Rasonic

Air conditioner
Installation Instruction

MODEL NO. :- RS/RU-PV9**, RS/RU-PV12**, RS/RU-PV18**, RS/RU-PV24**

ACXF60-36260-AA

Required tools for Installation Works

1 Philips screw driver
2 Level gauge
3 Electric drill, hole core drill (ø70 mm)
4 Hexagonal wrench (4 mm)
5 Spanner
6 Pipe cutter
7 Reamer
8 Knife
9 Gas leak detector
10 Measuring tape
11 Thermometer
12 Megameter
13 Multimeter
14 Torque wrench
18 N•m (1.8 kgf•m)
42 N•m (4.3 kgf•m)
55 N•m (5.6 kgf•m)
65 N•m (6.6 kgf•m)
100 N•m (10.2 kgf•m)
15 Vacuum pump
16 Gauge manifold

SAFETY PRECAUTIONS

- Read the following "SAFETY PRECAUTIONS" carefully before installation.
- Electrical work must be installed by a licensed electrician. Be sure to use the correct rating of the power plug and main circuit for the model to be installed.
- The caution items stated here must be followed because these important contents are related to safety. The meaning of each indication used is as below. Incorrect installation due to ignoring of the instruction will cause harm or damage, and the seriousness is classified by the following indications.

⚠ WARNING	This indication shows the possibility of causing death or serious injury.
⚠ CAUTION	This indication shows the possibility of causing injury or damage to properties only.

The items to be followed are classified by the symbols:

⃠	Symbol with white background denotes item that is PROHIBITED.
❗ ⏚	Symbol with dark background denotes item that must be carried out.

- Carry out test running to confirm that no abnormality occurs after the installation. Then, explain to user the operation, care and maintenance as stated in instructions. Please remind the customer to keep the operating instructions for future reference.

⚠ WARNING

- Do not install outdoor unit near handrail of veranda. When installing air-conditioner unit on veranda of a high rise building, child may climb up to outdoor unit and cross over the handrail causing an accident.
- Do not use unspecified cord, modified cord, joint cord or extension cord for power supply cord. Do not share the single outlet with other electrical appliances. Poor contact, poor insulation or over current will cause electrical shock or fire.
- Do not tie up the power supply cord into a bundle by band. Abnormal temperature rise on power supply cord may happen.
- Do not insert your fingers or other objects into the unit, high speed rotating fan may cause injury.
- Do not sit or step on the unit, you may fall down accidentally.
- Keep plastic bag (packaging material) away from small children, it may cling to nose and mouth and prevent breathing.
- When installing or relocating air conditioner, do not let any substance other than the specified refrigerant, eg. air etc mix into refrigeration cycle (piping). Mixing of air etc. will cause abnormal high pressure in refrigeration cycle and result in explosion, injury etc.
- Do not add or replace refrigerant other than specified type. It may cause product damage, burst and injury etc.
- For R410A model, use piping, flare nut and tools which is specified for R410A refrigerant. Using of existing (R22) piping, flare nut and tools may cause abnormally high pressure in the refrigerant cycle (piping), and possibly result in explosion and injury.
  - Thickness for copper pipes used with R410A must be more than 0.8 mm. Never use copper pipes thinner than 0.8 mm.
  - It is desirable that the amount of residual oil less than 40 mg/10 m.
- Engage authorized dealer or specialist for installation. If installation done by the user is incorrect, it will cause water leakage, electrical shock or fire.
- Install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire.
- Use the attached accessories parts and specified parts for installation. Otherwise, it will cause the set to fall, water leakage, fire or electrical shock.
- Install at a strong and firm location which is able to withstand the set's weight. If the strength is not enough or installation is not properly done, the set will drop and cause injury.
- For electrical work, follow the local national wiring standard, regulation and this installation instruction. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical work, it will cause electrical shock or fire.
- Do not use joint cable for indoor / outdoor connection cable. Use the specified indoor/outdoor connection cable, refer to instruction ⑤ **CONNECT THE CABLE TO THE INDOOR UNIT** and connect tightly for indoor/outdoor connection. Clamp the cable so that no external force will have impact on the terminal. If connection or fixing is not perfect, it will cause heat up or fire at the connection.
- Wire routing must be properly arranged so that control board cover is fixed properly. If control board cover is not fixed perfectly, it will cause fire or electrical shock.
- This equipment is strongly recommended to be installed with Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD), with sensitivity of 30mA at 0.1 sec or less. Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
- During installation, install the refrigerant piping properly before running the compressor. Operation of compressor without fixing refrigeration piping and valves at opened condition will cause suck-in of air, abnormal high pressure in refrigeration cycle and result in explosion, injury etc.
- During pump down operation, stop the compressor before remove the refrigeration piping. Removal of refrigeration piping while compressor is operating and valves are opened will cause suck-in of air, abnormal high pressure in refrigeration cycle and result in explosion, injury etc.
- Tighten the flare nut with torque wrench according to specified method. If the flare nut is over-tightened, after a long period, the flare may break and cause refrigerant gas leakage.
- After completion of installation, confirm there is no leakage of refrigerant gas. It may generate toxic gas when the refrigerant contacts with fire.
- Ventilate if there is refrigerant gas leakage during operation. It may cause toxic gas when the refrigerant contacts with fire.
- This equipment must be properly earthed. Earth line must not be connected to gas pipe, water pipe, earth of lightning rod and telephone. Otherwise, it may cause electrical shock in case of equipment breakdown or insulation breakdown.

⚠ CAUTION

- Do not install the unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.
- Do not release refrigerant during piping work for installation, re-installation and during repairing a refrigeration parts.
- Take care of the liquid refrigerant, it may cause frostbite.
- Do not install this appliance in a laundry room or other location where water may drip from the ceiling, etc.
- Do not touch the sharp aluminium fin, sharp parts may cause injury.
- Carry out drainage piping as mentioned in installation instructions. If drainage is not perfect, water may enter the room and damage the furniture.
- Select an installation location which is easy for maintenance.
- Power supply connection to the room air conditioner.
  Use power supply cord 3 x 1.5 mm² (1.0 – 2.0HP) or 3 x 2.5 mm² (2.5HP) type designation 60245 IEC 57 or heavier cord. Connect the power supply cord of the air conditioner to the mains using one of the following method. Power supply point should be in easily accessible place for power disconnection in case of emergency. In some countries, permanent connection of this air conditioner to the power supply is prohibited.
  1) Power supply connection to the receptacle using power plug.
     Use an approved 15A (1.0 – 2.0HP) or 20A (2.5HP) power plug with earth pin for the connection to the socket.
  2) Power supply connection to a circuit breaker for the permanent connection.
     Use an approved 16A (1.0 – 2.0HP) or 20A (2.5HP) circuit breaker for the permanent connection. It must be a double pole switch with a minimum 3.0 mm contact gap.
- Installation work.
  It may need two people to carry out the installation work.

Attached accessories

No.	Accessories part	Qty.	No.	Accessories part	Qty.
1	Installation plate	1	5	Remote control holder	1
2	Installation plate fixing screw	5	6	Remote control holder fixing screw	2
3	Remote Control	1	7	Drain elbow	1
4	Battery	2			

Applicable piping kit	Piping size	
	Gas	Liquid
CZ-3F5, 7BP	9.52 mm (3/8")	6.35 mm (1/4")
CZ-4F5, 7, 10BP	12.7 mm (1/2")	6.35 mm (1/4")
CZ-52F5, 10BP	15.88 mm (5/8")	6.35 mm (1/4")

SELECT THE BEST LOCATION

INDOOR UNIT

- ❑ Do not install the unit in excessive oil fume area such as kitchen, workshop and etc.
- ❑ There should not be any heat source or steam near the unit.
- ❑ There should not be any obstacles blocking the air circulation.
- ❑ A place where air circulation in the room is good.
- ❑ A place where drainage can be easily done.
- ❑ A place where noise prevention is taken into consideration.
- ❑ Do not install the unit near the door way.
- ❑ Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.
- ❑ Indoor unit of this air conditioner shall be installed in a height of at least 1.8 m.

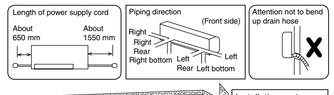
OUTDOOR UNIT

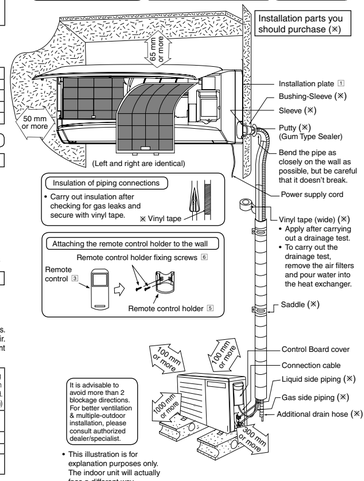
- ❑ If an awning is built over the unit to prevent direct sunlight or rain, be careful that heat radiation from the condenser is not obstructed.
- ❑ There should not be any animal or plant which could be affected by hot air discharged.
- ❑ Keep the spaces indicated by arrows from wall, ceiling, fence or other obstacles.
- ❑ Do not place any obstacles which may cause a short circuit of the discharged air.
- ❑ If piping length is over the [piping length for additional gas], additional refrigerant should be added as shown in the table.

Model	Horse Power (HP)	Piping size Gas	Liquid	Std. Length (m)	Max. Elevation (m)	Min. Piping Length (m)	Max. Piping Length (m)	Additional Refrigerant (g/m)	Piping length for add. gas (m)
PV9**	1.0HP	9.52mm (3/8")	6.35mm (1/4")	5	5	3	15	10	7.5
PV12**	1.5HP	12.7mm (1/2")			5	3	15	10	7.5
PV18**	2.0HP	15.88mm (5/8")			20	3	25	15	7.5
PV24**	2.5HP				20	3	30	25	7.5

Example: For PV9**
If the unit is installed at 10 m distance, the quantity of additional refrigerant should be 25 g .... (10-7.5) m x 10 g/m = 25 g.

Indoor/Outdoor Unit Installation Diagram



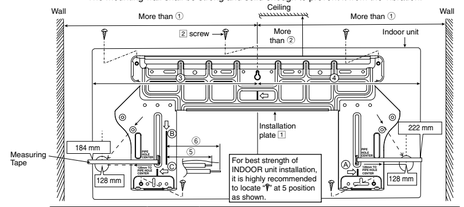


INDOOR UNIT

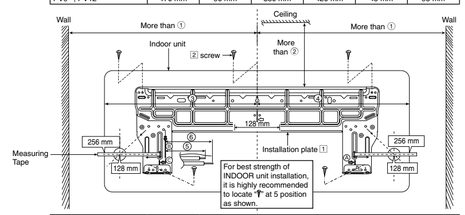
1 SELECT THE BEST LOCATION
(Refer to "Select the best location" section)

2 HOW TO FIX INSTALLATION PLATE

The mounting wall shall be strong and solid enough to prevent it from the vibration.



Model	Dimension ①	②	③	④	⑤	⑥
PV9**, PV12**	470 mm	90 mm	380 mm	420 mm	45 mm	95 mm



Model	Dimension ①	②	③	④	⑤	⑥
PV18**, PV24**	605 mm	95 mm	550 mm	550 mm	270 mm	320 mm

The center of installation plate should be at more than ① at right and left of the wall.
The distance from installation plate edge to ceiling should more than ②.
From installation plate center to unit's left side is ③.
From installation plate center to unit's right side is ④.
Ⓑ : For left side piping, piping connection for liquid should be about ⑤ from this line.
: For left side piping, piping connection for gas should be about ⑥ from this line.

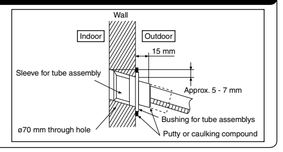
1. Mount the installation plate on the wall with 5 screws or more (at least 5 screws).
   (If mounting the unit on the concrete wall, consider using anchor bolts.)
   - Always mount the installation plate horizontally by aligning the marking-off line with the thread and using a level gauge.
2. Drill the piping plate hole with ø70 mm hole-core drill.
   - Putting measuring tape at position as shown in the diagram above.
     The hole center is obtained by measuring the distance namely 128 mm for left and right hole respectively. Another method is intersection point of arrow mark extension.
     The meeting point of the extension arrow mark is the hole center position.
   - Drill the piping hole at either the right or the left and the hole should be slightly slanting to the outdoor side. (refer to step 3)

3 TO DRILL A HOLE IN THE WALL AND INSTALL A SLEEVE OF PIPING

1. Insert the piping sleeve to the hole.
2. Fix the bushing to the sleeve.
3. Cut the sleeve until it extrudes about 15 mm from the wall.

⚠ CAUTION
❗ When the wall is hollow, please be sure to use the sleeve for tube assembly to prevent dangers caused by mice biting the connection cable.

4. Finish by sealing the sleeve with putty or caulking compound at the final stage.



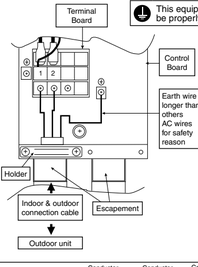
5 CONNECT THE CABLE TO THE INDOOR UNIT

1. The indoor and outdoor unit connection cable can be connected without removing the front grille.
2. **Connection cable** between indoor unit and outdoor unit shall be approved polychloroprene sheathed 3 x 1.5 mm² (1.0 – 2.0HP) or 3 x 2.5 mm² (2.5HP) flexible cord, type designation 60245 IEC 57 or heavier cord. Do not use joint connection cable. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short.

Terminals on the outdoor unit	1	2	⏚
Colour of wires (connection cable)			
Terminals on the indoor unit	1	2	⏚

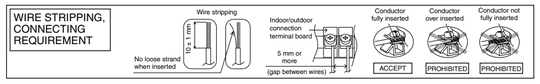
* Secure the connection cable onto the control board with the holder.

⚠ WARNING
❗ This equipment must be properly earthed.

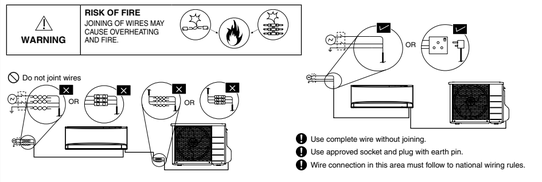


Note:
- Isolating Devices (Disconnecting means) should have minimum 3.0 mm contact gap.
- Ensure the colour of wires of outdoor unit and the terminal Nos. are the same to the indoor's respectively.
- Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires as shown in the figure for the electrical safety in case of the slipping out of the cord from the anchorage.

WIRE STRIPPING, CONNECTING REQUIREMENT

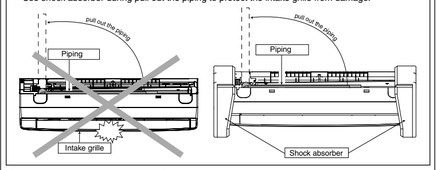


⚠ WARNING
RISK OF FIRE
JOINING OF WIRES MAY CAUSE OVERHEATING AND FIRE.



4 INDOOR UNIT INSTALLATION

- Do not turn over the unit without it's shock absorber during pull out the piping. It may cause intake grille damage.
- Use shock absorber during pull out the piping to protect the intake grille from damage.



1. FOR THE RIGHT REAR PIPING

Step-1 Pull out the Indoor piping
Step-2 Install the Indoor Unit
Step-3 Secure the Indoor Unit
- If indoor power supply, excess length of power supply must arrange accordingly, please refer "Power supply cord arrangement" before secure the indoor unit.

Step-4 Insert the connection cable

2. FOR THE RIGHT AND RIGHT BOTTOM PIPING

Step-1 Pull out the Indoor piping
Step-2 Install the Indoor Unit
Step-3 Insert the connection cable
Step-4 Secure the Indoor Unit
- If indoor power supply, excess length of power supply must arrange accordingly, please refer "Power supply cord arrangement" before secure the indoor unit.

3. FOR THE EMBEDDED PIPING

Step-1 Replace the drain hose
Step-2 Bend the embedded piping
- Use a spring bender or equivalent to bend the piping so that the piping is not crushed.

Step-3 Pull the connection cable into Indoor Unit
- The inside and outside connection cable can be connected without removing the front grille.

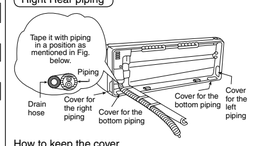
Step-4 Cut and flare the embedded piping
- When determining the dimensions of the piping, slide the unit all the way to the left on the installation plate.
- Refer to the section "Cutting and flaring the piping".

Step-5 Install the Indoor Unit
Step-6 Connect the piping
- Please refer to "Connecting the piping" column in outdoor unit section. (Below steps are done after connecting the outdoor piping and gas-leakage confirmation.)

Step-7 Insulate and finish the piping
- Please refer to "Piping and finishing" column of outdoor section and "Insulation of piping connections" column as mentioned in Indoor/ Outdoor unit installation.

Step-8 Secure the Indoor Unit

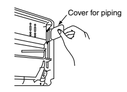
Right Rear piping



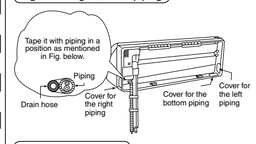
How to keep the cover

In case of the cover is cut, keep the cover at the rear of chassis as shown in the illustration for future reinstallation.

(Left, right and 2 bottom covers for piping.)

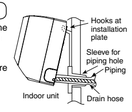


Right and Right Bottom piping



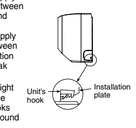
Install the indoor unit

Hook the indoor unit onto the upper portion of installation plate. (Engage the indoor unit with the upper edge of the installation plate). Ensure the hooks are properly seated on the installation plate by moving it in left and right.

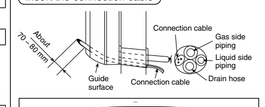


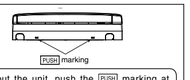
Secure the Indoor Unit

1. Power supply cord arrangement
   Excess length of power supply cord should be arranged behind the chassis at piping keeping area as shown in the diagram without tying up in a bundle.
   Ensure that the power supply cord is not clamped in between unit's hook (2 position) and installation plate.
   Ensure that the power supply cord is not stretched between chassis back and installation plate. It may create squeak sound.
2. Press the lower left and right side of the unit against the installation plate until hooks engages with their slot (sound click).



Insert the connection cable



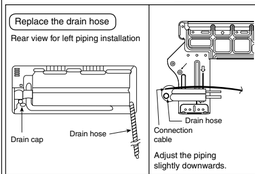


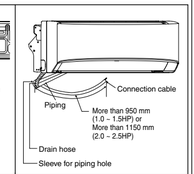
To take out the unit, push the PUSH marking at the bottom unit, and pull it slightly towards you to disengage the hooks from the unit.

(This can be used for left rear piping and bottom piping also.)

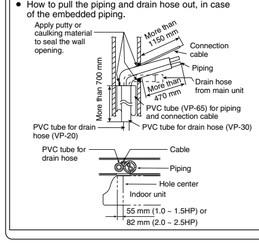
Replace the drain hose

Rear view for left piping installation

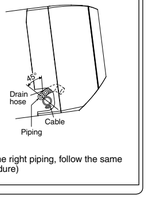




- How to pull the piping and drain hose out, in case of the embedded piping.



- In case of left piping how to insert the connection cable and drain hose.



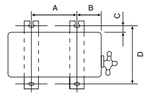
(For the right piping, follow the same procedure)

OUTDOOR UNIT

1 SELECT THE BEST LOCATION
(Refer to "Select the best location" section)

2 INSTALL THE OUTDOOR UNIT

- After selecting the best location, start installation to Indoor/Outdoor Unit Installation Diagram.
1. Fix the unit on concrete or rigid frame firmly and horizontally by bolt nut (ø10 mm).
2. When installing at roof, please consider strong wind and earthquake.
   Please fasten the installation stand firmly with bolt or nails.



Model	A	B	C	D
PV9**	474 mm	87 mm	18.5 mm	261 mm
PV12**	570 mm	105 mm	18.5 mm	320 mm
PV18**, PV24**	540 mm	160 mm	18.5 mm	330 mm

3 CONNECT THE PIPING

Connecting The Piping to Indoor

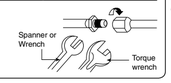
Please make flare after inserting flare nut (locate at joint portion of tube assembly) onto the copper pipe. (In case of using long piping)
Connect the piping
- Align the center of piping and sufficiently tighten the flare nut with fingers.
- Further tighten the flare nut with torque wrench in specified torque as stated in the table.

Do not over tighten, overtightening may cause gas leakage.

Piping size	Torque
6.35 mm (1/4")	[18 N•m (1.8 kgf•m)]
9.52 mm (3/8")	[42 N•m (4.3 kgf•m)]
12.7 mm (1/2")	[55 N•m (5.6 kgf•m)]
15.88 mm (5/8")	[65 N•m (6.6 kgf•m)]
19.05 mm (3/4")	[100 N•m (10.2 kgf•m)]

Connecting The Piping to Outdoor

Decide piping length and then cut by using pipe cutter.
Remove burrs from cut edge.
Make flare after inserting the flare nut (locate at valve) onto the copper pipe.
Align center of piping to valve and then tighten with torque wrench to the specified torque as stated in the table.

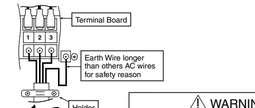


5 CONNECT THE CABLE TO THE OUTDOOR UNIT

1. Remove the control board cover from the unit by loosening the screw.
2. **Connection cable** between indoor unit and outdoor unit shall be approved polychloroprene sheathed 3 x 1.5 mm² (1.0 – 2.0HP) or 3 x 2.5 mm² (2.5HP) flexible cord, type designation 60245 IEC 57 or heavier cord. Do not use joint connection cable. Replace the wire if the existing wire (from concealed wiring, or otherwise) is too short.

Terminals on the outdoor unit	1	2	3	⏚
Colour of wires				
Terminals on the indoor unit	1	2	3	⏚

3. Secure the cable onto the control board with the holder (clamper).
4. Attach the control board cover back to the original position with screw.
5. For wire stripping and connection requirement, refer to instruction ⑤ of indoor unit.



⚠ WARNING
❗ This equipment must be properly earthed.

- Earth wire shall be Yellow/Green (Y/G) in colour and longer than other AC wires for safety reason.

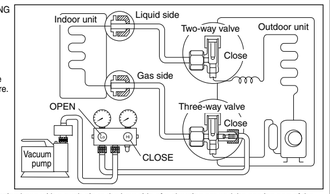
6 PIPING INSULATION

1. Please carry out insulation at pipe connection portion as mentioned in Indoor/Outdoor Unit Installation Diagram. Please wrap the insulated piping end to prevent water from going inside the piping.
2. If drain hose or connecting piping is in the room (where dew may form), please increase the insulation by using POLY-E FOAM with thickness 6 mm or above.

AIR PURGING METHOD IS PROHIBITED FOR R410A SYSTEM

4 EVACUATION OF THE EQUIPMENT

WHEN INSTALLING AN AIR CONDITIONER, BE SURE TO EVACUATE THE AIR INSIDE THE INDOOR UNIT AND PIPES in the following procedure.



1. Connect a charging hose with a push pin to the Low side of a charging set and the service port of the 3-way valve.
   - Be sure to connect the end of the charging hose with the push pin to the service port.
2. Connect the center hose of the charging set to a vacuum pump.
3. Turn on the power switch of the vacuum pump and make sure that the needle in the gauge moves from 0 cmHg (0 MPa) to -76 cmHg (-0.1 MPa). Then evacuate the air approximately ten minutes.
4. Close the Low side valve of the charging set and turn off the vacuum pump. Make sure that the needle in the gauge does not move after approximately five minutes.
   Note : BE SURE TO TAKE THIS PROCEDURE IN ORDER TO AVOID REFRIGERANT GAS LEAKAGE.
5. Disconnect the charging hose from the vacuum pump and from the service port of the 3-way valve.
6. Tighten the service port caps of the 3-way valve at a torque of 18 N•m with a torque wrench.
7. Remove the valve caps of both of the 2-way valve and 3-way valve. Position both of the valves to "OPEN" using a hexagonal wrench (4 mm).
8. Mount valve caps onto the 2-way valve and the 3-way valve.
   - Be sure to check for gas leakage.

- If gauge needle does not move from 0 cmHg (0 MPa) to -76 cmHg (-0.1 MPa), in step ③ above take the following measure:
  - If the leak stops when the piping connections are tightened further, continue working from step ③.
  - If the leak does not stop when the connections are retightened, repair location of leak.
  - Do not release refrigerant during piping work for installation and reinstallation.
  - Take care of the liquid refrigerant, it may cause frostbite.

CUTTING AND FLARING THE PIPING

1. Please cut using pipe cutter and then remove the burrs.
2. Remove the burrs by using reamer. If burrs is not removed, gas leakage may be caused. Turn the piping end down to avoid the metal powder entering the pipe.
3. Please make flare after inserting the flare nut onto the copper pipes.

When properly flared, the internal surface of the flare will evenly shine and be of even thickness. Since the flare part comes into contact with the connections, carefully check the flare finish.

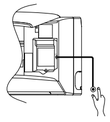
HOW TO TAKE OUT FRONT GRILLE

Please follow the steps below to take out front grille if necessary such as when servicing.
1. Set the vertical airflow direction louvers to the horizontal position.
2. Remove the 2 caps (1.0 ~ 1.5HP) or 3 caps (2.0 ~ 2.5HP) on the front grille as shown in the illustration at above, and then remove the 3 (1.0 ~ 1.5HP) or 4 (2.0 ~ 2.5HP) mounting screws.
3. Pull the lower section of the front grille towards you to remove the front grille.

When reinstalling the front grille, first set the vertical airflow direction louver to the horizontal position and then carry out above steps 2 - 3 in the reverse order.

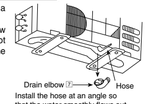
AUTO SWITCH OPERATION

The below operations will be performed by pressing the "AUTO" switch.
1. AUTO OPERATION MODE
   The Auto operation will be activated immediately once the Auto Switch is pressed and release within 5 sec..
2. TEST RUN OPERATION (FOR PUMP DOWN/SERVICING PURPOSE)
   The Test Run operation will be activated if the Auto Switch is pressed continuously for more than 5 sec. to below 8 sec..
   A "pep" sound will occur at the fifth sec., in order to identify the starting of Test Run operation.
3. REMOTE CONTROLLER RECEIVING SOUND ON/OFF
   The ON/OFF of Remote controller receiving sound can be change over by the following steps:
   a) Press "AUTO" switch continuously for 5 sec. until "pep pep" sound is heard during first 20 sec. from step 2.
   b) Press "AUTO" switch again. Everytime "AUTO" switch is pressed (within 20 sec. interval), Remote controller receiving sound status will be swapped between ON and OFF.
   Long "pep" sound indicates that Remote controller receiving sound is ON.
   Short "pep" sound indicates that Remote controller receiving sound is OFF.



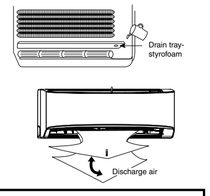
DISPOSAL OF OUTDOOR UNIT DRAIN WATER

- If a drain elbow is used, the unit should be placed on a stand which is taller than 5 cm.
- If the unit is used in an area where temperature falls below 0°C for 2 or 3 days in succession, it is recommended not to use a drain elbow, for the drain water freezes and the fan will not rotate.



CHECK THE DRAINAGE

- Open front panel and remove air filters.
  (Drainage checking can be carried out without removing the front grille.)
- Pour a glass of water into the drain tray-styrofoam.
- Ensure that water flows out from drain hose of the indoor unit.



EVALUATION OF THE PERFORMANCE

- Operate the unit at cooling/heating operation mode for fifteen minutes or more.
- Measure the temperature of the intake and discharge air.
- Ensure the difference between the intake temperature and the discharge is more than 8°C during Cooling operation or more than 14°C during Heating operation.

Pump Down Method When Reuse Existing Piping (R22 Model) for R410A Model

Compressor oil of R22 model is insoluble in compressor oil of R410A model.
The mixing of compressor oil may cause damage of compressor.

Possibility of Mixing	To Reuse Old Piping
■ Reuse of piping of R22 model is dangerous because of its compressor oil. ■ Reuse the piping of R22 model only when it is unavoidable, eg. concealed piping. ■ When reuse piping of R22 model, pump down must be carried out properly to ensure compressor oil which is remained inside piping is collected away.	■ Piping of R22 model can be reused only when air-conditioner is properly pumped down. ■ The purpose of pump down is to collect back the compressor oil (which is mixed with refrigerant and circulating inside refrigeration cycle) properly into the outdoor unit of air conditioner.

Proper Pump Down Method

① Operate air conditioner at cooling mode for 10 ~ 15 minutes.
Most Important Process
Purpose: To make the oil & refrigerant mix together. They are in separated condition when air conditioner is stopped.

② After 10 ~ 15 minutes of pre operation, close 2 way valve. After 3 minutes, close 3 way valve.
Mixed refrigerant & oil will be collected into outdoor unit.

③ Take out air conditioner unit.
Only very small amount of oil remain inside piping, which is acceptable.

④ Install New Refrigerant air conditioner.

In case pump down cannot be done, please flush the piping using R410A refrigerant.

CHECK ITEMS

- ☐ Is there any gas leakage at flare nut connections?
- ☐ Has the heat insulation been carried out at flare nut connection?
- ☐ Is the connection cable being fixed to terminal board firmly?
- ☐ Is the connection cable being clamped firmly?
- ☐ Is the drainage ok? (Refer to "Check the drainage" section)
- ☐ Is the earth wire connection properly done?
- ☐ Is the indoor unit properly hooked to the installation plate?
- ☐ Is the power supply voltage complied with rated value?
- ☐ Is there any abnormal sound?
- ☐ Is the cooling/heating operation normal?
- ☐ Is the thermostat operation normal?
- ☐ Is the remote control's LCD operation normal?

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