INSTALLATION MANUAL FOR ROOM

AIR CONDITIONER

(Split Wall-Mounted Type)

A

- For correct installation, read this manual before starting installation.
- Only trained and qualified service personnel should install, repair or service air conditioning equipment. Users should not install the air conditioner by themselves.
- All pictures are only sketches. If there is any difference between pictures in this manual and the actual shape of the air conditioner you purchased, the actual shape shall prevail.

INSTALLATION PRECAUTION

Installation in the following places may cause trouble. If it is unavoidable, please, consult with the local dealer.

- A place full of machine oil.
- A saline place such as coast.
- A place full of sulfide gas such as hot-spring resort.
- Places where there are high frequency machines such as wireless equipment, welding machine, and medical facility.
- A place of special environmental conditions.
- The appliance shall not be installed in the laundry.

Indoor Unit

- A place where is no obstacle near the inlet and outlet area.
- A place which can bear the weight of the indoor unit.
- A place which allows the air filter to be removed.
- A place where the reception range is not Exposed to direct sunlight.
- A place where the connective pipe and drain hose is easy to led out.
- A place 1m or more to TV, radio instrument, in the center of the room is perfect.
- The indoor unit should be installed 2.3 meters or more above the floor.

Outdoor Unit

- A place, which is convenient to installation and not exposed to a strong wind. A place that is dry and ventilated.
- A place can bear the weight of the outdoor unit and where the outdoor unit can be held in the horizontal position.
- A place which does not allow an increase in noise level and vibration.
- A place where the operation noise and discharge air do not disturb your neighbor.
- A place free of a leakage of combustible gases.
- An allowable head level at the connective piping is less than 5m and length of the connective piping is up less than 10m.
- No any obstacle which block radiat air.

Parts Installation

Part No.	Name of part		Q'ty
1	Installation plate		1
2	Mounting screw ST3.9×25-C-H		8
3	Clip anchor		8
4	Refrigerant pipe	Liquid side	Φ6.35
		Gas side ≤9000Btu/h	Φ9.53
		Gas side ≥10000Btu/h	Φ12.7
5	Remote controller		1
6	Remote controller holder		1
7	Seal		1
8	Drain elbow		1

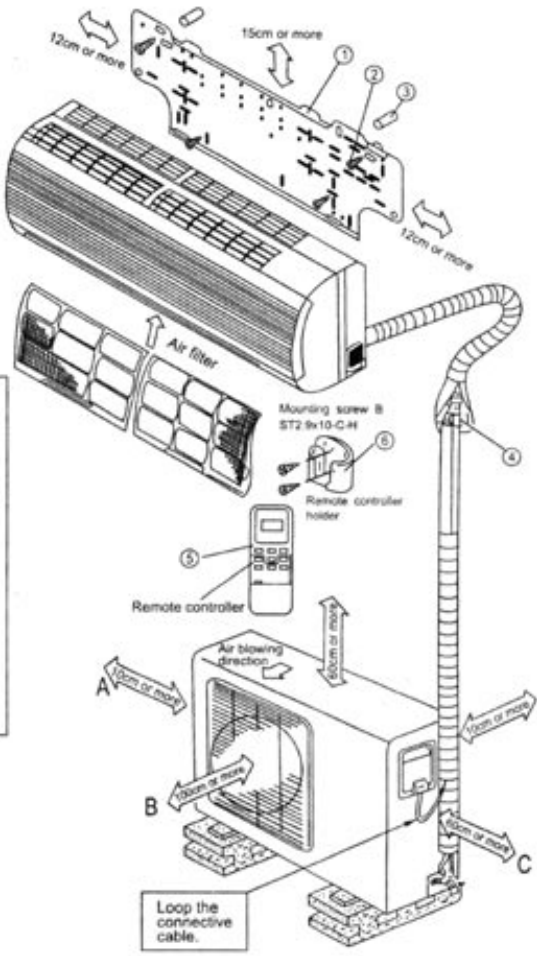
NOTE: At least two of A, B, C

Aspects are free from blocking.

The air-conditioner can be connected only to a supply with system impedance no more than 0.26 ohm. In case necessary please consult your supply authority for system impedance information.

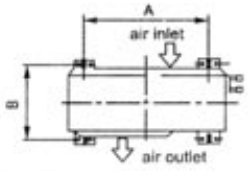
Cautions on remote controller installation

- Before installation, operate the remote controller to determine its location in a reception range.
- Keep the remote controller at least 1m apart from the nearest TV set or stereo equipment.
- Do not install the remote controller in a place exposed to direct sunlight or close to a heating source, such as a stove.
- Note that the positive and negative poles are right positions when loading batteries.



anchor bolts of out door unit installation

- The outdoor unit should not be exposed to strong wind.
- Fix the outdoor unit with Φ10 or Φ8 anchor bolts.

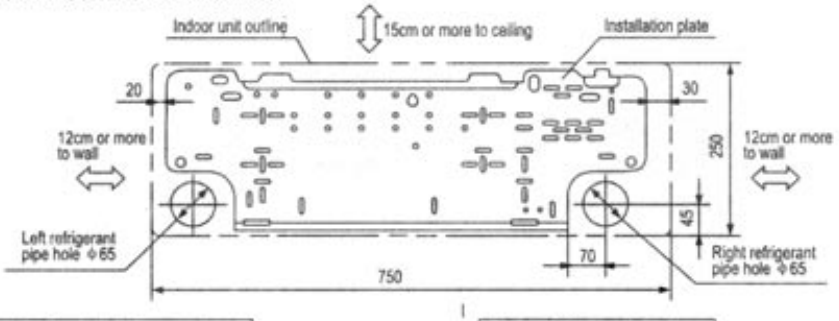


Model	A	B
≤7000Btu/h	458	250
9000Btu/h	458	250
	548	266
≥10000Btu/h	548	266

INDOOR UNIT INSTALLATION

1. Drilling A Hole and Mounting Installation Plate

Installation Plate and Its Dimention



1. Fix the installation plate.

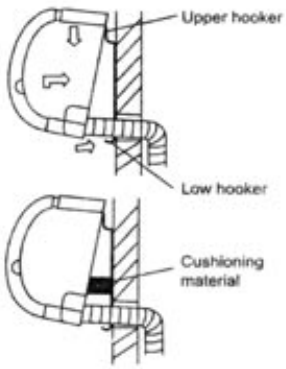
1. Install the installation plate horizontally on structural parts in the wall with the spaces provided around the plate.
2. In case of brick, concrete or similar type walls, make 6mmdia, holes in the wall. Insert clip anchors for appropriate mounting screws.
3. Fix the installation plate on the wall.

Installation Plate

2. Drilling a hole.

1. As diagram above determine the pipe hole position using the installation plate, drill the pipe hole(ϕ65mm) so it slants slightly downward.
2. Always use a wall hole conduit when piercing metal lath, ply wood or metal plate.

3. Indoor Unit Installation

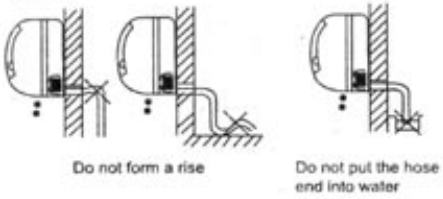


1. Pass the piping through the hole in the wall.
2. Put the upper claw at the back of the indoor unit on the upper hook of the installation plate, move the indoor unit from side to side to see that it is securely hooked.
3. Piping can easily be made by lifting the indoor unit with a cushioning material between the indoor unit and the wall. Get it out after finish piping.
4. Push the lower part of the indoor unit up on the wall, Then move the indoor unit from side to side, up and down to check if it is hooked securely.

2. Connective Pipe and Drainage Installation

1. Drainage

1. Run the drain hose sloping downward. Do not install the drain hose as illustrated below.

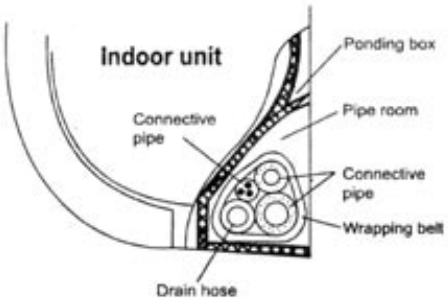


2. When connection extension drain hose, insulate the connecting part of extension drain hose with a shield pipe

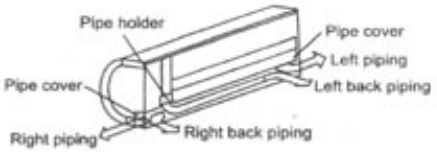
3. Piping and bandaging

Wind the connective cable, drain hose and wiring with tape securely, evenly as shown below.

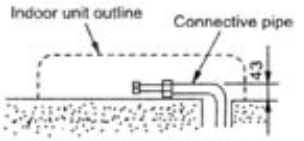
- Because the condensed water from rare of the indoor unit is gathered in ponding box and is piped out of room. Do not put anything else in the box.



2. Connective pipe



1. For the left-hand and right-hand piping, remove the rear plate bushing from the left side of the rear plate.
   - Explain to clients that the pipe cover must be kept as it may be used when relocate the air conditioner to any other place.
2. For the left-hand and rear-left-hand piping, install the piping as shown. Bend the connective pipe to be laid at 43mm height or less from the wall.



3. Fix the end of the connective pipe. (Refer to Tightening Connection in REFRIGRANT PIPING CONNECTION)

CAUTION

- Connect the indoor unit first then the outdoor unit and bend and arrange the pipe carefully.
- Do not allow the piping to let out from the back of the indoor unit.
- Be careful not to let the drain hose slack.
- Insulate both of the auxiliary piping.
- Banding the drain hose under the auxiliary pipe.
- Do not allow the piping to let out from the back of the indoor unit.

4. Wiring

Prepare the power source for exclusive with the air conditioner.
The supply voltage must comply with the rated voltage of the air conditioner:The plug socket shall be accessible after installation.

Model	Power Source	Plug socket and Fuse rating	Wiring
≤7000Btu/h 9000Btu/h	50Hz 220-240V~ or 60Hz 220V-230V~	10A	≥1mm²
≥10000Btu/h		15A	≥1.5mm²

CAUTION

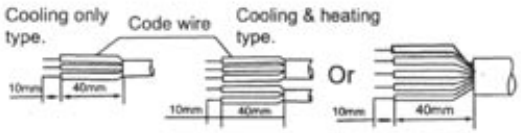
- Perform the wiring with sufficient capacity. Installation places legally require a short circuit isolator to be attached to prevent electrical shock.
- Do not extend the power cable code by cutting.
- Power voltage should in the range of 90%~110% of rated voltage.
- The plug of the air conditioner takes a grounding leg, so clients should use a grounding socket so that the air conditioner can be grounded efficiently.
- If the power cord is damaged, replacement should be conducted by qualified technician or a serviceman.

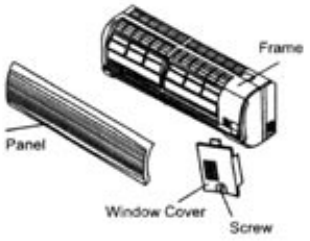
NOTE: Remark per EMC Directive 89/336/EEC
For to prevent flicker impressions during the start of the compressor (technical process), following installation conditions do apply.

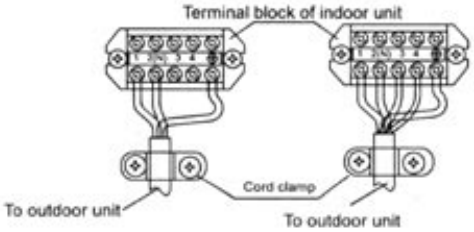
1. The power connection for the air conditioner has to be done at the main power distribution. The distribution has to be of an low impedance, normally the required impedance reaches at a 32 A fusing point.
2. No other equipment has to be connected with this power line,.
3. For detailed installation acceptance, please refer to your contract with the power supplier if restrictions do apply for products like washing machines, air conditioner or electrical ovens.
4. For power details of the air conditioner, refer to the rating plate of the product.
5. For any question contact your local dealer.

5. Connecting Cables

1. Indoor/Outdoor connection cable should be H07RN-F type.
2. Remove the panel and Screw , then remove the window cover.
3. Connect cables according to their marks to terminals.
4. Wrap those cables not connected with terminals with insulation tapes, so that they will not touch any electrical components.





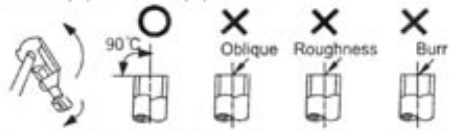


OUTDOOR UNIT INSTALLATION

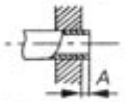
3. REFRIGERANT PIPING CONNECTION

1. Flaring

1. Cut a pipe with a pipe cutter.



2. Insert a flare nut into a pipe and flare the pipe.



Outer diam. (mm)	A(mm)	
	Max.	Min.
Φ6.35	1.3	0.7
Φ9.53	1.6	1.0
Φ12.7	1.8	1.0

2. Tightening Connection

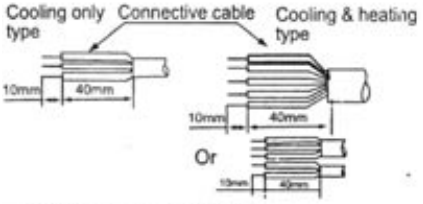
- Align pipes to be connected.
- Sufficiently tighten the flare nut with fingers, and then tighten it with a spanner and torque wrench as shown.

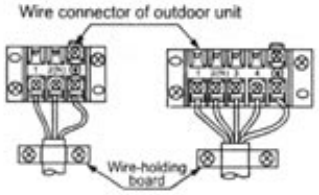
CAUTION

- Excessive torque can break nut depending on installation conditions.

Outer diam.	Tightening torque(N.cm)	Additional tightening torque(N.cm)
Φ6.35mm	1570 (160kgf.cm)	1960 (200kgf.cm)
Φ9.53mm	2940 (300kgf.cm)	3430 (350kgf.cm)
Φ12.7mm	2940 (300kgf.cm)	4410 (450kgf.cm)

4. WIRING CONNECTION





1. Remove the electric parts cover from the outdoor unit.
2. Connect the connective cables to the terminals as identified with their respective matched numbers on the terminal block of indoor and outdoor units.
3. To prevent the ingress of water, from a loop of the connective cable as illustrated in the installation diagram of indoor and outdoor units.
4. Insulate unused cords (conductors) with PVC-tape. Process them so they do not touch any electrical or metal parts.

CAUTION

Wrong wiring connections may cause some electrical parts to malfunction. A disconnection device having an air gap contact separation in all active conductors should be incorporated in the fixed wiring according to the National Wiring Regulation. All wiring must comply with local and national electrical codes and be installed by qualified and skilled electrician.

AIR PURGE AND TEST OPERATION

1. AIR PURGE

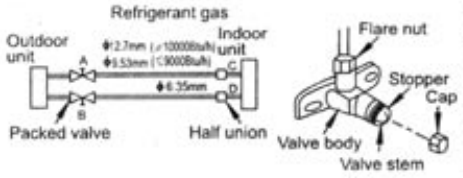
Choose purge method from the table:

Connective pipe length	Air purging method	Additional amount of refrigerant to be charged
Less than 5m	Use vacuum pump	———
5~10m	Use vacuum pump	(Pipe length-5)x30g

- For the R407C refrigerant model, make sure the refrigerant added into air conditioner is liquid form in any cases.
- When relocate the unit to another place, perform evacuation, using vacuum pump.

CAUTION IN HANDING THE PACKED VALVE

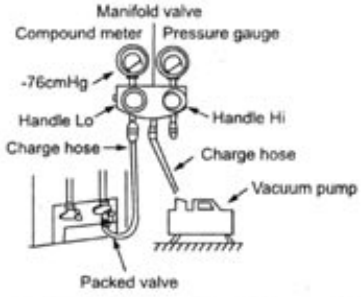
- Open the valve stem until it hits against the stopper. Do not try to open it further.
- Securely tighten the valve stem cap with a spanner or the like.
- Valve stem cap tightening torque.
  Gas pipe side (ϕ9.53): 2940N.cm (300kgf.cm)
  Liquid pipe side (ϕ6.35): 1570N.cm (160kgf.cm)



When Using the Vacuum Pump

(For method of using a manifold valve, refer to its operation manual.)

1. Completely tighten the flare nuts, A, B, C, D, connect the manifold valve charge hose to a charge port of the packed valve on the gas pipe side.
2. Connect the charge hose connection to the vacuum pump.
3. Fully open the handle Lo of the manifold valve.
4. Operate the vacuum pump to evacuate. After starting evacuation, slightly loose the flare nut of the packed valve on the gas pipe side and check that the air is entering.(Operation noise of the vacuum pump changes and a compound meter indicates 0 instead of minus)
5. After the evacuation is complete, fully close the handle Lo of the manifold valve and stop the operation of the vacuum pump.
   - Make evacuation for 15 minutes and more and check that the compound meter indicates -76cmHg(-1.0x10^{5}Pa).
6. Disconnect the charge hose from the charge connection of the packed valve at the gas pipe side.
7. Fully open the packed valve stems B and A.
8. Securely tighten the cap of the packed valve.



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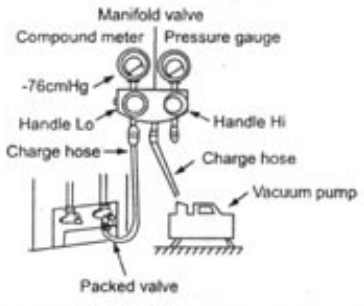
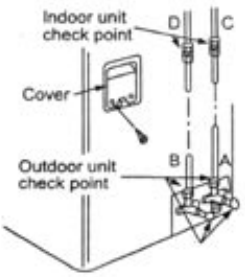


2. GAS LEAK CHECK

Make sure no gas come out from connections with leak detector or soap water.



CAUTION

A: Lo packed valve B: Hi packed valve
C and D are ends of indoor unit connection.

3. TEST OPERATION

Perform test operation after completing gas leak check at the flare nut connections and electrical safety check.

1. Connect the power, push the "COOL" button on the remote controller to begin testing.
2. Check if all the functions works well while testing the air conditioner.
   - A protection feature prevents the air conditioner from being activated for about 3 minutes when it is restarted immediately after operation or when the power switch is turned on.
3. Be sure to set the tickle-type switch on OFF after finishing the test operation.