



Installation, Operation, and Maintenance

Multi Variable Air Conditioners

Console Type Indoor Unit

Model Number:

TRN-IL07A1

TRN-IL09A1

TRN-IL12A1

TRN-IL18A1

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

⚠ AVERTISSEMENT DE SÉCURITÉ

Seul le personnel qualifié doit installer et procéder à l'entretien des équipements. L'installation, le démarrage et la réparation des équipements de chauffage, de ventilation et de climatisation peuvent être dangereux et nécessitent une formation et des connaissances spécifiques. Un équipement mal installé, réglé ou modifié par un individu non qualifié peut entraîner des blessures graves, voire mortelles. Lors de toute intervention sur l'équipement, respectez toutes les précautions figurant dans la documentation et sur les étiquettes et autocollants fixés à l'équipement.

Preface

For correct installation and operation, please read all instructions carefully. Before reading the instructions, please be aware of the following items:

⚠ WARNING	
(1)	The design standard of multi VRF system conforms to related standard of sales countries.
(2)	To ensure safety when operating this system, please strictly follow the instructions in this manual.
(3)	The total capacity of running indoor units must not exceed that of the outdoor units. Otherwise, the cooling (heating) effect of each IDU would be poor.
(4)	Make sure that this manual is kept by direct operators and maintainers.
(5)	If the product needs to be installed, moved or maintained, please contact our designated dealer or local service center for professional support. Users should not disassemble or maintain the unit by themselves, otherwise it may cause relative damage, and our company will bear no responsibilities.
(6)	All the illustrations and information in the instruction manual are only for reference. In order to make the product better, we will continuously conduct improvement and innovation. If there is adjustment in the product, please subject to actual product.
(7)	Under the standby status, the unit will consume a little power for ensuring reliability of the complete unit, maintaining normal communication and preheating refrigerant. When the unit won't be used for a long time, please cut off the power of the complete unit. However, please preheat it when operating the unit next time.

User Notice	
	DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

Exception Clauses	
Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons:	
(1)	Damage the product due to improper use or misuse of the product.
(2)	Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer.
(3)	After verification, the defect of product is directly caused by corrosive gas.
(4)	After verification, defects are due to improper operation during transportation of product.
(5)	Operate, repair, maintain the unit without abiding by instruction manual or related regulations.
(6)	After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers.
(7)	The damage is caused by natural calamities, bad using environment or force majeure.

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1 Safety Notices (Please be sure to abide them)

⚠ DANGER If not abide them strictly, it may cause severe damage to the unit or the people.

⚠ WARNING If not abide them strictly, it may cause slight or medium damage to the unit or the people.

⚠ CAUTION This sign indicates that the items must be prohibited. Improper operation may cause severe damage or death to people.

NOTICE This sign indicates that the items must be observed. Improper operation may cause damage to people or property.

⚠ WARNING	
(1)	This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for above special places, please adopt special air conditioner with anti-corrosive or anti-explosion function.
(2)	Follow this instruction to complete the installation work. Please carefully read this manual before unit startup and service.
(3)	Wire size of power cord should be large enough. The damaged power cord and connection wire should be replaced by exclusive cable.
(4)	After connecting the power cord, please fix the electric box cover properly in order to avoid accident.
(5)	Never fail to comply with the nitrogen charge requirements. Charge nitrogen when welding pipes.
(6)	Never short-circuit or cancel the pressure switch to prevent unit damage.
(7)	Please firstly connect the wired controller before energization, otherwise wired controller can not be used.
(8)	Before using the unit, please check if the piping and wiring are correct to avoid water leakage, refrigerant leakage, electric shock, or fire etc.
(9)	Do not insert fingers or objects into air outlet/inlet grille.
(10)	Open the door and window and keep good ventilation in the room to avoid oxygen deficit when the gas/oil supplied heating equipment is used.
(11)	Never start up or shut off the air conditioner by means of directly plug or unplug the power cord.
(12)	Turn off the unit after it runs at least five minutes; otherwise it will influence oil return of the compressor.
(13)	Do not allow children operate this unit.
(14)	Do not operate this unit with wet hands.
(15)	Turn off the unit or cut off the power supply before cleaning the unit, otherwise electric shock or injury may happen.
(16)	Never spray or flush water towards unit, otherwise malfunction or electric shock may happen.
(17)	Do not expose the unit to the moist or corrosive circumstances.
(18)	Under cooling mode, please don't set the room temperature too low and keep the temperature difference between indoor and outdoor unit within 5°C (41°F).
(19)	User is not allowed to repair the unit. Fault service may cause electric shock or fire accidents. Please contact our designated dealer or local service center for help.
(20)	Before installation, please check if the power supply is in accordance with the requirements specified on the nameplate. And also take care of the power safety.
(21)	Installation should be conducted by dealer or qualified personnel. Please do not attempt to install the unit by yourself. Improper handling may result in water leakage, electric shock or fire disaster etc.
(22)	Be sure to use the exclusive accessory and part to prevent the water leakage, electric shock and fire accidents.
(23)	Make sure the unit can be earthed properly and soundly after plugging into the socket so as to avoid electric shock. Please do not connect the ground wire to gas pipe, water pipe, lightning rod or telephone line.
(24)	Electrify the unit 8 hours before operation. Please switch on for 8 hours before operation. Do not cut off the power when 24 hours short-time halting (to protect the compressor).
(25)	If refrigerant leakage happens during installation, please ventilate immediately. Poisonous gas will emerge if the refrigerant gas meets fire.

⚠ WARNING

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| (26) Volatile liquid, such as diluent or gas will damage the unit appearance. Only use soft cloth with a little neutral detergent to clean the outer casing of unit. |
| (27) If anything abnormal happens (such as burning smell), please power off the unit and cut off the main power supply, and then immediately contact our designated dealer or local service center. If abnormality keeps going, the unit might be damaged and lead to electric shock or fire. |
| (28) 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. |
| (29) Setting the unit at an angle opposite to the drain piping might cause leaks. |
| (30) Be extremely careful when transporting the units. 2 or more persons are needed to handle the unit, as it weighs 20 kg, 44 lbs or more. Do not grasp the packaging bands. Wear protective gloves to remove the unit from the packaging and to move it, as you can injure your hands on the fins or the edge of other parts. |
| (31) The base and attachments of the outdoor unit must be periodically checked for looseness, cracks or other damage. If such defects are left uncorrected, the unit may fall down and cause damage or injuries. |
| (32) Before starting operation, check that all panels, guards and other protective parts are correctly installed. Rotating, hot, or high voltage parts can cause injuries. |
| (33) Do not touch any switch with wet hands. Electric shock may result. |
| (34) Do not touch the refrigerant pipes with bare hands during operation. The refrigerant pipes are hot or cold depending on the condition of the flowing refrigerant. If you touch the pipes, burns or frostbite may result. |
| (35) Incorrect installation of the indoor unit may result in inadequate drainage, potentially causing bacterial growth and associated health hazards. Inadequate drainage may also lead to corrosion of the unit. |
| (36) When removing the air filter, wear appropriate eye protection. Include gas handling procedures to prevent exposure to toxic and hazardous gases. |
| (37) Improper installation, adjustment, alteration, service, maintenance, abolish, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. |
| (38) HVAC systems may experience operational disruptions due to electromagnetic interference (EMI), potentially affecting medical devices and broadcast signal transmissions. Conversely, variable-frequency drives (VFDs), dedicated generators, high-frequency medical devices, and radio communication equipment may also interfere with HVAC system operation. |

If the product needs to be installed, moved or maintained, please contact our designated dealer or local service center for professional support, otherwise our company would bear no legal reliability for the related damages arising therefrom.

2 Installation of Indoor Unit

- (1) Selection of Installation location.
 - 1) Such a place where cool air can be distributed throughout the room.
 - 2) Such a place where condensation water is easily drained out.
 - 3) Such a place that can handle the weight of indoor unit.
 - 4) Such a place which has easy access for maintenance.
 - 5) The appliance shall not be installed in the laundry.
- (2) There are 2 styles of installation.
 - 1) Wall mounted.
 - 2) Floor type.

Each type is similar to the other as follows.

2.1 Indoor Unit

The indoor unit should be sited in a place where:

- (1) The restrictions on installation specified in the indoor unit installation drawings are met.
- (2) Both air intake and exhaust have clear paths met.

- (3) The unit is not in the path of direct sunlight.
- (4) The unit is away from the source of heat or steam.
- (5) There is no source of machine oil vapour (this may shorten indoor unit life).
- (6) Cool (warm) air is circulated throughout the room.
- (7) The unit is away from electronic ignition type fluorwscent lamps (inverter or rapid stert type) as they may shorten the remote controller range.
- (8) The unit is at least 1 metre away from any television or radio set (unit may cause interference with the picture or sound).

Cautions for Installation where air conditioner troubleis liable toooccur.

- 1) Where there is too much of oil area.
- 2) Where it is acid base area.
- 3) Where there is irregular electrical supply.

Indoor Unit Installation Drawings.

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

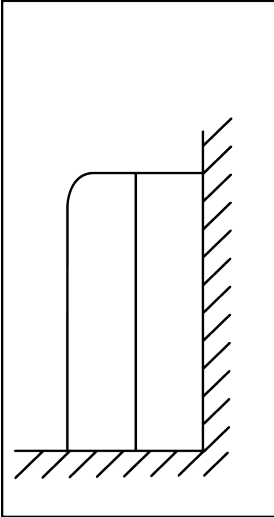
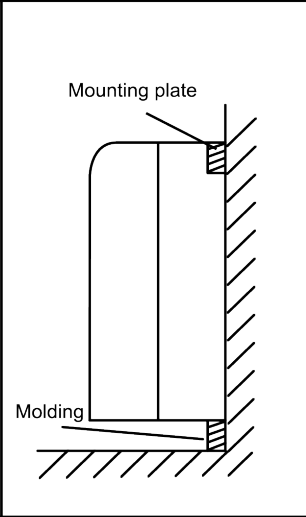
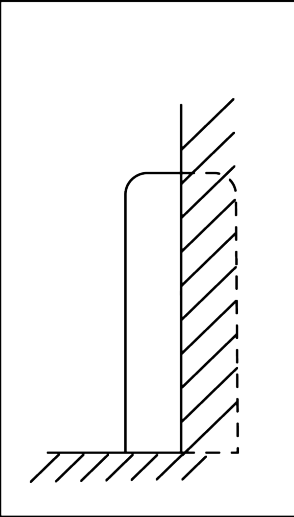
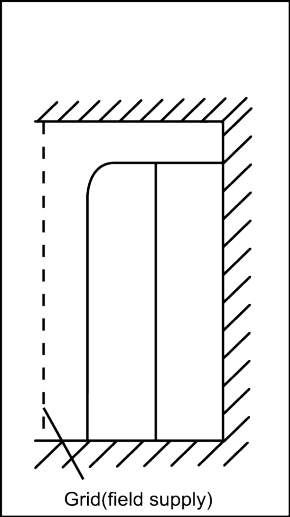
Exposed		Half concealed	Concealed
			
Floor Installation	Wall Installation		

Fig.1

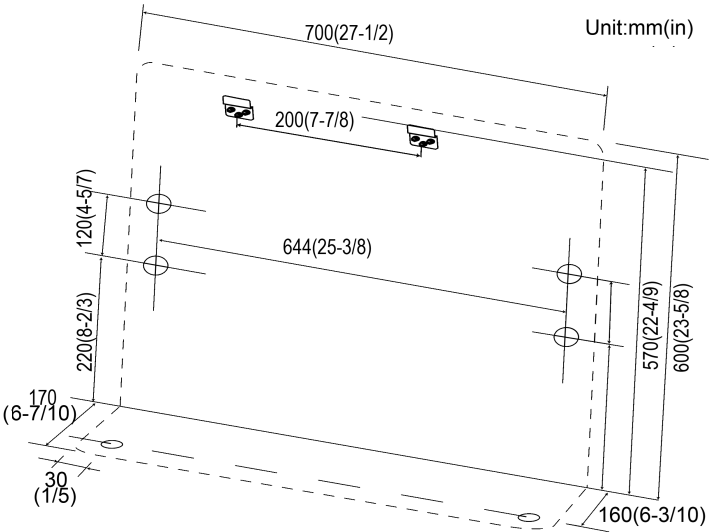


Fig.2

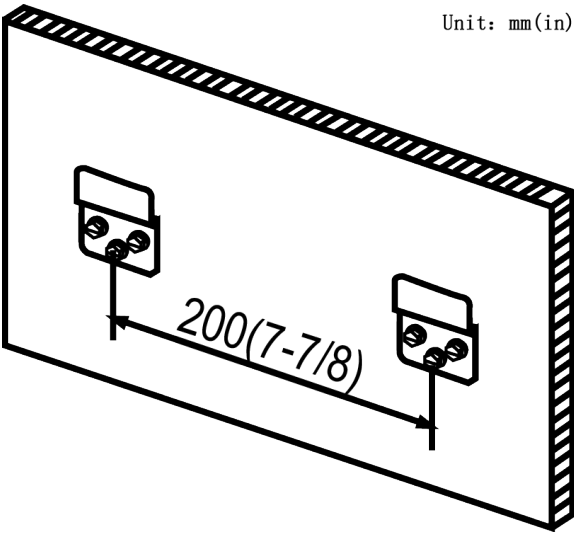


Fig.3

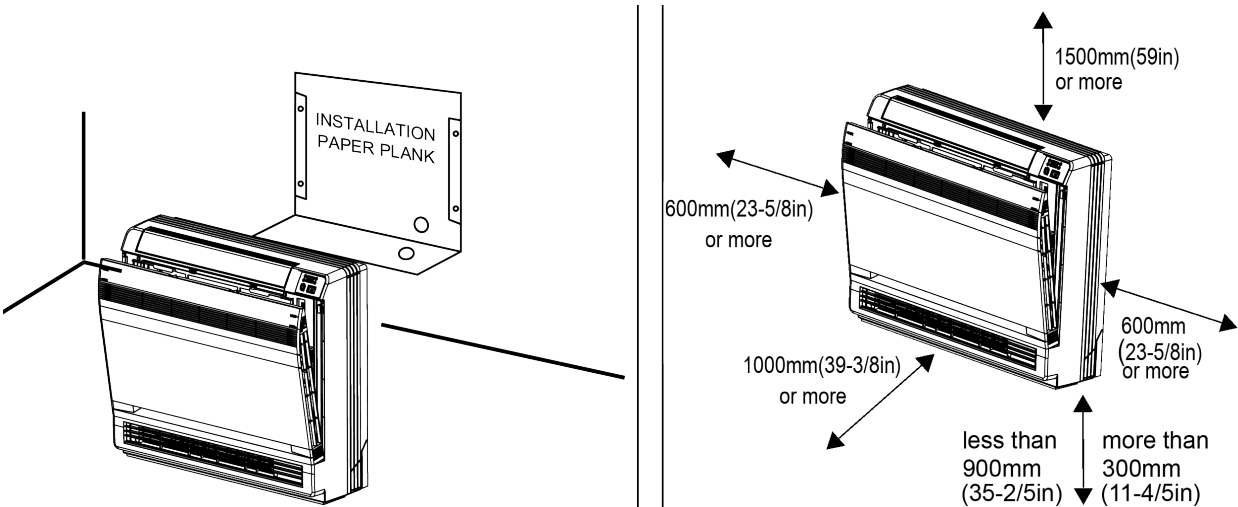


Fig.4

Location for securing the installation pane and Schematic drawing of hooks

2.2 Refrigerant Piping

⚠ WARNING

- (1) The wall thickness of field-installed pipes should be selected in accordance with the relevant local, state, and national regulations.
- (2) Store the pipes to be used during installation indoors and keep both ends of the pipes sealed until just before brazing. (Leave elbow joints, etc. in their packaging.) If dust, debris, or moisture enters the refrigerant lines, oil deterioration or compressor breakdown may result.
- (3) Be sure to use the insulation of specified thickness. Excessive thickness may cause incorrect installation of the indoor unit and lack of thickness may cause dew drippage.
- (4) Use leak detector or soapy water to check for gas leaks after connections are completed.

- (1) Drill a hole (65mm (2-5/9in.) in diameter) in the spot indicated by O the symbol in the illustration and below.
- (2) The location of the hole is different depending on which side of the pipe is taken out.
- (3) For piping, see connecting the refrigerant pipe, under Indoor Unit Installation.
- (4) Allow space around the pipe for a easier indoor unit pipe connection.

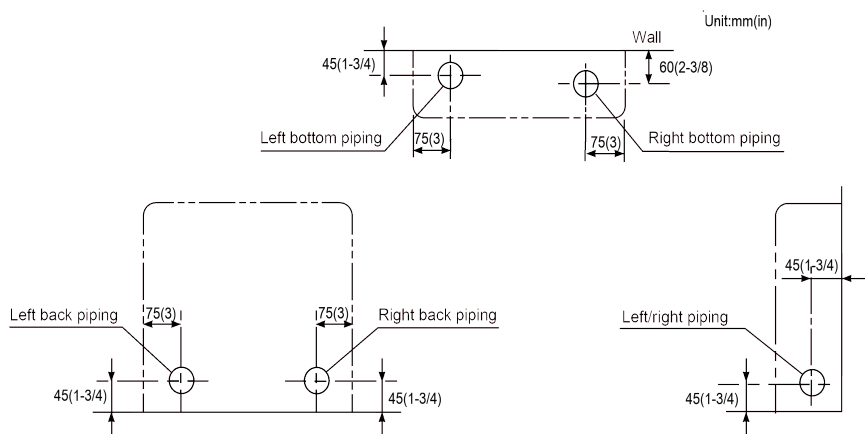


Fig.5

NOTICE

- (1) The suggested shortest pipe length is 2.5m(8-1/5ft.), in order to avoid noise from the outdoor unit and vibration.
- (2) Mechanical noise and vibration may occur depending on how the unit is installed and the environment in which it is used.
- (3) Be careful in bending the connection pipes, or you would damage the pipes.
- (4) If the tightening torque for the flare nut is too great, leakage would happen.
- (5) To cut pipes, use a pipe cutter, not a grinder or other tools that use abrasive materials.
- (6) When cutting or deburring pipes, do not allow cutting chips or other foreign matters to enter the pipes. If cutting chips or other foreign matters enter pipes, wipe them off the inside of the pipes.
- (7) Refrigerant pipe bending radius must be 4" (100 mm) or more.
- (8) Use 2 wrenches to tighten piping connections.
- (9) Ensure that the 2 refrigerant pipes are insulated to prevent condensation.
- (10) Increase insulation depending on the environment where the refrigerant piping is installed, or condensation may occur on the surface of the insulation material.

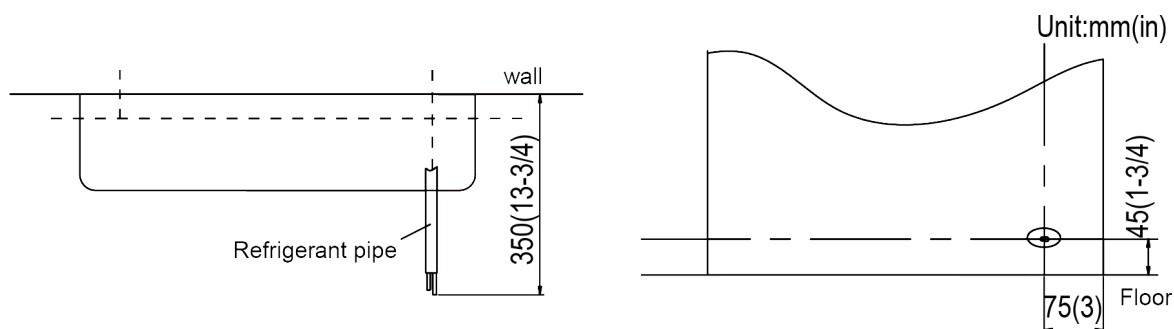


Fig.6

Boring a wall hole and installing wall embedded pipe.

For walls containing metal frame or metal board, be sure to use a wall embedded pipe and wall cover in the feed-through hole to.

Be sure to caulk the gaps around the pipes with caulking material to prevent water leakage.

- (1) Bore a feed-through hole of 65mm(2-5/9in.) in the wall so it has a down slope toward the outside.

- (2) Insert a wall pipe into the hole.
- (3) Insert a wall cover into wall pipe.
- (4) After completing refrigerant piping, wiring, and drain piping, caulk pipe hole gap with putty.

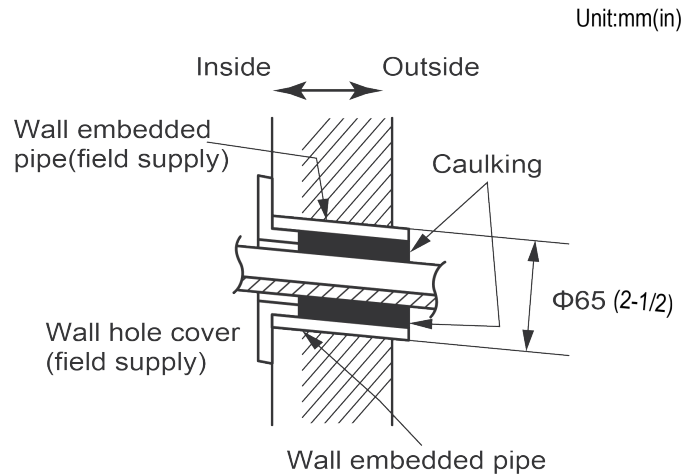


Fig.7

2.3 Drain Piping

- (1) Use commercial rigid polyvinyl chloride pipe general VP 20 pipe, outer diameter 26mm(1in.), inner diameter 20mm(3/4in.) for the drain pipe.
- (2) The drain hose (outer diameter 18mm(7/10in.) at connecting end, 220mm(8-2/3in.) long) is supplied with the indoor unit. Prepare the drain pipe picture below position.
- (3) The drain pipe should be inclined downward so that water will flow smoothly without any (Should not be trap).
- (4) Insert the drain hose to this depth so it won't be pulled out of the drain pipe.
- (5) Insulate the indoor drain pipe with 10mm(2/5in.) or more of insulation material to prevent condensation.
- (6) Remove the air filters and pour some water into the drain pan to check the water flows smoothly.
- (7) It is not allowed to connect the condensate drain pipe into waste pipe or other pipelines which are likely to produce corrosive or peculiar smell to prevent the smell from entering indoors or corrupt the unit.
- (8) It is not allowed to connect the condensate drain pipe into rain pipe to prevent rain water from pouring in and cause property loss or personal injury.
- (9) Condensate drain pipe should be connected into special drain system for air conditioner.

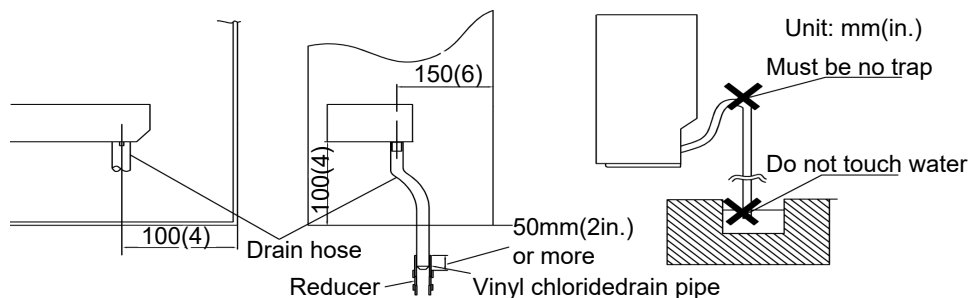


Fig.8

2.4 Installing Indoor Unit

2.4.1 Preparation

- (1) Open the front panel, remove the 4 screws and dismount the front grille while pulling it forward.
- (2) Follow the arrows to disengage the clasps on the front case to remove it.
- (3) Follow the procedure below when removing the slit portions.

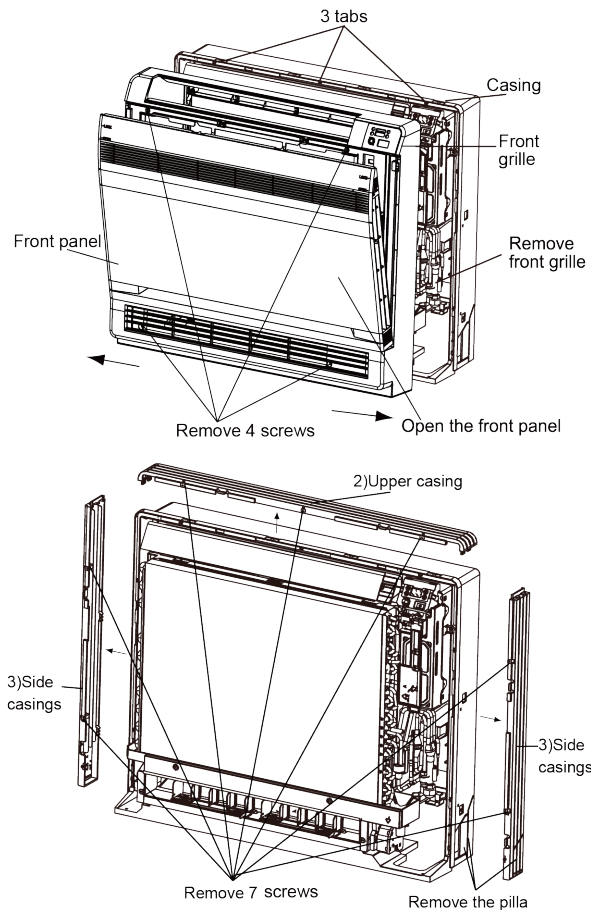


Fig.9

For Moldings:

Remove the pillars (Remove the slit portions on the bottom frame using nippers).

For Side Piping:

Remove the pillars.

- (1) Remove the 7 screws.
- (2) Remove the upper casing (2 tabs).
- (3) Remove the left and right casings (2 tabs on each side).
- (4) Remove the slit portions on the bottom frame and casings using nippers.
- (5) Return by following the steps in reverse order (3>2>1).

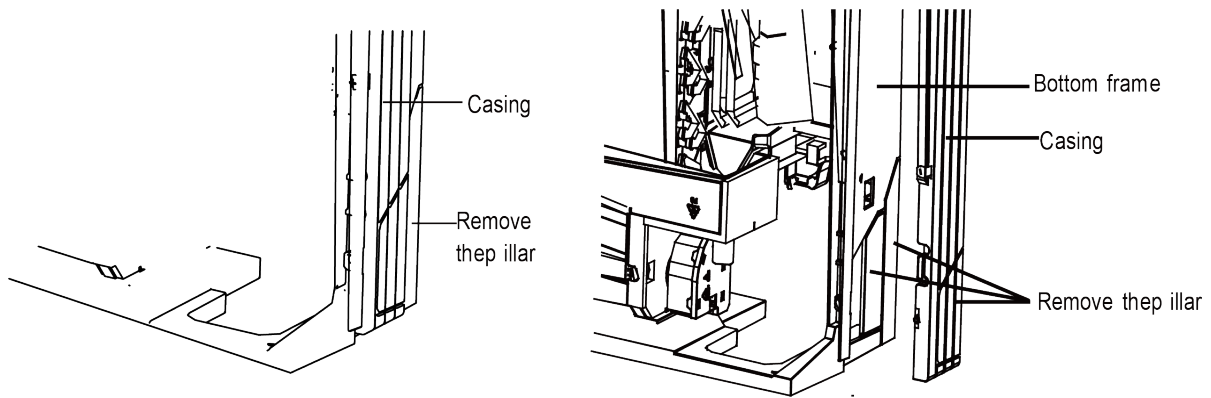


Fig.10

2.4.2 Installation

Secure using 6 screws for floor installations (Do not forget to secure to the rear wall).

For wall installations, secure the mounting plate using 5 screws and the indoor unit using 4 screws.

The mounting plate should be installed on a wall which can support the weight of the indoor unit.

- (1) Temporarily secure the mounting plate to the wall, make sure that the panel is completely level, and mark the boring points on the wall.
- (2) Secure the mounting plate to the wall with screws.

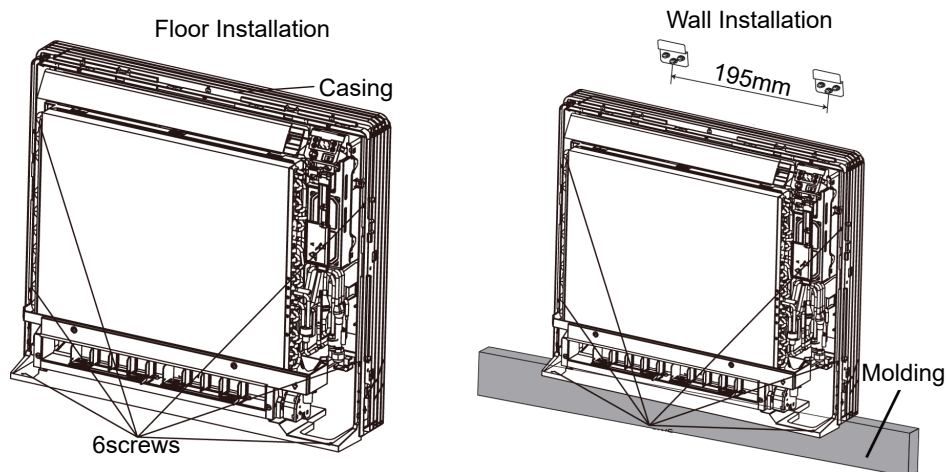


Fig.11

- (3) Once refrigerant piping and drain piping connections are complete, fill in the gap of the through hole with putty. A gap can lead to condensation on the refrigerant pipe, and drain pipe, and the entry of insects into the pipes.
- (4) Attach the front panel and front grille in their original positions once all connections are complete.

Flaring the pipe end.

- (1) Cut the pipe end with a pipe cutter.
- (2) Remove burrs with the cut surface facing downward so that the chips do not enter the pipe.
- (3) Fit the flare nut on the pipe.
- (4) Flare the pipe.
- (5) Check that the flaring is properly made.

⚠ WARNING

- (1) Do not use mineral oil on flared part.
- (2) Prevent mineral oil from getting into the system as this would reduce the lifetime of the units.
- (3) Never use piping which had been used for previous installations. Only use parts which are delivered with the unit.
- (4) Do never install a drier to this R410A unit in order to guarantee its lifetime.
- (5) The drying material may dissolve and damage the system.
- (6) Incomplete flaring may cause refrigerant gas leakage.

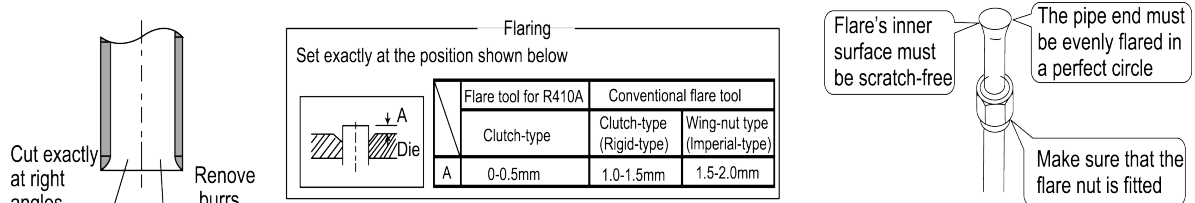


Fig.12

Connecting the refrigerant pipe:

- (1) Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and gas leaks.

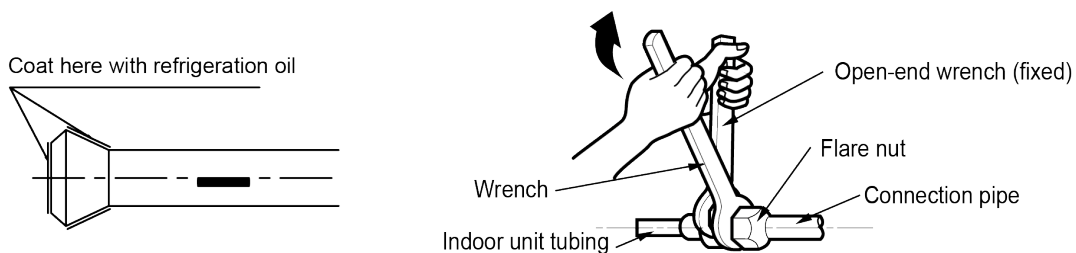


Fig.13

- (2) Align the centres of both flares and tighten the flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the torque wrenches.
- (3) To prevent gas leakage, apply refrigeration oil on both inner and outer surfaces in the flare (Use refrigeration oil for R410A).

Flare nut tightening torque		
Gas side		Liquid side
07/09 class	12/18 class	07/09/12/18 class
3/8 inch	1/2 inch	1/4 inch
32.7-39.9 N.m (333-407kfg.cm)	49.5-60.3 N.m (505-615kfg.cm)	14.2-17.2 N.m (144-175kfg.cm)

Caution on piping handling:

- (1) Protect the open end of the pipe against dust and moisture.
- (2) All pipe bends should be as gentle as possible. Use a pipe bender for bending.
(Bending radius should be 30 to 40mm (1-1/5in. to 1-4/7in.) or larger).

Selection of copper and heat insulation materials:

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

- (3) Insulation material: Polyethylene foam.

Heat transfer rate: 0.041 to 0.052W/mK (0.035 to 0.045kcal/(mh°C)).

Refrigerant gas pipe's surface temperature reaches 110°C(230°F) max.

Choose heat insulation materials that will withstand this temperature.

- (4) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

Gas side		Liquid side	Gas pipe thermal insulation		Liquid pipe thermal insulation
07/09 class	12/18 class	—	07/09 class	12/18 class	—
O.D.9.52mm (3/8in.)	O.D.12.7mm (1/2in.)	O.D.6.35mm (1/4in.)	I.D.12-15mm (1/2 - 3/5in.)	I.D.14-16mm (9/16 -5/8in.)	I.D.8-10mm (5/16 - 2/5in.)
Thickness 0.8mm(1/32in.)			Thickness 10mm(2/5in.) Min.		

- (5) Use separate thermal insulation pipes for gas and liquid refrigerant pipes.

Checking for gas leakage.

- (1) Check for leakage of gas after air purging.
(2) See the sections on air purges and gas leak checks in the installation manual for the outdoor unit.

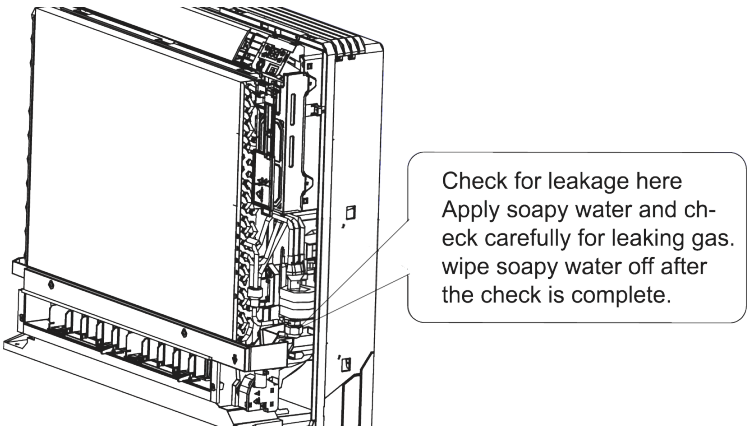


Fig.14

Attaching the connection pipe.

Attach the pipe after checking for gas leakage, described above.

- (1) Cut the insulated portion of the on-site piping, matching it up with the connecting portion.
(2) Secure the slit on the refrigerant piping side with the butt joint on the auxiliary piping using the tape, making sure there are no gaps.
(3) Wrap the slit and butt joint with the included insulation sheet, making sure there are no gaps.

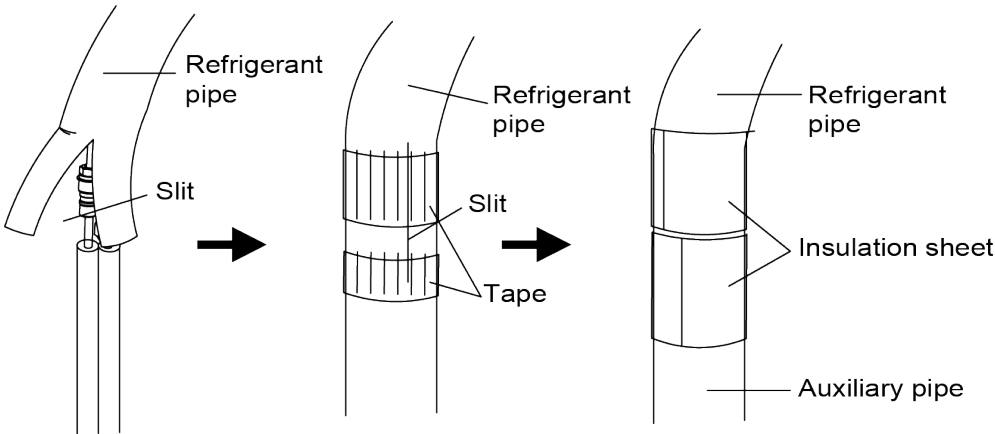


Fig.15

NOTICE

- (1) Insulate the joint of the pipes securely. Incomplete insulation may lead to water leakage.
- (2) Push the pipe inside so it does not place undue force on the front grille.

Connecting the drain hose.

Insert the supplied C drain hose into the socket of the drain pan.

Fully insert the drain hose until it adheres to a seat of the socket.

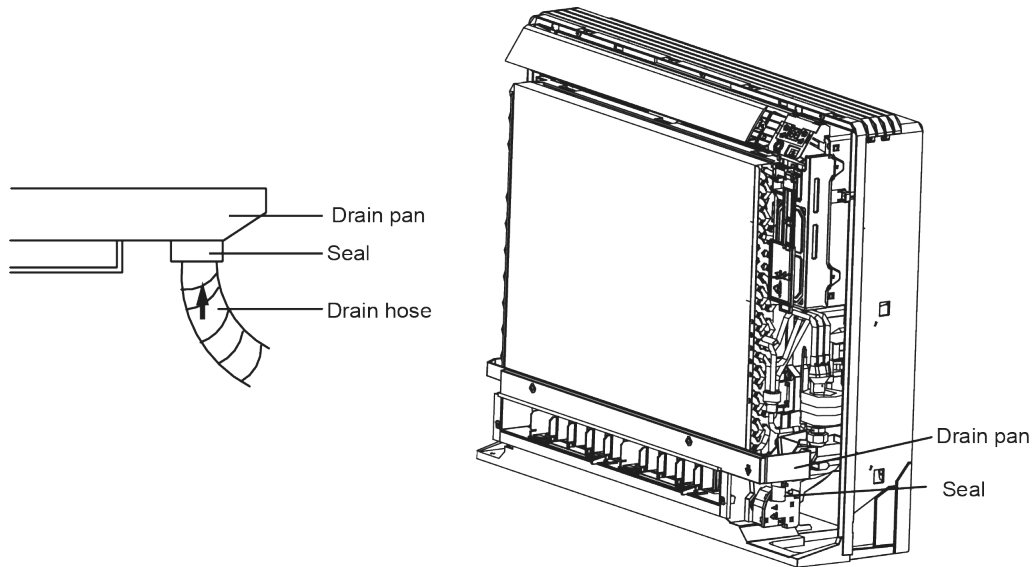


Fig.16

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

Live the sensor securing plate, remove the front metal plate cover, and connect the wire to the terminal board.

- (1) Open the cover of electric box of indoor unit.
- (2) Lead the communication line across the rubber ring.
- (3) Connect the communication line to terminal D1 and D2 on the wiring board of indoor unit.
- (4) Secure the communication line with the wire clamp on the electric box. Pull wires to make sure that they are securely latches up, then retain wires with wire retainer.

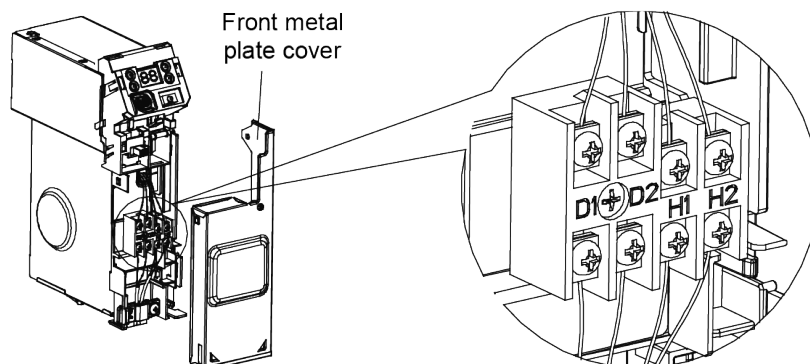


Fig.17

⚠ WARNING

- | |
|---|
| (1) The power of every indoor unit should be unity power supply. |
| (2) Do not use tapped wires, stranded wires, extension cords, or starburst connections, as they may cause overheating, electrical shock, or fire. |
| (3) 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. |
| (4) Make sure that a separate power supply circuit is provided for this unit and that all electrical work is carried out by qualified personnel according to local, state, and national regulations. |
| (5) A single switch can be used to supply power to units on the same system. However, branch switches and branch ground fault circuit interrupters must be selected carefully. |
| (6) Be sure to install circuit breakers. If not installed, electric shock may result. |
| (7) Vibration isolation, acoustic insulation, and noise control measures must be implemented during installation. |
| (8) Make sure that all wiring is secured, that specified wires are used, and that no external forces act on the terminal connections or wires. |
| (9) Be sure to attach the sealing material or putty (field supplied) to hole of wiring to prevent the infiltration of water as well as any insects and other small creatures from outside. Otherwise a short-circuit may occur inside the electrical components box. |
| (10) Install the power supply and control wires for the indoor and outdoor units at least 3.5 feet away from televisions or radios to prevent image interference or noise. Depending on the radio waves, a distance of 3.5 feet may not be sufficient to eliminate the noise. |
| (11) Use round crimp-style terminals for connecting wires to the power supply terminal block. |
| (12) Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system. |
| (13) For the power lines, use standard cables of sufficient capacity. Otherwise, a short circuit, overheating, or fire may result. |
| (14) When installing the power lines, do not apply tension to the cables. If the connections are loosened, the cables can snap or break and overheating or fire may result. |
| (15) Be careful not to make mis-wiring. Firmly tighten the terminal screws to prevent them from loosening. After tightening, pull the wires lightly to confirm that they not move. |
| (16) If the connecting wire is incorrectly connected to the terminal block, the unit does not operate normally. |

The power connection cord have been inserted on the mainboard through the piping hole of the chassis. Please connect the power connection cord with the breaker. If the power cord is not long enough, please prolong it with terminal block.

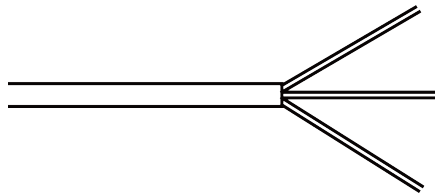


Fig.18

- (1) Reinstall the wiring cover on the original place and tighten the bolt.
- (2) Recover the surface panel.

Install the drainage pipe.

- (1) For well draining, the drain hose should be placed at a downward slant.
- (2) Do not wrench or bend the drain hose or flood its end by water.
- (3) Wrap heat resistant material when connect the longer drainage tube though indoor.

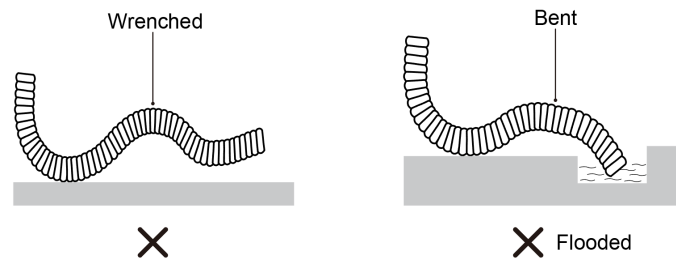


Fig.19

Install the connection pipes.

Connect the connect pipe with the two relative leading pipe, tie the nut on tie in of the connect pipe tightly.

3 Constitutes and Names of Every Part of Indoor Unit

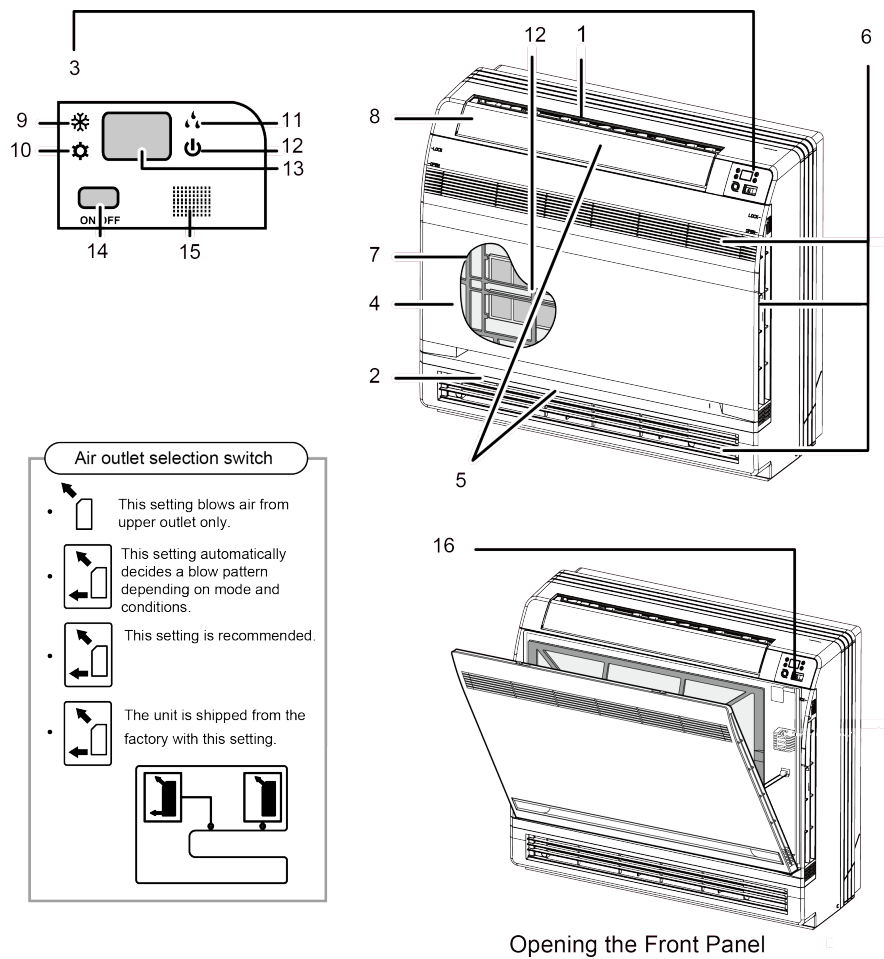


Fig.20

(1) Titanium Apatite Photocatalytic.

Air-Purifying Filter:

These filters are attached to the inside of the air filters.

(2) Air outlet.

(3) Display.

(4) Front panel.

(5) Louvers (vertical blades).

The louvers are inside of the air outlet.

- (6) Air inlet.
- (7) Air filter.
- (8) Flap (horizontal blade).
- (9) Cool mode lamp.
- (10) Heat mode lamp.
- (11) Dry mode lamp.
- (12) Run lamp.
- (13) LED display.
- (14) Indoor Unit ON/OFF switch:
 - 1) Push this switch once to start operation.
 - 2) Push once again to stop it.
 - 3) The operation mode refers to the following table.

Model	Mode	Temperature setting	Air flow rate
HEAT PUMP	AUTO	26°C(78.8°F)	AUTO

- 4) This switch is useful when the remote controller is missing.
- (15) Signal receiver:
 - 1) It receives signals from the remote controller.
 - 2) When the unit receives a signal, you will hear a short beep.
 - 3) Settings changed beep.
- (16) Air outlet selection switch.

⚠ WARNING	
(1)	Before opening the front panel, be sure to stop the operation and turn the breaker OFF.
(2)	Do not touch the metal parts on the inside of the indoor unit, as it may result in injury.
(3)	If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.
(4)	The appliance shall be installed in accordance with national wiring regulations.
(5)	An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

4 Working Temperature Range

—	Indoor side state		Outdoor side state	
	Dry bulb temp°C(°F)	Wet bulb temp°C(°F)	Dry bulb temp°C(°F)	Wet bulb temp°C(°F)
Rated Cooling	27(80.6)	19(66.2)	35(95)	24(75.2)
Max. cooling	32(89.6)	23(73.4)	43(109.4)	26(78.8)
Min. cooling	21(69.8)	15(59)	18(59)	—
Rated Heating	20(68)	15(59)	7(44.6)	(42.8)
Max. heating	27(80.6)	—	24(75.2)	18(64.4)
Min. heating	20(68)	15(59)	-15(5)	-16(3.2)

5 Remote Controller YAP1F

5.1 Button Name and Function Introduction

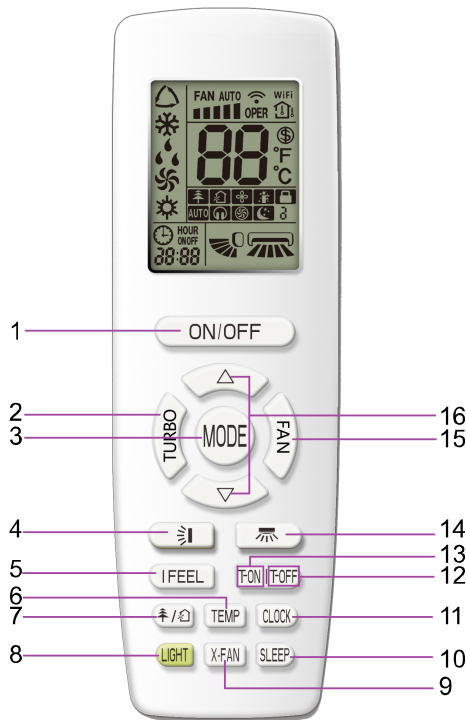


Fig.21

No.	Button name	Function
1	ON/OFF	Turn on or turn off the unit
2	TURBO	Set turbo function
3	MODE	Set operation mode
4		Set up&down swing status
5	I FEEL	Set I FEEL function
6	TEMP	Switch temperature displaying type on the unit's display
7		Set health function and air function
8	LIGHT	Set light function
9	X-FAN	Set X-FAN function
10	SLEEP	Set sleep function
11	CLOCK	Set clock of the system
12	TOFF	Set timer off function
13	TON	Set timer on function
14		Set left&right swing status
15	FAN	Set fan speed
16		Set temperature and time

5.2 Preparation before Operation

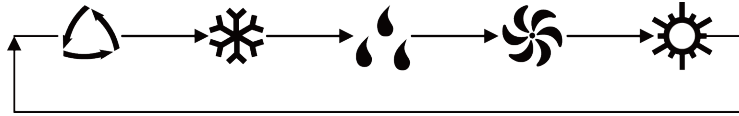
When using the remote controller for the first time or after replacing the batteries, please set the time of the system according to current time in the following steps:

- (1) Pressing “CLOCK” button, is blinking.
- (2) Pressing “” or “” button, the clock time will increase or decrease rapidly.
- (3) Press “CLOCK” button again to confirm the time and return to display current time.

5.3 Introduction of Operation Functions

(1) Selecting operation mode.

In unit on status, press “MODE” button to select operation mode in following sequence:



(2) Setting temperature.

In unit on status, press “Δ” button to increase set temperature and press “▽” button to decrease set temperature.

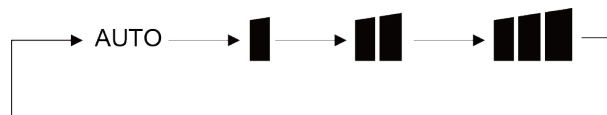
In unit on status, press “Δ” button to increase setting temperature and press “▽” button to decrease setting temperature. The range of temperature is from 16°C to 30°C (from 60.8°F to 86°F).

NOTICE

Under auto mode, manual adjustment of temperature is not needed.

(3) Adjusting fan speed.

In unit on status, press “FAN” button to adjust fan speed in following sequence:



When operation mode changes, fan speed is memoried.

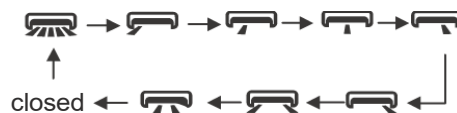
Under dry mode, fan speed is low and can not be adjusted.

(4) Setting swing function.

1) Setting left&right swing.

A. Under simple swing status, press “” button to adjust left&right swing status.

B. Under fixed-angle swing status, press “” button to adjust left&right swing angle circularly as below:



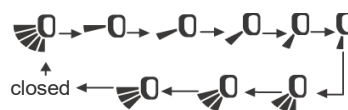
NOTICE

Operate continuously left&right swing in 2 seconds, swing states will change according to above-mentioned order, or switch closed state and state.

2) Setting up&down swing.

A. Under simple swing status, press “” button to adjust up&down swing status.

B. Under fixed-angle swing status, press “” button to adjust up&down swing angle circularly as below:



NOTICE

Operate continuously left&right swing in 2 seconds, swing states will change according to above-mentioned order, or switch closed state and state.

(5) Setting turbo function.

Under cool or heat mode, press “TURBO” button to set turbo function.

When  is displayed, turbo function is on.

When  is not displayed, turbo function is off.

When turbo function is on, the unit operates in super high speed to achieve quick cooling or heating. When turbo function is off, the unit operates in setting fan speed.

(6) Setting light function.

The light on the receiver light board will display present operation status. If you want to turn off the light, please press “LIGHT” button. Press this button again to turn on the light.

(7) Viewing ambient temperature.

In unit on status, receiver light board or wired controller is defaulted to display setting temperature. Press “TEMP” button to view indoor or outdoor ambient temperature.

When  is displayed, it means the displayed temperature is setting temperature.

When  is displayed, it means the displayed temperature is indoor ambient temperature.

When  is displayed, it means the displayed temperature is outdoor ambient temperature.

NOTICE

Setting temperature is always displayed in Remote Controller.

(8) Setting X-FAN function.

In cool or dry mode, press “X-FAN” button to set X-FAN function.

When  is displayed, X-FAN function is on.

When  is not displayed, X-FAN function is off.

When X-FAN function is on, the water on the evaporator will be blown away until turning off the unit to avoid mildew.

(9) Setting health function.

In unit on status, press “” button to set health function.

When  is displayed, health function is on.

When  is not displayed, health function is off.

Health function is available when the unit is equipped with anion generator. When health function is on, the anion generator will start operation, adsorbing the dusts and killing the bacteria in the room.

(10) Setting air function.

Press “” button until  is displayed, then air function is turned on.

Press “” button until  is disappeared, then air function is turned off.

When the indoor unit is connected with fresh air valve, air function setting can control the connection of fresh air valve, which can control the fresh air volume and improve the air quality inside the room.

(11) Setting sleep function.

In unit on status, press “SLEEP” button to turn on or turn off sleep function.

1) When  is displayed, sleep function is on.

2) When  is not displayed, sleep function is off.

NOTICE

- | |
|---|
| (1) Sleep function can not be set in auto and fan mode. |
| (2) When turning off the unit or switching mode, sleep function is cancelled. |

Sleep function can not be set in auto and fan mode.

When turning off the unit or switching mode, sleep function is cancelled.

(12) Setting I FEEL function.

In unit on status, press "I FEEL" button to turn on or turn off I FEEL function.

When  is displayed, I FEEL function is on.

When  is not displayed, I FEEL function is off.

When I FEEL function is turned on, the unit will adjust temperature according to the temperature detected by the remote controller to achieve the best air-conditioning effect. In this case, you should place the remote controller within the valid receiving range.

(13) Setting timer.

You can set the operation time of unit as you need. You can also set timer on and timer off in combination.

Before setting, check if the time of the system is the same as the current time. If not, please set the time according to current time.

1) Setting timer off.

A. Pressing "TOFF" button, "OFF" is blinking and time displaying zone displays the timer time of last setting.

B. Press " Δ " or " ∇ " button to adjust the timer time.

C. Press "TOFF" button again to confirm setting. OFF is displayed and time displaying zone resumes to display current time.

D. Press "TOFF" button again to cancel timer and OFF is not displayed.

2) Setting timer on.

A. Pressing "TON" button, "ON" is blinking and time displaying zone displays the timer time of last setting.

B. Press " Δ " or " ∇ " button to adjust the timer time.

C. Press "TON" button again to confirm setting. ON is displayed and time displaying zone resumes to display current time.

D. Press "TON" button again to cancel timer and ON is not displayed.

5.4 Introduction of Special Functions

(1) Setting child lock.

Press " Δ " and " ∇ " button simultaneously to lock the buttons on remote controller and  is displayed.

Press " Δ " and " ∇ " button simultaneously again to unlock the buttons on remote controller and is not displayed.

If the buttons are locked,  blinks 3 times when pressing the button and any operation on the button is invalid.

(2) Switching temperature scale.

In unit off status, press “MODE” button and “▽” button simultaneously to switch temperature scale between °C and °F.

(3) Setting energy-saving function.

In unit on status and under cool mode, press “CLOCK” and “TEMP” button simultaneously to enter energy-saving mode.

1) When ΣE is displayed, energy-saving function is on.

2) When ΣE is not displayed, energy-saving function is off.

If you want to turn off the energy-saving function, press “CLOCK” and “TEMP” button and ΣE is not displayed.

NOTICE

Energy-saving function is only available in cooling mode and it will be exited when switching mode or setting sleep function.

(4) Absence function.

In unit on status and under heat mode, press “CLOCK” and “TEMP” button simultaneously to enter absence function. Temperature displaying zone displays 8 and $\$$ is displayed.

Press “CLOCK” and “TEMP” button simultaneously again to exit absence function. Temperature displaying zone resumes previous display and is not displayed.

NOTICE

(1) In winter, absence function can keep the indoor ambient temperature above 0°C(32°F) to avoid freezing.

(2) Absence function is only available in heating mode and it will be exited when switching mode.

5.5 Replacing Batteries in Remote Controller and Notes

(1) Lift the cover along the direction of arrow (as shown in Fig 22①).

(2) Take out the original batteries (as shown in Fig 22②).

(3) Place two 7# (AAA 1.5V) dry batteries, and make sure the position of “+” polar and “-” polar is correct (as shown in Fig 23③).

(4) Reinstall the cover (as shown in Fig 23④).

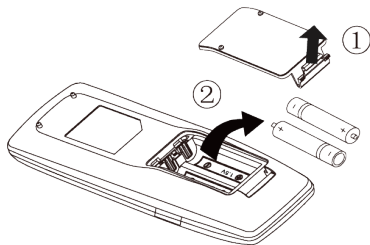


Fig.22

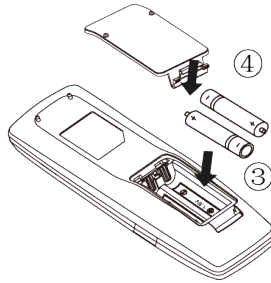


Fig.23

NOTICE

- | | |
|-----|--|
| (1) | The remote controller should be placed 1m(3-1/4ft) away from the TV set or stereo sound sets. |
| (2) | The operation of remote controller should be performed within its receiving range. |
| (3) | If the remote controller does not operate normally, please take the batteries out and reinsert them after 30 seconds. If it still can't operate properly, replace the batteries. |
| (4) | When replacing the batteries, do not use old or different types of batteries, otherwise, it may cause malfunction. |
| (5) | When you won't use the remote controller for a long time, please take out the batteries. |

6 Maintenance Method

NOTICE

Before inspection and maintenance of the unit. Please set power switch to "OFF" to cut off the power supply.

6.1 Units

Indoor unit, Outdoor unit and Remote controller.

Wipe them with dry soft cloth.

6.2 Front Panel

- (1) Open the front panel.
- (2) Remove the air filter.
Slide the two stoppers on the left and right sides inward until they click.
- (3) Remove the front panel.
 - 1) Remove the string.
 - 2) Allowing the front panel to fall forward will enable you to remove it.
- (4) Clean the front panel.
 - 1) Wipe it with a soft cloth soaked in water.
 - 2) Only neutral detergent may be used.
 - 3) In case of washing the front panel with water, dry it with cloth, dry it up in the shade after washing.
- (5) Attach the front panel.
 - 1) Insert the front panel into the grooves of the unit (3 places).
 - 2) Attach the string to the right, inner-side of the front grille.
 - 3) Close the panel slowly.

⚠ CAUTION

- | | |
|-----|---|
| (1) | Don't touch the metal parts of the indoor unit. If you touch those parts, this may cause an injury. |
| (2) | When removing or attaching the front panel, use a robust and stable stool and watch your steps carefully. |
| (3) | When removing or attaching the front panel, support the panel securely with hand to prevent it from falling. |
| (4) | For cleaning, do not use hot water above 40°C(104°F), benzine, gasoline, thinner, nor other volatile oils, polishing compound, scrubbing brushes, nor other hand stuff. |
| (5) | After cleaning, make sure that the front panel is securely fixed. |

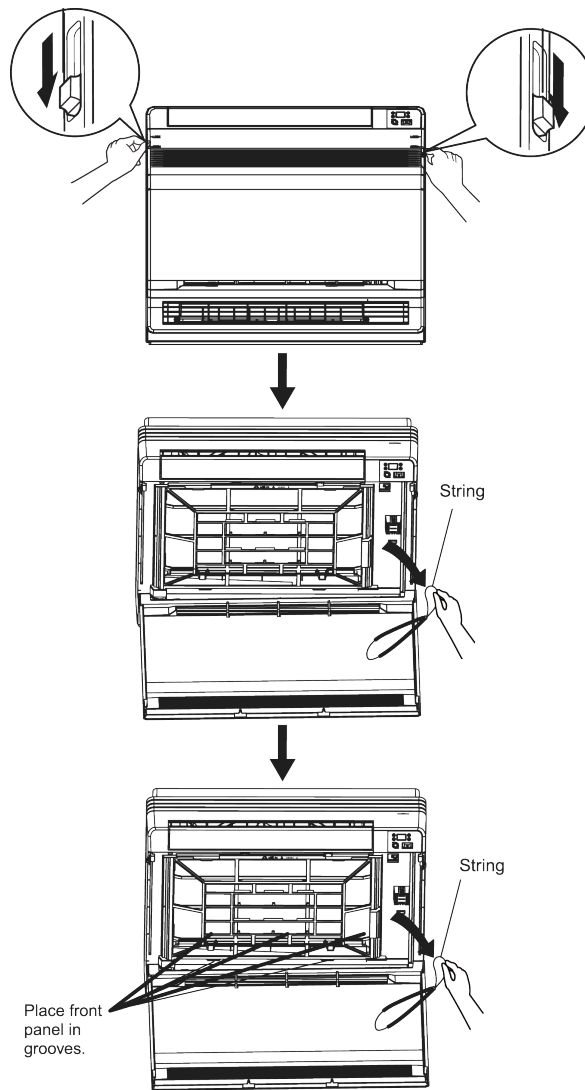


Fig.24

6.3 Filters

- (1) Open the front panel.
- (2) Remove the air filter.

Press the claws on the right and left of the air filter down slightly, then pull upward.

- (3) Take off the Titanium Apatite Photocatalytic Air-Purifying Filter.

Hold the tabs of the frame, and remove the claws in 4 places.

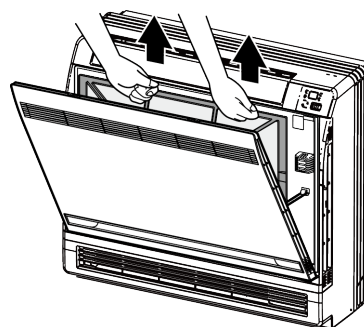


Fig.25

- (4) Clean or replace each filter.

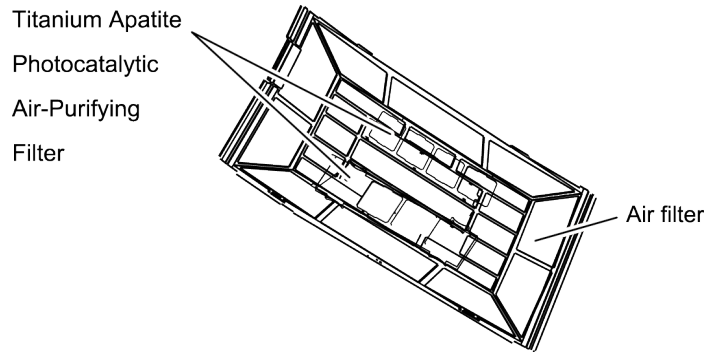


Fig.26

- (5) Set the air filter and Titanium Apatite Photocatalytic Air-Purifying Filter as they were and close the front panel.

Operation without air filters may result in troubles as dust will accumulate inside the indoor unit.

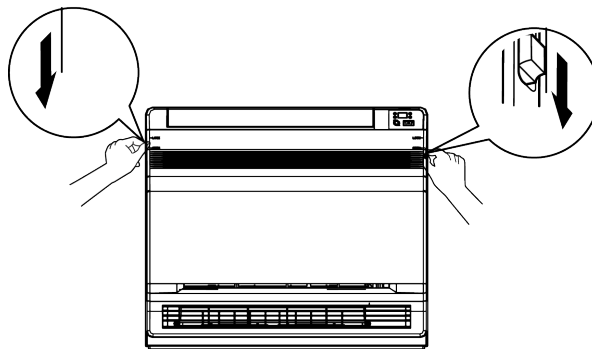


Fig.27

- (6) Wash the air filters with water or clean them with vacuum cleaner.
- 1) If the dust does not come off easily, wash them with neutral detergent thinned with lukewarm water, then dry them up in the shade.
 - 2) It is recommended to clean the air filters every week.

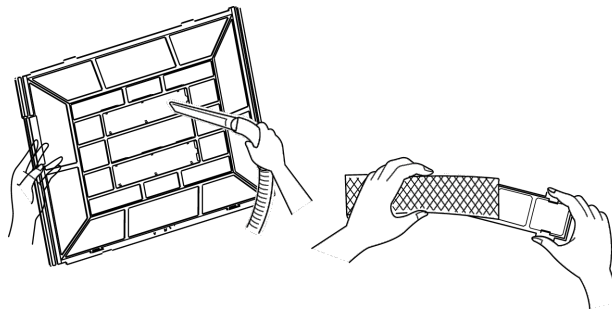


Fig.28

6.4 Titanium Apatite Photocatalytic

Air-Purifying Filter.

The Titanium Apatite Photocatalytic Air-Purifying Filter can be renewed by washing it with water once every 6 months. We recommend replacing it once every 3 years.

- (1) Vacuum dusts, and soak in warm water or water for about 10 to 15 minutes if dirt is heavy.
- (2) Do not remove filter from frame when washing with water.
- (3) After washing, shake off remaining water and dry in the shade.

- (4) Since the material is made out of paper, do not wring out the filter when removing water from it.

6.5 Replacement

Remove the tabs on the filter frame and replace with a new filter.

Dispose of the old filter as flammable waste.

NOTICE	
(1)	Operation with dirty filters.
(2)	Cannot deodorize the air.
(3)	Cannot clean the air.
(4)	Results in poor heating or cooling.
(5)	May cause odour.

⚠ WARNING	
(1)	If no drain water is seen, water may be leaking from the indoor unit. Stop operation and consult the service shop if this is the case.
(2)	Check that the base, stand and other fittings of the outdoor unit are not decayed or corroded.
(3)	Check that nothing blocks the air inlets and the outlets of the indoor unit and the outdoor unit.
(4)	Check that the drain comes smoothly out of the drain hose during COOL or DRY operation.

6.6 Before a Long Idle Period

- (1) Operate the "FAN only" for several hours on a fine day to dry out the inside.
 - 1) Press "MODE" button and select "FAN" operation.
 - 2) Press "ON/OFF" button and start operation.
- (2) After operation stops, turn off the breaker for the room air conditioner.
- (3) Clean the air filters and set them again.
- (4) Take out batteries from the remote controller.

⚠ WARNING

When a multi outdoor unit is connected, make sure the heating operation is not used at the other room before you use the fan operation.

7 Function Description of Functional Dial Switch S7

- (1) The 3-bit dial switch must be set before energizing the main board and it determines running state of indoor unit.
- (2) Function of it is as follow:

Dial switch Silk screen	Function	Dial ON	Dial OFF
1(S / R)	Selection of memory mode: (1) Election between reset mode and standby mode after energizing. (2) This function is available without wired controller.	Standby after energizing	Reset after energizing
2(L / I)	Selection between manual controller and receiver: (1) If manual controller is selected, remote-control function of receiver will be shielded. (2) If receiver is selected, wired controller will be non-effective.	Selecting wired controller	Selecting receiver joint

8 Malfunction Analyzing

WARNING

Do not repair air conditioner by yourself for the incorrect repair would lead electric shock or fire. Please contact service center and had the unit repaired by specialized personnel. Check the following item before contacting to repair could save your time and cost.

Malfunction Phenomena	Malfunction Analyzing
The air conditioner can't start up just after turned off.	The over load protect switch of the unit makes it runs after 3 mins delay.
Odor gave out when the unit just turned on.	This is because when air conditioning, odors or cigarette smoke from the room that was sucked in is discharged again.
Slight bicker was heard when the unit is running.	This is the sound for inner refrigerant flowing
Mist come from air outlet vent when cooling.	Indoor air is cooled rapidly.
Creak sound is heard when running or after run.	The grating sound caused by expands of panel and other parts for the change of temperature.
The air conditioner cannot run.	Is power cut? Is the power supply connected? Is the circuit protector started aside? Is the voltage too high or too low? If TIMER had been set in wireless remote controller?
The cooling (heating) effect of the air conditioner is not good.	Is the temp. set in proper? Is the inlet, outlet vent of outdoor unit blocked? Is the air filter too dirty to cause blockage? Are windows and doors closed? Is air quantity set to Low speed? Is there other heating resource in room?
Wireless remote controller cannot control.	Under the circumstance of changed batteries, the wireless remote controller sometimes would appear the phenomena of couldn't control. Take out the back cover and press "ACL" button to make it normal. The air conditioner is under abnormal disturbance or changing function too frequently, to make wireless remote controller cannot control. Cut off main power switch and re-electrify could resume normal operation. Is the controller within the receiving area? Or is there blockage? Check if the voltages of batteries in wireless remote controller are enough. Otherwise change the batteries.

8.1 Service Center

When the following phenomena appeared, please stop operating immediately, cut off main power supply of unit and contact service center for the conditioner.

- (1) Harsh sound heard when running.
- (2) The fuse or protector cut frequently.
- (3) Substance or water pulled in the unit involuntary.
- (4) Water leakage in room.
- (5) Over heat of power cord.
- (6) Odor is given out when running.

8.2 After-sales Service

When having quality or other problems when purchasing air conditioner, please contact the local service center.

Trane - by Trane Technologies (NYSE: TT), a global climate innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.

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