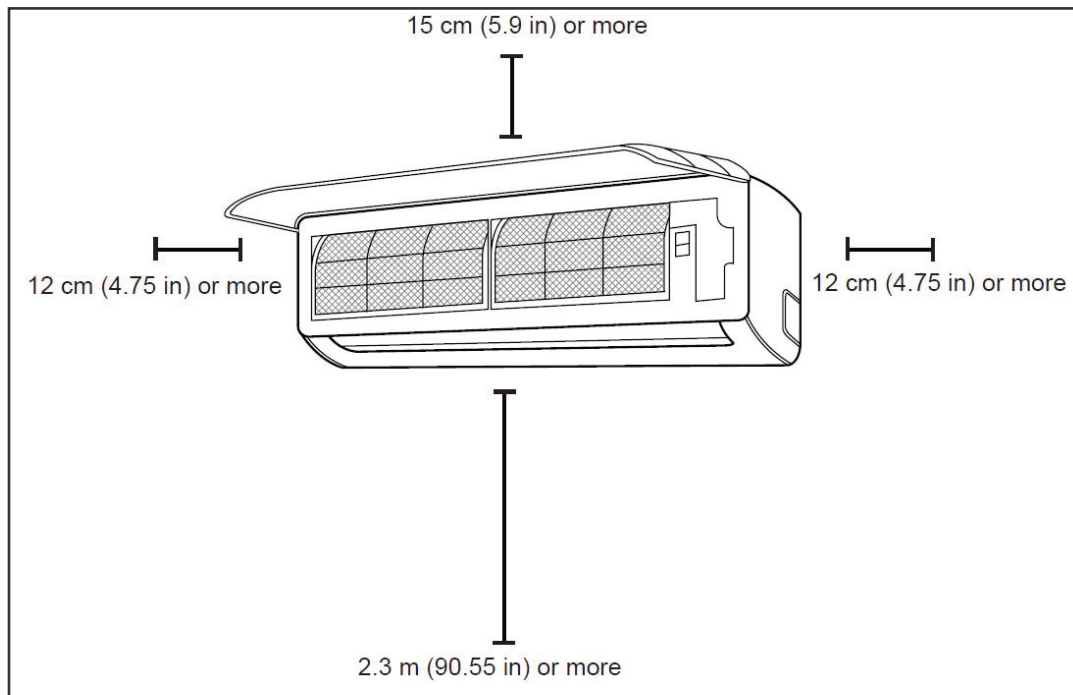
Proper installation locations meet the following standards:

- Good air circulation.
- Convenient drainage.
- Noise from the unit will not be disturbing.
- Firm and solid location that will not vibrate.
- Strong enough to support the weight of the unit.
- At least 1 m (3 feet) away from all other electrical devices, such as televisions, radios and computers, which could impact the infrared remote signal.

Do not install the indoor unit in locations that have the following:

- Near any source of heat, steam or combustible gas.
- Near flammable items such as curtains or clothing.
- Near any obstacle that might block air circulation.
- Near any doorway.
- In direct sunlight.

Refer to the below illustration to ensure proper distance from surrounding walls and ceiling:



INSTALLATION INSTRUCTIONS

Step 2: Attach Mounting Plate To Wall

The mounting plate is the device that attaches the indoor unit on the wall.

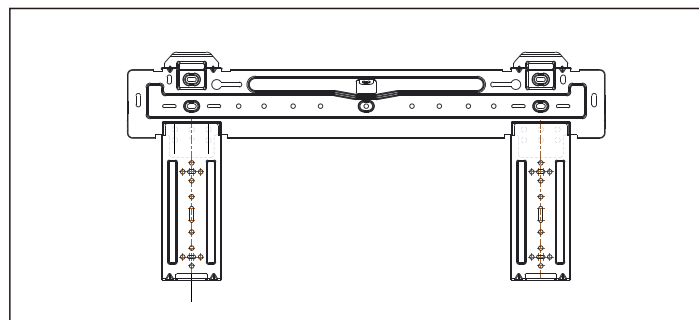
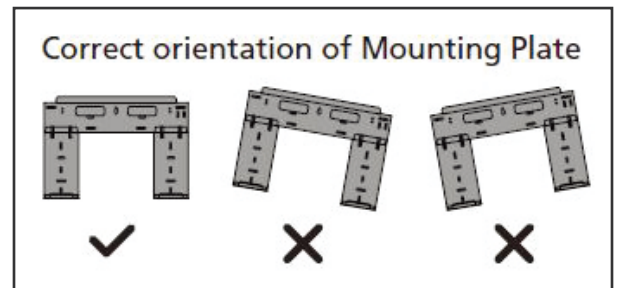
1. Remove the screw that attaches the mounting plate to the back of the indoor unit.
2. Place the mounting plate against the wall in the location where the indoor unit will be installed.
3. Drill holes for the mounting screws, ensuring that the screws enter wall studs that can support the weight of the unit.
4. Secure the mounting plate to the wall with the provided screws. Ensure that the mounting plate is flat against the wall.

Note: If the wall is made of brick, concrete or similar material, drill 5 mm (0.2 in) diameter holes in the wall and insert the provided sleeve anchors. Secure the mounting plate to the wall by tightening the screws into the clip anchors.

Mounting Plate Dimensions

Different models have different mounting plates. To ensure that there is ample room to mount the indoor unit, check the diagrams below which show the two different types of mounting plates along with the following dimensions:

- Width of mounting plate.
- Height of mounting plate.
- Width of indoor unit relative to mounting plate.
- Height of indoor unit relative to mounting plate.
- Recommended position of wall hole, both to the left and right of the indoor unit.
- Relative distance between screw holes.



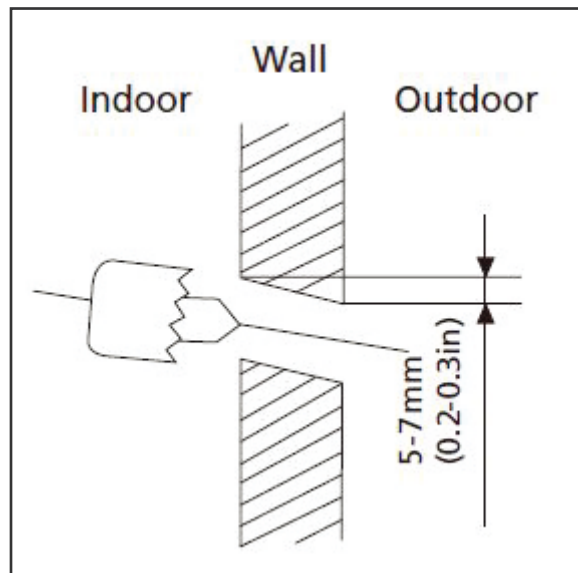
INSTALLATION INSTRUCTIONS

Step 3: Drill Wall Hole For Connective Piping

A hole must be drilled through the wall to the outside to accommodate the refrigerant piping, the drainage pipe and the signal cable that will connect the indoor and outdoor units.

1. Determine the location of the wall hole based on the position of the mounting plate. See Step 2 for mounting plate dimensions.
2. The wall hole should have a 65 mm (2.5 in) diameter and it should be drilled on a downward angle to facilitate drainage. The outdoor end of the hole should be lower than the indoor end of the hole by 5 - 7 mm (0.2 - 0.275 in).
3. Place the protective wall cuff in the hole. This will protect the edges of the hole and will help seal the hole once the installation is complete.

Note: When drilling the wall hole, make sure to avoid wires, plumbing and other sensitive components that could be within the wall.

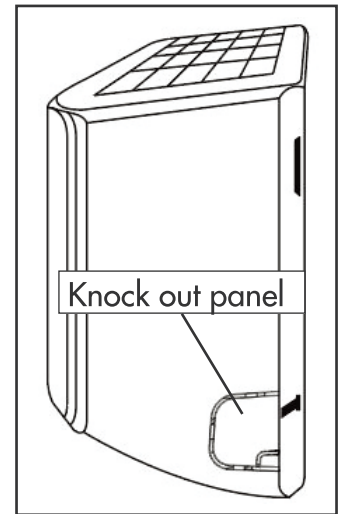


INSTALLATION INSTRUCTIONS

Step 4: Prepare Refrigerant Piping

The refrigerant piping is inside an insulating sleeve attached to the back of the unit. The piping must be prepared before passing it through the hole in the wall. Refer to the **Refrigerant Piping Connection** section for detailed instructions on pipe flaring and flare torque requirements, etc.

1. Based on the position of the wall hole relative to the mounting plate, choose the side from which the piping will exit the unit.
2. If the wall hole is behind the unit, leave the knock out panel in place. If the wall hole is to the side of the indoor unit, remove the plastic knock out panel from the side of the unit. This will create a slot through which the piping can exit the unit. Use needle nose pliers if the plastic panel is difficult to remove.
3. Use scissors to cut down the length of the insulating sleeve to reveal approximately 15 cm (6 in) of the refrigerant piping. This serves two purposes:
 - To facilitate the **Refrigerant Piping Connection** process
 - To facilitate gas leaks checks and allow a check for dents in the pipe
4. If existing connective piping is already embedded in the wall, proceed directly to **Step 5: Connect The Drain Hose**. If there is no embedded piping, connect the indoor unit's refrigerant piping to the connective piping that will join the indoor and outdoor units.
5. Based on the position of the wall hole relative to the mounting plate, determine the necessary angle of the piping. Grip the refrigerant piping at the base of the bend.
6. Slowly, with even pressure, bend the piping toward the wall hole. Do not dent or damage the pipe during the process.

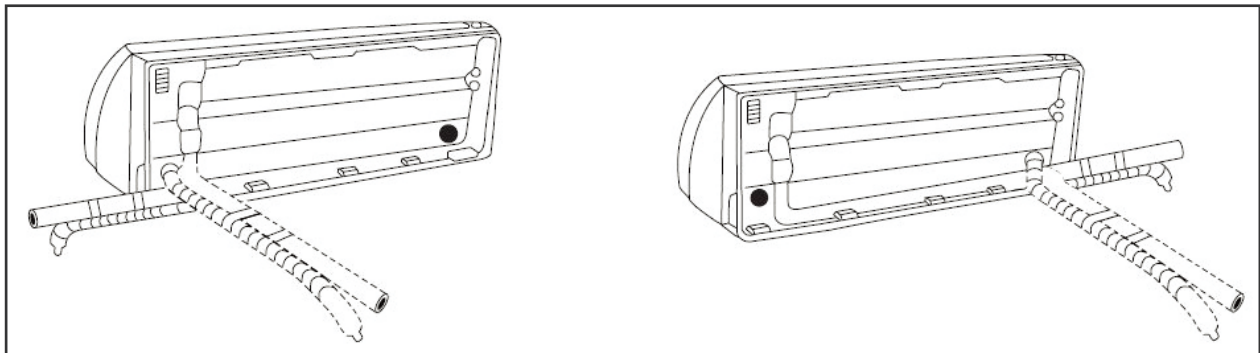


Note on Piping Angle

Refrigerant piping can exit the indoor unit from four different angles:

- Left-hand side
- Left rear
- Right-hand side
- Left rear

CAUTION
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.



INSTALLATION INSTRUCTIONS

Step 5: Connect the Drain Hose

By default, the drain hose is attached to the left-hand side of the unit, when facing the back of the unit. It can also be attached to the right-hand side.

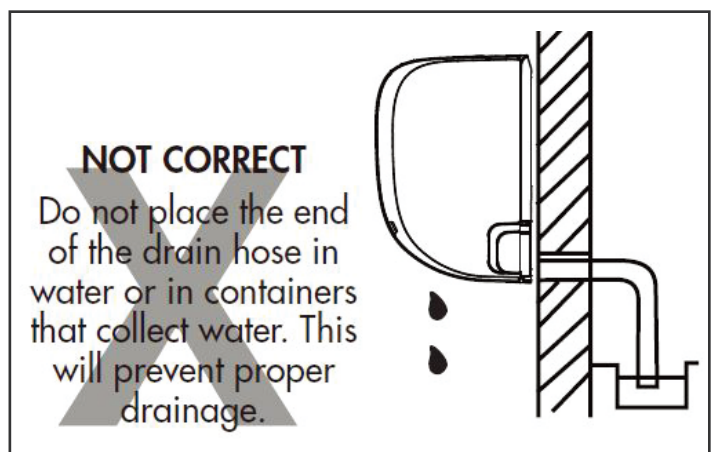
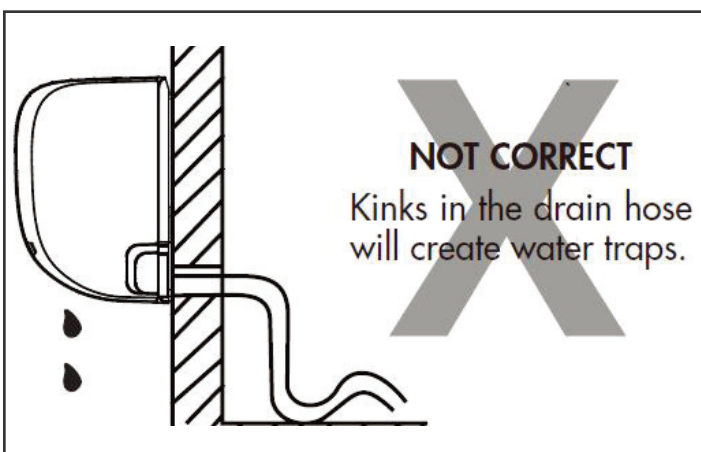
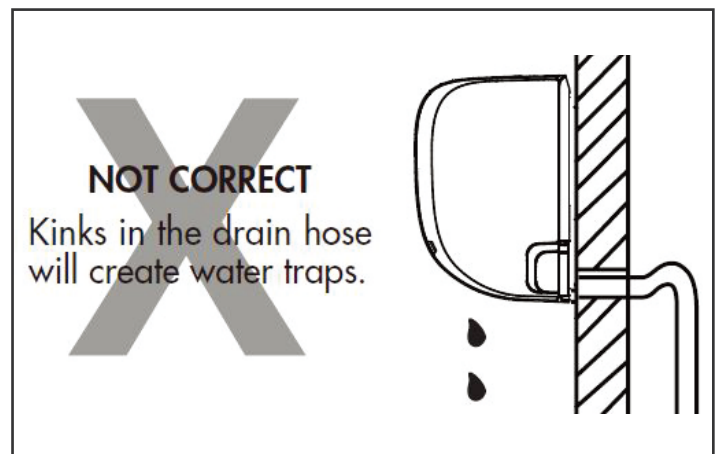
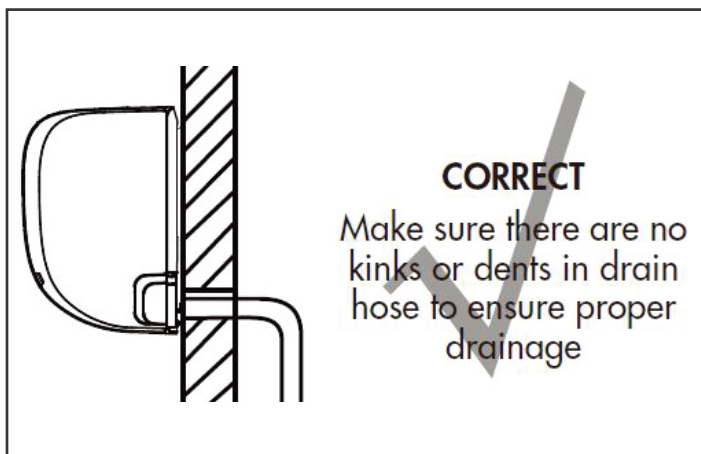
1. To ensure proper drainage, attach the drain hose on the same side of the unit as the refrigerant piping.
2. Attach the drain hose extension (purchased separately) to the end of the drain hose.
3. Wrap the connection point firmly with Teflon tape to ensure a good seal and prevent leaks.
4. For the portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
5. Remove the air filter and pour a small amount of water into the drain pan to make sure that water flows from the unit smoothly.

Note on Drain Hose Placement

- Do not kink the drain hose.
- Do not create a water trap.
- Do not put the end of the drain hose in water or a container that will collect water.

Note: To prevent unwanted leaks, plug the unused drain hole with the provided rubber plug.

See below for examples of correct drain hose installation:



INSTALLATION INSTRUCTIONS

BEFORE PERFORMING ELECTRICAL WORK, READ THESE REGULATIONS

1. All wiring must comply with local and national electrical codes 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 your reasoning to the client and refuse to install the unit until the safety issue is resolved.
4. Power voltage should be within 90 - 100% of rated voltage. Insufficient power supply can cause malfunction, electrical shock or fire.
5. If connecting power to fixed wiring, install a surge protector and main power switch with a capacity of 1.5 times the maximum current of the unit.
6. If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 3 mm (1.8 in) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
7. Only connect the unit to an individual branch circuit outlet. Do not connect another appliance to that outlet.
8. Make sure to properly ground the appliance.
9. Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.
10. Do not let wires touch or rest against the refrigerant tubing, the compressor or any moving parts within the unit.

WARNING

**BEFORE PERFORMING ANY ELECTRICAL WIRING WORK,
TURN OFF THE MAIN POWER TO THE SYSTEM.**

WARNING

All wiring must be performed in accordance with the wiring diagram located on the inside of the indoor unit's wire cover. Do not mix up live and null wires. This is dangerous and can cause the appliance to malfunction.

INSTALLATION INSTRUCTIONS

Step 6: Connect the Signal Cable

The signal cable enables communication between the indoor and outdoor units. You must first choose the right cable size before preparing it for connection.

Cable types:

- Indoor Power Cable (if applicable): SOW
- Outdoor Power Cable: SOW
- Signal Cable: SOW

Minimum Cross Sectional Area of Power and Signal Cables	
Appliance Amps (A)	AWG
10	18
13	16
18	14
25	12
30	10

CHOOSE THE RIGHT SIZE CABLE

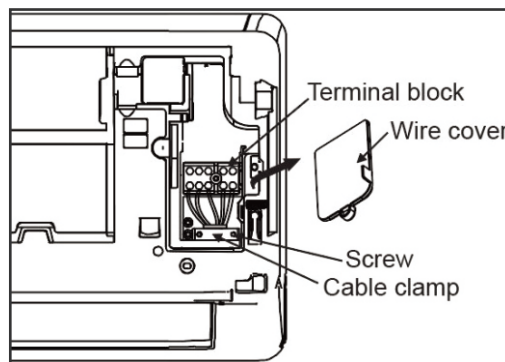
The size of the power supply cable, signal cable, fuse and switch needed is determined by the maximum current in the unit. The maximum current is indicated on the rating plate located on the side panel of the unit. Refer to this rating plate to choose the right cable, fuse and switch.

Take Note of Fuse Specifications

The air conditioner circuit board (PCB) is designed with a fuse to provide over current protection. The specifications of the fuse are printed on the circuit board, such as: T3.15A/250VAC, T5A/250VAC, etc.

1. Prepare the cable for connection:
 - a. Using wire strippers, strip the rubber jacket from both ends of the signal cable to reveal about 40 mm (1.57 in) of the wires inside.
 - b. Strip the insulation from the ends of the wires.
 - c. Using wire crimper, crimp u-type lugs on the ends of the wires.
2. Open the front panel of the indoor unit.
3. Using a screwdriver, open the wire box cover on the right side of the unit. This will reveal the terminal block.

The wiring diagram is located on the inside of the wire cover on the indoor unit.



Note: Pay attention to the live wire. While crimping wires, make sure to distinguish the Live ("L") Wire and other wires.

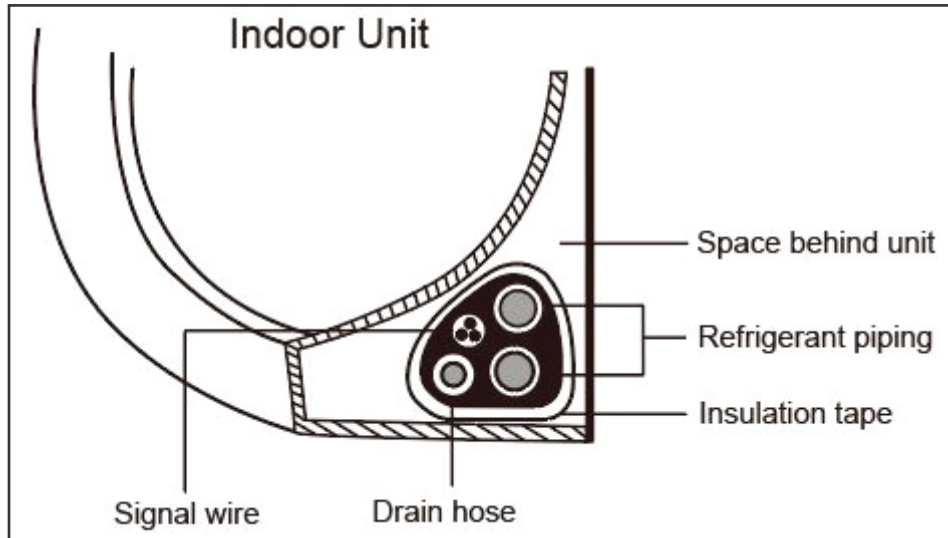
4. Unscrew the cable clamp below the terminal block and place it to the side.
5. Facing the back of the unit, remove the plastic panel on the bottom left-hand side.
6. Feed the signal wire through this slot, from the back of the unit to the front.
7. Facing the front of the unit, match the wire colours with the labels on the terminal block, connect the u-lug and firmly screw each wire to its corresponding terminal.
8. After checking to make sure every connection is secure, use the cable clamp to fasten the signal cable to the unit. Screw the cable clamp down tightly.
9. Replace the wire cover on the front of the unit and the plastic panel on the back.

INSTALLATION INSTRUCTIONS

Step 7: Wrap piping and cables

Before passing the piping, drain hose and the signal cable through the wall hole, bundle them together to save space, protect them and insulate them.

1. Bundle the drain hose, refrigerant pipes and signal cable.



Note: Ensure that the drain hose is at the bottom of the bundle. Putting the drain hose at the top of the bundle can cause the drain pan to overflow, which can lead to fire or water damage.

2. Using adhesive vinyl tape, attach the drain hose to the underside of the refrigerant pipes.
3. Using insulation tape, wrap the signal wire, refrigerant pipes and drain hose tightly together.

Note: While bundling these items together, do not intertwine or cross the signal cable with any other wiring.

Note: When wrapping the bundle, keep the ends of piping unwrapped. Access is required to test for leaks at the end of the installation process.

INSTALLATION INSTRUCTIONS

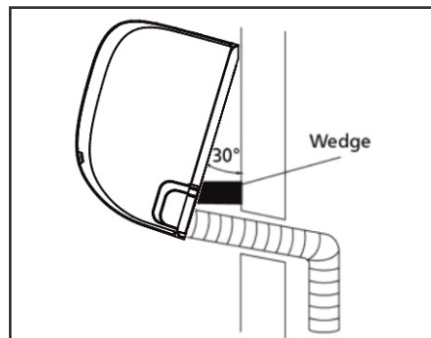
Step 8: Mount the Indoor Unit

If new connective piping was installed to the outdoor unit, complete the following:

1. If the refrigerant piping has already been passed through the wall, proceed to step 4.
2. Otherwise, double check that the ends of the refrigerant pipes are sealed to prevent dirt or foreign materials from entering the pipes.
3. Slowly pass the wrapped bundle of refrigerant pipes, drain hose and signal wire through the hole in the wall.
4. Hook the top of the indoor unit on the upper hook of the mounting plate.
5. Check that the unit is hooked firmly on mounting by applying slight pressure to the left and right-hand sides of the unit. The unit should not jiggle or shift.
6. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.
7. Check that the unit is firmly mounted by applying slight pressure to the left and right-hand sides of the unit.

If refrigerant piping is already embedded in the wall, complete the following:

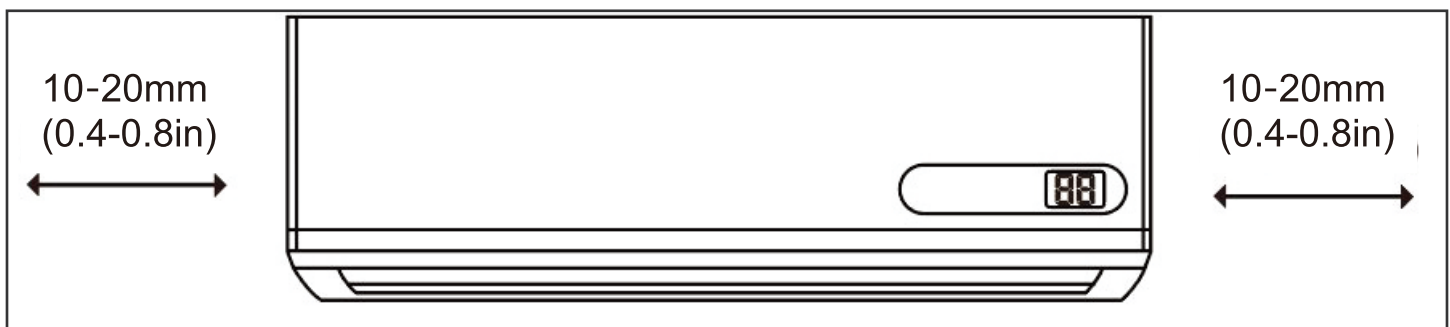
1. Hook the top of the indoor unit on the upper hook of the mounting plate.
2. Use a bracket or wedge to prop up the unit, allowing enough room to connect the refrigerant piping, signal cable and drain hose.



3. Connect the drain hose and refrigerant piping. Refer to the **Refrigerant Piping Connection** section for more information.
4. Keep the pipe connection point exposed to perform the leak test. Refer to the **Electrical Checks and Leak Checks** section for more information.
5. After the leak test, wrap the connection point with insulation tape.
6. Remove the bracket or wedge that is propping up the unit.
7. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.

Unit is Adjustable

The hooks on the mounting plate are smaller than the holes on the back of the unit. The unit can be adjusted left or right by approximately 30 - 50 mm (1.25 - 1.95 in) depending on the model.



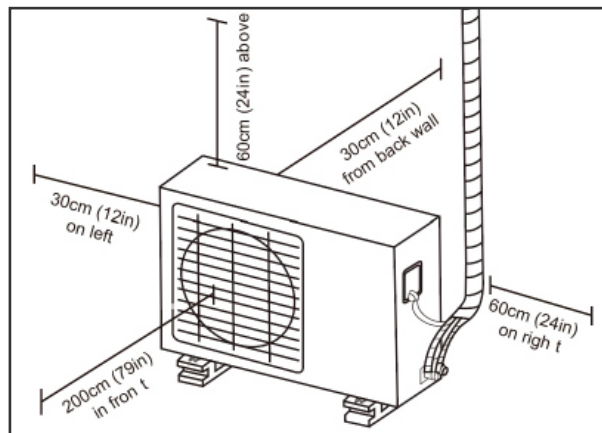
INSTALLATION INSTRUCTIONS

OUTDOOR UNIT INSTALLATION

Step 1: Select installation location

Before installing the outdoor unit, choose an appropriate location for the unit. Proper installation locations meet the following requirements:

- Good air circulation and ventilation.
- Firm and solid; the location can support the unit and will not vibrate.
- Noise from the unit will not be disturbing.
- The unit will be protected from prolonged periods of direct sunlight, rain or snow.
- The location must meet the special requirements outlined below:

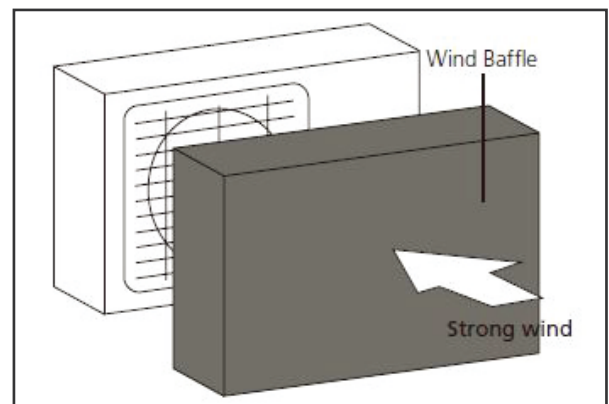
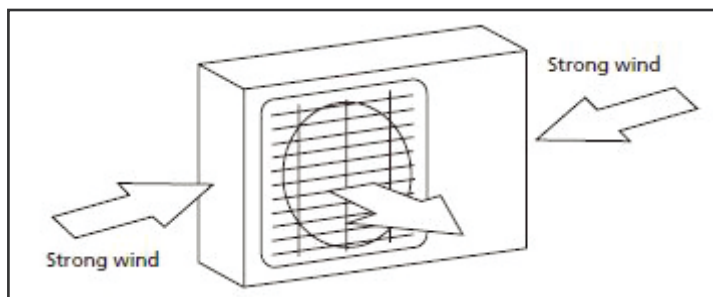


Do not install the unit in the following locations:

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

Special Considerations For Extreme Weather

If the unit is exposed to heavy wind, install the unit so that the air outlet fan is at a 90° angle to the direction of the wind. If needed, build a barrier in front of the unit to protect it from the wind.



If the unit is exposed to heavy rain or snow, build a shelter above the unit to protect it. Be careful not to obstruct air flow around the unit.

If the unit is exposed to salty air, use an outdoor unit that is specially designed to resist corrosion.

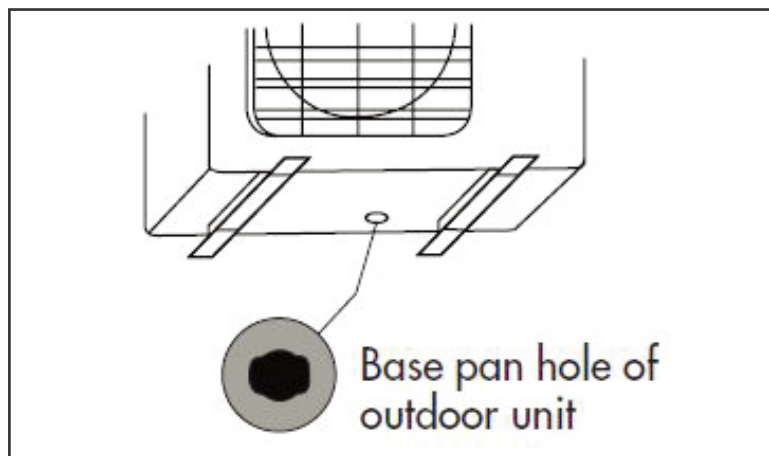
INSTALLATION INSTRUCTIONS

Step 2: Install the drain joint

Before bolting the outdoor unit in place, install the drain joint at the bottom of the unit. There are two types of drain joint depending on the type of unit.

1. Fit the rubber seal on the end of the drain joint that will connect to the outdoor unit.
2. Insert the drain joint into the hole in the base pan of the unit.
3. Rotate the drain joint 90° until it clicks in place facing the front of the unit.
4. Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

The base hole for the drain joint can be found on the bottom of the unit.



Note For Cold Climates

In cold climates, ensure that the drain hose is positioned as close to vertical as possible to encourage swift water drainage. If water drains too slowly it can freeze inside the drain hose and flood the unit.

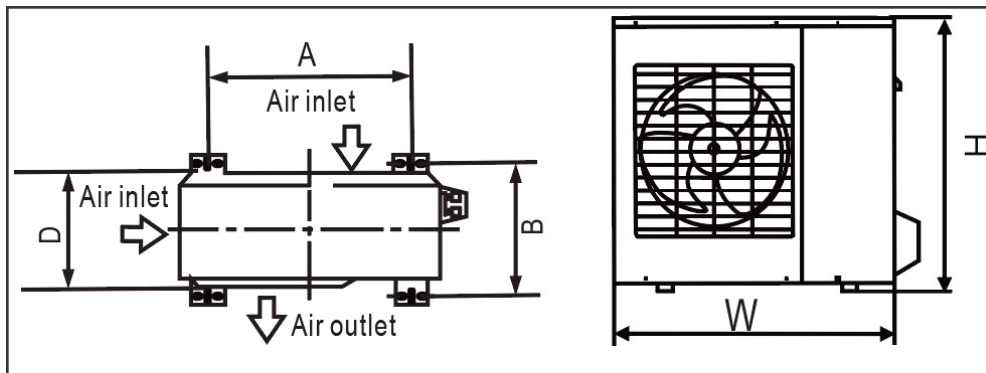
INSTALLATION INSTRUCTIONS

Step 3: Anchor the outdoor unit

The outdoor unit can be anchored to the ground or to a wall-mounted bracket.

The following is a list of outdoor unit sizes and the distance between their mounting feet. Prepare the installation base of the unit according to the dimensions and images below.

Unit Mounting Dimensions Chart			
Model Number	Unit Dimensions (W x H x D)	Distance A (mm / in)	Distance B (mm / in)
DAS120GAHWDB	730x545x285(28.7"x21.5"x11.2")	540(21.2")	280(11")
DAS170GAHWDB	900x700x350(35.4"x27.6"x13.8")	630(24.8")	350(13.8")
DAS220GAHWDB	900x700x350(35.4"x27.6"x13.8")	630(24.8")	350(13.8")



WARNING
When drilling into concrete, eye protection should be worn at all times.

If the unit will be ground mounted, follow the below instructions:

1. Mark the positions for four expansion bolts based on dimensions in the unit mounting dimensions chart.
2. Pre-drill holes for expansion bolts.
3. Clean concrete dust away from holes.
4. Place a nut on the end of each expansion bolt.
5. Hammer expansion bolts into the pre-drilled holes.
6. Remove the nuts from the expansion bolts and place outdoor unit on the bolts.
7. Put washer on each expansion bolt and then replace the nuts.
8. Using a wrench, tighten each nut until snug.

If the unit will be wall mounted, follow the below instructions:

1. Mark the positions of the bracket holes based on dimensions in the unit mounting dimensions chart.
2. Pre-drill holes for expansion bolts.
3. Clean concrete dust away from holes.
4. Place a washer and a nut on the end of each expansion bolt.
5. Thread the expansion bolts through the holes on the mounting brackets, put mounting brackets in position and hammer the expansion bolts into the wall.
6. Check that the mounting brackets are level.
7. Carefully lift the unit and place its mounting feet on the brackets.
8. Bolt the unit firmly to the brackets.

Note: To reduce vibrations and noise of a wall-mounted unit, install the unit with rubber gaskets.

INSTALLATION INSTRUCTIONS

Step 4: Connect the signal and power cables

The outdoor unit's terminal block is protected by an electrical wiring cover on the side of the unit. A comprehensive wiring diagram is printed on the inside of the wiring cover.

Cable Types:

- Indoor Power Cable (if applicable): SOW
- Outdoor Power Cable: SOW
- Signal Cable: SOW

Minimum Cross Sectional Area of Power and Signal Cables

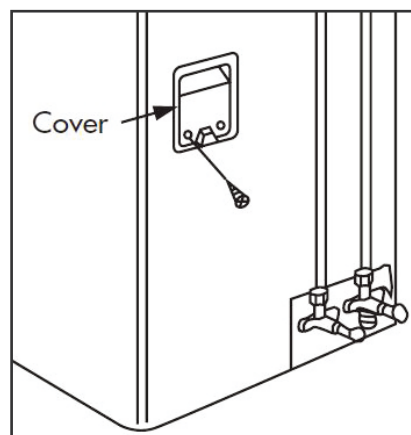
Appliance Amps (A)	AWG
10	18
13	16
18	14
25	12
30	10

WARNING

All wiring must be performed in accordance with the wiring diagram located on the inside of the outdoor unit's wire cover. Do not mix up live and null wires. This is dangerous and can cause the appliance to malfunction.

1. Prepare the cable for connection:
 - a. Using wire strippers, strip the rubber jacket from both ends of the signal cable to reveal about 40 mm (1.57 in) of the wires inside.
 - b. Strip the insulation from the ends of the wires.
 - c. Using wire crimper, crimp u-type lugs on the ends of the wires.
2. Unscrew the electrical wiring cover and remove it.
3. Unscrew the cable clamp below the terminal block and place it to the side.
4. Match the wire colours and labels with the labels on the terminal block and firmly screw the u-lug of each wire to its corresponding terminal.
5. After checking to make sure every connection is secure, loop the wires around to prevent rain water from flowing into the terminal.
6. Using the cable clamp, fasten the cable to the unit. Screw the cable clamp down tightly.
7. Insulate unused wires with PVC electrical tape. Arrange them so that they do not touch any electrical or metal parts.
8. Replace the wire cover on the side of the unit and screw it into place.

Note: Pay attention to the live wire. While crimping wires, make sure to distinguish the Live ("L") Wire and other wires.



The wiring diagram is located on the inside of the wire cover on the outdoor unit.

INSTALLATION INSTRUCTIONS

REFRIGERANT PIPING CONNECTION

The length of the refrigerant piping will affect the performance and energy efficiency of the unit. Nominal efficiency is tested on units with a pipe length of 5 m (16.5 ft).

Refer to the table below for specifications on the maximum length and drop height of the piping.

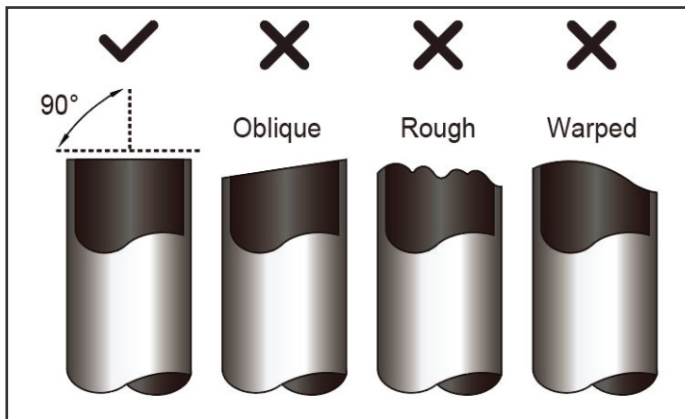
Maximum Length and Drop Height of Refrigerant Piping per Unit Model			
Model Number	Capacity (BTU/h)	Max. Length (m)	Max. Drop Height (m)
DAS120GAHWDB	< 15,000	25 (82 feet)	10 (33 feet)
DAS170GAHWDB DAS220GAHWDB	≥ 15,000 and < 24,000	30 (98.5 feet)	20 (66 feet)

CONNECTION INSTRUCTIONS - REFRIGERANT PIPING

Step 1: Cut pipes

When preparing refrigerant pipes, take extra care to cut and flare them properly. This will ensure efficient operation and minimize the need for future maintenance.

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

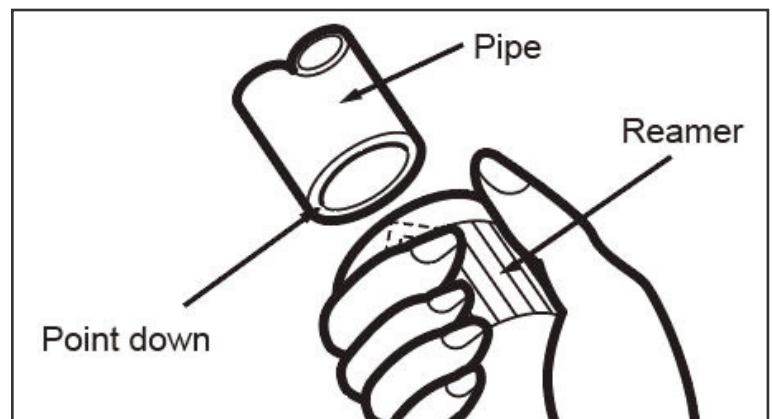


Note: Do not damage, dent or deform the pipe while cutting. This will drastically reduce the heating efficiency of the unit.

Step 2: Remove burrs

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

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

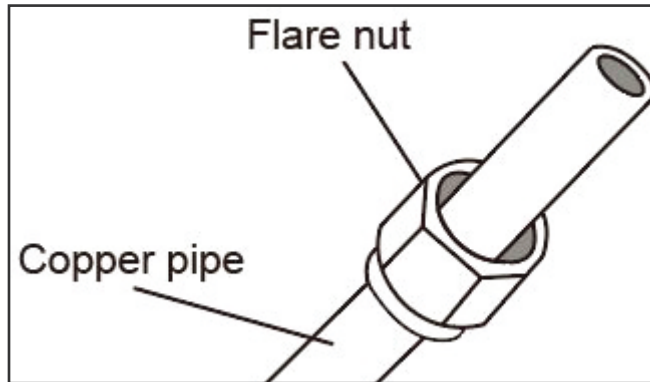


INSTALLATION INSTRUCTIONS

Step 3: Flare pipe ends

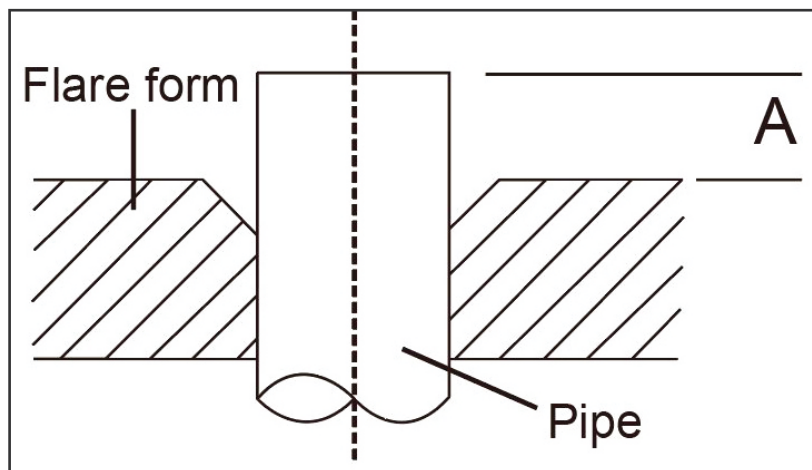
Proper flaring is essential to achieve an airtight seal.

1. After removing burrs from the cut pipe, seal the ends with PVC tape to prevent foreign materials from entering the pipe.
2. Sheath the pipe with insulating material.
3. Place flare nuts on both ends of the pipe. Make sure they are facing in the right direction as they cannot be removed or adjusted after flaring.



4. Remove the PVC tape from the ends of the pipe when ready to perform flaring work.
5. Clamp flare form on the end of the pipe. The end of the pipe must extend beyond the edge of the flare form in accordance with the dimensions shown in the table and image below.

PIPING EXTENSION BEYOND FLARE FORM		
Outer Pipe Diameter (mm)	Dimension A Minimum (mm)	Dimension A Maximum (mm)
Ø 6.35 (Ø 0.25 in)	0.7 (0.0275 in)	1.3 (0.05 in)
Ø 9.52 (Ø 0.375 in)	1.0 (0.04 in)	1.6 (0.063 in)
Ø 12.7 (Ø 0.5 in)	1.0 (0.04 in)	1.8 (0.07 in)
Ø 16 (Ø 0.63 in)	2.0 (0.078 in)	2.2 (0.086 in)



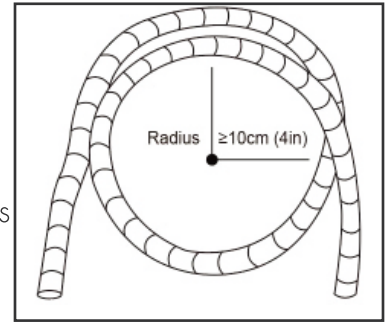
6. Place flaring tool onto the form.
7. Turn the handle of the flaring tool clockwise until the pipe is fully flared.
8. Remove the flaring tool and flare form and then inspect the end of the pipe for cracks and even flaring.

INSTALLATION INSTRUCTIONS

Step 4: Connect pipes

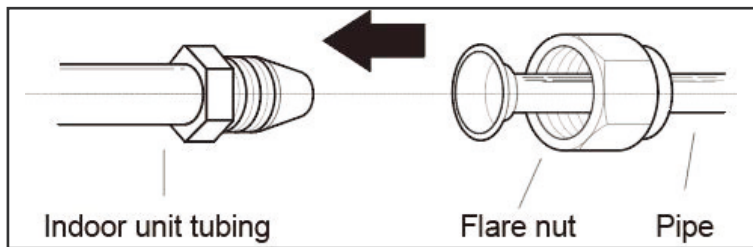
When connecting refrigerant pipes, be careful not to use excessive torque or to deform the piping in any way. Connect the low pressure pipe first and then connect the high pressure pipe.

Note: When bending connective refrigerant piping, the minimum bending radius is 10 cm (3.9 in).

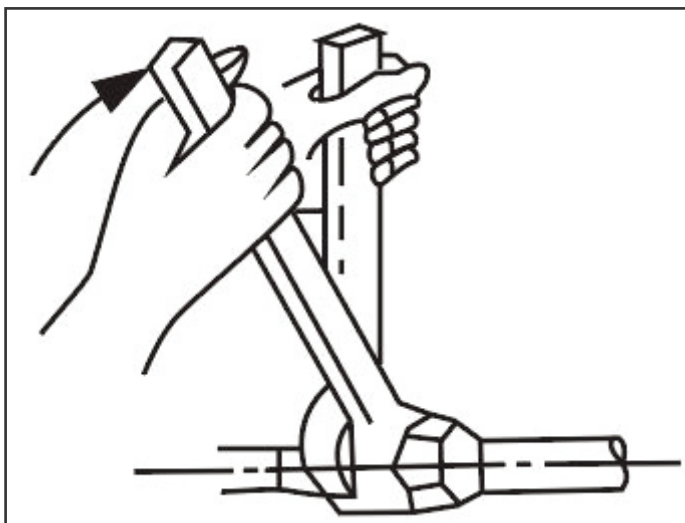


CONNECTING PIPING TO INDOOR UNIT

1. Align the center of the two pipes that will be connected.



2. Tighten the flare nut as tightly as possible by hand.
3. Using a spanner, grip the nut on the unit tubing.
4. While firmly gripping the nut on the unit tubing, use a torque wrench to tighten the flare nut according to the torque values in the torque requirements table below. Loosen the flaring nut slightly, then tighten again.



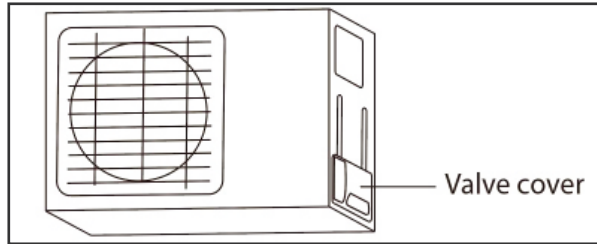
Excessive force can break the nut or damage the refrigerant piping. Do not exceed the torque requirements shown in the table below.

The size of pipe(mm)	Torque(N · m)
Φ6/Φ6.35	15~25
Φ9/Φ9.52	35~40
Φ12/Φ12.7	45~60
Φ15.88	73~78
Φ19.05	75~80

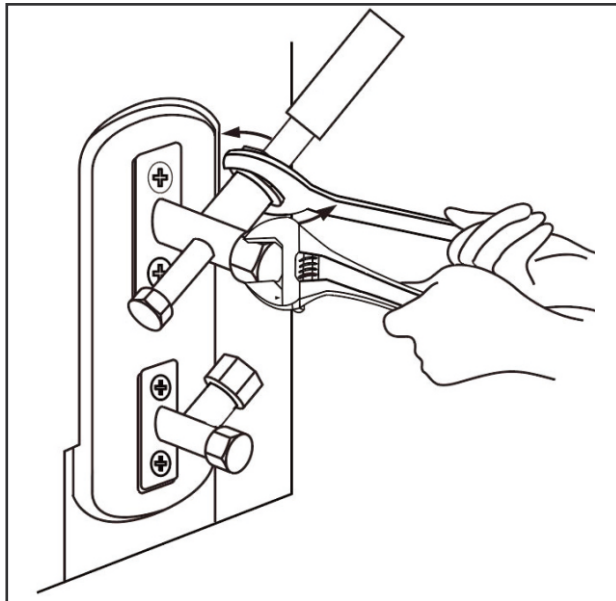
INSTALLATION INSTRUCTIONS

CONNECTING PIPING TO OUTDOOR UNIT

1. Unscrew the cover from the packed valve on the side of the outdoor unit.



2. Remove protective caps from ends of valves.
3. Align flared pipe end with each valve and tighten the flare nut as tightly as possible by hand.
4. Using a spanner, grip the body of the valve. Do not grip the nut that seals the service valve.



5. While firmly gripping the body of the valve, use a torque wrench to tighten the flare nut according to the correct torque values.
6. Loosen the flaring nut slightly, then retighten again.
7. Repeat steps 3 to 6 for the remaining pipe.

INSTALLATION INSTRUCTIONS

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.

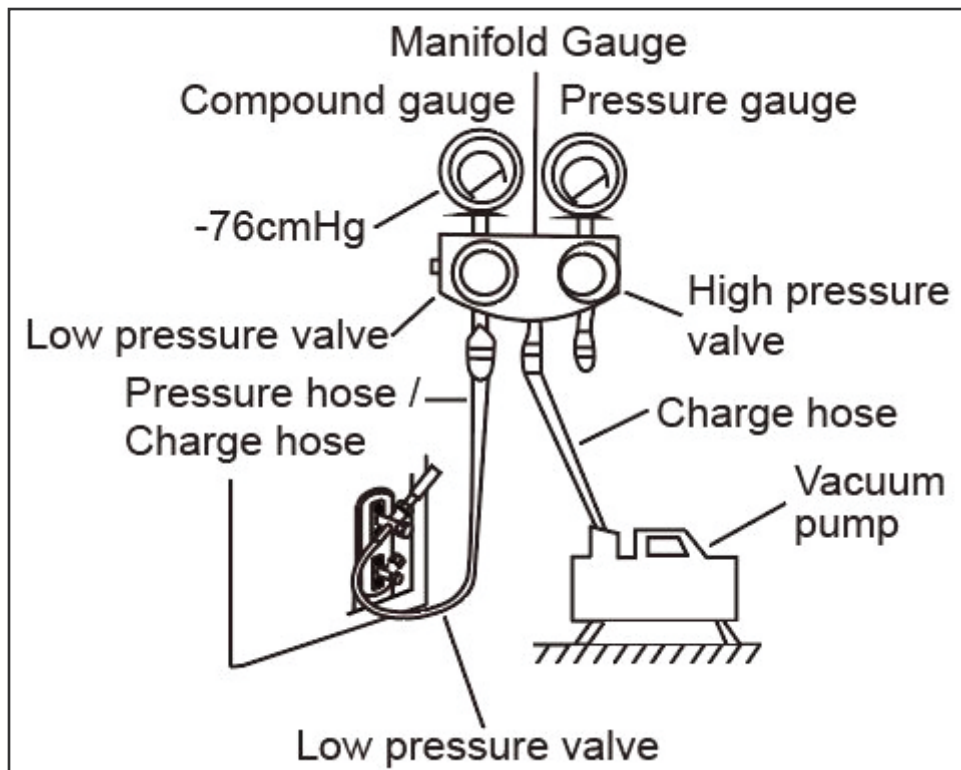
Evacuation should be performed upon initial installation and when the unit is relocated.

Before performing the evacuation:

- Check to make sure that both the high pressure and low pressure pipes between the indoor and outdoor units are installed correctly.
- Check to make sure all wiring is connected properly.

Evacuation Instructions

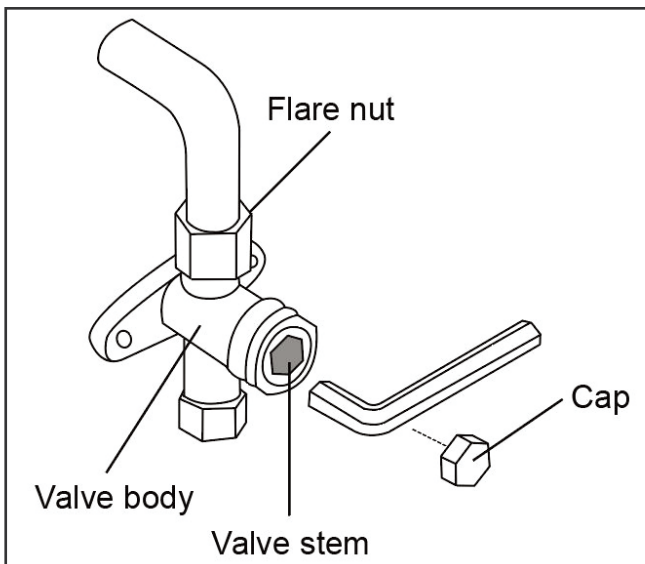
Before using the manifold gauge and vacuum pump, read their operation manuals to ensure they are used correctly.



INSTALLATION INSTRUCTIONS

Evacuation Instructions

1. Connect the charge hose of the manifold gauge to the service port on the outdoor unit's low pressure valve.
2. Connect another charge hose from the manifold gauge to the vacuum pump.
3. Open the low pressure side of the manifold gauge. Keep the high pressure side closed.
4. Turn on the vacuum pump to evacuate the system.
5. Run the vacuum for at least 15 minutes or until the compound meter reads -76cmHG (-10⁵ Pa).
6. Close the low pressure side of the manifold gauge and turn off the vacuum pump.
7. Wait for 5 minutes then check that there has been no change in the system pressure.
8. If there is a change in the system pressure, refer to the Gas Leak Check section for information on how to check the system for leaks. If there is no change in the system pressure, unscrew the cap from the packaged high pressure valve.
9. Insert hexagonal wrench into the packed high pressure valve and open the valve by turning the wrench in a 1/4 clockwise turn. Listen for gas to exit the system, then close the valve after 5 seconds.
10. Watch the pressure gauge for 1 minute to ensure there is no change in the pressure. The pressure gauge should read slightly higher than atmospheric pressure.
11. Remove the charge hose from the service port.
12. Using a hexagonal wrench, fully open both the high pressure and low pressure valves.
13. Tighten valve caps on all three valves, (service port, high pressure and low pressure) by hand. Tighten further with a torque wrench if necessary.



WARNING
DO NOT MIX
REFRIGERANT TYPES

INSTALLATION INSTRUCTIONS

Note: Open valve stems gently. When opening valve stems, turn the hexagonal wrench until it hits against the stopper. Do not try to force the valve to open further.

Note: Some systems require additional charging depending on pipe lengths. The standard pipe length varies according to local regulations. For example, in North America, the standard pipe length is 7.5 m (25 feet). In other areas, the standard pipe length is 5 m (16 feet). The additional refrigerant to be charged can be calculated using the formula in the below chart.

Additional Refrigerant Per Pipe Length			
Connective Pipe Length (m)	Air Purging Method	Additional Refrigerant	
< Standard Pipe Length	Vacuum Pump	N/A	
> Standard Pipe Length	Vacuum Pump	Liquid Side: Ø 6.35 (ø 0.25 in) Inverter R410a: (Pipe Length - SPL) x 20g/m (Pipe Length - SPL) x 0.21oz/ft	Liquid Side: Ø 9.52 (ø 0.375 in) Inverter R410a: (Pipe Length - SPL) x 30g/m (Pipe Length - SPL) x 0.32oz/ft

SPL = Standard Pipe Length

INSTALLATION INSTRUCTIONS

ELECTRICAL AND GAS LEAK CHECKS

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.

Check Grounding Work

Before completing a test run, measure grounding resistance by visual detection and with grounding resistance tester. Grounding resistance must be less than 4.

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.

WARNING

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

Gas Leak Checks

There are two acceptable methods of checking for gas leaks.

Soap and Water Method

Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor and outdoor units. The presence of bubbles indicates a leak.

Leak Detector Method

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

Note: After completing gas leak checks, confirm that all piping connection points do not leak and make sure to replace the valve cover on the outdoor unit.

INSTALLATION INSTRUCTIONS

TEST RUN

Before completing a test run, make sure to complete all electrical safety checks and gas leak checks. Confirm that the unit's electrical system is safe and operating properly. Check all flare nut connections and confirm that the system is not leaking.

Test Run Instructions

1. Connect power to the unit.
2. Press the ON/OFF button on the remote to turn the unit on.
3. Press the MODE button to scroll through the following functions:
 - COOL - select lowest possible temperature
 - HEAT - select highest possible temperature
4. Allow each function to run for 5 minutes and perform the following checks:
 - No electrical leakage
 - Unit is properly grounded
 - All electrical terminals are properly covered
 - Indoor and outdoor units are solidly installed
 - All pipe connection points do not leak
 - Water drains properly from the drain hose
 - All piping is properly insulated
 - Unit performs COOL function properly
 - Unit performs HEAT function properly
 - Indoor unit louvers rotate properly
 - Indoor unit responds to the remote control

IMPORTANT: During operation, the pressure of the refrigerant circuit will increase. This may reveal leaks that were not present during the initial leak check. Take time during the test run to double check that all refrigerant pipe connection points do not have leaks.

5. After the test run is successfully complete, use the remote control to return the unit to normal operating temperature. Using insulation tape, wrap the indoor refrigerant pipe connections that were left uncovered during the indoor unit installation process.

Test Run in Low Temperature

If the ambient temperature is below 17°C (62.6 F), the COOL function will not run when using the remote control. In this instance, use the manual control button to test the COOL function.

1. Lift the front panel of the indoor unit and raise it until it clicks into place.
2. The manual control button is located on the right-hand side of the unit. Press it two times to select the COOL function.
3. Perform test run as normal.

Disposal Guidelines

This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance, the law requires special collection and treatment. Do not dispose of this appliance as household waste or unsorted municipal waste.