EMIO Presents

Iverter

# Wall Air Handler
# Ductless Split System Heat Pumps
## Installation, Operation & Maintenance Manual

ECR international
EST. 1928
A Family of Heating & Cooling Brands.

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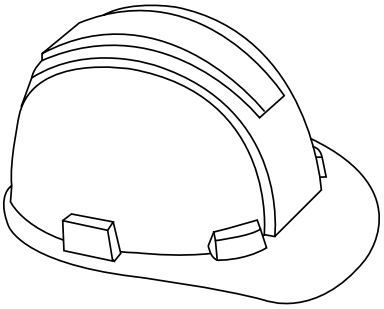
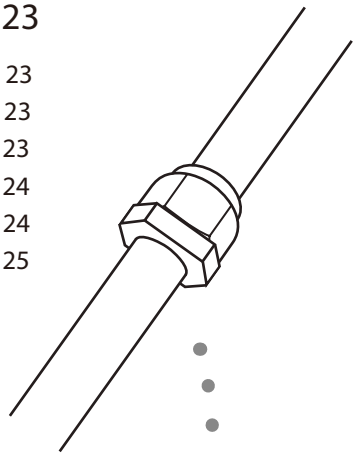
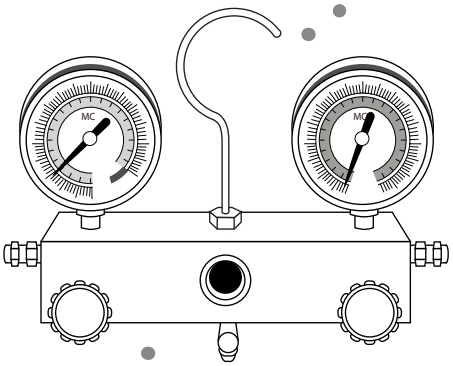
## Installation Manual

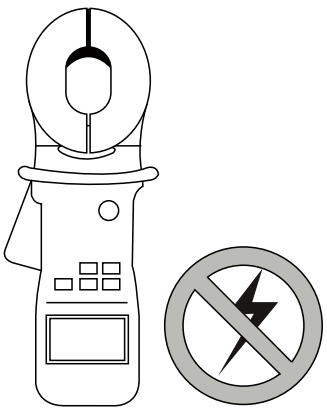












# Owner's Manual - Table of Contents



# Safety Precautions

## Read Safety Precautions Before Installation

Incorrect installation due to failure to follow these instructions can cause serious damage or injury. The seriousness of potential damage or injuries is classified as either a WARNING or CAUTION.

WARNING

This symbol indicates that failure to follow these instructions may cause death or serious injury.

CAUTION

This symbol indicates failure to follow these instructions may cause moderate injury to your person, or damage to your unit or other property.

This symbol indicates that you must never perform the action indicated.

### WARNING

- Do not share electrical service with other appliances. Improper or insufficient power supply can cause fire or electrical shock.
- When connecting refrigerant piping, do not let substances or gases other than the specified refrigerant enter the unit. The presence of other gases or substances will lower the unit's capacity, and can cause abnormally high pressure in the refrigeration cycle. This can cause explosion and injury.
- Do not allow children to play with the air conditioner. Children must be supervised around the unit at all times.

1. Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire.
2. Installation must be performed according to the installation instructions. Improper 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.)
3. Contact an authorized service technician for repair or maintenance of this unit.
4. 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.
5. Install the unit in a firm location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury and damage.

## WARNING

6. For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. You must use an independent circuit to supply power. Do not connect other appliances to the same service. Insufficient electrical capacity or defects in electrical work can cause electrical shock or fire.
7. For all electrical work, use the specified cables. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock.
8. All wiring must be properly arranged to ensure the control board cover 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 heat up, catch fire, or cause electrical shock.
9. In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.

## CAUTION

⊘ Do not install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.

⊘ Do not operate your air conditioner in a wet room such as a bathroom or laundry room. Excessive exposure to water can cause electrical components to short circuit.

1. The product must be properly grounded at the time of installation, or electrical shock may occur.
2. Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.

## Note about Fluorinated Gasses

1. This air-conditioning unit contains fluorinated gasses. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself.
2. Installation, service, maintenance and repair of this unit must be performed by a certified technician.
3. Product uninstallation and recycling must be performed by a certified technician.
4. When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended. Check for leaks at least every 12 months.

## WARNINGS FOR PRODUCT USE

- If an abnormal situation arises (like a burning smell), immediately turn off the unit and pull the power plug. Call your dealer for instructions to avoid electric shock, fire or injury.
- Do not insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.
- Do not use flammable sprays such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.
- Do not operate the air conditioner in places near or around combustible gases. Emitted gas may collect around the unit and cause explosion.
- Do not operate the air conditioner in a wet room (e.g., bathroom or laundry room). This can cause electrical shock and cause the product to deteriorate.
- Do not expose your body directly to cool air for a prolonged period of time.

## CLEANING AND MAINTENANCE WARNINGS

- Turn off the device and pull the plug before cleaning. Failure to do so can cause electrical shock.
- Do not clean the air conditioner with excessive amounts of water.
- Do not clean the air conditioner with combustible cleaning agents. Combustible cleaning agents can cause fire or deformation.

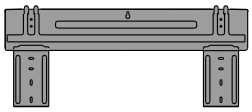
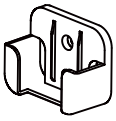
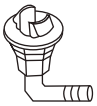
## CAUTION

- If the air conditioner is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- Turn off the air conditioner and unplug the unit if you are not going to use it for a long time.
- Turn off and unplug the unit during storms.
- Make sure that water condensation can drain unhindered from the unit.
- Do not operate the air conditioner with wet hands. This may cause electric shock.
- Do not use device for any other purpose than its intended use.
- Do not climb onto or place objects on top of the outdoor unit.
- Do not allow the air conditioner to operate for long periods of time with doors or windows open, or if the humidity is very high.

# Accessories

1

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 and fire, or cause the equipment to fail.

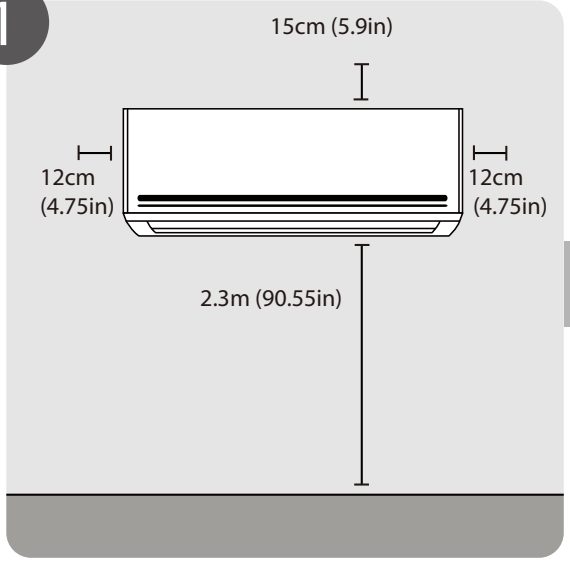
| Name | Shape | Quantity | |
|---|---|---|---|
| Mounting plate |  | 1 | |
| Clip anchor |  | 5 | |
| Mounting plate fixing screw ST3.9 X 25 |  | 5 | |
| Remote controller |  | 1 | |
| Fixing screw for remote controller holder ST2.9 x 10 |  | 2 | Optional Parts |
| Remote controller holder |  | 1 | |
| Dry battery AAA.LR03 |  | 2 | |
| Air freshening filter |  | 1 | |
| Seal |  | 1 (for cooling & heating models only) | |
| Drain joint |  | | |

| Name | Shape | | Quantity |
|---|---|---|---|
| Connecting pipe assembly | Liquid side | Φ6.35(1/4in) | Parts you must purchase. Consult the dealer about the pipe size. |
| | | Φ9.52(3/8in) | |
| | Gas side | Φ9.52(3/8in) | |
| | | Φ12.7(1/2in) | |
| | | Φ16(5/8in) | |

# Installation Summary - Indoor Unit

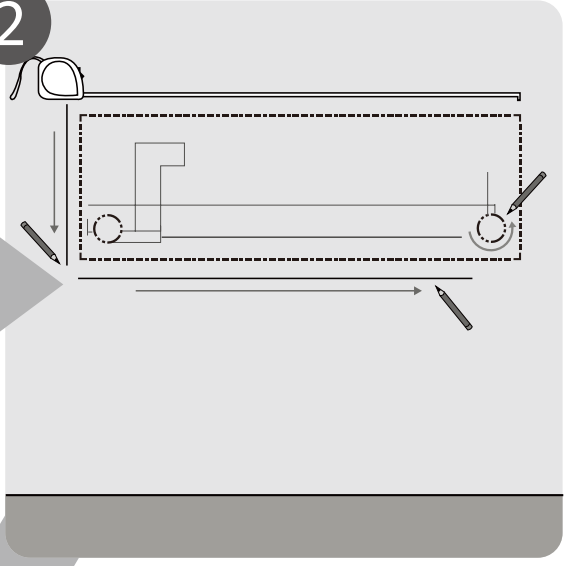
2

1



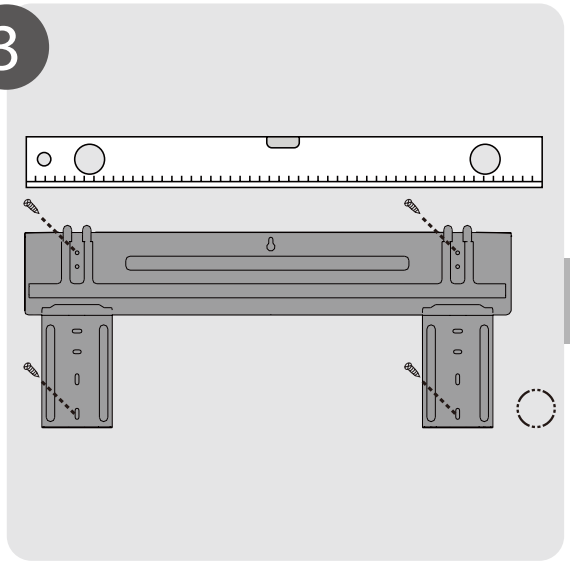

Select Installation Location
(Page 14)

2



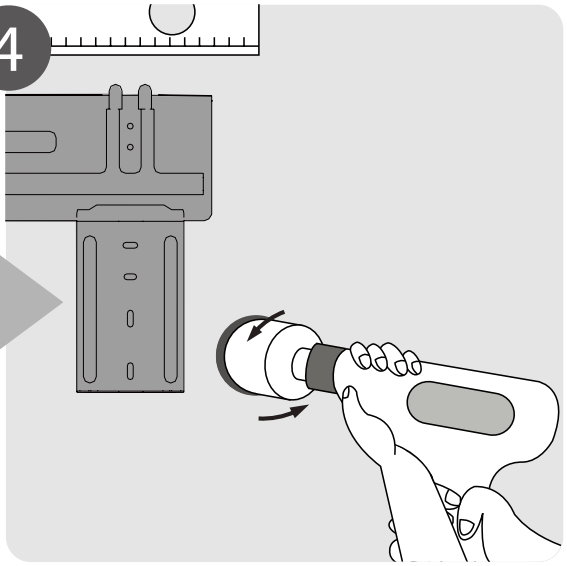
Determine Wall Hole Position
(Page 15)

3

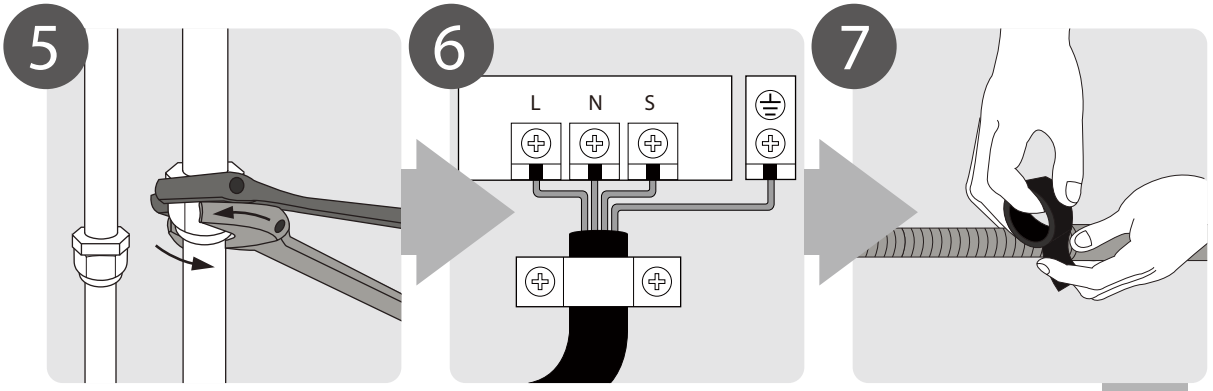


Attach Mounting Plate
(Page 15)

4



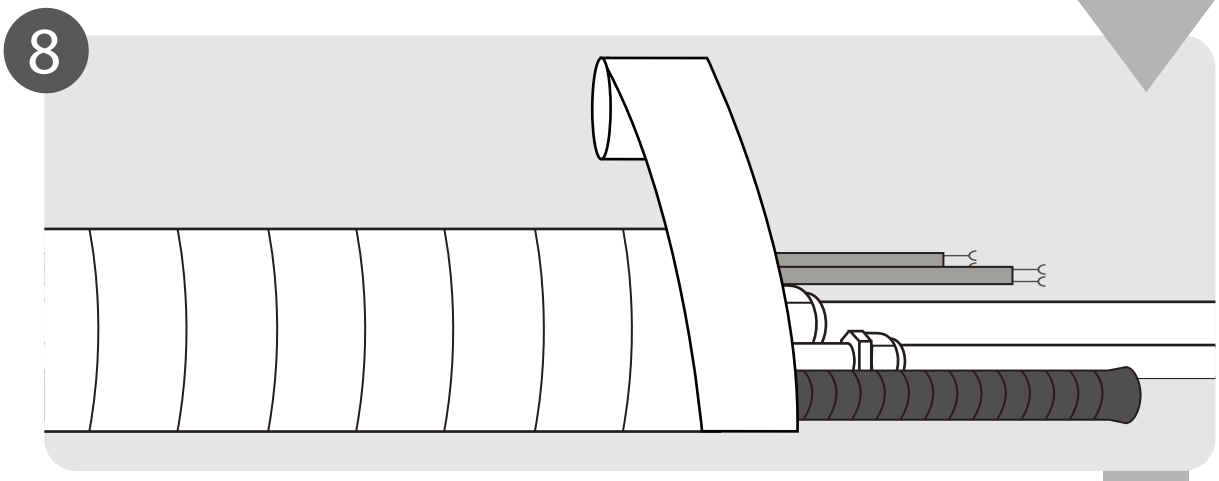
Drill Wall Hole
(Page 15)



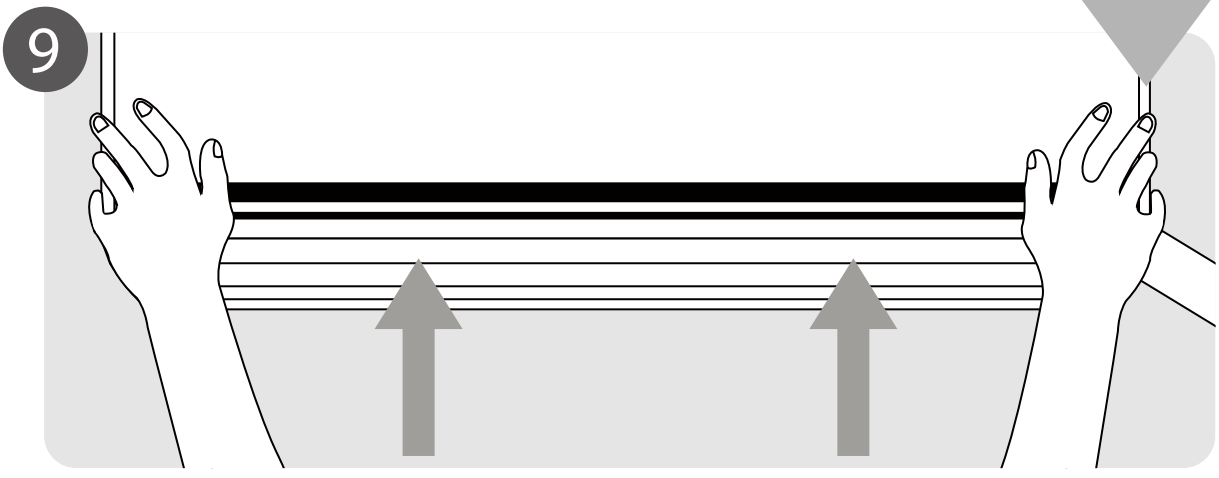

Connect Piping
(Page 23)

Connect Wiring
(Page 19)

Prepare Drain Hose
(Page 16)




Wrap Piping and Cable
(Page 20)




Mount Indoor Unit
(Page 20)

# Unit Parts

3

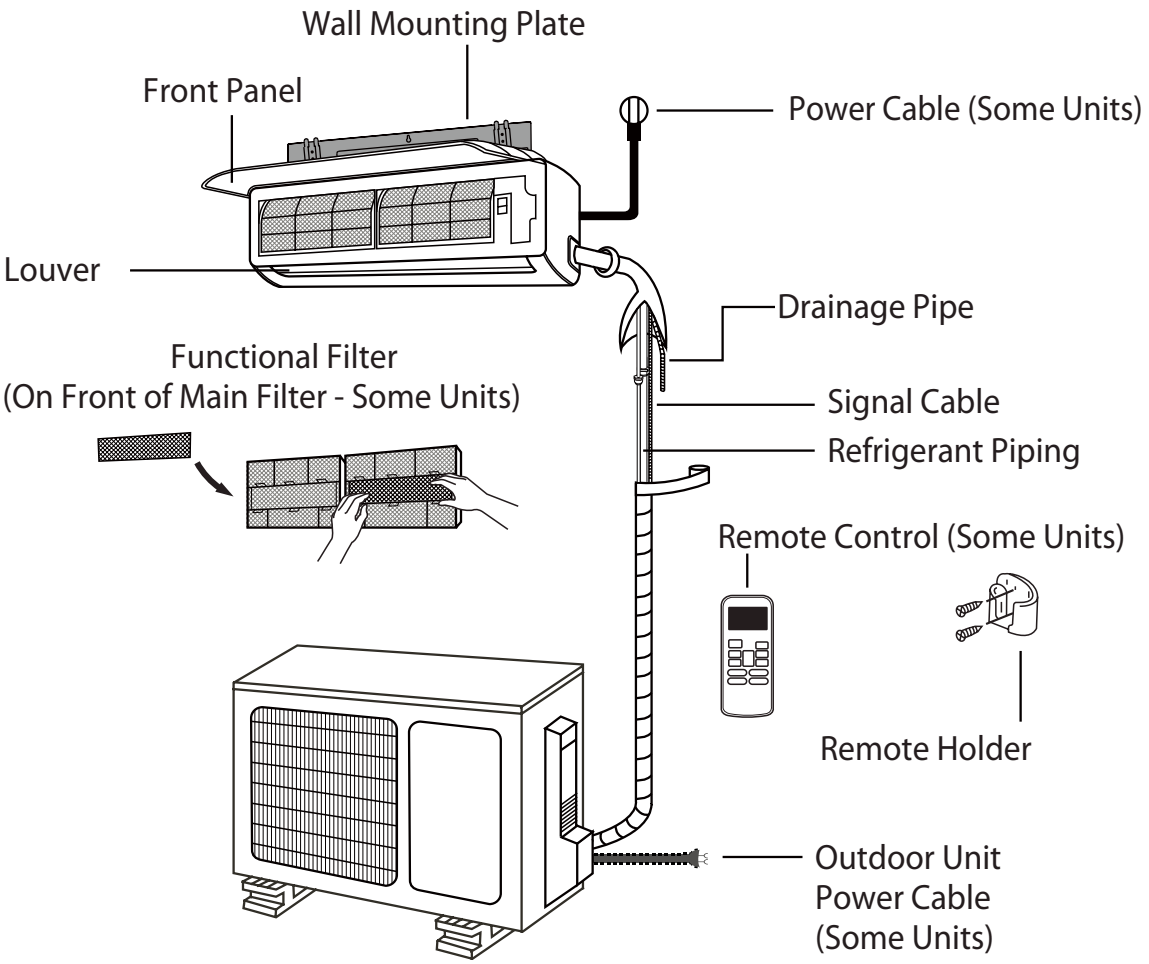



Fig. 3.1

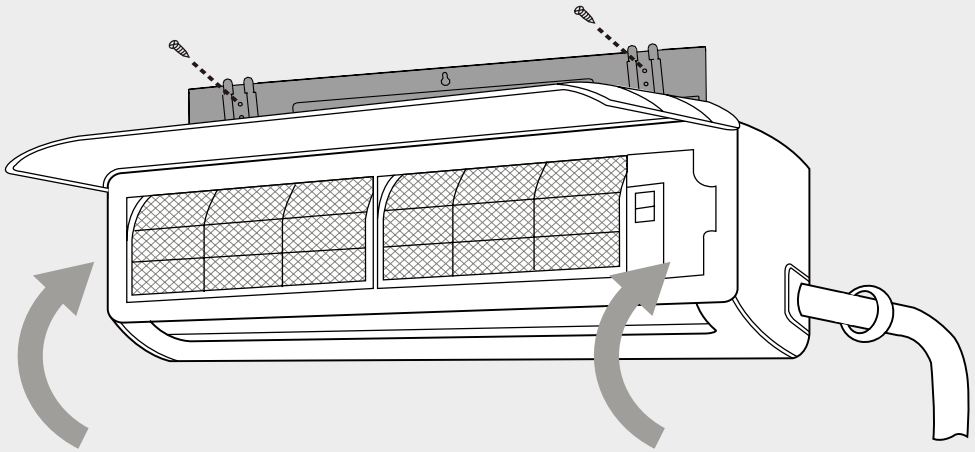
NOTE ON ILLUSTRATIONS

Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.

# Indoor Unit Installation

4





## Installation Instructions – Indoor Unit

### PRIOR TO INSTALLATION

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

Step 1: Select installation location

Before installing the indoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

Proper installation locations meet the following standards:

- ☑ Good air circulation
- ☑ Convenient drainage
- ☑ Noise from the unit will not disturb other people
- ☑ Firm and solid—the location will not vibrate
- ☑ Strong enough to support the weight of the unit
- ☑ A location at least one meter from all other electrical devices (e.g., TV, radio, computer)

DO NOT install unit in the following locations:

- ⊘ 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 the doorway
- ⊘ In a location subject to direct sunlight

### NOTE ABOUT WALL HOLE:

If there is no fixed refrigerant piping:

While choosing a location, be aware that you should leave ample room for a wall hole (see Drill wall hole for connective piping step) for the signal cable and refrigerant piping that connect the indoor and outdoor units. The default position for all piping is the right side of the indoor unit (while facing the unit). However, the unit can accommodate piping to both the left and right.

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

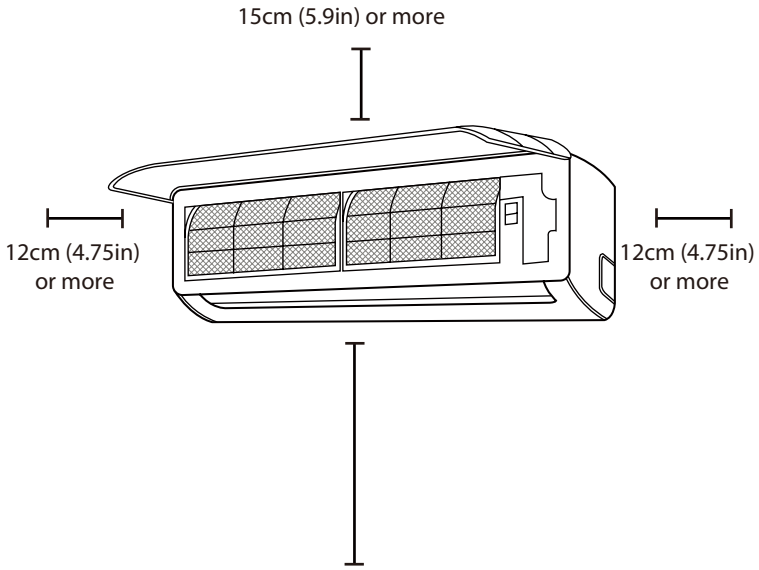



Fig. 4.1

Step 2: Attach mounting plate to wall

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

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 a location that meets the standards in the Select Installation Location step.(See Mounting Plate Dimensions for detailed information on mounting plate sizes.)
3. Drill holes for mounting screws in places that:
   - have studs and can support the weight of the unit
   - correspond to screw holes in the mounting plate
4. Secure the mounting plate to the wall with the screws provided.
5. Make sure that mounting plate is flat against the wall.

NOTE FOR CONCRETE OR BRICK WALLS:

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

Step 3: Drill wall hole for connective piping

You must drill a hole in the wall for 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. Refer to Mounting Plate Dimensions on the next page to help you determine the optimal position. The wall hole should have a 65mm (2.5in) diameter at least, and at a slightly lower angle to facilitate drainage.
2. Using a 65-mm (2.5in) core drill, drill a hole in the wall. Make sure that the hole is drilled at a slight downward angle, so that the outdoor end of the hole is lower than the indoor end by about 5mm to 7mm (0.2-0.275in). This will ensure proper water drainage. (See Fig. 4.2 )
3. Place the protective wall cuff in the hole. This protects the edges of the hole and will help seal it when you finish the installation process.

**CAUTION**

When drilling the wall hole, make sure to avoid wires, plumbing, and other sensitive components.

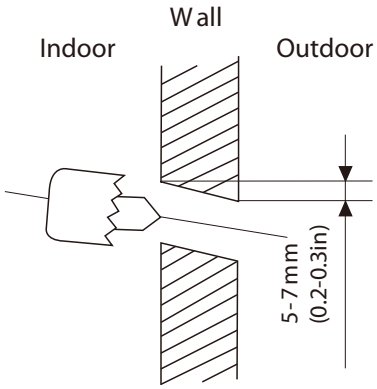
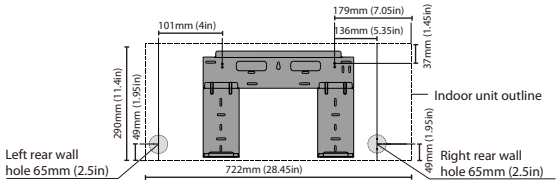


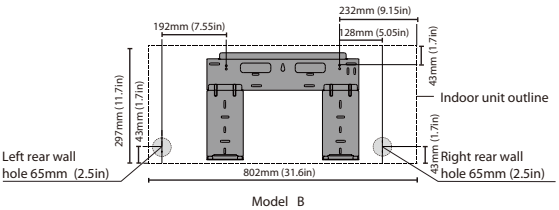

Fig. 4.2

## MOUNTING PLATE DIMENSIONS

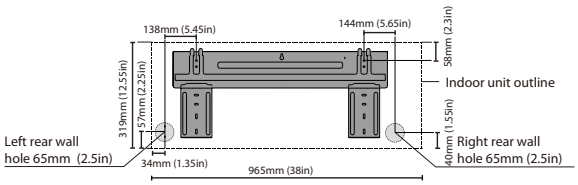
Different models have different mounting plates. In order to ensure that you have ample room to mount the indoor unit, the diagrams to the right show different types of mounting plates along with the following dimensions:

- Width of mounting plate
- Height of mounting plate
- Width of indoor unit relative to plate
- Height of indoor unit relative to plate
- Recommended position of wall hole (both to the left and right of mounting plate)
- Relative distances between screw holes

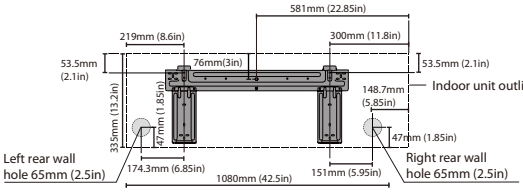



Model B

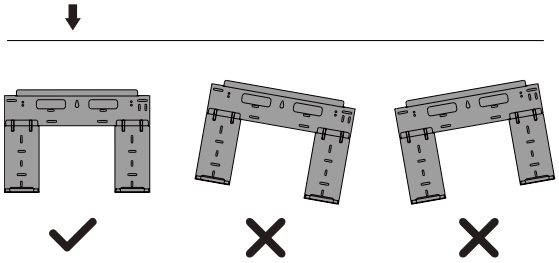


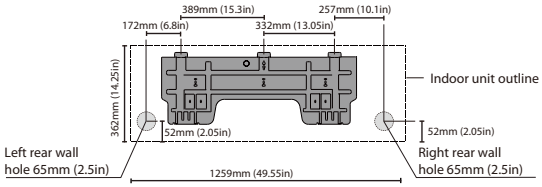

Model C




Model D

## Correct orientation of Mounting Plate






Model E

Step 4: Prepare refrigerant piping

The refrigerant piping is inside an insulating sleeve attached to the back of the unit. You must prepare the piping before passing it through the hole in the wall. Refer to the Refrigerant Piping Connection section of this manual for detailed instructions on pipe flaring and flare torque requirements, technique, 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, keep 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 that side of the unit. (See Fig. 4.3 ). This will create a slot through which your piping can exit the unit. Use needle nose pliers if the plastic panel is too difficult to remove by hand.

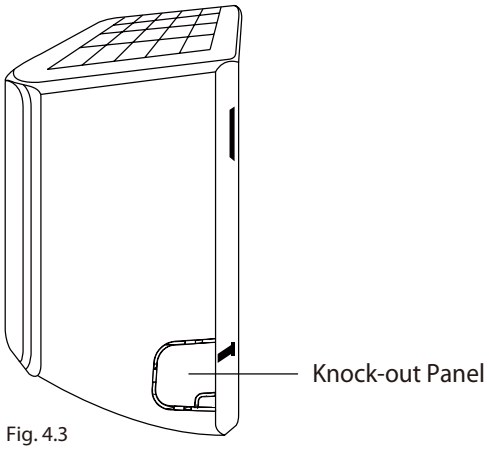



Fig. 4.3

3. Use scissors to cut down the length of the insulating sleeve to reveal about 15cm (6in) of the refrigerant piping. This serves two purposes:
   - To facilitate the Refrigerant Piping Connection process
   - To facilitate Gas Leak Checks and enable you to check for dents
4. If existing connective piping is already embedded in the wall, proceed directly to the Connect Drain Hose step. 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. Refer to the Refrigerant Piping Connection section of this manual for detailed instructions.
5. Based on the position of the wall hole relative to the mounting plate, determine the necessary angle of your piping.
6. Grip the refrigerant piping at the base of the bend.
7. Slowly, with even pressure, bend the piping towards the hole. Do not dent or damage the piping 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
- Right rear

Refer to Fig. 4.4 for details.

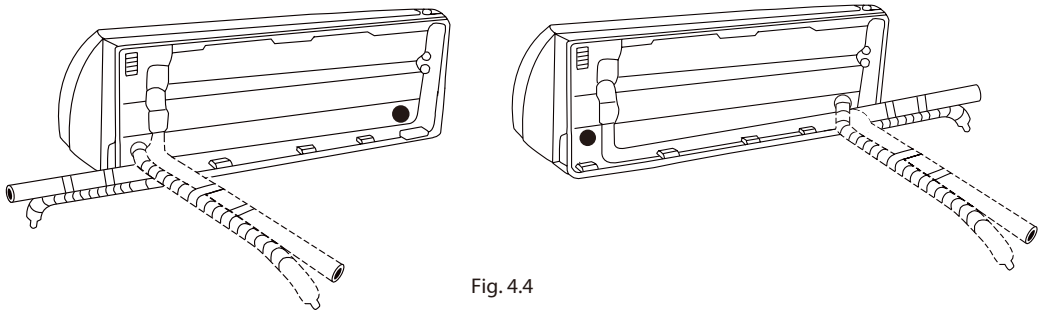


Fig. 4.4

**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.

Step 5: Connect drain hose

By default, the drain hose is attached to the left-hand side of unit (when you're facing the back of the unit). However, it can also be attached to the right-hand side.

1. To ensure proper drainage, attach the drain hose on the same side that your refrigerant piping exits the unit.
2. Attach drain hose extension (purchased separately) to the end of drain hose.
3. Wrap the connection point firmly with Teflon tape to ensure a good seal and to 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.

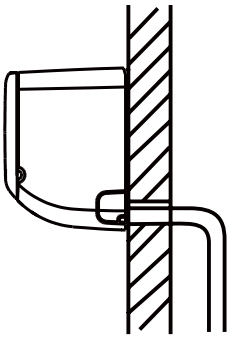
### NOTE ON DRAIN HOSE PLACEMENT

Make sure to arrange the drain hose according to Fig. 4.5 .

- ⊘ DO NOT kink the drain hose.
- ⊘ DO NOT create a water trap.
- ⊘ DO NOT put the end of drain hose in water or a container that will collect water.

### PLUG THE UNUSED DRAIN HOLE

To prevent unwanted leaks you must plug the unused drain hole with the rubber plug provided.



CORRECT

Make sure there are no kinks or dent in drain hose to ensure proper drainage.

Fig. 4.5

NOT CORRECT

Kinks in the drain hose will create water traps.

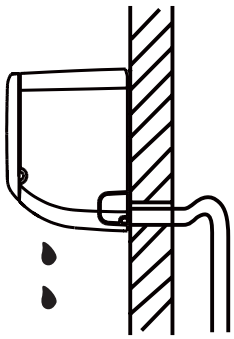
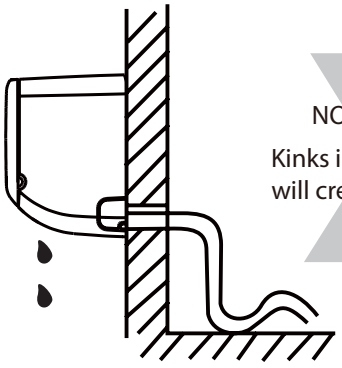


Fig. 4.6



NOT CORRECT

Kinks in the drain hose will create water traps.

Fig. 4.7

NOT CORRECT

Do not place the end of the drain hose in water or in containers that collect water. This will prevent proper drainage.

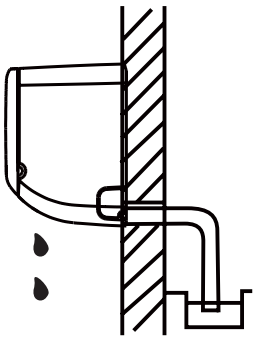


Fig. 4.8

## 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 properly 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 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or.
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 air conditioner.
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 refrigerant tubing, the compressor, or any moving parts within the unit.
11. If the unit has an auxiliary electric heater, it must be installed at least 1 meter (40in) away from any combustible materials.

## WARNING

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

Step 6: Connect 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): H05VV-F or H05V2V2-F
- Outdoor Power Cable: H07RN-F
- Signal Cable: H07RN-F

Minimum Cross-Sectional Area of Power and Signal Cables

North America

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

Other Regions

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

**CHOOSE THE RIGHT CABLE SIZE**

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

**TAKE NOTE OF FUSE SPECIFICATIONS**

The air conditioner's circuit board (PCB) is designed with a fuse to provide overcurrent 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. Strip the insulation from the ends of the wires.
   b. Using wire crimper, crimp u-type lugs on the ends of the wires.

**PAY ATTENTION TO LIVE WIRE**

While crimping wires, make sure you clearly distinguish the Live ("L") Wire from other wires.

2. Open 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.

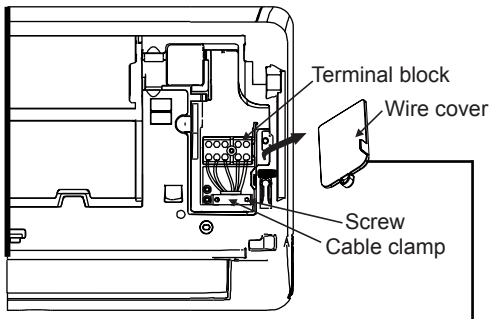



Fig. 4.9

The Wiring Diagram is located on the inside of the indoor unit's wire cover.

**WARNING**

ALL WIRING MUST PERRFORMED STRICTLY IN ACCORDANCE WITH THE WIRING DIAGRAM LOCATED ON THE INSIDE OF THE INDOOR UNIT S'WIRE COVER.

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 colors with the labels on the terminal block, connect the u-lug and and firmly screw each wire to its corresp onding terminal.

**CAUTION**

DO NOT MIX UP LIVE AND NULL WIRES

This is dangerous, and can cause the air conditioning unit to malfunction.

8. After checking to make sure every conn ection 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.

**NOTE ABOUT WIRING**

THE WIRING CONNECTION PROCESS MAY DIFFER SLIGHTLY BETWEEN UNITS.

Step 7: Wrap piping and cables

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

1. Bundle the drain hose, refrigerant pipes, and signal cable according to Fig. 4.10 .

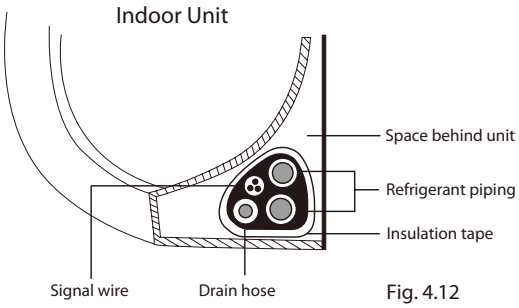



Fig. 4.12

DRAIN HOSE MUST BE ON BOTTOM

Make sure 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.

DO NOT INTERTWINE SIGNAL CABLE WITH OTHER WIRES

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

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. Double-check that all items are bundled in accordance with Fig. 4.10 .

DO NOT WRAP ENDS OF PIPING

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 (refer to Electrical Checks and Leak Checks section of this manual).

Step 8: Mount indoor unit

If you installed new connective piping to the outdoor unit, do the following:

1. If you have already passed the refrigerant piping through the hole in 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 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. Again, check that the unit is firmly mounted by applying slight pressure to the left and the right-hand sides of the unit.

If refrigerant piping is already embedded in the wall, do 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, giving you enough room to connect the refrigerant piping, signal cable, and drain hose. Refer to Fig. 4.11 for an example.

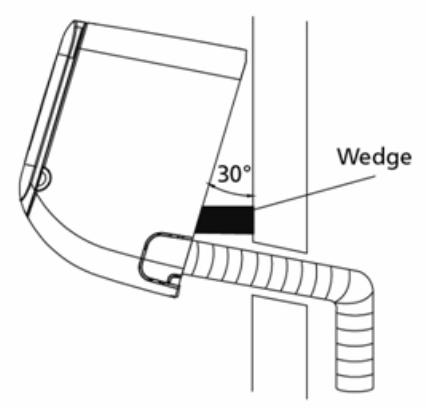


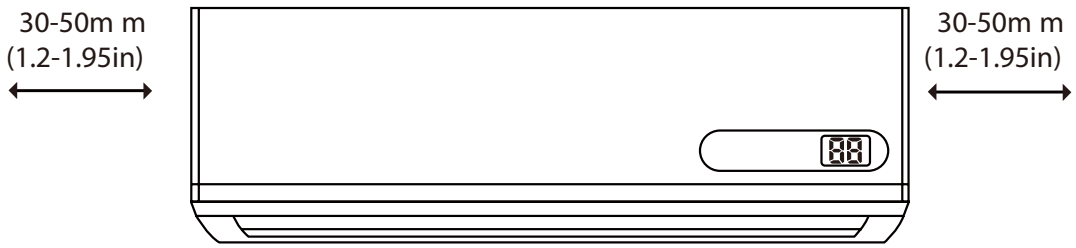

Fig. 4.11

3. Connect drain hose and refrigerant piping (refer to Refrigerant Piping Connection section of this manual for instructions).
4. Keep pipe connection point exposed to perform the leak test (refer to Electrical Checks and Leak Checks section of this manual).
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

Keep in mind that the hooks on the mounting plate are smaller than the holes on the back of the unit. If you find that you don't have ample room to connect embedded pipes to the indoor unit, the unit can be adjusted left or right by about 30-50mm (1.25-1.95in), depending on the model. (See Fig. 4.12 .)




Move to left or right

Fig. 4.12

If you will install the unit on a wall-mounted bracket , do the following:

**CAUTION**

Before installing a wall-mounted unit, make sure that the wall is made of solid brick, concrete, or of similarly strong material. The wall must be able to support at least four times the weight of the unit.

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

**TO REDUCE VIBRATIONS OF WALL-MOUNTED UNIT**

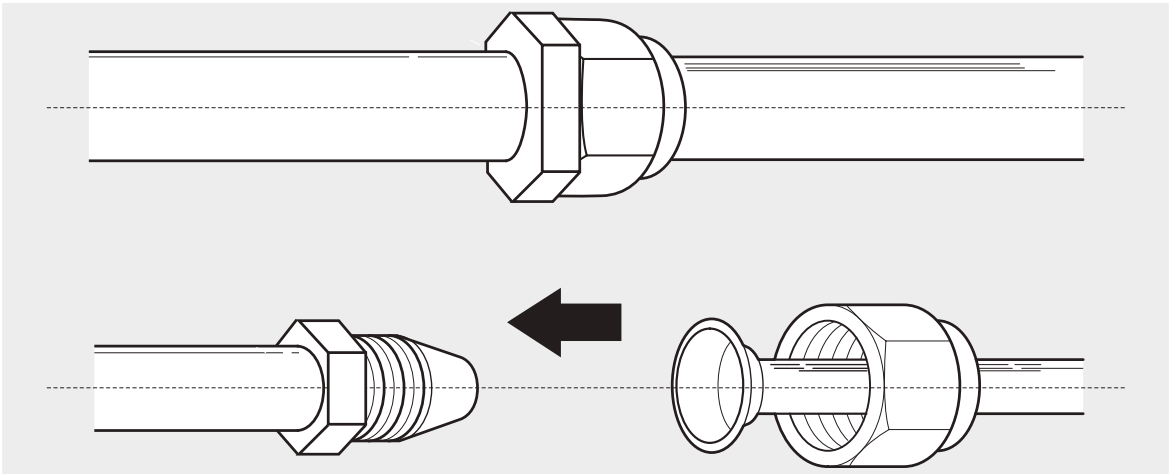
If allowed, you can install the wall-mounted unit with rubber gaskets to reduce vibrations and noise.

Step 4: Connect signal and power cables

The outside 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.

# Refrigerant Piping Connection

5





## 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 5 meters (16.5ft).

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

Maximum Length and Drop Height of Refrigerant Piping per Unit Model

| Model | Capacity (BTU/h) | Max. Length m (ft) | Max. Drop Height m(ft) |
|---|---|---|---|
| R410A Inverter Split Air Conditioner | < 15,000 | 25 (82ft) | 10 (33ft) |
| | ≥ 15,000 and < 24,000 | 30 (98.5ft) | 20 (66ft) |
| | ≥ 24,000 and < 36,000 | 50 (164ft) | 25 (82ft) |
| | ≥ 36,000 and ≤ 60,000 | 65 (213ft) | 30 (98.5ft) |

## 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° angle. Refer to Fig. 5.1 for bad cut examples.

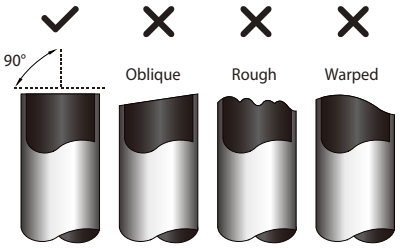



Fig. 5.1

## DO NOT DEFORM PIPE WHILE CUTTING

Be extra careful not to 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 refrigerant piping connection. They 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 deburring tool, remove all burrs from the cut section of the pipe.

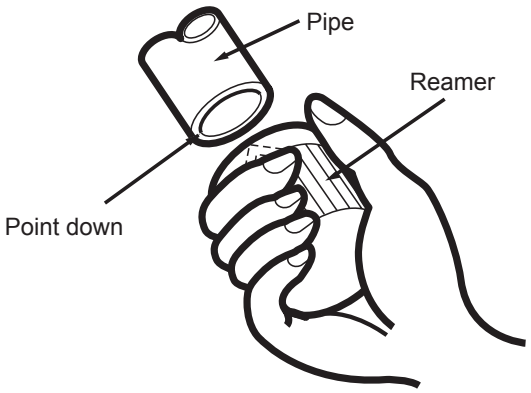



Fig. 5.2

Step 3: Flare pipe ends (45° flare)

Proper flaring is essential to achieve an airtight seal.

1. After removing burrs from 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 pipe. Make sure they are facing in the right direction, because you can't put them on or change their direction after flaring. See Fig. 5.3 .

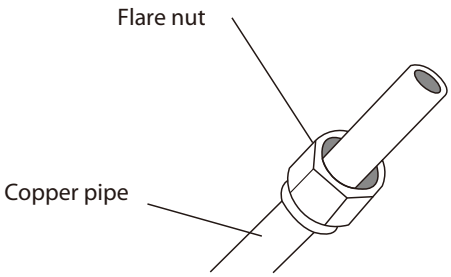



Fig. 5.3

4. Remove PVC tape from ends of 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 below.

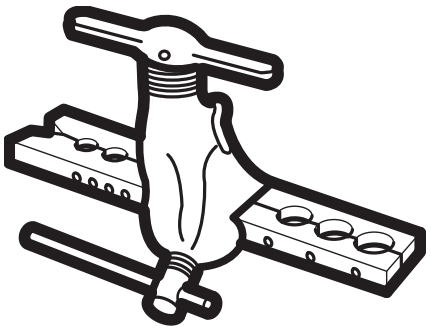


Fig. 5.4

PIPING EXTENSION BEYOND FLARE FORM

| Outer Diameter of Pipe mm (in) | A mm (in) | |
|---|---|---|
| | Min. | Max. |
| Ø 6.35 (Ø 0.25") | 0.7 (0.0275") | 1.3 (0.05") |
| Ø 9.52 ( Ø 0.375") | 1.0 (0.04") | 1.6 (0.063") |
| Ø 12.7 ( Ø 0.5") | 1.0 (0.04") | 1.8 (0.07") |
| Ø 16 ( Ø 0.63") | 2.0 (0.078") | 2.2 (0.086") |

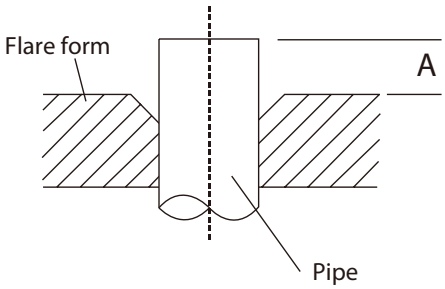



Fig. 5.5

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, then inspect the end of the pipe for cracks and even flaring.

Step 4: 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.

### MINIMUM BEND RADIUS

When bending connective refrigerant piping, the minimum bending radius is 10cm. See Fig 5.6 .

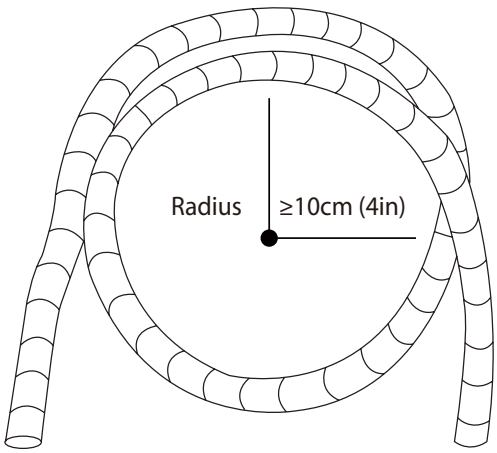



Fig. 5.6

## Instructions for Connecting Piping to Indoor Unit

1. Align the center of the two pipes that you will connect. See Fig. 5.7 .

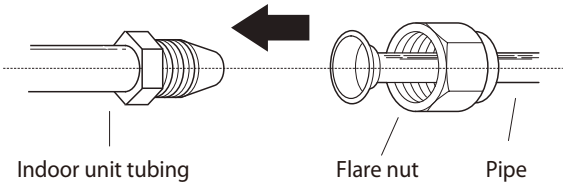



Fig. 5.7

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.

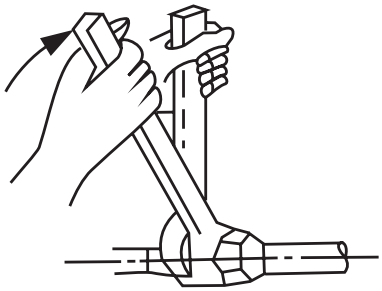


Fig. 5.8

TORQUE REQUIREMENTS

| Outer Diameter of Pipe mm(in) | Tightening Torque N•cm (lb•ft) | Add. Tightening Torque N•cm (lb•ft) |
|---|---|---|
| Ø 6.35 (Ø 0.25") | 1,500 (11lb • ft) | 1,600 (11.8lb • ft) |
| Ø 9.52 (Ø 0.375") | 2,500 (18.4lb • ft) | 2,600 (19.18lb • ft) |
| Ø 12.7 ( Ø 0.5") | 3,500 (25.8lb•ft) | 3,600 (26.55lb•ft) |
| Ø 16 ( Ø 0.63") | 4,500 (33.19lb•ft) | 4,700 (34.67lb•ft) |

### DO NOT USE EXCESSIVE TORQUE

Excessive force can break the nut or damage the refrigerant piping. You must not exceed torque requirements shown in the table above.

## Instructions for Connecting Piping to Outdoor Unit

1. Unscrew the cover from the packed valve on the side of the outdoor unit. (See Fig. 5.9 )

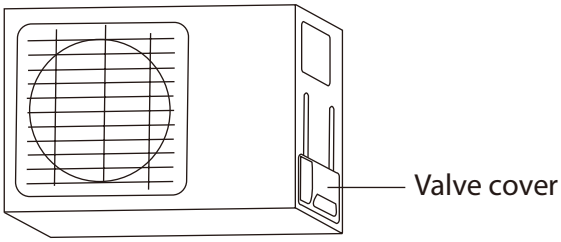



Fig. 5.9

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. (See Fig. 5.10 )

### USE SPANNE R TO GRIP MAIN BOD Y OF VALVE

Torque from tightening the flare nut can snap off other parts of valve.

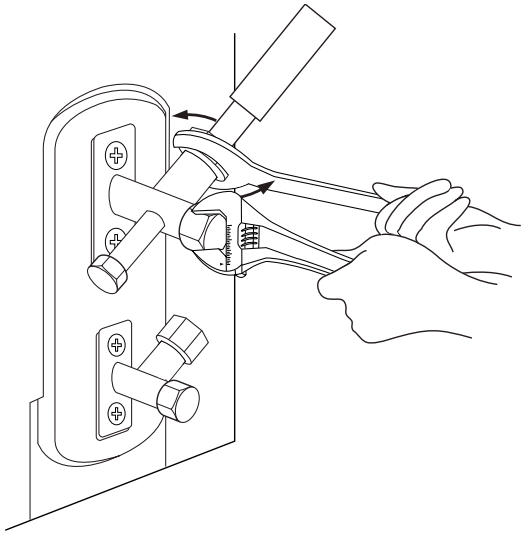
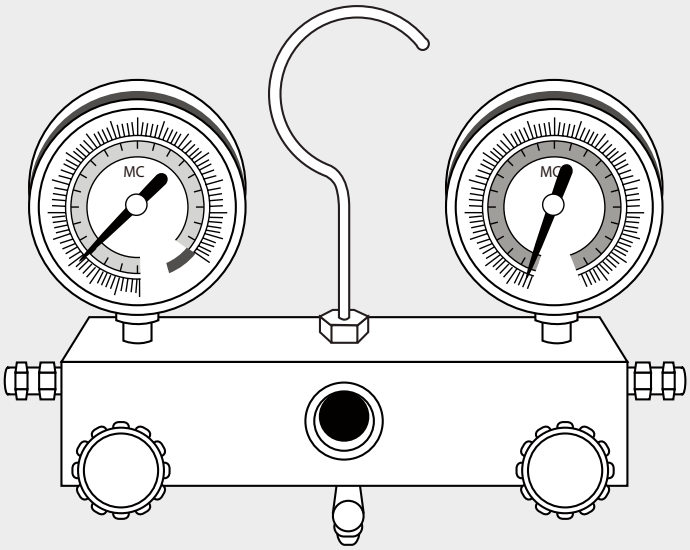


Fig. 5.10

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 tighten again.
7. Repeat Steps 3 to 6 for the remaining pipe.

# Air Evacuation

6




## 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 unit is relocated.

### BEFORE PERFORMING EVACUATION

- ☑ Check to make sure that both high-pressure and low-pressure pipes between the indoor and outdoor units are connected properly in accordance with the Refrigerant Piping Connection section of this manual.
- ☑ Check to make sure all wiring is connected properly.

## Evacuation Instructions

Before using the manifold gauge and vacuum pump, read their operation manuals to familiarize yourself with how to use them properly.

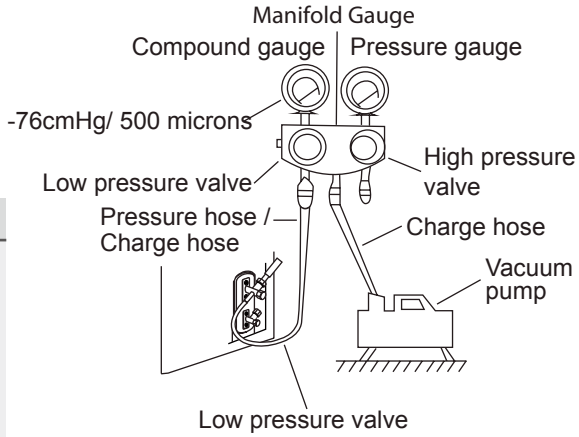



Fig. 6.1

1. Connect the charge hose of the manifold gauge to 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 ($-10^5$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 system pressure.
8. If there is a change in system pressure, refer to Gas Leak Check section for information on how to check for leaks. If there is no change in system pressure, unscrew the cap from the packed valve (high pressure valve).
9. Insert hexagonal wrench into the packed valve (high pressure valve) and open the valve by turning the wrench in a 1/4 counterclockwise turn. Listen for gas to exit the system, then close the valve after 5 seconds.
10. Watch the Pressure Gauge for one minute to make sure that there is no change in pressure. The Pressure Gauge should read slightly higher than atmospheric pressure.

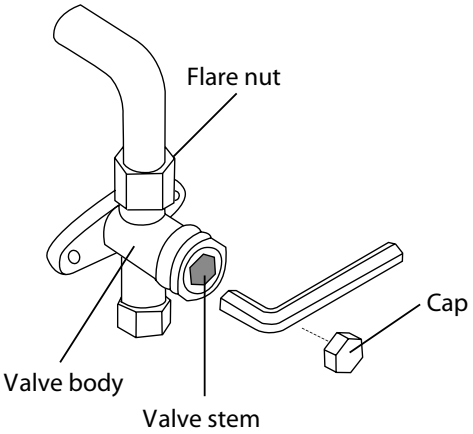


Fig. 6.2

11. Remove the charge hose from the service port.
12. Using hexagonal wrench, fully open both the high pressure and low pressure valves.
13. Tighten valve caps on all three valves (service port, high pressure, low pressure) by hand. You may tighten it further using a torque wrench if needed.

**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 on Adding Refrigerant

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 7.5m (25ft). In other areas, the standard pipe length is 5m (16ft). The additional refrigerant to be charged can be calculated using the following formula:

ADDITIONAL REFRIGERANT PER PIPE LENGTH

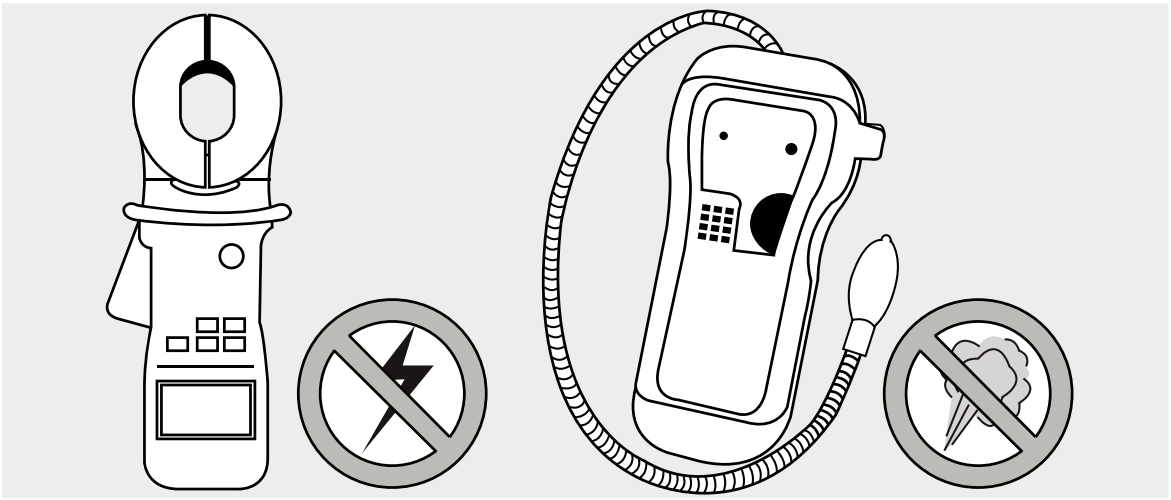
| Connective Pipe Length (m) | Air Purging Method | Additional Refrigerant | |
|---|---|---|---|
| ⩽ Standard pipe length | Vacuum Pump | N/A | |
| > Standard pipe length | Vacuum Pump | Liquid Side: Ø 6.35 (ø 0.25″)<br>Inverter R410A:<br>(Pipe length – standard length) x 15g/m<br>(Pipe length – standard length) x 0.16oz/ft | Liquid Side: Ø 9.52 (ø 0.375″)<br>Inverter R410A:<br>(Pipe length – standard length) x 30g/m<br>(Pipe length – standard length) x 0.32oz/ft |

**CAUTION**

DO NOT mix refrigerant types.

# Electrical and Gas Leak Checks

7



## 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.

### BEFORE TEST RUN

Check Grounding Work

### DURING TEST RUN

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 – RISK OF ELECTRIC SHOCK

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

## Gas Leak Checks

There are two different methods to check 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 unit and outdoor unit. The presence of bubbles indicates a leak.

Leak Detector Method

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

### AFTER PERFORMING GAS LEAK CHECKS

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

# Test Run

8

## Before Test Run

Only perform test run after you have completed the following steps:

- Electrical Safety Checks – Confirm that the unit's electrical system is safe and operating properly
- Gas Leak Checks – 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

## Test Run Instructions

You should perform the Test Run for at least 30 minutes.

1. Connect power to the unit.
2. Press the ON/OFF button on the remote controller to turn it on.
3. Press the MODE button to scroll through the following functions, one at a time:

- COOL – Select lowest possible temperature
- HEAT – Select highest possible temperature

4. Let each function run for 5 minutes, and perform the following checks:

| List of Checks to Perform | PASS/FAIL | |
|---|---|---|
| No electrical leakage | | |
| Unit is properly grounded | | |
| All electrical terminals properly covered | | |
| Indoor and outdoor units are solidly installed | | |
| All pipe connection points do not leak | Outdoor (2): | Indoor (2): |
| Water drains properly from 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 remote controller | | |

## DOUBLE-CHECK PIPE CONNECTIONS

During operation, the pressure of the refrigerant circuit will increase. This may reveal leaks that were not present during your initial leak check. Take time during the Test Run to double-check that all refrigerant pipe connection points do not have leaks. Refer to Gas Leak Check section for instructions.

5. After the Test Run is successfully complete, and you confirm that all checks points in List of Checks to Perform have PASSED, do the following:
   a. Using remote control, return unit to normal operating temperature.
   b. Using insulation tape, wrap the indoor refrigerant pipe connections that you left uncovered during the indoor unit installation process.

## IF AMBIENT TEMPERATURE IS BELOW 17°C (63°F)

You can't use the remote controller to turn on the COOL function when the ambient temperature is below 17°C. In this instance, you can 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 in place.
2. The MANUAL CONTROL button is located on the right-hand side of the unit. Press it 2 times to select the COOL function. See Fig 8.1 .
3. Perform Test Run as normal.

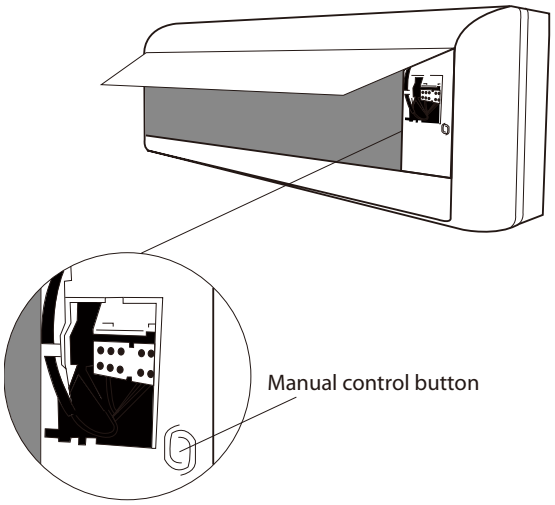



Fig. 8.1

# Unit Specifications and Features

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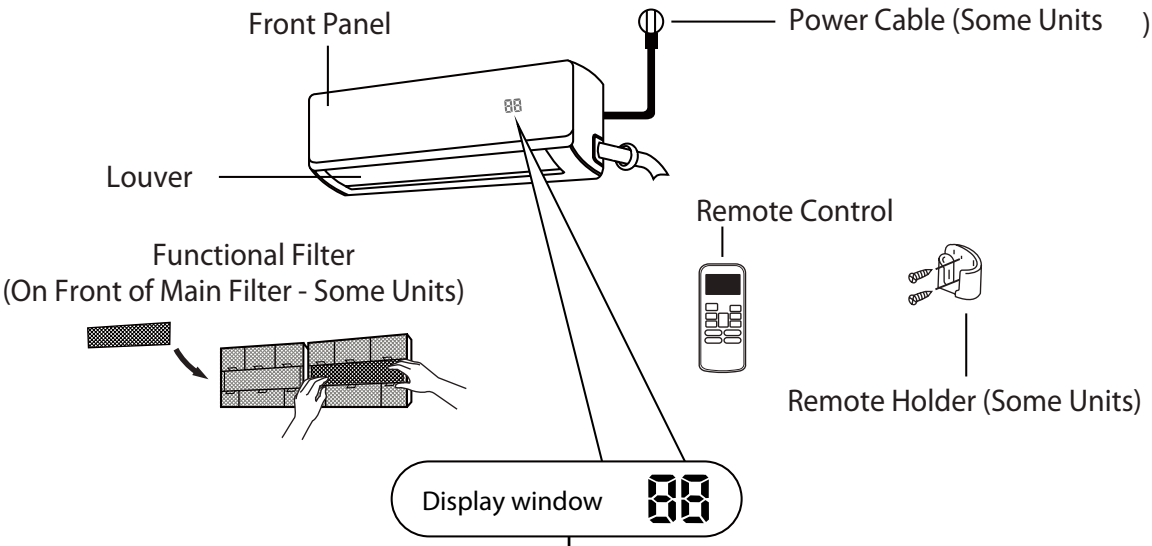
## Unit Parts




"ON" for 3 seconds when:
- TIMER ON is set
- FRESH, SWING, TURBO, or SILENCE features are turned on

"OF" for 3 seconds when:
- TIMER OFF is set
- FRESH, SWING, TURBO, or SILENCE features are turned off

"cF" when anti-cold air feature is turned on

"dF" when defrosting

"SC" when unit is self-cleaning

"FP" when freeze protection is turned on

"88" When ECO function(optional) is activated, the '88' illuminates gradually one by one as -- E -- C -- 0-set temperature-- .....En one second interval.

NOTE: A guide on using the infrared remote is not included in this literature package.

In Fan mode, the unit will display the room temperature.

In other modes, the unit will display your temperature setting.

**Display Code Meanings**

## Achieving Optimal Performance

Optimal performance for the COOL, HEAT, and DRY modes can be achieved in the following temperature ranges. When your air conditioner is used outside of these ranges, certain safety protection features will activate and cause the unit to perform less than optimally.

## Inverter Split Type

| | COOL mode | HEAT mode | DRY mode |
|---|---|---|---|
| Room Temperature | 17°C - 32°C<br>(63°F - 90°F) | 0°C - 30°C<br>(32°F - 86°F) | 10°C - 32°C<br>(50°F - 90°F) |
| Outdoor Temperature | 0°C - 50°C<br>(32°F - 122°F) | -15°C - 30°C<br>(5°F - 86°F) | 0°C - 50°C<br>(32°F - 122°F) |
| | -15°C - 50°C<br>(5°F - 122°F)<br>(For models with low temp. cooling systems.) | | |

To further optimize the performance of your unit, do the following:

- Keep doors and windows closed.
- Limit energy usage by using TIMER ON and TIMER OFF functions.
- Do not block air inlets or outlets.
- Regularly inspect and clean air filters.

For a detailed explanation of each function, refer to the Remote Control Manual.

## Other Features

- Auto-Restart
  If the unit loses power, it will automatically restart with the prior settings once power has been restored.

- Anti-mildew (some units)
  When turning off the unit from COOL, AUTO (COOL), or DRY modes, the air conditioner will continue operate at very low power to dry up condensed water and prevent mildew growth.

- Wi-Fi Control (some units)
  Wi-Fi control allows you to control your air conditioner using your mobile phone and a Wi-Fi connection.

- Louver Angle Memory(some units)
  When turning on your unit, the louver will automatically resume its former angle.

- Refrigerant Leakage Detection (some units)
  The indoor unit will automatically display "EC" when it detects refrigerant leakage.

For a detailed explanation of your unit's advanced functionality (such as TURBO mode and its self-cleaning functions), refer to the Remote Control Manual.

NOTE ON ILLUSTRATIONS

Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.

• Setting Angle of Air Flow

### Setting vertical angle of air flow

While the unit is on, use the SWING /DIRECT button to set the direction (vertical angle) of airflow.

1. Press the SWING /DIRECT button once to activate the louver. Each time you press the button, it will adjust the louver by 6°. Press the button until the direction you prefer is reached.
2. To make the louver swing up and down continuously, press and hold the SWING/ DIRECT button for 3 seconds. Press it again to stop the automatic function.

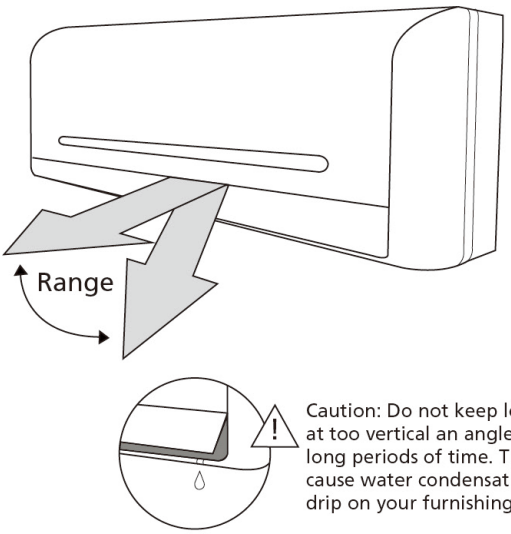



Fig. 9.2

### Setting horizontal angle of air flow

The horizontal angle of the airflow must be set manually. Grip the deflector rod (See Fig. 9.3) and manually adjust it to your preferred direction. For some units, the horizontal angle of the airflow can be set by remote control. please refer to the Remote Control Manual.

### NOTE ON LOUVER ANGLES

When using COOL or DRY mode, do not set louver at too vertical an angle for long periods of time. This can cause water to condense on the louver blade, which will drop on your floor or furnishings. (See Fig. 9.2 )

When using COOL or HEAT mode, setting the louver at too vertical an angle can reduce the performance of the unit due to restricted air flow.

Do not move louver by hand. This will cause the louver to become out of sync. If this occurs, turn off the unit and unplug it for a few seconds, then restart the unit. This will reset the louver.

### ! CAUTION

Do not put your fingers in or near the blower and suction side of the unit. The high-speed fan inside the unit may cause injury.

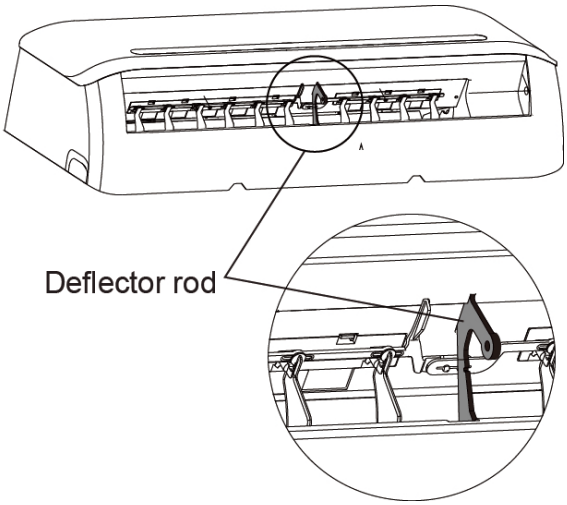



Fig. 9.3

- Sleep Operation

The SLEEP function is used to decrease energy use while you sleep (and don't need the same temperature settings to stay comfortable). This function can only be activated via remote control.

Press the SLEEP button when you are ready to go to sleep. When in COOL mode, the unit will increase the temperature by 1°C (2°F) after 1 hour, and will increase an additional 1°C (2°F) after another hour. When in HEAT mode, the unit will decrease the temperature by 1°C (2°F) after 1 hour, and will decrease an additional 1°C (2°F) after another hour.

It will hold the new temperature for 7 hours, then the unit will turn off automatically.

Note: The SLEEP function is not available in FAN or DRY mode.

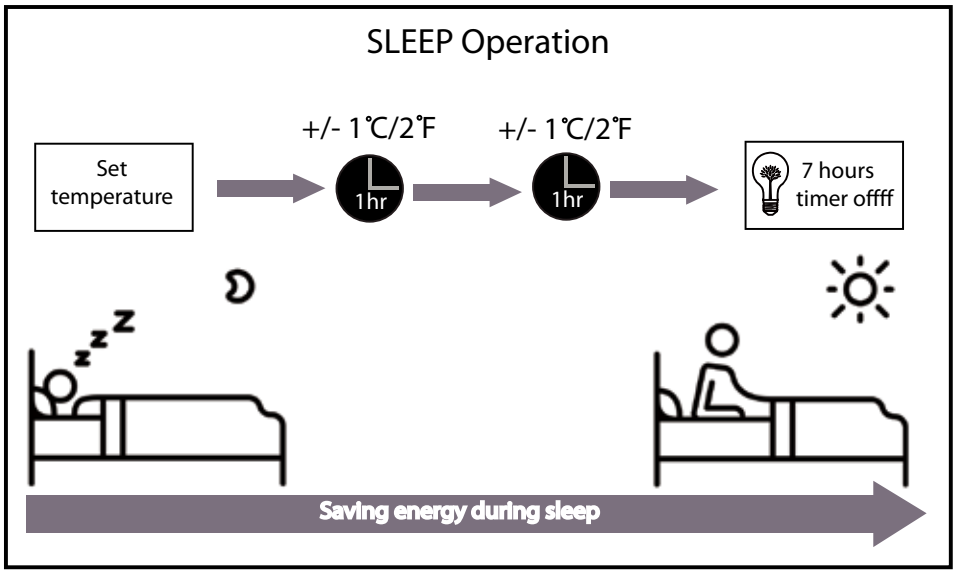



Fig. 9.3

# Manual Operation (Without Remote) 10



## How to operate your unit without the remote control

In the event that your remote control fails to work, your unit can be operated manually with the MANUAL CONTROL button located on the indoor unit. Note that manual operation is not a long-term solution, and that operating the unit with your remote control is strongly recommended.

BEFORE MANUAL OPERATION

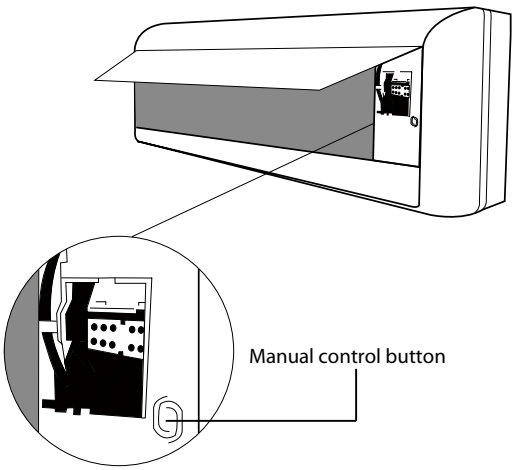
Unit must be turned off before manual operation.

To operate your unit manually:

1. Open the front panel of the indoor unit.
2. Locate the MANUAL CONTROL button on the right-hand side of the unit.
3. Press the MANUAL CONTROL button one time to activate FORCED AUTO mode.
4. Press the MANUAL CONTROL again to activate FORCED COOLING mode.
5. Press the MANUAL CONTROL button a third time to turn the unit off.
6. Close the front panel.

**CAUTION**

The manual button is intended for testing purposes and emergency operation only. Please do not use this function unless the remote is lost and it is absolutely necessary. To restore regular operation, use the remote control to activate the unit.



# Care and Maintenance

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## Cleaning Your Indoor Unit

### BEFORE CLEANING OR MAINTENANCE

ALWAYS TURN OFF YOUR AIR CONDITIONER SYSTEM AND DISCONNECT ITS POWER SUPPLY BEFORE CLEANING OR MAINTENANCE.

### CAUTION

Only use a soft, dry cloth to wipe the unit clean. If the unit is especially dirty, you can use a cloth soaked in warm water to wipe it clean.

- Do not use chemicals or chemically treated cloths to clean the unit
- Do not use benzene, paint thinner, polishing powder or other solvents to clean the unit. They can cause the plastic surface to crack or deform.
- Do not use water hotter than 40°C (104°F) to clean the front panel. This can cause the panel to deform or become discolored.

## Cleaning Your Air Filter

A clogged air conditioner can reduce the cooling efficiency of your unit, and can also be bad for your health. Make sure to clean the filter once every two weeks.

1. Lift the front panel of the indoor unit.
2. Grip the tab on the end of the filter, push it up slightly, then pull it a little towards yourself.
3. Now pull down to extract the filter.
4. If your filter has a small air freshening filter, unclip it from the larger filter. Clean this air freshening filter with a hand-held vacuum.
5. Clean the large air filter with warm, soapy water. Be sure to use a mild detergent.
6. Rinse the filter with fresh water, then shake off excess water.
7. Dry it in a cool, dry place, and refrain from exposing it to direct sunlight.
8. When dry, re-clip the air freshening filter to the larger filter, then slide it back into the indoor unit.
9. Close the front panel of the indoor unit.

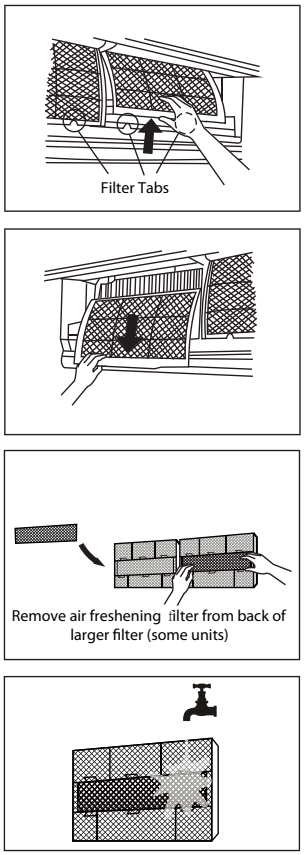



Fig. 11.1

### CAUTION

Do not touch air freshening (Plasma) filter for at least 10 minutes after turning off the unit.

## CAUTION

- Before changing the filter or cleaning, turn off the unit and disconnect its power supply.
- When removing filter, do not touch metal parts in the unit. The sharp metal edges can cut you.
- Do not use water to clean the inside of the indoor unit. This can destroy insulation and cause electrical shock.
- Do not expose filter to direct sunlight when drying. This can shrink the filter.

## Air Filter Reminders (Optional)

Air Filter Cleaning Reminder

After 240 hours of use, the display window on the indoor unit will flash "CL." This is a reminder to clean your filter. After 15 seconds, the unit will revert to its previous display.

To reset the reminder, press the LED button on your remote control 4 times, or press the MANUAL CONTROL button 3 times. If you don't reset the reminder, the "CL" indicator will flash again when you restart the unit.

Air Filter Replacement Reminder

After 2,880 hours of use, the display window on the indoor unit will flash "nF." This is a reminder to replace your filter. After 15 seconds, the unit will revert to its previous display.

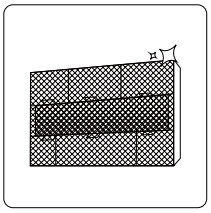
To reset the reminder, press the LED button on your remote control 4 times, or press the MANUAL CONTROL button 3 times. If you don't reset the reminder, the "nF" indicator will flash again when you restart the unit.

## CAUTION

- Any maintenance and cleaning of outdoor unit should be performed by an authorized dealer or licensed service provider.
- Any unit repairs should be performed by authorized dealer or licensed servic e provider.

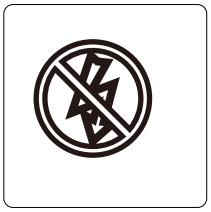
## Maintenance – Long Periods of Non-Use

If you plan not to use your air conditioner for an extended period of time, do the following:

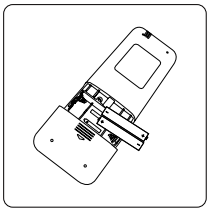


Clean all filters

Turn on FAN function until unit dries out completely



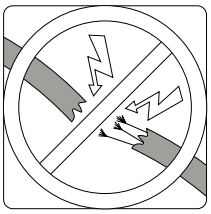
Turn off the unit and disconnect the power



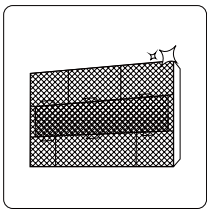
Remove batteries from remote control

## Maintenance – Pre-Season Inspection

After long periods of non-use, or before periods of frequent use, do the following:

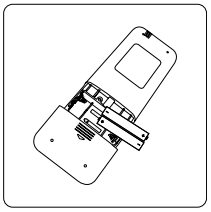


Check for damaged wires

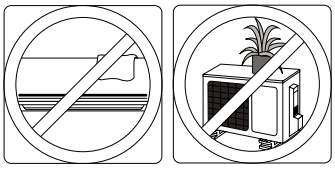


Clean all filters

Check for leaks



Replace batteries



Make sure nothing is blocking all air inlets and outlets

# Troubleshooting

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## SAFETY PRECAUTIONS

If ANY of the following conditions occurs, turn off your unit immediately!

- The power cord is damaged or abnormally warm
- You smell a burning odor
- The unit emits loud or abnormal sounds
- A power fuse blows or the circuit breaker frequently trips
- Water or other objects fall into or out of the unit

DO NOT ATTEMPT TO FIX THESE YOURSELF! CONTACT AUTHORIZED SERVICE PROVIDER IMMEDIATELY!

## Common Issues

The following problems are not a malfunction and in most situations will not require repairs.

| Issue | Possible Causes |
|---|---|
| Unit does not turn on when pressing ON/OFF button | The Unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off. |
| The unit changes from COOL/HEAT mode to FAN mode | The unit may change its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating in the previously selected mode again. |
| | The set temperature has been reached, at which point the unit turns off the compressor. The unit will continue operating when the temperature fluctuates again. |
| The indoor unit emits white mist | In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist. |
| Both the indoor and outdoor units emit white mist | When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process. |

| Issue | Possible Causes |
|---|---|
| The indoor unit makes noises | A rushing air sound may occur when the louver resets its position. |
| | A squeaking sound may occur after running the unit in HEAT mode due to expansion and contraction of the unit's plastic parts. |
| Both the indoor unit and outdoor unit make noises | Low hissing sound during operation: This is normal and is caused by refrigerant gas flowing through both indoor and outdoor units. |
| | 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. |
| | Squeaking sound: Normal expansion and contraction of plastic and metal parts caused by temperature changes during operation can cause squeaking noises. |
| The outdoor unit makes noises | The unit will make different sounds based on its current operating mode. |
| Dust is emitted from either the indoor or outdoor unit | The unit may accumulate dust during extended periods of non-use, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity. |
| The unit emits a bad odor | The unit may absorb odors from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations. |
| | The unit's filters have become moldy and should be cleaned. |
| The fan of the outdoor unit does not operate | During operation, the fan speed is controlled to optimize product operation. |
| Operation is erratic, unpredictable, or unit is unresponsive | Interference from cell phone towers and remote boosters may cause the unit to malfunction.<br>In this case, try the following:<br>• Disconnect the power, then reconnect.<br>• Press ON/OFF button on remote control to restart operation. |

NOTE: If problem persists, contact a local dealer or your nearest customer service center. Provide them with a detailed description of the unit malfunction as well as your model number.

## Troubleshooting

When troubles occur, please check the following points before contacting a repair company.

| Problem | Possible Causes | Solution |
|---|---|---|
| Poor Cooling Performance | Temperature setting may be higher than ambient room temperature | Lower the temperature setting |
| | The heat exchanger on the indoor or outdoor unit is dirty | Clean the affected heat exchanger |
| | The air filter is dirty | Remove the filter and clean it according to instructions |
| | The air inlet or outlet of either unit is blocked | Turn the unit off, remove the obstruction and turn it back on |
| | Doors and windows are open | Make sure that all doors and windows are closed while operating the unit |
| | Excessive heat is generated by sunlight | Close windows and curtains during periods of high heat or bright sunshine |
| | Too many sources of heat in the room (people, computers, electronics, etc.) | Reduce amount of heat sources |
| | Low refrigerant due to leak or long-term use | Check for leaks, re-seal if necessary and top off refrigerant |
| | SILENCE function is activated | SILENCE function can lower product performance by reducing operating frequency. Turn off SILENCE function. |

| Problem | Possible Causes | Solution |
|---|---|---|
| The unit is not working | Power failure | Wait for the power to be restored |
| | The power is turned off | Turn on the power |
| | The fuse is burned out | Replace the fuse |
| | Remote control batteries are dead | Replace batteries |
| | The Unit's 3-minute protection has been activated | Wait three minutes after restarting the unit |
| | Timer is activated | Turn timer off |
| The unit starts and stops frequently | There's too much or too little refrigerant in the system | Check for leaks and recharge the system with refrigerant. |
| | Incompressible gas or moisture has entered the system. | Evacuate and recharge the system with refrigerant |
| | The compressor is broken | Replace the compressor |
| | The voltage is too high or too low | Install a manostat to regulate the voltage |
| Poor heating performance | The outdoor temperature is lower than 7°C (44.5°F) | Use auxiliary heating device |
| | Cold air is entering through doors and windows | Make sure that all doors and windows are closed during use |
| | Low refrigerant due to leak or long-term use | Check for leaks, re-seal if necessary and top off refrigerant |
| Indicator lamps continue flashing | The unit may stop operation or continue to run safely. If the indicator lamps continue to flash or error codes appear, wait for about 10 minutes. The problem may resolve itself.<br>If not, disconnect the power, then connect it again. Turn the unit on.<br>If the problem persists, disconnect the power and contact your nearest customer service center. | |
| Error code appears in the window display of indoor unit:<br>• E0, E1, E2…<br>• P1, P2, P3…<br>• F1, F2, F3… | | |

NOTE: If your problem persists after performing the checks and diagnostics above, turn off your unit immediately and contact an authorized service center.

The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details.

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