FLOOR STANDING

INSTALLATION MANUAL

Please read these “Safety Precautions” carefully before carrying out installation work.

Refrigerant R32/R410 A Compatible series

FVP50 • 56 • 63 • 71 • 80 • 112• 140 • 160FC

1P813592-1

Please read these “Safety Precautions” carefully before carrying out installation work.

- The precautions shown here are classified into the following two types. Both contain important safety information. Please be sure to follow them.

⚠ **WARNING**	Improper handling may result in serious consequences such as death or serious injury.
⚠ **CAUTION**	Improper handling may result in injury or property damage.

- After completing the installation, test the unit to ensure that it is operating properly. Also explain to the user how to operate and maintain the unit according to the instruction manual.

⚠ WARNING

Installation should be requested from the retailer or a professional installer. Improper installation can result in water leakage, electric shock, fire, etc.

Installation work must be carried out in accordance with this installation manual. Improper installation can result in water leakage, electric shock, fire, etc.

If installing in a small room, take measures to ensure that the concentration does not exceed the limit even if the refrigerant leaks.
Please consult with your dealer about measures to ensure that the limit concentration is not exceeded.
If the refrigerant leaks and exceeds the limit concentration. it can cause an oxygen deficiency accident.
Be sure to use the included accessories and specified parts for installation.
Failure to use specified parts may result in the indoor unit falling over. Water leakage, electric shock, fire fire, etc.

Be sure to install the unit in a location that can adequately support the weight of the indoor unit.
If the strength is insufficient, the indoor unit may fall over and cause injury.
It can also cause the indoor unit to vibrate, resulting in a rattling noise.

Carry out the required installation work in preparation for strong winds such as typhoons and ear thquakes.
Improper installation work may result in accidents such as the unit falling over.

Electrical work should be carried out by a licensed electrician who is familiar with the "Technical Standards for Electrical Equipment" and "Internal Wiring Regulations JEAC8001 (latest edition)".
Install according to the installation instructions, be sure to use a dedicated circuit and do not extend the wires Insufficient power circuit capacity or improper installation can cause electric shock, fire, etc.

Perform earthing work
Do not connect the earth wire to gas pipes, water pipes, lightning rods, or telephone earth wires. Incomplete earthing may result in electric shock or fire.

Install a ground fault circuit interrupter
If the earth leakage breaker is not installed, it may cause electric shock or fire.

Turn off the power before touching any electrical parts
Touching live parts may result in electric shock.

Wiring should be securely connected using the specified wires and secured in place so that no external force is applied to the wires at the terminal connections.
Incomplete connections or fastenings may cause overheating or fire.

If refrigerant gas leaks during work, ventilate the room,
If the refrigerant gas comes into contact with fire, it can cause the generation of toxic gases.

The wiring between the indoor and outdoor units and the power supply is shaped so that electrical box covers and other structures do not rise up.
Attach the lid securelyIf the coveris not properly attached, it may cause the terminals to overheat, cause electric shock, or cause fire.

After installation is complete, check that there are no refrigerant gas leaks.
If refrigerant gas leaks into the room and comes into contact with an open flame such as a fan heater, stove, or cooker, it can cause toxic gases to be generated.

⚠ Note

Drain work should be done according to the installation manual to ensure proper drainage and insulated to prevent condensation. Improper piping work may result in water leaks, causing household goods to get wet.

The indoor and outdoor units, power wiring, and remote control wiring should be installed at least 1m away from televisions, radios, and stereos.
This is to prevent image distortion and noise.(However, depending on the radio wave conditions, image distortion and noise may occur even if the devices are installed at a distance of more than 1m.)

Install the indoor unit as far away from fluorescent lights as possible. When installing a wireless remote control, the remote control's transmission distance may be shorter in a room that has electronic lighting (inverter or rapid start) fluorescent lights.

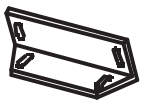
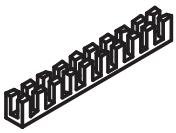
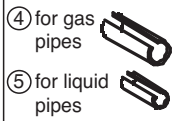
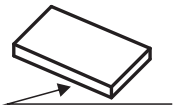
Do not install in the following locations:

1. Places where oil is present or where there is a lot of oil splashing or steam, such as in kitchen scan cause plastic parts to deteriorate, leading to parts falling off or water leaks.
2. Locations where sulfur dioxide and other corrosive gases are generated
   The Copper pipes and brazed parts may corrode, causing refrigerant leaks.
3. Locations where there are machines that generate electro magnetic waves
   This may cause abnormalities in the control system, preventing normal operation.
4. Places where there is a risk of flammable gas leaks, where carbon fibers or flammable dust are in the air, and places where volatile flammable substances such as paint thinner or gasoline are handled.
5. Do not install in environments where propane, butane, methane, or other gases are used. The sensor inside the indoor unit may detect this and display an error code indicating a refrigerant leak.
6. If the indoor unit sucks in dust and the dust accumulates on the fan, it may cause the fan to become unbalanced, resulting in abnormal noise

- Do not install in an airtight sealed location such as a soundproof room. In the event of a refrigerant leak, high concentration refrigerant remaining on the floor may cause a fire.
- Do not install in locations subject to smoke, gas, chemicals, etc. The sensor inside the indoor unit may detect this and display an error code indicating a refrigerant leak.
- When unpacking or moving the unit after unpacking, do not apply force to the plastic parts. When unpacking or moving the indoor unit after unpacking. do not apply force to the plastic parts.
- Before carrying out installation work, be sure to check that the refrigerant used is R32 or R410A. (If the refrigerant type is different, the unit will not operate properly.)
- For installation of the outdoor unit, refer installation manual provided with the outdoor unit.
- While referring to the instruction manual, have the customer actually operate the machine and explain to them how to operate it correctly (specially how to clean the air filter, operate the machine, & adjust the temperature).
- When selecting the installation location, refer to the installation template
- Do not use this product in salty areas such as coastal areas, places with frequent voltage fluctuations such as factories, or in vehicles or ships.
- When opening the electrical equipment box cover to carry out wiring work, etc.,be sure to remove any static electricity from your body before starting work, as this may damage the electrical components.

Technical documents and catalogs can be found here (D=SEARCH)
(You can check by accessing the website using the 2D barcode below and entering the model name.

Accessories Please check the following accessories:

Name	① Vounting bracket	③ Penetration protection materia	④ bush	Insulation for joints	⑦ Our board	⑧ clamp material	⑨ Installation template
No.of pieces	1set *1	2 pieces	1 piece	1 each	1 piece	5 piece	1 piece
Shape	 ② Screw (M4x10), 1 piece			 ④ for gas pipes ⑤ for liquid pipes			 Can also be used as packaging material
Name	⑩ Wiring holder	⑪ Wood Screw (Ø 3.5x16)	⑫ Screw (M4x16)	⑬ Screw (M5x16)	Others		
No.of pieces	2 piece *	2 pieces *2	2 pieces *2	2 pieces	• Installation manual . operating instructions - Warranty card - simple manual. • Control Panel (Wired Remote Control) Installation Manual R32 Refrigerant Installation Checklist (for floor-standing indoor units)shapo *1 The mounting bracket is screwed to the indoor unit (top plate) *2 Used when installing the control panel separately		
Shape							

- Insulation materials for fittings⑤⑥are for on-site piping with an insulation thickness of 10mm or less. If the insulation thickness of the on-site piping is greater than 10mm, use insulation material (arranged locally) and clamp material(arranged locally) suited to the on-site piping instead of insulation materials for fittings⑤⑥.
- Failure to insulate may result in water leakage due to condensation.
- For information on insulating refrigerant piping, read "Insulating refrigerant piping" in the Technical Guide on our website (Insufficient insulation can cause condensation, which can lead to water leaks.)

Sold separately

- The operation remote control is available as a separate wireless type.
- If the customer desires a wireless remote control, please select one from the catalogue and install (For installation instructions, refer to the manual that comes with the remote control.)

Please pay particular attention to the following points when carrying out work and check them again after completion.

(1) Check items after construction is completed

Check Items	In case of defective	Check column
Are the indoor and outdoor units properly instal led?	Falling, vibration, noise	
Has the installation of the indoor and outdoor units been completed?	Inoperable/burnt out	
Have you performed a refrigerant leak test using the airtight test pressure	Does not cool or heat	
Has the insulation been completed properly? (Refrigerant piping and drain piping	water leak	

Check Items	In case of defective	Check column
Is the drain flowing smoothly?	water leak	
Is power supply voltage same as indicated on the nameplate of the main unit?	Inoperable/burnt out	
Is there any incorrect wiring, loose wiring or incorrect piping?	Inoperable/burnt out	
Has earthing work been carried out?	Danger in electrical leak	
Is the wire thickness as specified?	water leak	
Areintake and exhaustof the indoor&outdoor units blocked byobstacles? (lead to reduced performance and equipment failure due to reduced airflow.)	Does not cool or heat	
Have you recorded the refrigerant piping length &additional refrigerant charge?	Refrigerant amount unclear	
Have you write the model name &serial no. of outdoor&indoor unit's warranty card?	Outdoor model name unclear	

*Please also be sure to check the items listed in the "Safety Precautions" section on the left.
(2) Check items at the time of delivery

Check Items	Check column
Did you carry out on-site configuration as required? Did you explain the on-site configuration to the customer?	
Are the alectrical equipment box lid air filter and intake grill installed?	
Is there cold air coming out during cooling operation and warm air coming out during heating operation?[s any wind noise	
Have you confirmed that there are no abnormal noises (due to foreign objects or forgotten parts) during operation?	
When using gas appliances or sprays that use flammable gas (such as LPG) near the indoor unit.Did I explain that the internal sensor may make a false positive and prevent you from driving?	
If you set the airflow volume when the thermostat is off, did you explain the set airflow volume to the customer?	
Is the emergency switch on the printed circuit board turned ON? Itis set to the normal when shipped from the factory.	
When install the optional adapter mounting box, is the suction thermistor installed in its original position (bell mouth)	
In case of simultaneous operation of multiple units, is the operation remote control connected to the parent unit?	
Did you explain the malfunction cases?	
Did you explain how to use the product to the customer while having them look at the instruction manual?	
Have you explained to the customer the operation instructions in the instruction manual ragarding cooling, heating, microcomputer dry or dehumidifying cooling, automatic cooling and heating. and fan blade movement?	
Have you handed over the manual, warranty card. installation manual and R32 installation checklist to customer?	

Instructions for use *Only when connecting to an outdoor unit of P224/280.

In addition to the general usage instructions, items marked with ⚠warning or ⚠caution in the instruction manual can cause physical accidents or property damage, so you need to explain the contents and make sure the customer reads them carefully.
ou also need to explain the contents of the "If something is wrong" section and make sure the customer reads it carefully.

1 Before Installation

When connecting to a P224/280 outdoor unit, fill in the necessary information on the R32 refrigerant installation checklist (for floor-standing indoor units) that comes with the indoor unit and confirm the spaceis suitable for installation. Do not discard the accessories until the installation work is complete. After delivery, protect the indoor unit with packing to prevent damage until instal lation work is performed.

(1) Please decide on the delivery route.

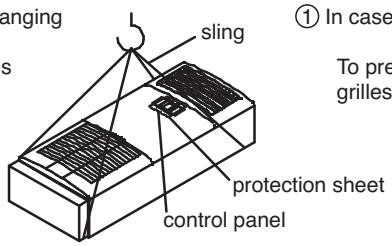
(2) When transporting the unit, carry it in its packaging to the If it is unavoidable to unpack it before transporting it, cover the indoor unit with a cloth & hang with a sling or rope to avoid damaging it.

(3) When hanging the indoor unit, use a sling (fabric or nylon) and hang it securely as shown in the diagram on the right.

• To prevent the control panel from being scratched. do not remove the protective sheet from the surface of the control panel until installation is complete.

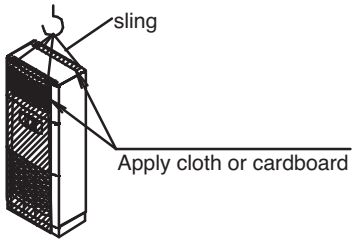
① In the case of horizontal hanging

* Make sure the slingdoes not slip.



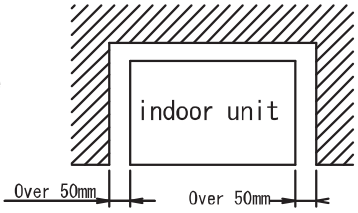
① In case of vertical hanging

To prevent damage to the exhaust and intake grilles, place a cloth or cardboard over them.



2 Selection of installation location

- (When unpacking or moving the indoor unit after unpacking. do not apply force to the plastic parts.)
- (1) Obtain consent from the customer and select an installation location that meets the following conditions
- Where cool (warm) air flows throughout the room A place strong enough to withstand the weight &vibration of the indoor unit (if unit is not strong . it will vibrate & make rattling noise).
- The installation area must be flat and level (otherwise it may cause vibration or abnormal noise) (sold separately: wooden stand recommended)
- A place where there are no obstacles at the air intake and exhaust ports, and where the space shown in the right figure can be secured for easy service work.



- Where the indoor and outdoor piping length is less than the allowable piping length (refer to the instal lation manual that comes with the outdoor unit)
- Where the indoor and outdoor piping length is less than the allowable piping length
- Where there is no risk of flammable gas leaking

⚠Note

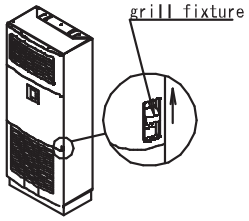
- Indoor & outdoor units, the connection wiring. &the remote control wiring should be installed at least 1 m away from televisions, radios.
  This is to prevent image distortion and noise. (However, depending on the radio wave conditions. image distortion and noise may occur).
- When installing a wireless remote control, in a room that has fluorescent lights with electronic lighting systems (inverter systems)
  The transmission distance of the remote control may be shortened. Install wireless remote control receiver far away from the fluorescent lamp.
- When using multiple units for simultaneous operation, install the indoor units in the same room.
  This is because simultaneous operation of multiple units does not allow for individual air conditioning.

<Example of a problem>

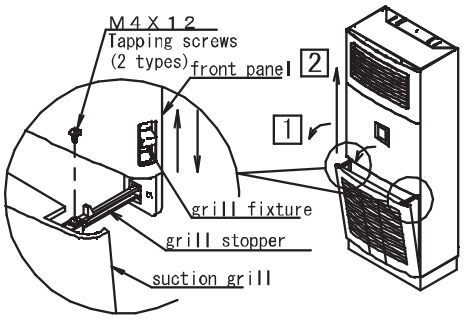
If there is an obstacle in the air passage or if the required installation space is not observed, the air volume will decrease and the blown air will be sucked in, leading to a decrease in performance & the thermostat make sure to provide sufficient reinforcement before proceeding
*You can also solve this by selecting awith the instal lation to prevent the generation of vibrations and noise.thermistor. For details, search for D-SEARCHon website & refer to the technical guide.

3 Installation of the indoor unit

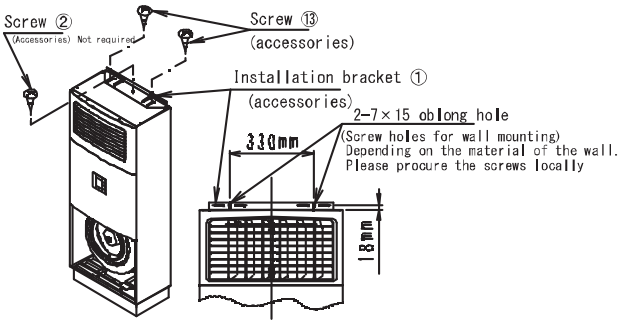
It is easier to install optional items before installing the indoor unit.
Please also refer to the installation instructions that cone with the optional items.
Be sure to use the included accessories and specified parts for installation.
<Fixing method>
• Since the indoor unit has a long vertical shape, be sure to take the following measures to prevent the unit from falling over.
(1) Raise the grill fixture.



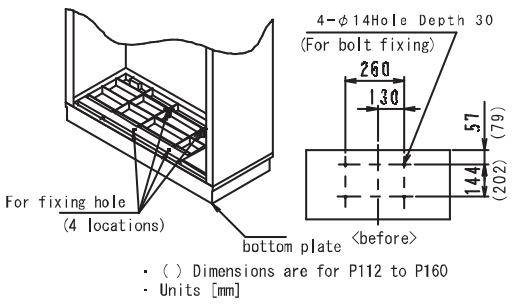
(2) Remove the intake grill.
Remove the grill stopper mounting screws
(2 places on the left and right)
1 Tilt the intake grille towards you,
2 Lift up the intake grill.



(3) How to fix it to the wall
Remove the screws ② attached to the top plate, and attach the mounting bracket ① as shown in the diagram below. Reinstall it and secure it with screw
⑬ then secure it to the wall.
.Screw 2 is not used.



(4) How to fix it to the floor
In addition to the fixing method described on the left, please also fix the bottom plate. The bottom plate has four fixing holes for foundation bolts (procured locally).
Please use the installation template.
⑨ (also used as packaging material)



- ( ) Dimensions are for P112 to P160
- Units [mm]

⚠ Warning

- Be sure to install the unit in a location that can adequately support the weight of indoor unit.If the strength is insufficient. the indoor unit may fall over and cause injury.
- Please refer to the "Guidelines for Earthquake-Resistant Design &Construction Building Equipment"when carrying out construction work to ensure the earthquake resistance of equipment.

4 Refrigerant piping work

- For information about the outdoor unit's refrigerant piping, refer to the installation manual provided with the outdoor unit.
- Be sure to insulate both the gas side and liquid side piping. Failure to insulate can cause condensation. Use insulation for the gas side piping that can with stand temperatures of also, in high humidity environments, strengthen the insulation for the refrigerant piping. Failure to do so can cause condensation to form on the surface of the insulation.

When connecting to P224/280 outdoor unit, use the R32 refrigerant installation checklist (floor-standing indoor units Install the piping on-site using the selected piping connection method.
When connecting piping with a flare less joint, please refer to the "Refrigerant piping installation - Flareless joint installation instructions" that comes separately with the indoor unit.
*For flare connections, please see below.

⚠ Note

- Do not allow air or other substances other than the specified refrigerant to enter there frigeration cycle. If refrigerant leaks during work, ventilate the room.
- While working. make sure the area is well ventilated and there are no open flames nearby.

<< Examples of defects>>
Using any tool other than a wrench may damage the flare nut and cause a refrigerant. refrigerant leak due to improper tightening.

- The outdoor unit is filled with refrigerant.
- The ejection direction can be left, right. backward or downward. Please decide the direction..
- When connecting or disconnecting piping to the indoor unit.
  Be sure to use two wrenches, one for the spanner and one for the torque wrench.
- Please refer to Table 1 for the flare machining dimensions and tightening torque.
- Check that there are no scratches or deformations on the flared part..
- Use the flare nut that comes with the indoor unit..
- When connecting the flare nut, apply ether oil or ester oil only to the inside of the flare, and initially screw it in by hand 3 to 4 times. (See Figure 2)

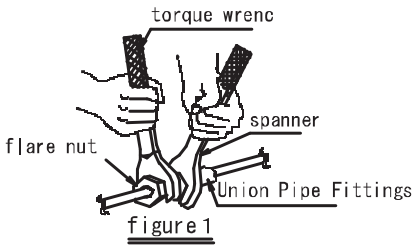


figure 1

⊘ Prohibited

- Do not allow oil to adhere to the screw fixing parts of plastic parts such as the front panel.
  (If any adherence occurs, it may cause a decrease in thestrength of the screw fixing parts.)

⊘ Prohibited

- Do not overtighten the flare nuts (If the flare nut cracks, it can cause refrigerant leakage.)

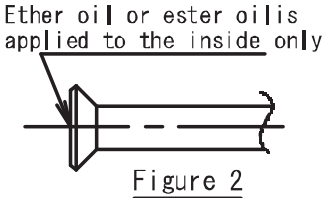


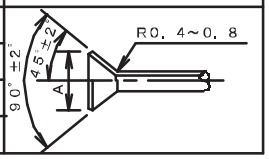
Figure 2

- If you do not have a torque wrench. use <Table 2> as a guide.
  When tightening a flare nut with a wrench, there is a point where the tightening torque suddenly increases. From that position, tighten further to the tightening angle shown in <Table 2>.After completing the work. be sure to check that there are no refrigerant leaks.

⊘ Prohibited

- Do not scratch the flare

<Table 1>

Piping size	Tightening torque	Flare part processing dimensionsA (mm)	flare shape
φ 6.4	15.7±1.5 N•m	8.7～ 9.1	
φ 9.5	36.3±3.6 N•m	12.8～13.2	
φ12.7	54.9±5.4 N•m	16.2～16.6	
φ15.9	68.6±6.8 N•m	19.3～19.7	

<Table 2>

Piping size	Tightening angle (approximate)	Recommended arm length for tools
φ 6.4	60°～ 90°	150mm approx
φ 9.5	60°～ 90°	200mm approx
φ12.7	30°～ 60°	250mm approx
φ15.9	30°～ 60°	300mm approx

⊘ Note

- The on-site piping must be insulated all the way up to the piping connections inside the machine.(If the piping is exposed, it may cause burns due to contact with wiring, or electric shock or fire.

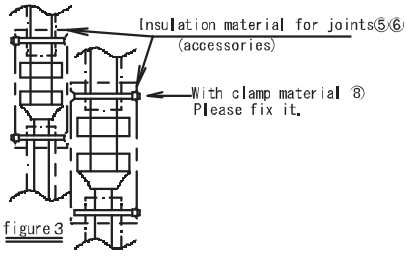


figure3

- After the piping connections have been airtight tested (Note 1) and inspected for refrigerant leaks, use the included joint insulation material 56 to prevent the piping from being exposed. Be sure to insulate both liquid and gas piping (see Fig 3).
  (Please fasten both ends of joint insulation material⑤ ⑥with the clamp material ⑧ Cut excess part of the clamp material.)Insulation materials for joints ⑤ ⑥are for on-site piping insulation thickness of 10mm or less. If the insulation thickness of the on-site piping is greater than 10mm, use insulation materials for joints ⑤ ⑥instead. Be sure to use insulation material(procured locally) and clamp material (procured locally) that is suitable for the local piping, and insulate in the same way. Failure to insulate the unit may result in water leakage due to condensation.
- For information on insulating refrigerant piping, please search D-SEARCH on our website and be sure to refer to the technical ,guide "Insulating refrigerant piping. "(Insufficient insulation can cause condensation. which can lead to water leaks.)
- When performing brazing work, carry a refrigerant leak detector to check for any refrigerant leaks
  *When brazing the refrigerant piping, first perform nitrogen replacement (flowing nitrogen through the refrigerant piping to replace the air with nitrogen (Note 2) (seeindoor unit to the flare. (See Figure 1)

(Note)
1. When conducting an airtight test of indoor unit & connecting piping after completing the installation of the indoor unit. please refer to the installation manual of the outdoor unit to be connected for the airtight test pressure.
2. When performing brazing work while flowing nitrogen, with pressure is 0. 02MPa
3. Do not use flux when brazing refrigerant piping.
   Use copper phosphorus brazing filler metal (BCuP), which does not require flux Chlorine-based flux can cause corrosion of the piping. &if contains fluorine it can have a negative effect on the refrigerant piping system.)

Note

- For information about the refrigerant piping of the outdoor unit, refer toinstallation manual that came with outdoor unit or search D-SEARCH on website.
  (Air purging or forgetting to add refrigerant can cause a refrigerant shortage. which can lead to equipment failure (not cooling or heating, etc.).)

Prohibited

- No antioxidants are used when brazing pipes. (Residue cause pipe to become clogged or parts break down,

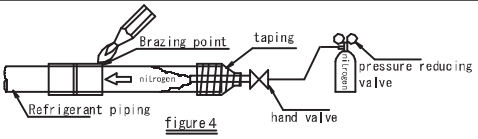


figure 4

⚠ warning

This product is compatible with refrigerants R32/R410A. Please be sure to follow the instructionson the right when installing.

- Pipe cutters and flare tools are used for R32 or R410A.
- When connect a flare, apply ether oil orester oil only toinside surface
- Be sure to use the flare nut that comes with the indoor unit.
  Using any other flare nut (Type 1) may cause refrgerant leakage.
- To prevent dirt. dust, and moisture from entering the pipes,protect the pipes by clamping or taping them

Refrigerant piping installation method

- Remove the piping retainer plate (see Figure 5).
  <For right or left piping>
  1. Drill the knock holes in the right (left) side panels (see Figure 6).
  2. Pass the refrigerant pipe, drain pipe, and indoor/outdoor connection wiring through the holes in the side panel.
  (Please refer to Figure 8 for the molding dimensions of the refrigerant piping.)
  <In the case of backward piping>
  1. Open the knock holes on the rear panel (see Figure 7).
  2. Pass the refrigerant pipe, drain pipe, and indoor/outdoor connection wiring through the holes in the side panel.
  <In the case of downward piping>
  1. Cut out the through hole in the bottom plate (see Figure 7).
  2. Pass the refrigerant piping, drain piping, and indoor/outdoor wiring throughthe penetrations in the bottom plate.

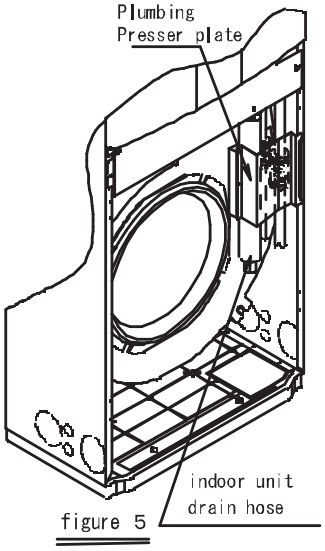


figure 5

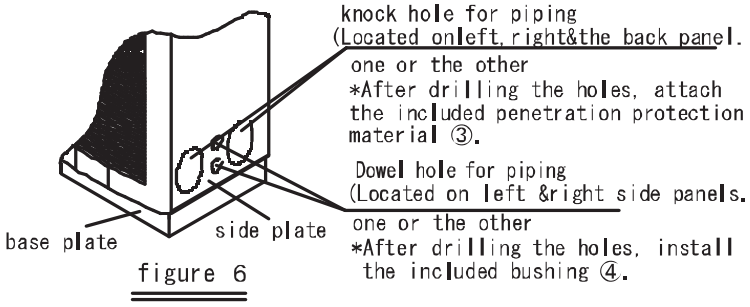


figure 6

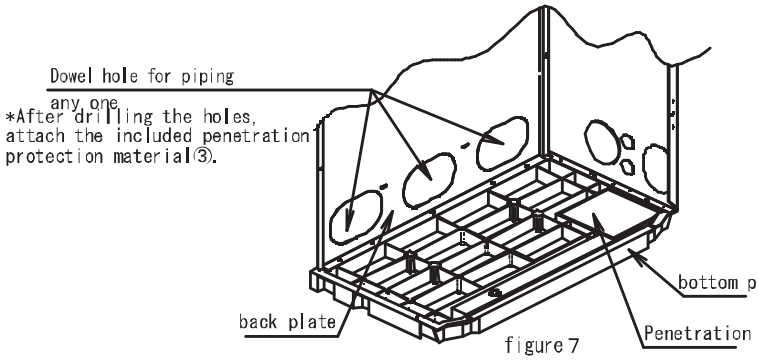


figure 7

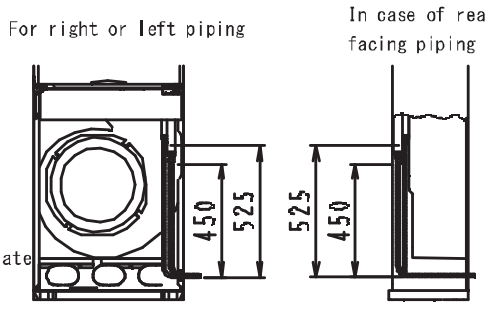


figure 8

- After refrigerant pipe &electrical wiring work are completed, refrigerant piping, indoor unit drain hose, Secure the indoor/outdoor interconnection wiring & earth wire with a pipe retainer (see Figure 5). At that time, there is a risk that refrigerant piping connected to indoor unit may come into contact with the suction grille. soBe careful not to go ahead of the pipe retainer plate.
  (For electrical wiring work please refer to the section.)

About Freon | This label is there to let you know that the air conditioner contains greenhouse gases (fluorocarbons).

The refrigerant types and GWP (Global Warming Potential) used in this unit are shown in the table below.

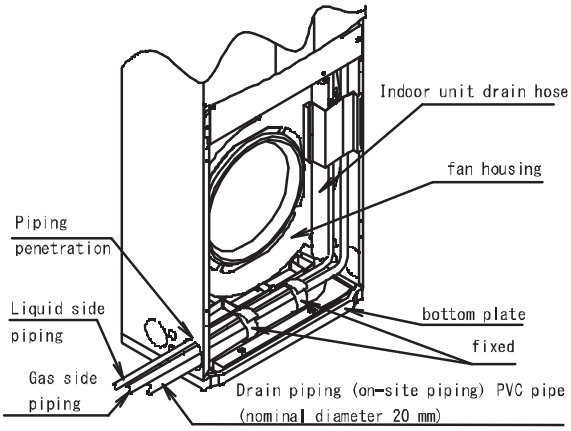
kinds	Refrigerant number	GWP
HFC	R32	675
HFC	R410A	2090

The type of refrigerant for the system to which this unit is connected is displayed on the outdoor unit.
To prevent global warming. it is necessary to recover fluorocarbons when relocating, repairing or disposing of the unit.

5 Drain piping work

(1) Install the drain piping.

- Install the drain piping so that it properly drains water. Also.please observe the following points to prevent water leakage.

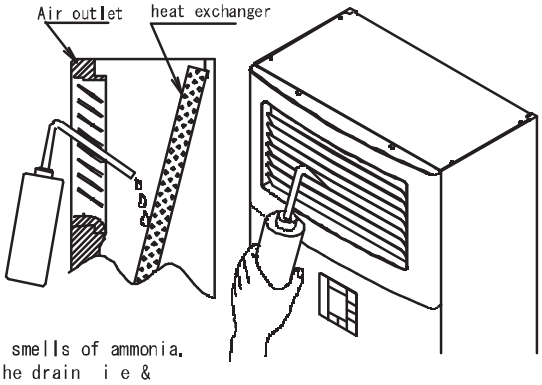


⚠ Note

- For the drain piping inside the unit, securely fasten it tothe refrigerant piping by bundling it as shown the diagram on the right to prevent any force from being applied to the drain hose of the indoor unit. Be sure to do this to prevent the drain pipe from coming loose or poor insulation. When doing so, make sure that the piping has a downward slope of 1/100 or more from drain piping inside the unit to preventair pockets from forming.
- If water accumulates in the drain pipe, it may cause drain to be clogged.
- Condensation may occur and cause water leakage.
  Be sure carry out insulation work in the following 2 places.
  - Drain piping that runs through the unit &indoors.
  - Connection between indoor unit drain hose &site drain pipe

(2) After installing the piping, check that the drain flows

- The air is blown directly onto the heat exchanger fins at an angle from the outlet.
  Gently pour in about 1 liter of water without splashing it.Please add water.
  * If the water pressure is too strong, it may pass through the heat exchanger and splash onto the fan motor below.
  *If water gets onto the inner wall in front, it may cause water leak.



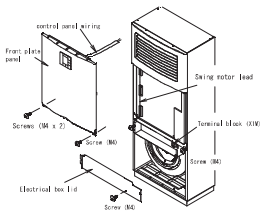
⚠ Note

- Seal pipe penetrations with putty or insulating material to prevent gaps for allowing small animals to get in.
- Drain piping connection
  Don't connect drain pipe to sewage or other water that smells of ammonia
  The ammonia component in the sewage will pass through the drain pipe & damage the heat exchanger of the indoor unit. It may cause corrosion.

6 When using the control panel as a remote control or as a child unit of a multi-unit system

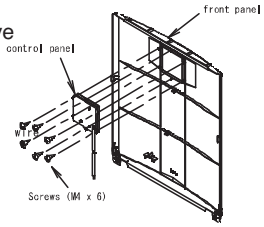
- By using locally procured remote control wiring, this unit can be used to install a separate control panel as a remote control.If you are installing it separately, please refer to the "Separate Remote Control Instal lation Instructions" section in the"Control Panel (Wired Remote Control) Instal lation Manual.
- For remote control wiring specifications
- Please refer to the "Standard Wiring Equipment Specifications" on website.

(1) Remove the electrical component box cover and disconnect the control panel wiring from the terminals (N and P) ofthe terminal block (X1M).

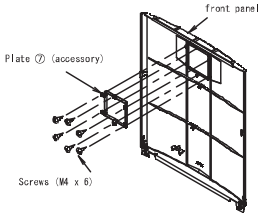


(2) Remove the front panel and then remove the control panel attached to the back,

- When removing the front panel, support it as it may fall.

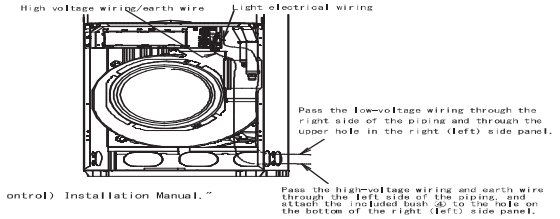


(3) Attach the included support plate tothe area of the front panel where thecontrol panel was removed.



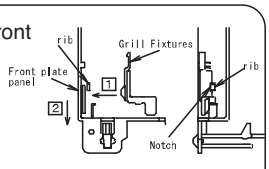
(4) Connect the remote control wiring (procured locally) to the terminals(N and P) of the terminal block (XIM) and route it outside the unit as shown in the diagram below. (There is no polarity.)

- Pass the remote control wiring through the inside of the pipe retainer plate.
- Low-voltage wiring(remote control wiring) is different from high-voltage wiring(indoor and outdoor connection wiring).
- Keep the cable at least 50mm away from the earth cable so that it does not run in the same place.(See the diagram below)



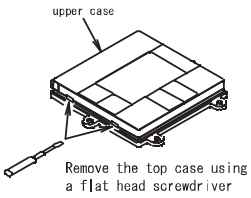
*If the grille fasteners come off when you remove the front panel, please reinstall them as follows:

1. Align the notches on the grill fixture with the ribs on the front panel and install it.
2. Lower the grill fixture.

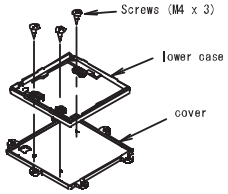


(5) Open the control panel and replace it with the remote control wiring (procured locally). For wiring instructions, refer to the "Control Panel (Wired Remote Control) Installation Manual."(The remote control wiring has no polarity.

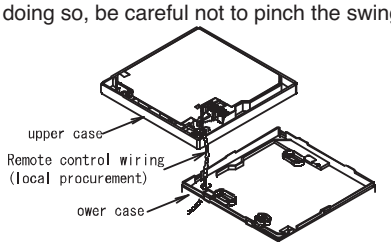
1 Remove the top case.



2 Remove the bottom case.
- A cover is not necessary.



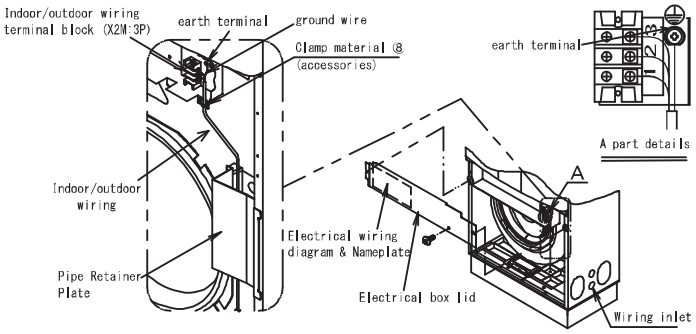
3 Please change the remote control wiring (procure locally).
- Reinstall the front panel and the work is complete. When doing so, be careful not to pinch the swing motor lead wires.



(6) After completing the wiring, assemble the indoor unit by referring to steps (1) to (4).

7 Electrical wiring work

- Electrical wiring work should be carried out by contractor certified by the power company.(Qualifications are required for electrical work and Class D grounding work.)
- Electrical work must be carried out by a licensed electrician who is familiar with Electricity Business Act, the Technical Standards for Electrical Equipment. and Please follow "Internal Wiring Regulations JEAC8001."
- Be sure to install a high-frequency compatible earth leakage breaker in the outdoor unit.(To prevent electric shock and fire, it is mandatory to install a ground fault circuit interrupter.)
- The wiring between the indoor and outdoor units, and between the indoor units, is 200V.
- Do not turn on the power (outdoor unit) until all work is completed.
- Be sure to carry out Class D grounding work. (The ground resistance value should be 100 Q or less.)Depending on the installation of the earth leakage breaker (current operation type), the protective earth resistance value can be applied. (If the earth leakage breaker is 30mA, 0. 1sec or less, The protective earth resistance value is relaxed to 500 Q or less in "places with high electrical hazards. such as places exposed to moisture" and "other places").Refer to the installation manual provided with the outdoor unit.



- Do not connect the earth wire to gas pipes, water pipes, lightning rods, or telephone lines.
  - Gas pipes ... Gas leaks can cause explosions and fires.
  - Water pipes: If hard vinyl pipes are used, there will be no earthing effect. -
  - Earthing of lightning rod & telephone line: This can cause an abnormal rise in earth potential when lightning
- For electrical wiring work, refer "Electrical Wiring Diagram Nameplate"affixed to lid of electrical equipment box.
- When using the control panel as a remote control or as a child unit of a multi-unit system,

Refer When using the control panel as a remote control or when using as a child unit of a multiunit system

⚠ warning

- When wiring, arrange the wires so that the electrical box lid does not |ift up, and attach the electrical box lid securely to prevent the wires from being pinched.(Pinching of electric wires or lifting of electrical equipment box lids can cause electric shock or fire.)

- Do not touch the printed circuit board when wiring, as this may cause a breakdown.
- To prevent small animals from entering the wiring inlet, seal it with putty or insulation material.(If insects or other small animals get inside aircraft, it may cause short circuit inside the electrical box.)

⚠ Note

- Outside the unit, keep low-voltage wiring (remote control wiring) at least 50 mm away from high-voltage wiring (indoor/outdoor connection wiring, earth wire, and other electrical wiring) toavoid running them in the same place. Electrical noise may result in malfunction or breakdown.

How to connect indoor/outdoor wiring and earth wire

- As shown in the diagram above, remove the electrical box cover & the piping retainer, connect the wiring to indoor/outdoor wiring (X2M) on the right side by matching the numbers, & connect the earth wire to the earth terminal. At this time, the wiring should be pulled into the machine through the wiring hole made in the refrigerant piping installation section, & ground wire should be connected to the both together with the clamp material 8. Cut off the excess material.
- Pass the indoor/outdoor interconnection wiring and the earth wire through the inside of the pipe retainer plate.(Make sure any remaining wiring fits into the location shown in diagram.

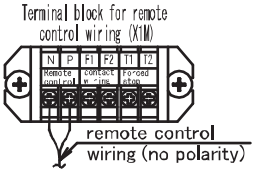
(How to connect the remote control miring terminal block)

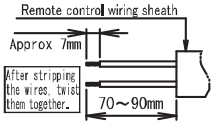
- If you use stranded wire,lo not solder it.

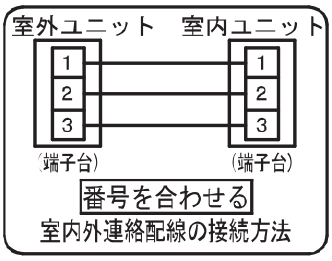
Prohibited

- Never connect indoor outdoor wiring (high voltage)

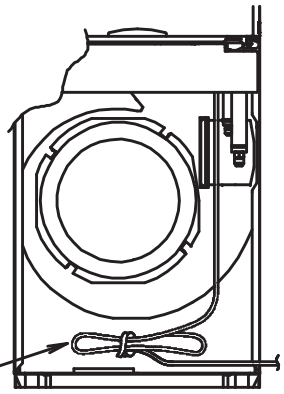
- Regarding connections Crimp terminals are not required. As described above, simply insert the wires with wires. unsheathed. Tighten the terminal screws with a. 88±0. 08N. M torque.





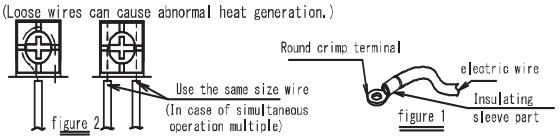


●はんだ仕上げを行わない。



Precautions when wiring indoors and outdoors and when wiring earth)

- Be sure to use a round crimp terminal that has been insulated with an insulating sleeve (see Figure 1).
  If you are unable to use the device for unavoidable reasons, be sure to observe the following points.
  - Connect as shown in Figure 2.
  - Stranded wire should be twisted and not soldered. Loose wires abnormal heat generation.)
- Use the specified wires to connect securely and fix the terminals so that no external force is applied to them.
- Use an appropriate screwdriver to tighten terminal screws.An incorrect sizeect size screwdriver can damage the screw head. Proper tightening is not possible.
- Overtightening the terminal screws may cause to be damaged.Fortightening torque of terminal screws, refer table below.



	Tightening torque (Nm)
Indoor/outdoor wiring terminal block	1.47±0.14
Earth terminal	1.47±0.14

Standard wiring device details

"Acoording to the internal wiring regulations JEAC8001 (latest version)"

- For the earth leakage breaker (-in the diagram), power wiring, earth wire, etc. (-in the diagram),please refer to the installation manual provided with the outdoor unit.
- The remote control wiring is locally procured. Please prepare by referring to the table on the right.
- For wiring other than the remote control wiring, please prepare as follows.
  - If using as a paired machine, please refer to Paired Machines.
  - If you are using it as a simultaneous operation multi-unit.
- The wiring specifications indicate a voltage drop of 2% at the maximum wiring length.

⚠ WARNING

- Outside the unit, keep low-voltage wiring (remote control wiring) at least 50 mm away from high-voltage wiring (indoor/outdoor connection wiring, earth wire, and other electrical wiring) toavoid running them in the same place. Electrical noise may result in malfunction or breakdown.

Remote control wiring specifications

Wiring type	Sheathed vinyl cord of caple 2-core
Wiring thickness	0.75~1.25mn
Total Length*	500m

When using group control, this is the total length of the system wiring.

Indoor/outdoor wiring specifications

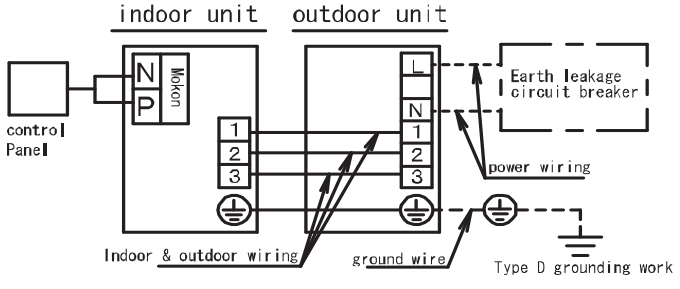
Wiring type	W Cable
Min. Wiring thickness	$2m^2$
Wiring Length*	Under 50m

Code usage restrictions

Do not use "cords" for indoor/outdoor wiring or power wiring. The "Technical Standards for Electrical Equipment" and "For paired machine Internal Wiring Regulations JEAC8001 (latest edition)" prohibit the use of "cords" for wiring that is fixed indoors. Example: VCTF (unusable), VV cable (usable)

For paired machine

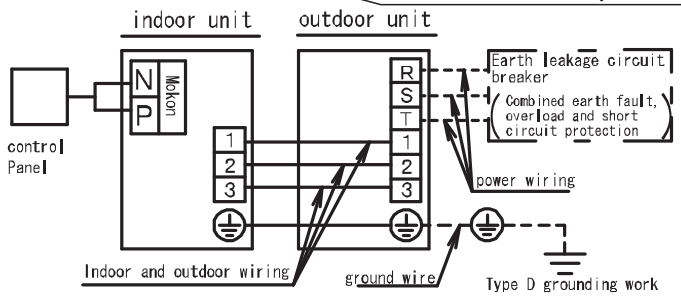
(For single-phase power supply)



Standard wiring device details

low phase power supply	Model	indoor unit	
		Ground wire (copper)	Indoor&outdoor wiring min. thickness
	P50・56・63・80	$2mm^2$ ϕ1.6mm	$2mm^2$ ϕ1.6mm

<For three-phase power supply)



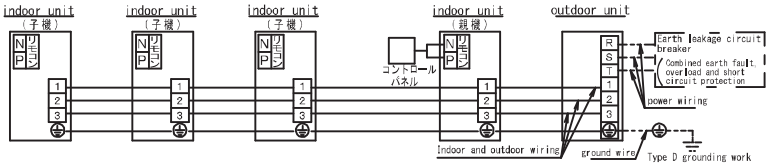
Standard wiring device details

	Model	indoor unit	
		Ground wire (copper)	Indoor&outdoor wiring min. thickness
Three phase power supply	P50・56・63・80・112・140・160	2mm² φ1.6mm	2mm² φ1.6mm

In case of simultaneous operation

(The diagram below shows a typical combination of indoor units.)

- When using this unit as child unit of a multi-unit system,



When using the control panel as a remote control or as a child unit of a multi-unit system

Standard wiring device details

indoor unit	
Ground wire (copper)	Indoor&outdoor wiring min. thickness
2mm² φ1.6mm	2mm² φ1.6mm

⚠ Note

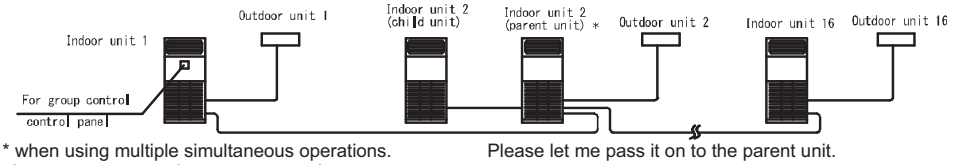
- Do not remove the parent unit's control panel (remote control) or its wiring.
- The control panel (remote control) wiring is only for the parent unit, and no crossover wiring is required between the child units. (Do not connect.)
- The indoor temperature sensor is only effective for the indoor unit to which the control panel is connected.
- The length of the indoor/outdoor wiring varies depending on the connected model, no. of units, & wiring size. For details, search D-SEARCH on website and refer to the technical guide.

Control wiring

- For remote control group control, please refer to Group Control.
- For remote control, please refer to 2 remote control control (controlling one indoor unit from the control panel and another remote control).
- If you wish to use centralized control equipment, please refer to "Centralized Control"

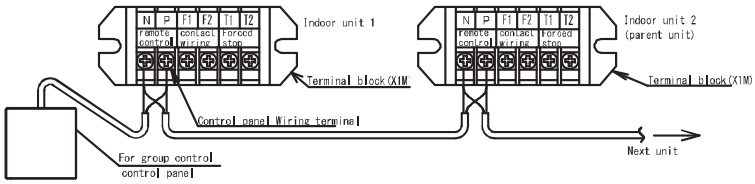
For group control

- When used as a paired unit or as the parent unit for simultaneous operation. multiple units (up to 16 units) can be controlled simultaneously (as a group) from the control panel.
- In this case, all indoor units in the group will operate according to the group control panel.



<Wiring method>

(1)When using the control panel as a remote control or as a child unit of a multi-unit system
Disconnect the group control panel and all of its wiring..
(2) Cross-wire the control panel wiring terminals (N/P) on the terminal block (X1M) inside the electrical equipment box.



Control wiring specifications

Wiring type	Sheathed vinyl cord or cable (2-core)
Wiring thickness	0.75～1.25mm²
Total length *	Maximum 500m

*When using group control, this is the total length ofthe system wiring.

2. Remote control (one indoor unit controlled from the control panel and a separate remote control)

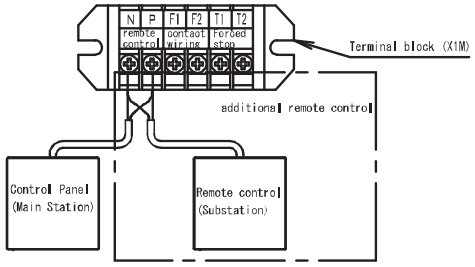
- When using remote control, set one of the control panel & remote control as the master station & other as slave station.
  [How to switch between master and slave station]
  Please refer to the “Control Panel(Wired Remote Control) Installation Manual.”

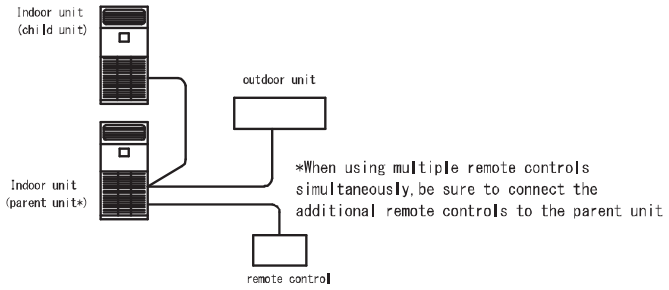
< Wiring Method>

(1) Remove the electrical box cover of the parent unit..

When using the control panel as a remote control or as a child unit of a multi-unit system

(2) Add the remote control (slave station) to the terminals (N and P) of the terminal block (X1M) in the electrical equipment box.
In the electrical equipment box. (There is no polarity)





For centralized control

- By connecting a centralized control device, the SkyAir series can be centrally as a single group.
- The control wiring must be procured locally. Please prepare it by referring to the table on the right.
- For information on the system and method for connect the centralized control device, please refer to the instruction manual a & search for D-SEARCH on website.
- Connect the central control device to the indoor unit that is connected to the control panel (remote control)

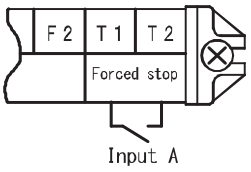
Control Wiring specifications

Wiring type	Sheated vinyl cord or cable (2-core)
Wiring thickness	0.75~1.25mm^2

When performing remote control (forced stop or start/stop operation)

1. Wiring method and specifications

- Remote control is possible by connecting an external input to the T1 &T2 terminals of the remote control wiring terminal block (X1M).
  * When using multiple units for simultaneous operation. make sure to connect the external input to the parent unit.



Wiring specifications	Sheathed vinyl cord or cable (2-core)
Wiring thickness	0.75～1.25mm^2
Wiring length	Maximum 100m
External contact specifications	Contacts capable of switching a minimum load of 15V DC and 1mA

2. How to select forced stop/start operation

- To select forced stop/on/off operation, you need to set it on the remote control.Please refer to. 9 Local Setting

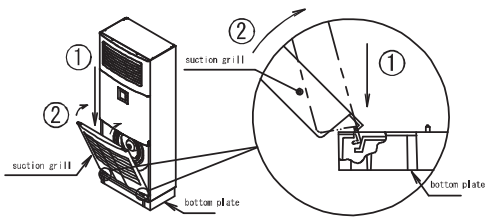
3. Operation details

- Input A for forced stop/on/off operation will be as shown in the table on the right.
  Input Afor forced stop/on/off operation will be as shown in the table on the right.

	Input A “ON”	Input A “OFF”
In case of forced stop	Forced stop (cannot be operated using remote control)	Operation can be stopped using the remote control
For start/stop operation	driving	Stop

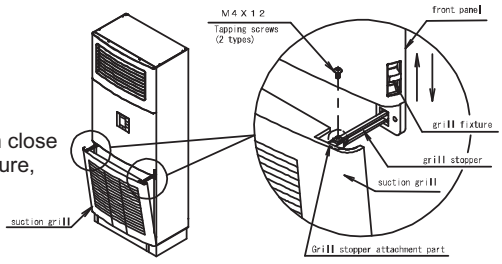
8 Installation of intake grill

(1) Insert the intake grill into the groove on the bottom plate in the order 1 and 2. (See the diagram below.)



(2) Insert the grill stopper that comes with the front panel into the groove on the grill stopper mounting section of the intake grille and screw it back in place.
(See the diagram on the right)
Be carefull not tighten the screws too much,

(3) Make sure the grill fixture is raised, and then close the intake grill. After closing it, lower the grill fixture,
(See the diagram on the right)



9 Local setting

During group control, settings are made collectively for the group. but if you want to set each indoor unit individually or check the settings after they have been made. use a mode number in the 20s. Please check all of the "(1) Items to check after installation is completed" on the front page.

- Make sure that all installation and piping work for the indoor and outdoor units is completed.
- Make sure that the indoor unit's electrical equipment box cover and the outdoor unit's outer panel and duct cover are closed.
  <After turning on the power, please perform the local settings from the control panel.
- The setting is done by switching between three options: "mode number." "setting switch number." and "setting position number."
- In the table indicates the factory default setting.
- The setting up procedure and operation method are described in the included "Control Panel (Wired Remote Control) Installation Manual."

⚠ Note

- The "Mode Number" setting is done for the group as a whole, but if you want to set it individually for each indoor unit or check the setting after it has been done Please set the mode number in parentheses

- Do not configure any settings other than those listed in the table.

Setting filter sign

- A message will appear on the LCD display on the control panel to inform you when it is time to clean the air filter.
  Change the setting position number as shown in the table below according to the amount of dirt and dust in the room.
- I long-life filter is standard equipment, but be sure to explain to customers that the filter needs to be cleaned regularly to prevent clogging and the set time for cleaning.

setting		mode number	Setting switch number	Setting position number		
				01	02	04
Cleaning time selection		10(20)	1	For long time	—	For short time
Filter dirt: large/small	long periods		0	Approx 2500 hr	Approx 1250 hr	—
	short periods			Approx 200 hr	Approx 100 hr	—
Displayed/Not displayed *			3	Displayed	No display	—

* Use the "No display" setting when the cleaning display is not required, such as when performing regular maintenance.

Airflow setting when thermostat is OFF

- Please consult with the customer to set it up according to the usage environment.
- When changing the airflow volume. please explain the set airflow volume to the customer

setting		mode number	Setting switch no.	Setting position no.
Fan stops when thermostat is off (cooling/heating)	Normal	11(21)	2	01
	Stop			02
Airflow when cooling thermostat is OFF	LL Air flow	12(22)	6	01
	Setting			02
Air volume when heating thermostat is OFF	LL air volume	12(22)	3	01
	Setting air volume			02

Setting the number of simultaneous multi-connection units

- When using as a simultaneous operation multi-unit, change the set position number according to the number of connected units as shwn in the table below,

setting	mode number	Setting switch no.	Setting position no.
Pair (1 connection)	11(21)	0	01
Twin multi (connection no.2)			02
Triple multi (connection no.3)			03

- If you want to separate the settings for the parent and child units , after completing the above settings, search for D-SEARCH on our website and refer to the installation manual for individual settings for multi-unit simultaneous operation.

  ① Search for the indoor unit model name on D-search.

  ② Search for "simultaneous operation multi" or "individual setting" in the drawing keywords.

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  Setting the airflow up mode

- The set airflow can be increased to fast. strong or weak depending on the installation condition or customer requirements.
  In that case, change the setting the setting position number as shown in the table below.

Setting	Mode number	Setting switch no.	Setting position no.
Standard	13(23)	0	01
Slightly up			02
Up			03

Remote contro (forced stop or on off operation) settings

- The "Mode Number" setting is done for the group as a whole, but if you want to set it individually for each indoor unit or check the setting after it has been done Please set the mode number in parentheses.

Setting	Mode number	Setting switch no.	Setting position no.
Forced stop	12(22)	1	01
Start/stop			02

<When using a wireless remote control>

- If you are using a wireless remote control, you will also need to set the wireless remote control address.For setup instructions, please refer to the installation manual that came with the wireless remote control.

10 Trial run

Please check all of the items listed under "(1) Check items after installation is completed"
Please also refer to the installation manual provided with the outdoor unit.

1. For a control panel, refer to the section on "Test Run" (How to diagnose faults) in the included "Control Panel (Wired Remote Control) Installation Manual."
2. For a wireless remote control, follow the instructions below.

- Make sure that all installation work for the indoor and outdoor units is completed.
- Make sure that indoor unit's electrical equipment box cover and the outdoor unit's outer panel and duct cover are closed.
- Clean the inside and front panel of the indoor unit, and perform a test run in accordance with the installation manual that came with the outdoor unit the put door unit to protect the machine. (recommend that a person qualified be present during the test run.)
- During the test run, check that the airflow direction and volume are as set and that the swing flap operates normally.
- If the interior work has not been completed by the end of the trial run, please explain to the customer that in order toWhen the t e een completed by the end of protect the indoor unit, they should not operate the unit until the interior work is completed.
(When the unit is in operation, the indoor unit can become contaminated by substances)
released from paints and adhesives used during constructions used during interior construction work, which can cause water splashes and leaks.
- If you are unable to operate the vehicle due to an abnormality, please refer to the How to diagnose faults below.

How to diagnose a fault

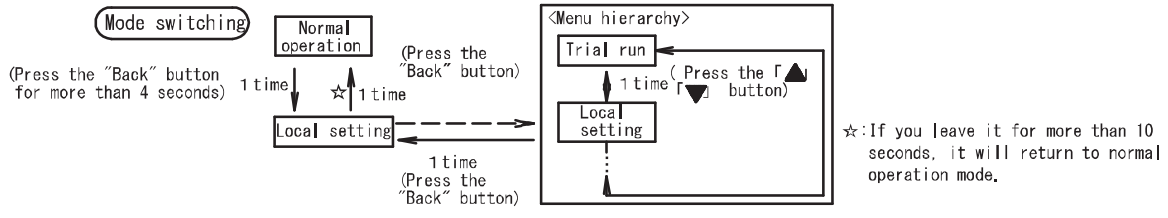
- When the power is on, you can view the error code via the control panel.
@Diagnosis using the LCD display on the control panel

1. For the control panel, please refer to the section on how to perform a test run (how to diagnose faults) in the included "Control Panel (Wired) Installation Manual."
2. When diagnosing using wireless remote control (please refer to instruction manual that comes with wireless remote control)
When an abnormal stop occurs. the operation lamp on the indoor unit display or on the separate light receiving unit.You can also perform the diagnosis shown in the table on the right using the error code found using the meth(If you want to reset the error code, see (Note 1).)

(1) Press & hold the"Back" button for more than four seconds. The icon will light up &the local settings menu displayed.
(2) Use the [▲] & [▼] buttons to select and then press the "Confirm" button.
(3) Press the [▲] & [▼] button to find the unit number that has stopped abnormally.
- Number of received tones Three times: perform operations (4). (6). and (7).
Twice: perform operations (4). (6). and (7)
Once: perform operations (4). and (8)
Continuously: No abnormalities.

(4) When you press the "Confirm button, the upper digits of the error code will be inverted.
(5) Press the "▲" or "▼" button until you hear two receiving tones to find the upper code.
(6) When you press th"Confirm" button, the lower digits of the error code will be inverted.
(7) Press the"▲" or "▼" button until you hear a continuous receiving tone to find the lower level code.
(8) Press the "▲" or "▼" button until you hear a continuous receiving tone to find the upper code.
- Number of received tones Three times: perform operations (4). (6). and (7).

(Note) 1. On the abnormality diagnosis screen, if you press and hold the "Run/Stop" button for more than five seconds.
In this case, the display will flash twice, after which the error code "0 0"(= normal) and unit number will be "0".Pressing the "Back" button twice will return to normal operation mode (set temperature display).



<Error code list>

* Error codes may or may not be displayed depending on the type of indoor/outdoor unit.
* If the error code is in white, the system will still operate, but be sure to inspect and repair it.

Error code	content . process	remarks
A0—11	Refrigerant leak detection	If refrigerant leak detected, indoor unit fan will operate automatically.
A1	Indoor printed circuit board failure	
A3	Drain water level abnormality	
A6	Indoor fan motor Overload, overcurrent, lock Poor connection between indoor printed circuit boards	

⚠ Note

- After test run is completed, please check the items in(2) at the time of delivery on the front side.

If the interior work has not been completed by the end of the trial run, we will instruct the customer not to operate the machine until the interior work is completed to protect the machine.
(If the machine is operated, it will be contaminated by substances generated by the paint and adhesives used during the interior work, which may cause water splashes leaks.

A8	Fan PCB power supply abnormality	
AF	Humidifier system abnormality	
AH	Air purifier (dust collection/deodorization) unit malfunction	Only the air purification unit is not functioning. Abnormal stop will be performed depending on the model
AJ	Incorrect capacity setting	Incorrect setting of the capacity setting adapter orcapacity data, or the capacity setting adapter is disconnected or forgotten to be plugged in, or capacity is not set in the data retention IC.
C1	Poor transmission between indoor printed circuit board (parent) and indoor printed circuit board (child)	
C4	Indoorheat exchangerpipe temperature sensor abnormality	
C5	Indoorheat exchanger temperature sensor abnormality	Abnormal stop will be based on model or conditions.
C6	Fan PCB setting failure	
C9	Abnormal intake air temperature sensor	
CC	Humidity sensor error	
CE	Human detection/floor temperature sensor abnormality	
CH-01	Refrigerant leak detection sensor abnormality	
CH-02	Refrigerant sensor life warning	The refrigerant sensor has reached the end of its life. Please replace it immediately.
CH-05	Refrigerant sensor replacement warning	The refrigerant sensor is nearing the end of its life. Please replace it.
CJ	Remote control air temperature sensor error	The remote control thermistor will not function,but operation possible using the indoor unit's suction temperature sensor.
E0	Protective device activated (Outdoors)	
E1	Outdoor printed circuit board failure (Outdoors)	
E3	High pressure abnormality (Outdoors)	
E4	Low pressure abnormality (Outdoors)	
E5	Compressor motor lock error (Outdoors)	
E7	Outdoor fan motor lock error (Outdoors) Outdoor fan instantaneous overcurrent error	
E9	Electronic expansion valve abnormality (Outdoors)	
EA	Abnormality due to poorswitchingfour-wayvalve (Outdoors)	
F3	Discharge pipe temperature abnormality (Outdoors)	
H3	High pressure switch failure (Outdoors)	
H4	Low pressure switch failure (Outdoors)	
H7	Outdoor fan motor position signal error (Outdoors)	
H9	Outside air temperature sensor abnormality (Outdoors)	Abnormal stop will be based on model or conditions.
J1	Pressure sensor system abnormality (all) (Outdoors)	
J2	Current sensor abnormality (Outdoors)	
J3	Discharge pipe temperature sensor abnormality (Outdoors)	Abnormal stop will be based on model or conditions.
J5	Abnormality in intake pipe temperature sensor (Outdoors)	
J6	Outdoor heat exchanger temperature sensor abnormality (Outdoors)	Abnormal stop will be based on model or conditions.
J7	Outdoor heat exchanger condensation/ evaporation temperature sensor abnormality (Outdoors)	Abnormal stop will be based on model or conditions.
J8	Liquid pipe temperature sensor abnormality (Outdoors)	Abnormal stop will be based on model or conditions.
J9	Supercooling heat exchange outlet temperature sensor abnormality (Outdoors)	
JA	Discharge pipe pressure sensor system abnormality (Outdoors)	
JC	Abnormality intake pipe pressure sensor system (Outdoors)	
L1	Inverter system abnormality (Outdoors)	
L3	Reactor thermistor abnormality (Outdoors)	
L4	Heat sink temperature rise (Outdoors)	Inverter cooling failure
L5	Instantaneous overcurrent (Outdoors)	There is a possibility of a compressor motor ground fault or short circuit.
L8	electronic thermal (Outdoors)	The compressor motor may be overloaded or broken.
L9	Stall prevention (Outdoors)	The compressor may be locked.
LC	Inverter:Transmission error outdoor control unit	
P1	Phase loss (Outdoors)	
P3	DCL sensor system error (Outdoors)	
P4	Heat sink temperature sensor abnormality (Outdoors)	An abnormal stop will be performed depending on the model
P6	DC output current sensor error (Outdoors)	
PJ	Incorrect capacity setting (Outdoors)	Incorrect setting of the capacity setting adapter or capacity data, or the capacity setting adapter is disconnected or forgotten to be plugged in, or capacity is not set in the data retention IC.
U0	Gas shortage abnormality (Outdoors)	There may be a refrigerant shortage. An abnormal stop will be performed depending on the model or conditions.
U1	Phase loss (Outdoors)	Please swap two phases (R, S, andT)of three-phase power supply.
U2	Abnormal power supply voltage (Outdoors)	There is a possibility of inverter phase loss or main circuit capacitor failure. An abnormal stop will be performed depending on the model or conditions.
U4 UF	Transmission failure (between indoor and outdoor units)	The wiring between the indoor and outdoor units is incorrect. Or, the indoor or outdoor printed circuit board is faulty.
U5	Transmission failure(indoor unit &remote control)	Transmission between indoor unit & remote control is not working properly.
U8	Transmission error master and slave remote controllers	
UA	Bad local settings	Incorrect system settings for simultaneous operation. Remote control wiring may passing between indoor unit.
UC	Concentrated address duplication	
UE	Transmission failure (indoor-central)	

⚠ For those conducting trial operation

After trial run is completed and before handing over the unit to the customer, please make sure that electrical equipment box lid is attached. Also, please explain to the customer the status of the power breaker (power ON/OFF/tripped)