

DAIKIN ROOM AIR CONDITIONER

# INSTALLATION MANUAL

R32 Split Series



Installation manual  
Manuel d'installation  
Manual de instalación

## MODELS

FVXV09AVJUW9

FVXV09AVJUT9

FVXV12AVJUW9

FVXV12AVJUT9

FVXV15AVJUW9

FVXV15AVJUT9

FVXV18AVJUW9

FVXV18AVJUT9

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# Safety Considerations

Refer also to the General Safety Considerations in the separate booklet.

	<b>Read the precautions in this manual carefully before operating the unit.</b>
	<b>This appliance is filled with R32.</b>

Read these **Safety Considerations for Installation** carefully before installing an air conditioner or heat pump. After completing the installation, make sure that the unit operates properly during the startup operation. Instruct the user on how to operate and maintain the unit. Inform users that they should store this installation manual with the operation manual for future reference. Always use a licensed installer or contractor to install this product. Improper installation can result in water or refrigerant leakage, electric shock, fire, or explosion. Meanings of **DANGER**, **WARNING**, **CAUTION**, and **NOTE** Symbols:

-  **DANGER** ..... Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
-  **WARNING** ..... Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
-  **CAUTION** ..... Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
-  **NOTE** ..... Indicates situations that may result in equipment or property-damage accidents only.

## DANGER

- Refrigerant gas is heavier than air and replaces oxygen. A massive leak can lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.
- Do not ground units to water pipes, gas pipes, telephone wires, or lightning rods as incomplete grounding can cause a severe shock hazard resulting in severe injury or death. Additionally, grounding to gas pipes could cause a gas leak and potential explosion causing severe injury or death.
- If refrigerant gas leaks during installation, ventilate the area immediately. Refrigerant gas may produce toxic gas if it comes into contact with fire. Exposure to this gas could cause severe injury or death.
- After completing the installation work, check that the refrigerant gas does not leak throughout the system.
- Do not install unit in an area where flammable materials are present due to risk of explosions that can cause serious injury or death.
- Safely dispose all packing and transportation materials in accordance with federal/state/local laws or ordinances. Packing materials such as nails and other metal or wood parts, including plastic packing materials used for transportation may cause injury or death by suffocation.
- All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal.

## WARNING

- Only qualified personnel licensed or certified in their jurisdiction must carry out the installation work. Installation must be done in accordance with this installation manual. Improper installation may result in water leakage, electric shock, or fire.
- Pipe-work including piping material, pipe routing, and installation shall include protection from physical damage in operation and service, and be in compliance with national and local codes and standards, such as ASHRAE 15, ASHRAE 15.2, IAPMO Uniform Mechanical Code, ICC International Mechanical Code, or CSA B52. All field joints shall be accessible for inspection prior to being covered or enclosed.
- When installing the unit in a small room, take measures to keep the refrigerant concentration from exceeding allowable safety limits. Excessive refrigerant leaks, in the event of an accident in a closed ambient space, can lead to oxygen deficiency.
- Use only specified accessories and parts for installation work. Failure to use specified parts may result in water leakage, electric shock, fire, or the unit falling.
- Install the air conditioner or heat pump on a foundation strong enough that it can withstand the weight of the unit. A foundation of insufficient strength may result in the unit falling and causing injury.
- Take into account strong winds, typhoons, or earthquakes when installing. Improper installation may result in the unit falling and causing accidents.
- The unit must have an uninterrupted, unbroken electrical ground to minimize the possibility of personal injury if an electrical fault should occur.  
The electrical ground circuit may consist of an appropriately sized electrical wire connecting the ground lug in the unit and control box wire to the building's electrical service panel.  
Other methods of grounding are permitted if performed in accordance with the "National Electrical Code" (NEC)/ "American National Standards Institute" (ANSI)/ "National Fire Protection Association" (NFPA) 70 and local/state codes.  
In CANADA, electrical grounding is to be in accordance with the Canadian Electrical Code CSA C22.1.  
Failure to observe this warning can result in electrical shock that can cause personal injury or death.
- Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel licensed or certified in their jurisdiction according to local, state, and national regulations. An insufficient power supply capacity or improper electrical construction may lead to electric shock or fire.
- Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. Improper connections or installation may result in fire.
- When wiring, position the wires so that the service lid can be securely fastened. Improper positioning of the service lid may result in electric shock, fire, or the terminals overheating.
- Before touching electrical parts, turn off the unit.
- The circuit must be protected with safety devices in accordance with local and national codes, i.e. a circuit breaker.
- Securely fasten the outdoor unit service lid. If the service lid is not installed properly, dust or water may enter the outdoor unit causing fire or electric shock.

- When installing or relocating the system, keep the refrigerant circuit free from substances other than the specified refrigerant (R32) such as air. Any presence of air or other foreign substance in the refrigerant circuit can cause an abnormal pressure rise or rupture, which may result in equipment damage and even injury.
- Do not change the setting of the protection devices. If the pressure switch, thermal switch, or other protection device is shorted and operated forcibly, or parts other than those specified by Daikin are used, fire or explosion may occur.
- Do not use means to accelerate the defrosting process (if possible) or to clean, other than those recommended by the manufacturer.
- The appliance must be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odor.
- Comply with national gas regulations.
- The indoor equipment and pipes shall be securely mounted and guarded such that accidental rupture of equipment cannot occur from such events as moving furniture or reconstruction activities.
- When mechanical connectors are reused indoors, sealing parts shall be renewed.
- When flared joints are reused indoors, the flared part shall be refabricated.

## CAUTION

- Do not touch the switch with wet fingers. Touching a switch with wet fingers can cause electric shock.
- Do not allow children to play on or around the unit to prevent injury.
- Wear adequate personal protective equipment (protective gloves, safety glasses,...) when installing, maintaining or servicing the system.
- The heat exchanger fins are sharp enough to cut. To avoid injury, wear gloves or cover the fins while working around them.
- Do not touch the refrigerant pipes during and immediately after operation as the refrigerant pipes may be hot or cold, depending on the condition of the refrigerant flowing through the refrigerant piping, compressor, and other refrigerant cycle parts. Your hands may suffer burns or frostbite if you touch the refrigerant pipes. To avoid injury, give the pipes time to return to normal temperature or, if you must touch them, be sure to wear proper gloves.
- Install drain piping to ensure proper drainage. Improper drain piping may result in water leakage and property damage.
- Insulate piping to prevent condensation.
- Be careful when transporting the product.
- Do not turn off the power immediately after stopping operation. Always wait for at least 5 minutes before turning off the power. Otherwise, water leakage may occur.
- Do not use a charging cylinder. Using a charging cylinder may cause the refrigerant to deteriorate.
- Refrigerant R32 in the system must be kept clean, dry, and tight.
  - (a) Clean and Dry -- Foreign materials (including mineral oils such as SUNISO oil or moisture) should be prevented from getting into the system.
  - (b) Tight -- R32 does not contain any chlorine, does not destroy the ozone layer, and does not reduce the earth's protection against harmful ultraviolet radiation. R32 can contribute to the greenhouse effect if it is released. Therefore take proper measures to check for the tightness of the refrigerant piping installation. Read the chapter *Refrigerant piping* and follow the procedures.

# Safety Considerations

- The indoor unit is for R32. See the catalog for outdoor models that can be connected. Normal operation is not possible when connected to non-compatible outdoor units.
- Remote controller (wireless kit) transmitting distance can be shorter than expected in rooms with electronic fluorescent lamps (inverter or rapid start types). Install the indoor unit far away from fluorescent lamps as much as possible.
- Indoor units are for indoor installation only. Outdoor units can be installed either outdoors or indoors.
- Do not install the air conditioner or heat pump in the following locations:
  - (a) Where a mineral oil mist or oil spray or vapor is produced, for example, in a kitchen.  
Plastic parts may deteriorate and fall off or result in water leakage.
  - (b) Where corrosive gas, such as sulfurous acid gas, is produced.  
Corroding copper pipes or soldered parts may result in refrigerant leakage.
  - (c) Near machinery emitting electromagnetic waves.  
Electromagnetic waves may disturb the operation of the control system and cause the unit to malfunction.
  - (d) Where flammable gas may leak, where there is carbon fiber, or ignitable dust suspension in the air, or where volatile flammables such as thinner or gasoline are handled.  
Operating the unit in such conditions can cause a fire.
- Take adequate measures to prevent the outdoor unit from being used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunctions, smoke, or fire. Instruct the user to keep the area around the unit clean.

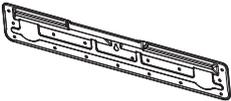
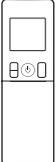
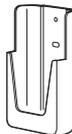
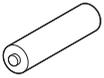
- Servicing shall be performed only as recommended by the manufacturer and licensed or certified in their jurisdiction.

## NOTE

- The indoor unit should be positioned where the unit and interunit wires (outdoor to indoor) are at least 3.3 ft (1 m) away from any televisions or radios. (The unit may cause interference with the picture or sound.) Depending on the radio waves, a distance of 3.3 ft (1 m) may not be sufficient to eliminate the noise.
- Dismantling the unit, treatment of the refrigerant, oil and additional parts must be done in accordance with the relevant local, state, and national regulations.
- Only use tools for R32, such as a gauge manifold, charge hose, gas leak detector, reverse flow check valve, refrigerant charge base, vacuum gauge, or refrigerant recovery equipment.
- If the conventional refrigerant and refrigerator oil are mixed in R32, the refrigerant may deteriorate.
- As maximum allowable pressure is 604 psi (4.17 MPa), the wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.

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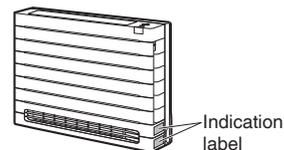
# Accessories

<p>Ⓐ Mounting plate</p> 	1	<p>Ⓑ Mounting plate fixing screw M4 × 1" (M4 × 25 mm)</p> 	5	<p>Ⓒ Titanium apatite deodorizing filter</p> 	2 each
<p>Ⓓ Wireless remote controller</p> 	1	<p>Ⓔ Remote controller holder</p> 	1	<p>Ⓕ Remote controller holder fixing screw M3 × 13/16" (M3 × 20 mm)</p> 	2
<p>Ⓖ Dry battery AAA. LR03 (alkaline)</p> 	2	<p>Ⓗ Insulation sheet</p> 	2	<p>Ⓙ Operation manual Ⓚ Installation manual Ⓛ Warranty Ⓜ General Safety Considerations</p>	1 each

# Choosing an Installation Site

R32 refrigerant is a mildly flammable refrigerant. Do not install indoor or outdoor units in areas where, in the event of a refrigerant leakage, refrigerant concentrations could exceed flammable concentrations.

- Before choosing the installation site, obtain user approval.
- Check the General Safety Considerations and enter the values in the blanks on the indication label.



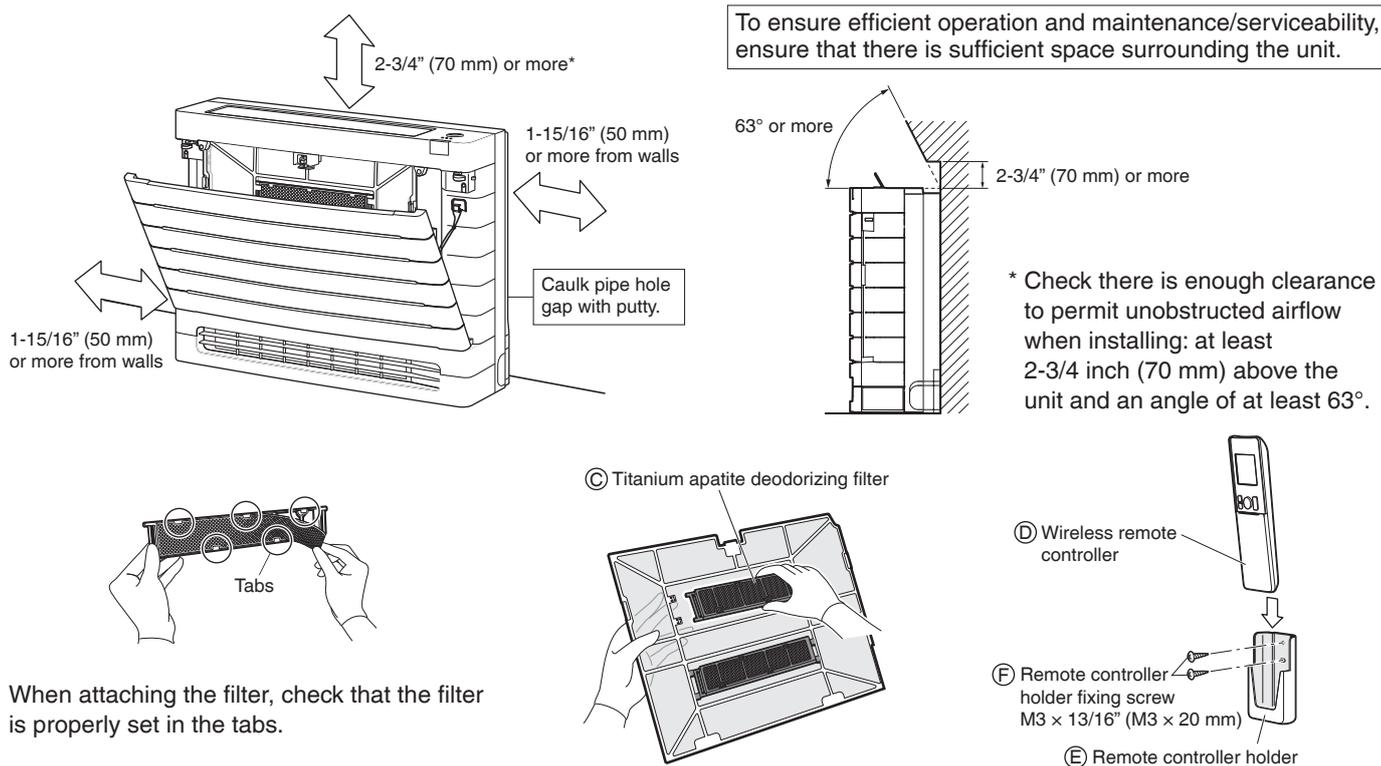
## 1. Indoor unit

- The indoor unit should be positioned in a place where:
  - 1) the restrictions on the installation requirements specified in “Indoor Unit Installation Diagram” on page 4 are met,
  - 2) both the air inlet and air outlet are unobstructed,
  - 3) the unit is not exposed to direct sunlight,
  - 4) drainage occurs easily,
  - 5) the unit is away from sources of heat or steam,
  - 6) the unit is not exposed to direct airflow from other air blowing devices,
  - 7) there is no source of machine oil vapor (this may shorten the indoor unit service life),
  - 8) cool/warm air is circulated throughout the room,
  - 9) the unit is away from electronic ignition type fluorescent lamps (inverter or rapid start type) as they may affect the remote controller range,
  - 10) the unit is at least 3.3 ft (1 m) away from any television or radio set (the unit may cause interference with the picture or sound),
  - 11) no laundry equipment is nearby,
  - 12) the signal strength of the router is stable (insufficient signal strength can prevent stable communication).
- Do not seal gaps in any doors (including sliding doors) of the room in which the unit is installed.  
(If refrigerant leaks, it may accumulate in the room and contact with flames could result in toxic gas emission or a fire.)

## 2. Wireless remote controller

Turn on all the fluorescent lamps in the room, if any, and find a location where the remote controller signals are properly received by the indoor unit (within 19-11/16 ft (7 m)).

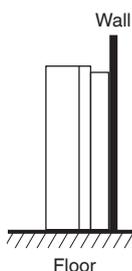
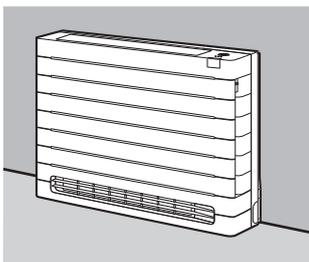
# Indoor Unit Installation Diagram



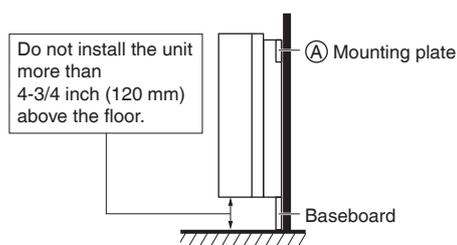
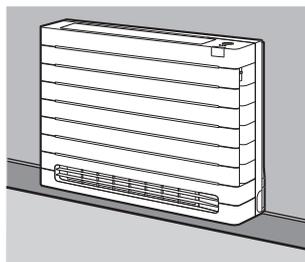
# Indoor Unit Installation Diagram

- The indoor unit may be mounted in any of the 4 styles shown here.

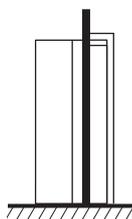
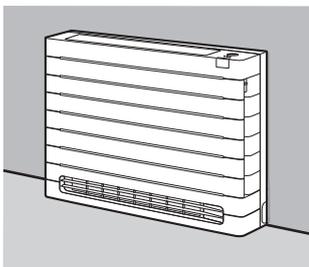
**Configuration A floor exposed installation**



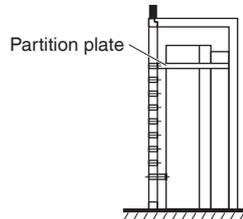
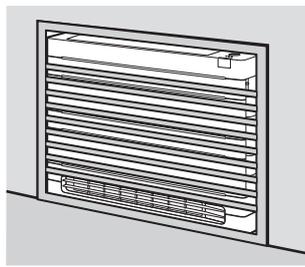
**Configuration B wall exposed installation**



**Configuration C floor half concealed installation**



**Configuration D concealed installation**



# Indoor Unit Installation

## 1. Refrigerant piping

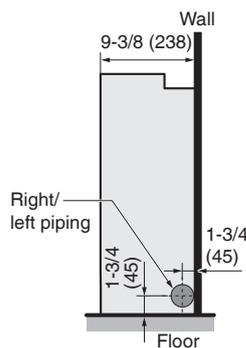
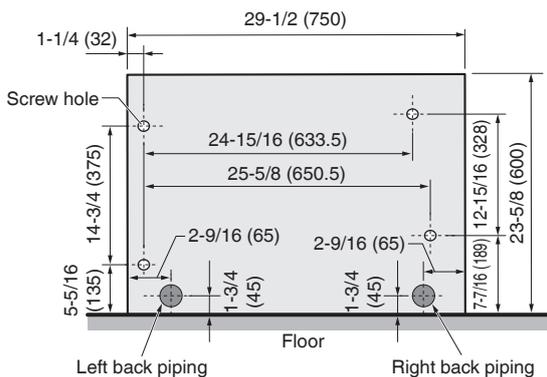
### ⚠ CAUTION

#### Minimum allowable length

- The suggested shortest pipe length is 8.2 ft (2.5 m), in order to avoid noise from the outdoor unit and vibration. (Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.)
- Refer to the installation manual for the outdoor unit for the maximum pipe length.
- For multi-connections, refer to the installation manual for the multi outdoor unit.

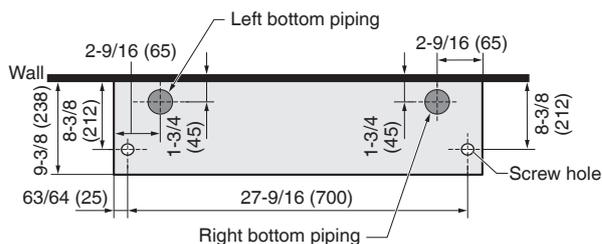
- For piping, refer to “6. Refrigerant piping” on page 13.
- Allow space around the pipe for a easier indoor unit pipe connection.

### Configuration A floor exposed installation

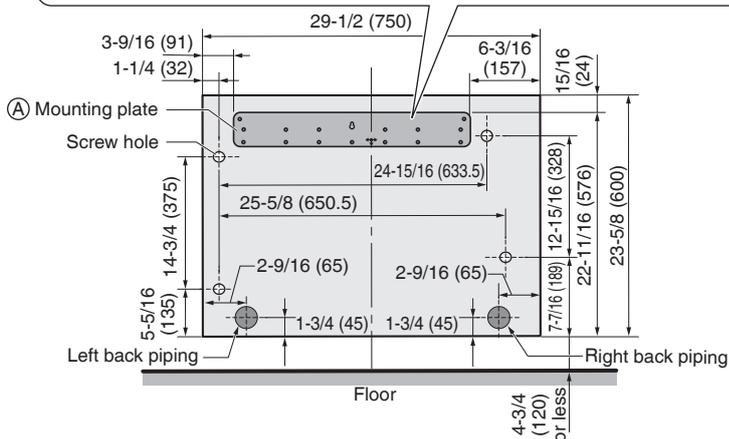
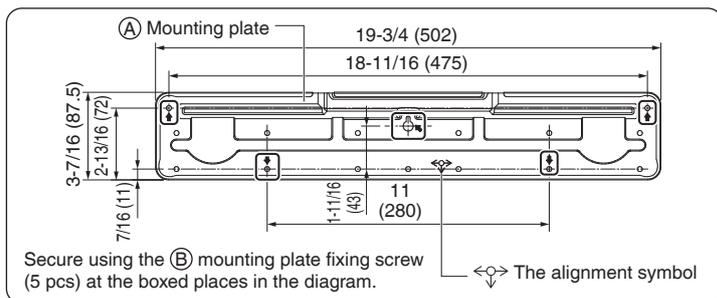


- Drill a hole ( $\phi 2\text{-}9/16$  inch (65 mm) in diameter) in the spot indicated by the  $\oplus$  symbol in the illustration.
- The location of the hole is different depending on which side of the pipe is taken out.

unit: inch (mm)

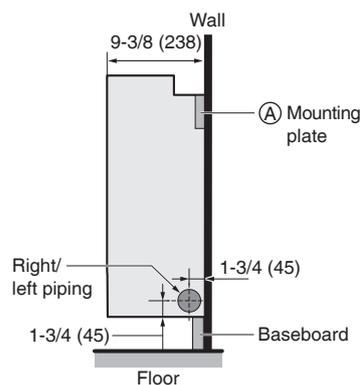


### Configuration B wall exposed installation



- As a measure against water leakage, make sure to apply a level to the underside of the (A) mounting plate when installing it.
- Drill a hole ( $\phi 2\text{-}9/16$  inch (65 mm) in diameter) in the spot indicated by the  $\oplus$  symbol in the illustration.
- The location of the hole is different depending on which side of the pipe is taken out.

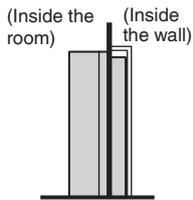
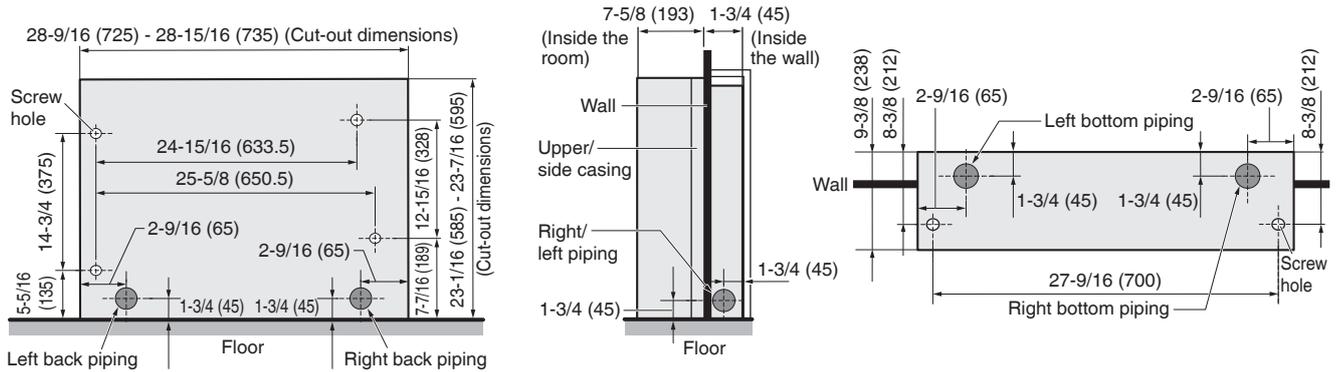
unit: inch (mm)



# Indoor Unit Installation

## Configuration C floor half concealed installation

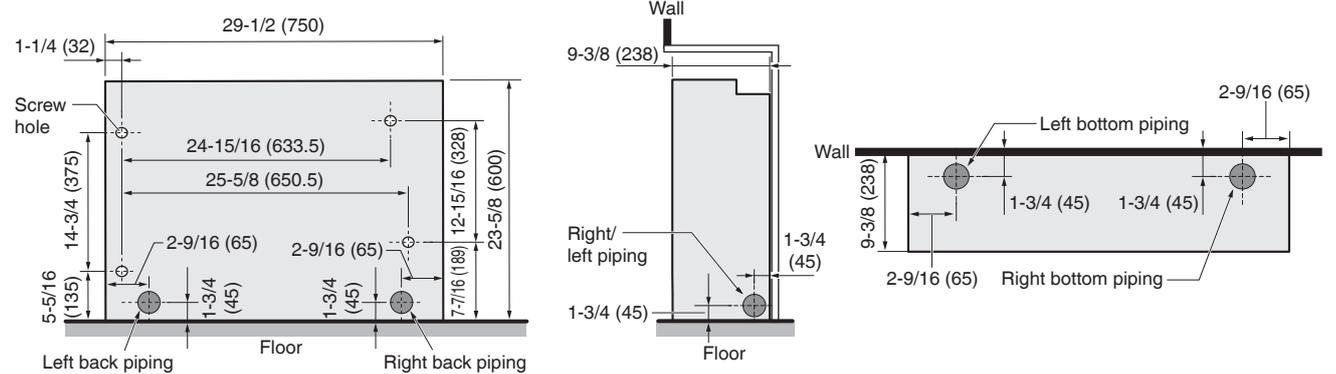
unit: inch (mm)



- Make the wall opening in accordance with the cut-out dimensions.
- Drill a hole ( $\phi$ 2-9/16 inch (65 mm) in diameter) in the spot indicated by the  $\odot$  symbol in the illustration.
  - The location of the hole is different depending on which side of the pipe is taken out.
- Install so that there is no gap between the back of the unit and the wall.

## Configuration D concealed installation

unit: inch (mm)

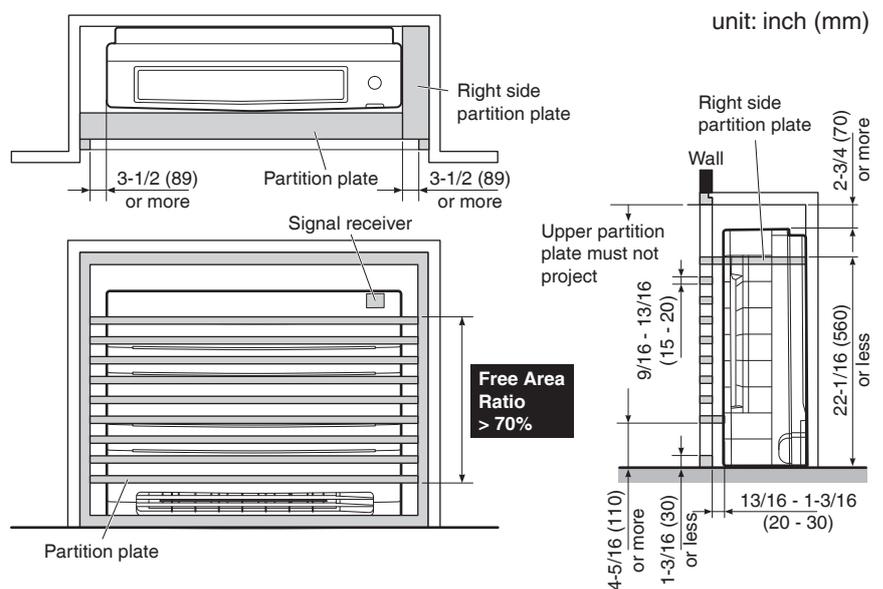


- Drill a hole ( $\phi$ 2-9/16 inch (65 mm) in diameter) in the spot indicated by the  $\odot$  symbol in the illustration.
  - The location of the hole is different depending on which side of the pipe is taken out.
- Restrict upward airflow via remote controller settings.  
 (Refer to “11. Restricting upward airflow (for concealed installations etc.)”)

## Requirements for concealed installations

If the following requirements are not observed, cooling/heating performance and remote controller reception may be impaired. (May result in failure to cool/warm, condensation on house structure, etc.)

- Allow enough space between the main unit and ceiling not to obstruct the flow of cool/warm air.
- Place a partition plate on the right side.
- Place a partition plate between outlet and inlet sections.
- Partition plates must not cover the air outlets.
- Partition plates must not be positioned above the signal receiver.
- Partition plates must not be positioned at a height between 1-3/16 inch (30 mm) and 4-5/16 inch (110 mm) above the floor.
- Ensure that the free area ratio of the partition plates is 70% or more.
- Install so that there is no gap between the back of the unit and the wall.

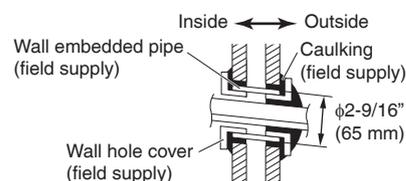


## 2. Drilling a wall hole and installing wall embedded pipe

### ⚠ WARNING

For metal frame or metal board walls, be sure to use a wall embedded pipe and wall hole cover in the feed-through hole to prevent possible heat, electric shock, or fire.

- Be sure to caulk the gaps around the pipes with caulking material. (to prevent condensation caused by intrusion of air from outside or within the wall)
  - 1) Drill a feed-through hole with a  $\phi 2\text{-}9/16$  inch (65 mm) diameter through the wall at a downward angle toward the outside.
  - 2) Insert a wall embedded pipe into the hole.
  - 3) Insert a wall hole cover into wall pipe.
  - 4) After completing refrigerant piping, wiring, and drain piping, caulk the pipe hole gap with putty.



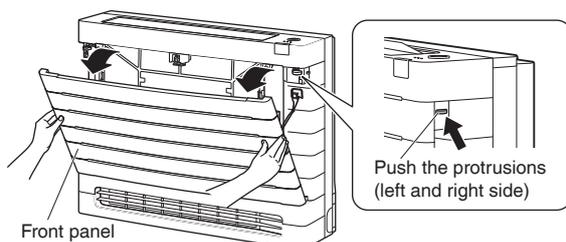
Even if a wall hole cover is not used, caulk both the outdoor and indoor sides with putty.

## 3. Remove the front grille

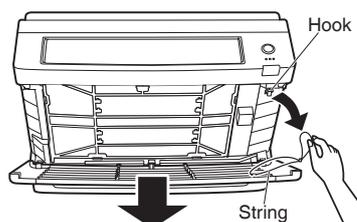
The surfaces of the front grille and front panel of the indoor unit are easily scratched, so do not place them directly on the floor, etc.

### 3-1. Remove the front panel.

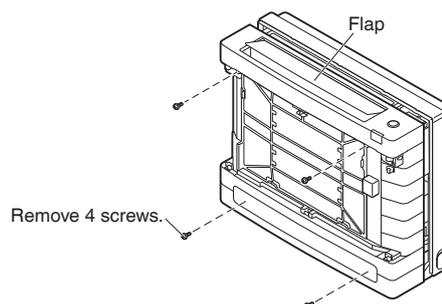
- 1) Push in the protrusions on the unit (the left and right sides).



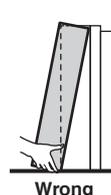
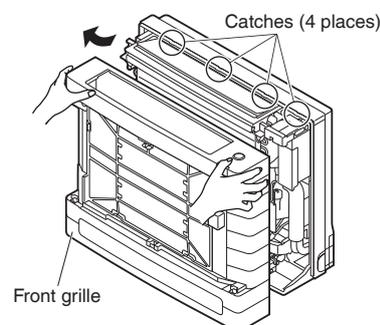
- 2) Unhook the string and tilt the front panel toward you to remove it.



### 3-2. Remove the 4 screws and open the flap.



### 3-3. Hold the upper part of the front grille, pull it slightly toward you to release the front grille catches, and pull it out diagonally upward so as to avoid the flap.

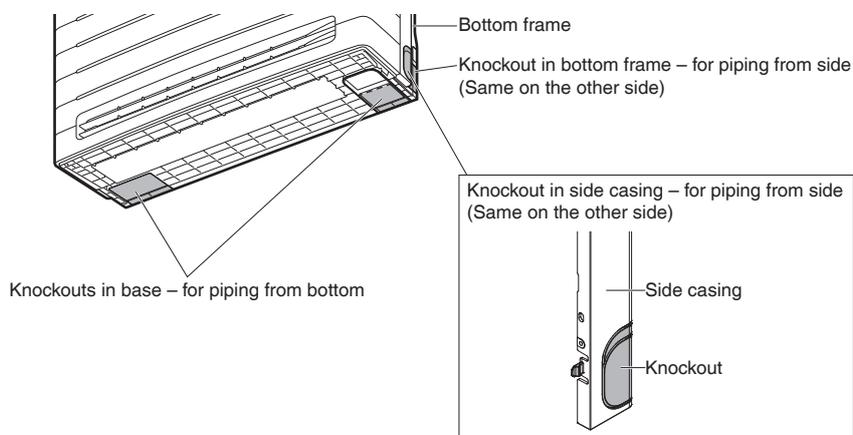


Do not attempt to remove the front grille from the bottom. The grille may be damaged.

# Indoor Unit Installation

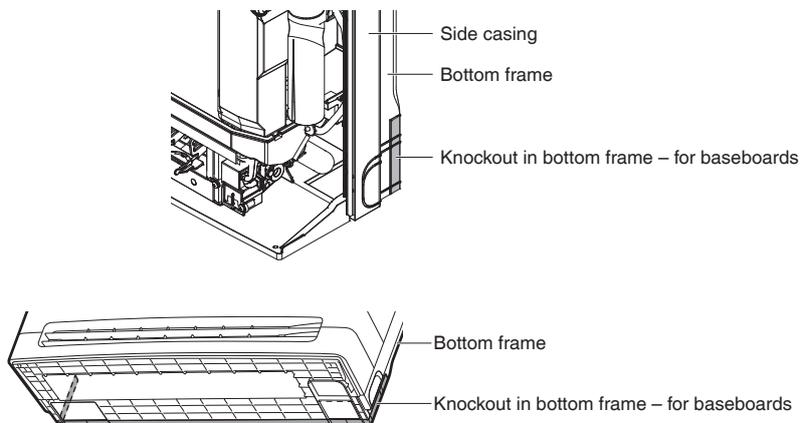
## Cut out the appropriate knockout

- Cut out the knockout for piping at the side (left or right) or at the base (left or right) where the piping is to be routed out.
  - (1) Use nippers or a metal saw to cut out the knockout.
  - (2) Remove burrs on the cut edges.



If a knockout for piping was removed, make sure to block any gaps between the indoor unit and piping after pipework is complete.  
(Any gaps may result in air infiltration leading to condensation, misdetection of indoor temperature, or the ingress of small animals.)

- **For Exposed floor installation (Configuration A)**, if there is a baseboard, cut out the knockout in the bottom frame using nippers or a metal saw.



## 4. Routing pipes and drain hose

### Selection of copper and heat insulation materials

When using commercial copper pipes and fittings, observe the following:

- Insulation material: Polyethylene foam  
Heat transfer rate: 0.041 to 0.052 W/mK (0.024 to 0.030 Btu/fth°F (0.035 to 0.045 kcal/mh°C))  
Be sure to use insulation that is designed for use with HVAC Systems.
- ACR Copper only.
- Be sure to insulate both the gas and liquid piping and observe the insulation dimensions as below.

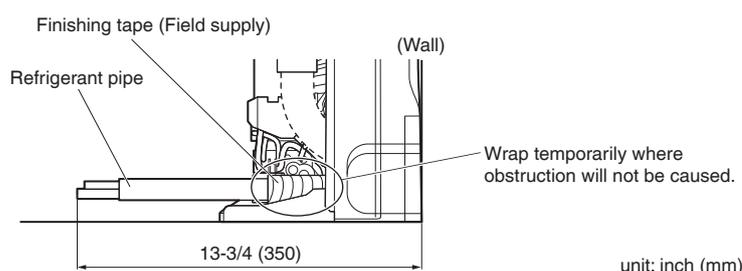
	Piping size	Minimum bend radius	Piping thickness	Thermal insulation size	Thermal insulation thickness
Gas side	O.D. 3/8 inch (9.5 mm)	1-3/16 inch (30 mm) or more	0.031 inch (0.8 mm) (C1220T-O)	I.D. 15/32-19/32 inch (12-15 mm)	13/32 inch (10 mm) Min.
	O.D. 1/2 inch (12.7 mm)	1-9/16 inch (40 mm) or more		I.D. 9/16-5/8 inch (14-16 mm)	
Liquid side	O.D. 1/4 inch (6.4 mm)	1-3/16 inch (30 mm) or more	0.031 inch (0.8 mm) (C1220T-O)	I.D. 5/16-13/32 inch (8-10 mm)	

- Use separate thermal insulation pipes for gas and liquid refrigerant pipes.
- Using finishing tape, bundle and wrap the indoor unit piping and drain hose together so that the drain hose is below the other piping.

**Route the pipes and drain hose in the direction shown in the diagrams, and wrap them together with finishing tape (field supply) such that the drain hose is underneath the pipes.**

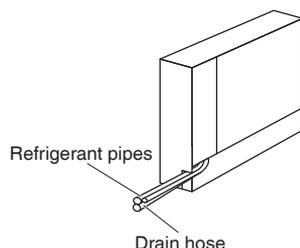
- The drain hose must slope downward.
  - Do not connect a commercially available drain hose directly to the indoor unit. (Water leakage may result.)
- Route the refrigerant pipes in and wrap the pipes and drain hose with finishing tape until they exit the unit.
  - When routing refrigerant pipes, do so in such a way that the pipes do not press against indoor unit structural components (e.g. bottom frame, insulation, etc.). (Condensation and abnormal noises may result.)
- When routing through the back of the unit, bending the piping to match the structure of the unit can make pipework easier.
- For pipe lengths, observe the installation manual supplied with the outdoor unit.
- To make it easier to connect the pipes to the indoor unit, the pipes should be able to move somewhat freely backward and forward, left and right.  
The finishing tape bundling the refrigerant pipes should be temporarily fixed where it will not obstruct connection with the indoor unit.

Refrigerant pipe connections must be of a length of at least 13-3/4 inch (350 mm) from the wall.

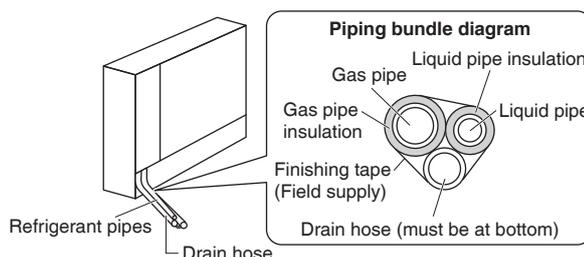


- Seal pipe ends with a cap or vinyl tape to prevent ingress of dust and moisture.

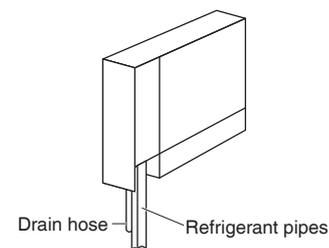
#### Routing from the side (right)



#### Routing from the rear (right)

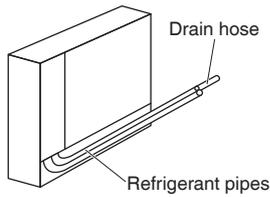


#### Routing from the bottom (right)

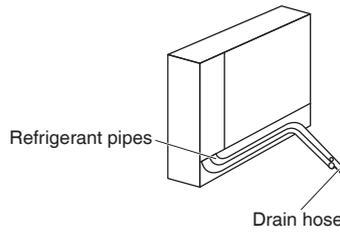


# Indoor Unit Installation

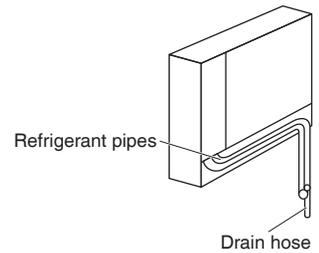
Routing from the side (left)



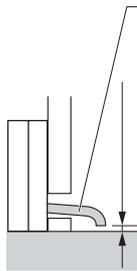
Routing from the rear (left)



Routing from the bottom (left)



## 5. Drain piping



Gap of at least **1-15/16 inch (50 mm)** between the drain hose and ground

**Drain pipe must slope downward. Even small traps are not acceptable. Descending gradient of 1:100 or more (High flow resistance can result in poor drainage.)**

Getting higher



Wrong

Containing waves



Wrong

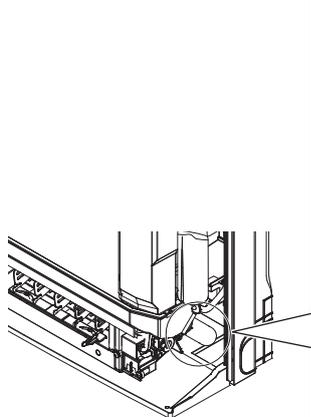
With the end of the hose in the drain outlet



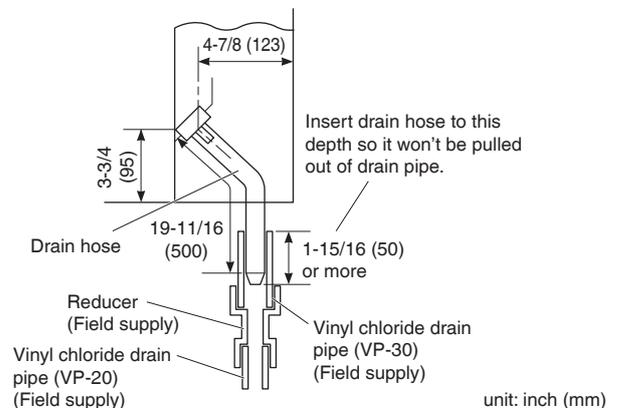
Wrong

- Avoid placing the end of the drain hose in a drainage location that could cause bad odors or corrosive gas to flow backward into the outlet.
- The drainage water may change color due to bacteria or other organisms. Place in a location where the flow of drainage water will not cause a problem.
- Minimize the number of bends in the drain hose as much as possible. If bending the drain hose, bend it gently.
- Do not connect a commercially available drain hose directly to the indoor unit as this can result in water leakage.
- Do not apply any coatings etc., to drain hose connections as this may result in product damage or water leakage.
- Once pipework is complete, check that drainage is smooth and seal with vinyl tape etc., to prevent the ingress of debris.

- 1) Connect the drain hose (outer diameter  $\phi 11/16$  inch ( $\phi 18$  mm) at connecting end, 19-11/16 inch (500 mm) long) is supplied with the indoor unit, as described below.



- For drain pipes, use commercially available rigid PVC pipe general pipe VP20 (outer diameter  $\phi 1$  inch ( $\phi 26$  mm), inner diameter  $\phi 13/16$  inch ( $\phi 20$  mm)).



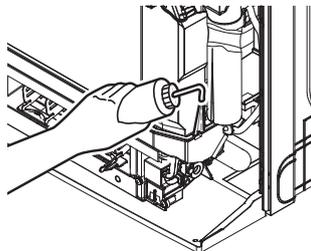
### CAUTION

Use polyvinyl chloride adhesive agent for gluing. Failure to do so may cause water leakage.

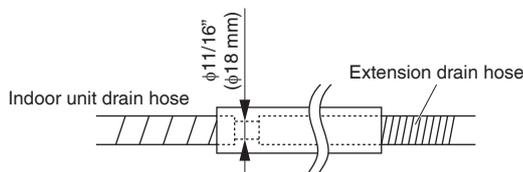
**If the indoor the drain pipe is routed sideways, insulate it so that the wall thickness of the insulation (heat transfer rate: 0.043 W/mK (0.025 Btu/fth°F (0.037 kcal/mh°C)) K or less) is at least 3/8 inch (10 mm) to prevent condensation.**

- If on-site pipes are to be concealed in the ceiling or inside walls, wrap them in additional insulation (material: foamed polyethylene foam, 3/16 inch (4 mm) or thicker) to prevent condensation.

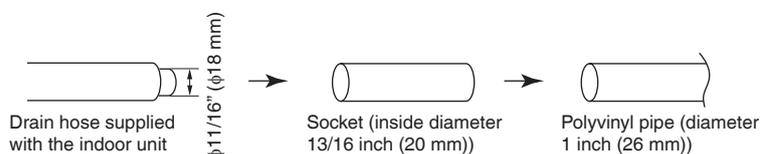
- 2) Transfer some water to the indoor heat exchanger by pouring water into the drain pan.
- 3) Make sure that water flows out of the drain hose.



- 4) When drain hose requires extension, obtain an extension hose commercially available. Be sure to thermally insulate the indoor section of the extension hose with 3/8 inch (10 mm) or more insulation material to prevent condensation.



- 5) When connecting a rigid polyvinyl chloride pipe (diameter 1 inch (26 mm)) directly to the drain hose attached to the indoor unit as with embedded piping work, use any commercially available drain socket (inside diameter 13/16 inch (20 mm)) as a joint.



# Indoor Unit Installation

## 6. Refrigerant piping

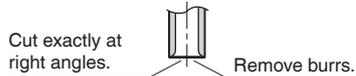
### ⚠ WARNING

- Do not apply mineral oil on flared part.
- Prevent mineral oil from getting into the system as this would reduce the service life of the units.
- Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
- Never install a dryer to this R32 unit in order to guarantee its service life.
- The drying material may dissolve and damage the system.
- Improper flaring may result in refrigerant gas leakage.

**With a multi indoor unit** , install as described in the installation manual supplied with the multi outdoor unit.

### 6-1. Flaring the pipe end

- 1) Remove the flare nut at the end of the auxiliary piping using 2 spanners.
- 2) Cut the pipe end with a pipe cutter.
- 3) Remove burrs with the cut surface facing downward, so that the filings do not enter the pipe.



- 4) Put the flare nut on the pipe.
- 5) Flare the pipe.
- 6) Check that the flaring has been done correctly.

**Flaring**

Set exactly at the position shown below.

	Flare tool for R32 or R410A		Conventional flare tool	
	Clutch-type		Clutch-type (Rigid-type)	Wing-nut type (Imperial-type)
A	0-0.020 inch (0-0.5 mm)	0.039-0.059 inch (1.0-1.5 mm)	0.059-0.079 inch (1.5-2.0 mm)	

**Check**

The flare's inner surface must be flaw-free.

When flaring, do not over-tighten and crack.

The pipe end must be evenly flared in a perfect circle.

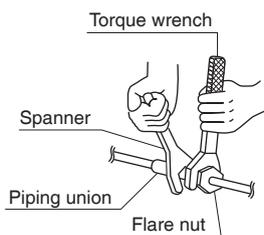
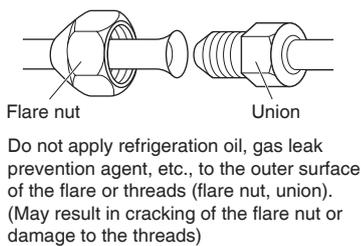
Make sure that the flare nut is fitted.

### 6-2. Refrigerant piping

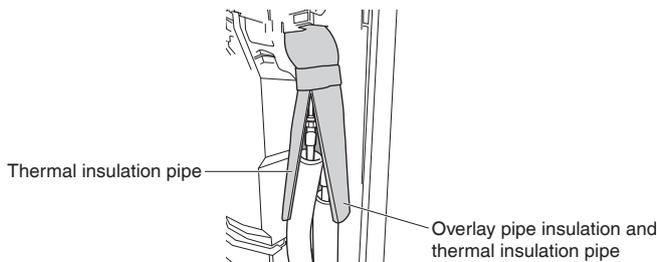
### ⚠ CAUTION

- Use the flare nut fixed to the main unit. (This is to prevent the flare nut from cracking as a result of deterioration over time.)
- Use a torque wrench when tightening the flare nuts to prevent damage to the flare nuts and gas leakage.
- Excessive tightening of the flare nut can result in the flare nut cracking in the long term, leading to gas leakage.

- For refrigerant pipe connections, align the center of the flare and the union, tighten the flare nut 3 to 4 turns by hand, and then use a torque wrench and a spanner to firmly tighten to the specified torque.

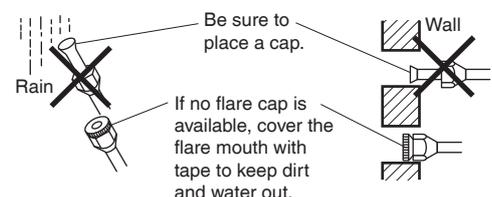


	Piping size	Flare nut tightening torque
Gas side	O.D. 3/8 inch (9.5 mm)	24-1/8-29-1/2 ft • lbf (32.7-39.9 N • m)
	O.D. 1/2 inch (12.7 mm)	36-1/2-44-1/2 ft • lbf (49.5-60.3 N • m)
Liquid side	O.D. 1/4 inch (6.4 mm)	10-1/2-12-3/4 ft • lbf (14.2-17.2 N • m)



### Cautions on pipe handling

- Protect the open end of the pipe from dust and moisture.
- All pipe bends should be as gentle as possible. Use a pipe bender for bending.



## 7. Wiring

Refer to the installation manual for the outdoor unit also.

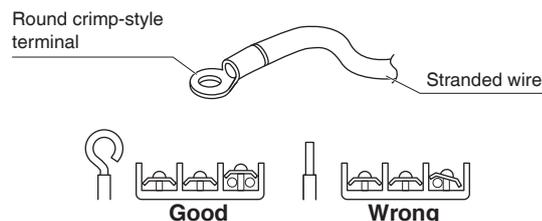
### ⚠ WARNING

- Do not use tapped wires, extension cords, or starburst connections, as they may cause overheating, electric shock, or fire.
- Do not use locally purchased electrical parts inside the product. (Do not branch the power for the drain pump, etc., from the terminal block.) Doing so may cause electric shock or fire.
- Do not connect the power wire to the indoor unit. Doing so may cause electric shock or fire.

### ⚠ CAUTION

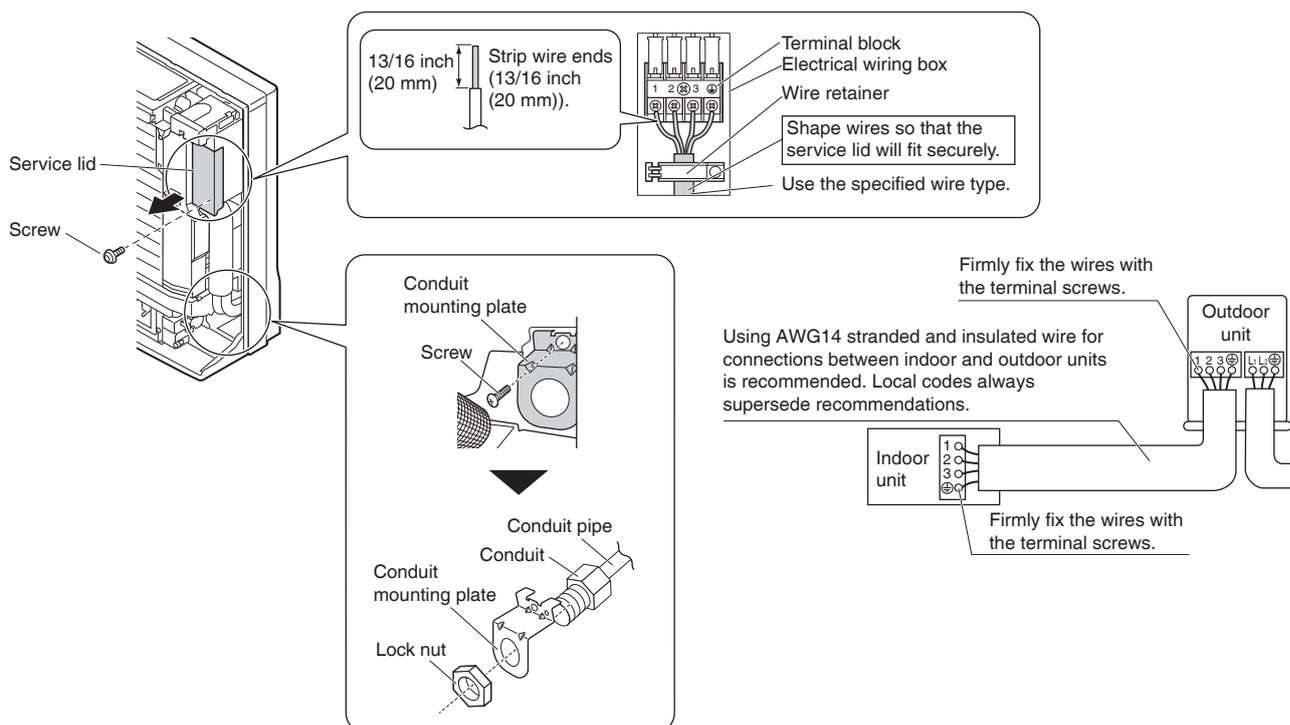
#### Precautions to be taken for wiring

- Recommend stranded cable for interunit wiring. Local code always supersedes recommendation.
- For stranded wires, make sure to use the round crimp-style terminal for connection to the power supply terminal block. Place the round crimp-style terminals on the wires up to the covered part and secure in place.
- If solid core wire must be used, be sure to curl the end of the lead. Improper work may cause heat and fire.



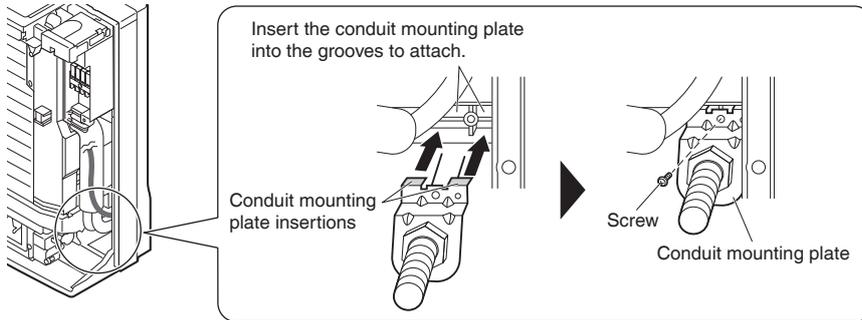
**With a multi indoor unit**, install as described in the installation manual supplied with the multi outdoor unit.

- 1) Remove the service lid (1 screw).
- 2) Remove the conduit mounting plate and then secure the conduit to the conduit mounting plate with the lock nut, as shown in the illustration.
- 3) Strip wire ends (13/16 inch (20 mm)).
- 4) Match wire colors with terminal numbers on the indoor and outdoor unit's terminal blocks and firmly secure the wires in the corresponding terminals with the screws.
- 5) Connect the ground wire to the corresponding terminals.
- 6) Pull the wires lightly to make sure they are securely connected.

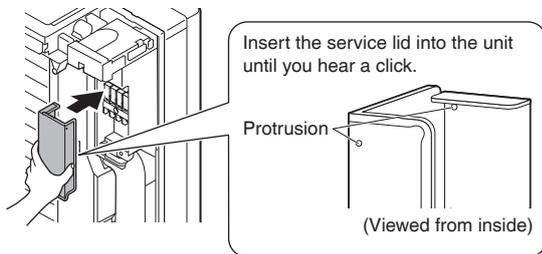


# Indoor Unit Installation

- 7) In case of connecting to an adapter system, run the remote controller cable and attach the S21 conversion connector.  
(Refer to “1. When connecting to an HA system” on page 17.)
- 8) Attach the conduit mounting plate.



- 9) Shape the wires so that the service lid fits securely.
- 10) Attach the service lid (1 screw).



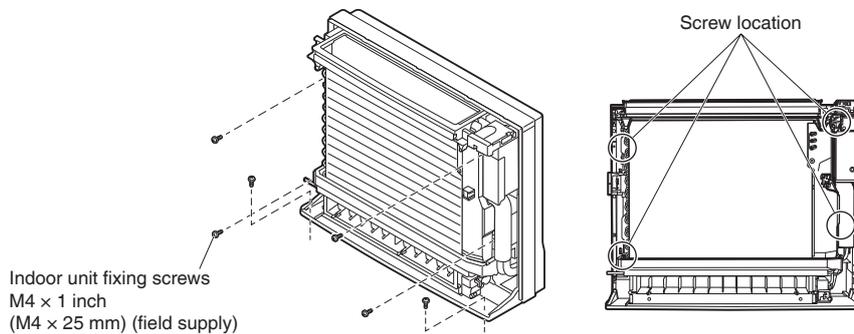
- 11) Take care to ensure that all wiring between the indoor unit and the outdoor unit has a consistent connection. Any splices can cause communication errors.

## 8. Installing the indoor unit

Once the indoor unit has been mounted, fix it to the floor and wall with installation screws M4 × 1 inch (M4 × 25 mm) screws (field supply).

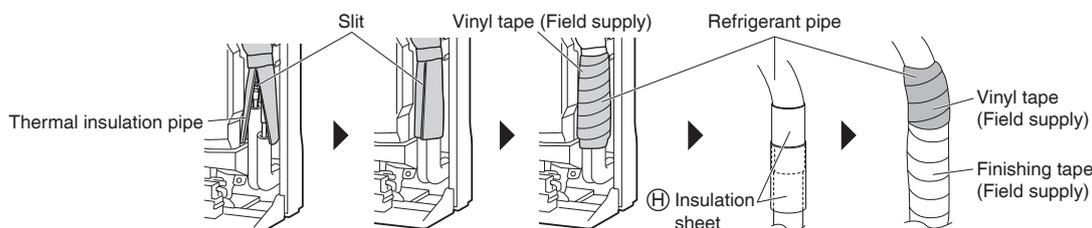
- Use the front part of the bottom frame to level the indoor unit.
- The number of screws used for indoor unit installation varies by installation configuration.

When wall mounting	4 screws for the main body • For wall-mounted installations, mount the indoor unit on the (A) mounting plate before screwing it in.
Other installation configurations	4 screws for the main body, 2 screws for the floor



## 9. Completing the pipework

- After connecting the pipes, overlap the edges of the slit in the thermal insulation pipe and wrap it with vinyl tape ensuring no gaps remain.
  - Gaps or over-tightening can result in condensation or dripping.
- Wrap with  $\oplus$  insulation sheet so that the vinyl tape is not visible.
- Finish by wrapping with finishing tape from bottom to top and securing with vinyl tape.
- Push in firmly so that the front grille does not get pushed out.



**Ensure that the piping is fully insulated so that bare pipe is not visible. Incomplete insulation may result in water leakage.**

## 10. Attaching the front grille and front panel

- After connecting the refrigerant pipes and drain pipes, fill through-holes with putty or caulking material so that there are no gaps.

**Any gaps may result in air infiltration leading to condensation, misdetection of indoor temperature, or the ingress of small animals.**

- Attach the front grille and the front panel.

## 11. Restricting upward airflow (for concealed installations etc.)

Turn "ON" the circuit breaker and keep the remote controller pointed at the unit when performing operations.

For concealed installations, fix the flap of the upper air outlet in the down position by setting the restriction on upward airflow.

If the restriction on upward airflow remains disabled, it may result in a failure to cool/warm, condensation on the house structure, etc.

- Measure the supply voltage and make sure that it is within the specified range.

- Stop unit operation using the remote controller.

- Press  $\uparrow$  Temp °F/°C,  $\downarrow$  Temp °F/°C and Mode at the same time.

- Press  $\uparrow$  Temp °F/°C and  $\downarrow$  Temp °F/°C, select SU, press Mode.

- Press  $\uparrow$  Temp °F/°C and  $\downarrow$  Temp °F/°C, select 27, press Mode.

- Press  $\uparrow$  Temp °F/°C and  $\downarrow$  Temp °F/°C, select !, press Mode.



- To disable the restriction on upward airflow, press

$\uparrow$  Temp °F/°C and  $\downarrow$  Temp °F/°C to select 0, and then press Mode.

- When the indoor unit emits a short beep, press Cancel twice.

- Use the remote controller to start operation, check that the flap stays in the down position, and then stop operation.

- If the restriction on upward airflow was disabled, use the remote controller to start operation, check that flap position changes when  $\leftarrow$  Swing is pushed, and then stop operation.

- Be sure to explain to the customer that while the restriction on upward airflow is enabled, airflow direction cannot be changed and auto swing cannot be used.

**Settings must be made on the remote controllers for each indoor unit. (Failure to do so will result in a mismatch between the remote controller display and the actual operation of the indoor unit.)**

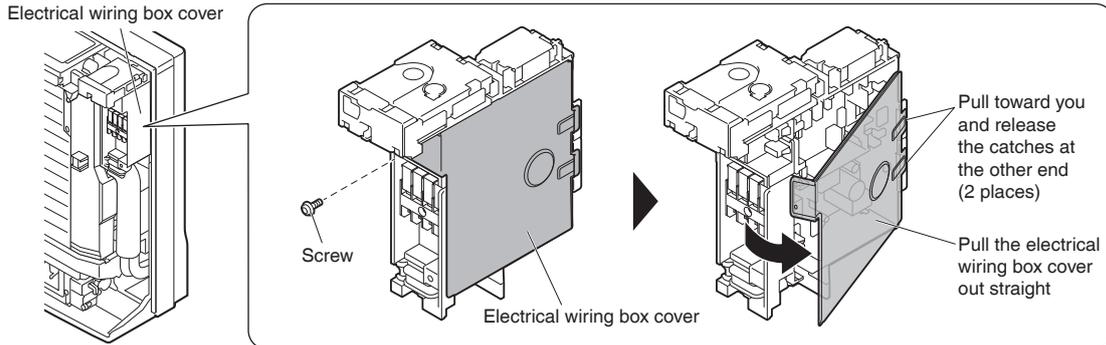
# Installation Tips

## 1. When connecting to an HA system

**For this procedure, accessories which are sold separately are needed. (wired remote controller, central remote controller, etc.)**

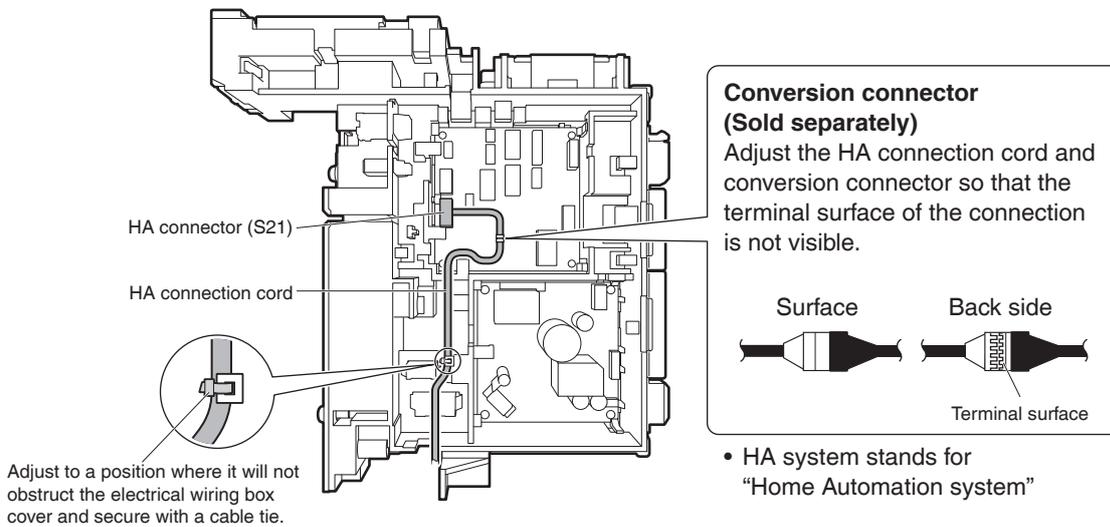
- **Removal method for metal plate electrical wiring box cover**

- 1) Remove the front panel and front grille.  
(Refer to the removal method on page 8.)
- 2) Remove the service lid.  
(Refer to the removal method on page 14.)
- 3) Remove the screw and pull the tab on the metal plate electrical wiring box cover.
- 4) Remove the 2 hooks and dismount the metal plate electrical wiring box cover.



- **Attachment methods of connection cord**

- 1) Attach the S21 conversion connector to the HA connector (S21).
- 2) Attach the connection cord to the S21 conversion connector.
- 3) Pull the harness out through the notched part in the figure.



- 4) Secure the HA connection cord with a cable tie (field supplied) to prevent external forces being applied directly to the HA connector.

- **Attachment method for metal plate electrical wiring box cover**

- 1) Attach the metal plate electrical wiring box cover to the 2 hooks and fasten it with screw.  
(Refer to the installation method on page 15.)
- 2) Attach the service lid.  
(Refer to the installation method on page 15.)
- 3) Install the front grille and front panel.  
(Refer to the installation method on page 8.)

## 2. How to set the different addresses

When 2 indoor units are installed in one room, the 2 wireless remote controllers can be set for different addresses. Change the address setting of one of the 2 units. When cutting the jumper, be careful not to damage any of the surrounding parts.

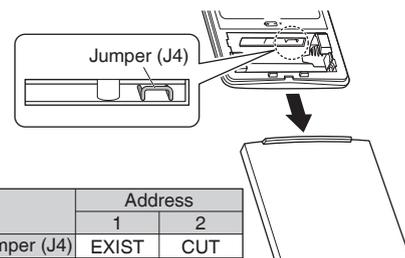
1) Remove the battery cover on the remote controller and cut the address jumper (J4).

2) Press ,  and  at the same time.

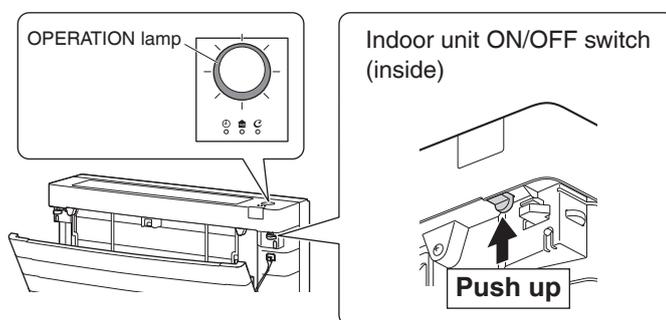
3) Press , select , press .

(The indoor unit OPERATION lamp will blink for about 1 minute.)

4) Press the indoor unit ON/OFF switch while the OPERATION lamp is blinking.



- If setting could not be carried out completely while the OPERATION lamp was blinking, carry out the setting process once again from the beginning.
- After setting is complete, pressing  will cause the remote controller to return to the previous display.



## 3. Pump down operation

In order to protect the environment, be sure to pump down when relocating or disposing of the unit.

For instructions on how to pump down, refer to the installation manual for the outdoor unit to be connected.

### Forced cooling operation

#### For pair connections

##### ■ Using the indoor unit ON/OFF switch

Press the indoor unit ON/OFF switch for at least 5 seconds. (The operation will start.)

- Forced cooling operation will stop automatically after about 15 minutes.  
To stop the operation, press the indoor unit ON/OFF switch.

##### ■ Using the indoor unit's remote controller

1) Press ,  and  at the same time.

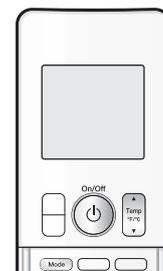
2) Press , then select , press .

3) Press  and select the COOL operation.

4) Press  to turn on the system.

- Forced cooling operation will stop automatically after about 30 minutes.

To stop the operation, press .



#### For multi connections

For instructions on how to perform forced cooling operation, refer to the installation manual for the outdoor unit.

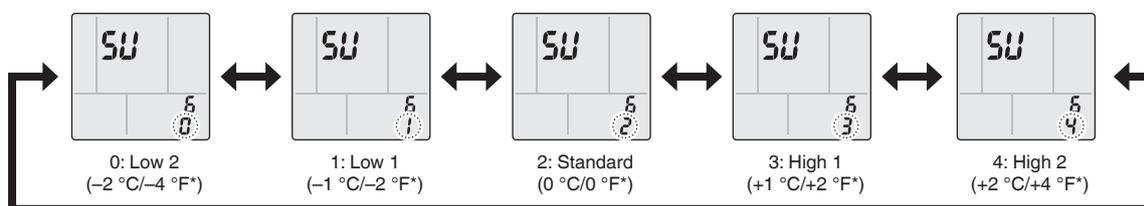
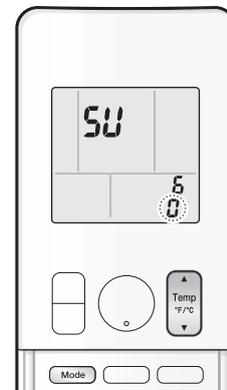
# Installation Tips

## 4. Room temperature adjustment

Adjustment of indoor temperature thermistor in cooling/heating operation.  
Used for adjustment of room temperature control.

### ■Cooling

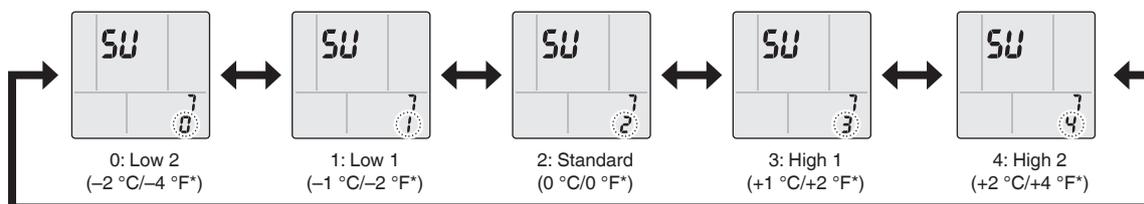
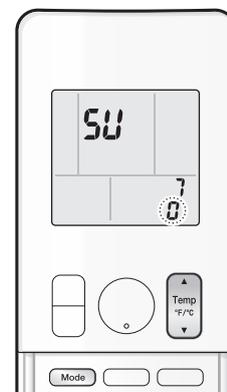
- 1) Press  and  and  at the same time.
- 2) Press  , select **SU**, and press  for confirmation.
- 3) Press  , select **5**, and press  for confirmation.
- 4) Press  , select the setting values, and press  for confirmation.



\* Fahrenheit values are for reference only and actual temperature changes may deviate from them.

### ■Heating

- 1) Press  and  and  at the same time.
- 2) Press  , select **SU**, and press  for confirmation.
- 3) Press  , select **7**, and press  for confirmation.
- 4) Press  , select the setting values, and press  for confirmation.



\* Fahrenheit values are for reference only and actual temperature changes may deviate from them.

After setting is complete, pressing  twice will cause the remote controller to return to the previous display.

### NOTE

To display the room temperature detected by the unit, it is necessary to connect the optional wired remote controller (BRC073A6) and S21 conversion connector (KER087A41).

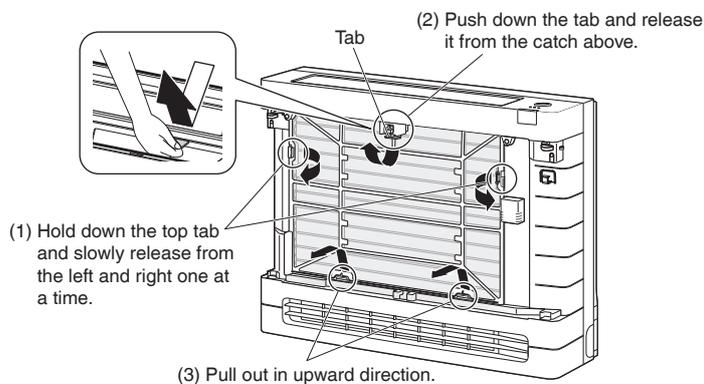
# Trial Operation and Testing

## 1. Attaching the titanium apatite deodorizing filter

Remove any packaging tape attached to the front panel and air filter.

### 1-1. Open the front panel and remove the air filter.

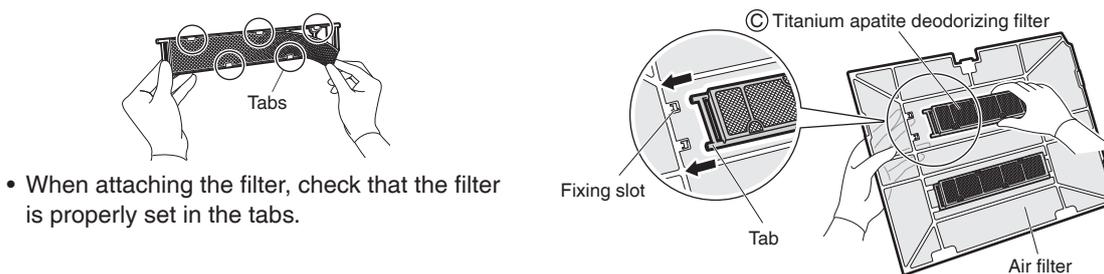
- Release from the catches on the left and right.



### 1-2. Attach the © titanium apatite deodorizing filter.

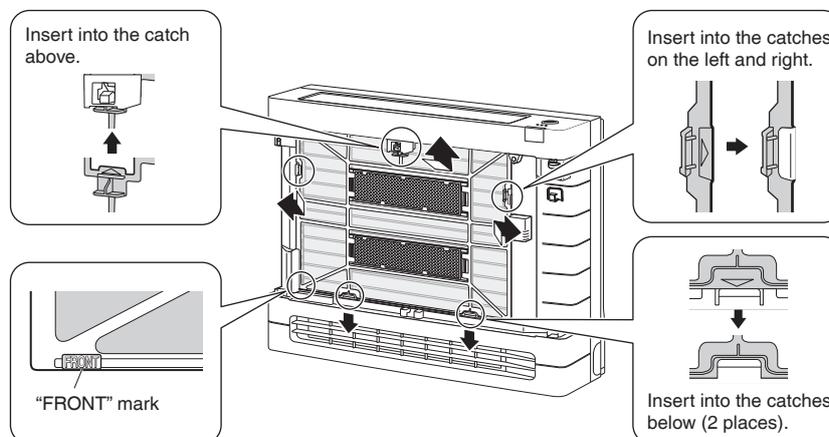
- Attach the titanium apatite deodorizing filter to the filter frame.
- Insert the juts (4 places) on the filter frame into the fixing slots (4 places) on the underside of the air filter.

Wear gloves when working.  
(Your hands may get dirty with particles from the titanium apatite deodorizing filter.)



### 1-3. Attach the air filter and front panel.

- Insert the air filter with the "FRONT" mark facing you.
- Insert the tabs (2 at the bottom, and 1 at the left, right and top) using the △ mark as a guide.



# Trial Operation and Testing

## 2. Trial operation and testing

- Trial operation should be carried out in either COOL or HEAT operation.

**2-1. Measure the supply voltage and make sure that it is within the specified range.**

**2-2. In COOL operation, select the lowest programmable temperature; in HEAT operation, select the highest programmable temperature.**

**2-3. Carry out the trial operation following the instructions in the operation manual to ensure that all functions and parts, such as the movement of the louvers, are working properly.**

- To protect the air conditioner, restart operation is disabled for 3 minutes after the system has been turned off.

**2-4. After trial operation is complete, set the temperature to a normal level (78 °F to 82 °F (26.0 °C to 28.0 °C) in COOL operation, 68 °F to 75 °F (20.0 °C to 24.0 °C) in HEAT operation).**

- When operating the air conditioner in COOL operation in winter, or HEAT operation in summer, set it to the trial operation mode using the following method.

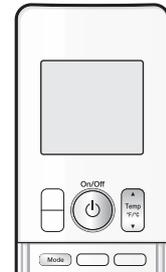
- 1) Press  ,  and  at the same time.
- 2) Press  , select  , and press  for confirmation.
- 3) Press  to turn on the system.

- Trial operation will stop automatically after about 30 minutes.

To stop the operation, press .

- Some of the functions cannot be used in the trial operation mode.

- If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is opened again.



**If the LED flashes and the fan of the indoor unit turns by itself when the unit is off, the refrigerant sensor is operating.**

- **If long beeps are heard.**

**There is a possibility of refrigerant leakage. Ventilate the room, do not switch off the circuit breaker and contact your dealer.**

- **If there are no beeps.**

**Refrigerant leak detection is in progress.**

**If the flashing does not stop after 10 minutes or more, there may be a refrigerant leak.**

**Do not switch off the circuit breaker and contact your dealer.**

**In addition to refrigerants, insecticides, hairspray etc., can also cause the refrigerant sensor to generate a false alarm.**

### 3. Test items

Test items	Symptom	Check
Indoor and outdoor units are installed securely.	Fall, vibration, noise	
The titanium apatite deodorizing filter is properly attached to the air filter.	Unusual noise, condensation	
The air filter is properly attached.	Unusual noise, condensation	
No refrigerant gas leaks.	Incomplete cooling/heating function	
Refrigerant gas and liquid pipes, and indoor drain hose extension are thermally insulated.	Water leakage	
Draining line is properly installed.	Water leakage	
System is properly grounded.	Electrical leakage	
Only specified wires are used for all wiring, and all wires are connected correctly.	Unit not operating or burn damage	
Indoor and outdoor unit air inlets and air outlets are unobstructed.	Incomplete cooling/heating function	
Stop valves are opened.	Incomplete cooling/heating function	
Indoor unit properly receives remote controller commands.	Unit not operating	
Pipes and wires are connected to the corresponding terminal blocks/ connection ports for the connected unit.	Not cooling/heating	
Explain to the user that when using a smartphone for operation, it is necessary to prepare a repeater, or similar device, if the signal from the wireless LAN router is weak near the air conditioner.	Air conditioner not responding to smartphone	
The setting for restriction on upward airflow is configured correctly. (Applicable to concealed installations, etc.) Explained to the customer that while the restriction on upward airflow is enabled, airflow direction cannot be changed and auto swing cannot be used.	Failure to cool/warm, condensation on the house structure, etc.	
Address settings are correct. (If installing 2 indoor units in the same room.)	Unit not operating	
All through-holes are completely sealed with putty.	Failure to detect refrigerant leakages, ingress of insects etc.	
All packaging tape attached to the front panel and air filter has been removed.	Unusual noise	

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The two-dimensional bar code is a manufacturing code.

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