

Required tools for Installation Works

- 1 Philips screw driver
- 2 Level gauge
- 3 Electric drill, hole core drill (φ70 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
- 15 Vacuum pump
- 16 Gauge manifold
- 65 N·m (6.6 kgf·m)
- 100 N·m (10.2 kgf·m)
- 18 N·m (1.8 kgf·m)
- 42 N·m (4.3 kgf·m)
- 55 N·m (5.6 kgf·m)

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 listed here must be followed because 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.

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, using 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 or 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.

CAUTION

- 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.
- Use a strong and firm location which is able to withstand weight of the set. 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 installation section 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 of flaring is not perfect, it will cause heat up or fire at the connection.

CAUTION

- 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). Otherwise, it may cause electrical shock and fire in case of equipment breakdown or insulation breakdown.
- During installation, install the refrigerant piping properly before turning the compressor. Operation of compressor without fixing refrigerant piping and valves at opened position will cause abnormal high pressure in refrigeration cycle and result in explosion, injury etc.
- During pump down operation, stop the compressor before removing 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.

CAUTION

- 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.
- Do not install the unit in a 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 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 aluminum fin, sharp parts may cause injury.

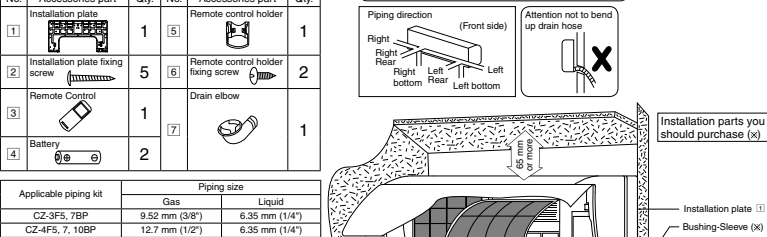
- Carry out drainage piping as mentioned in installation instructions. If drainage is not perfect, water may enter the room and damage the furniture.
- Select an installation location which is easy for maintenance.
- Power supply connection to the room air conditioner.
 - Use power supply cord φ 1.5 mm² (1.0 ~ 1.75HP), φ 2.5 mm² (2.0 ~ 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.
 - Power supply connection to the receptacle using power plug.
 - Use an approved 15/16A (1.0 ~ 1.75HP), 16A (2.0HP), 20A (2.5HP) power plug with earth pin for the connection to the socket.
 - Power supply connection to a circuit breaker for the permanent connection.
 - Use an approved 16A (1.0 ~ 2.0HP), 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.	Accessories part	Qty.
1	Installation plate	1	Remote control holder	1
2	Installation plate fixing screw	5	Remote control holder fixing screw	2
3	Remote Control	1	Drain elbow	1
4	Battery	2		

Indoor/Outdoor Unit Installation Diagram



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.
 - Recommended installation height for indoor unit shall be at least 2.5 m.

OUTDOOR UNIT

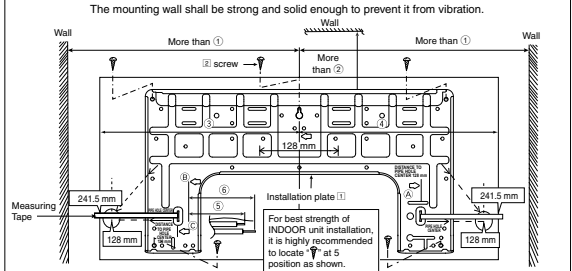
- If an awning is built over the unit to prevent direct sunlight or rain, be careful that radiation from the condenser is not obstructed.
- There should not be any animal or plant which could be affected by hot air discharged.
- Keep the spaces indicated by arrows from wall, ceiling, fence or other obstacles.
- 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	Piping Length (m)	Gas (g)	Liquid (g)	Additional Refrigerant (g)	Piping Length for additional gas (m)		
RE9***, UE9***, YE9***	1.0HP	852mm (33")	15	3	15	20	7.5
RE12***, UE12***, YE12***	1.5HP	9.52 mm (3/8")	15	3	15	20	7.5
RE15***	1.75HP	12.7 mm (1/2")	15	3	15	20	7.5
RE18***	2.0HP	15.88 mm (5/8")	15	3	15	20	7.5
RE24***	2.5HP	15.88 mm (5/8")	20	3	30	30	10

Example: For RE9***
If the unit is installed at 10 m distance, the quantity of additional refrigerant should be 50 g ... (10-7.5) m x 20 g/m = 50 g

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

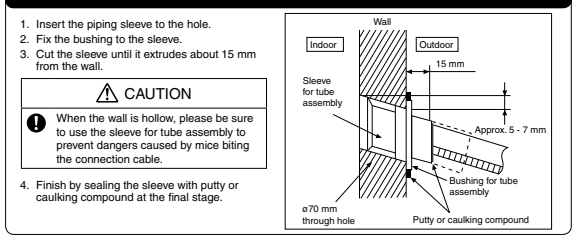
2 HOW TO FIX INSTALLATION PLATE



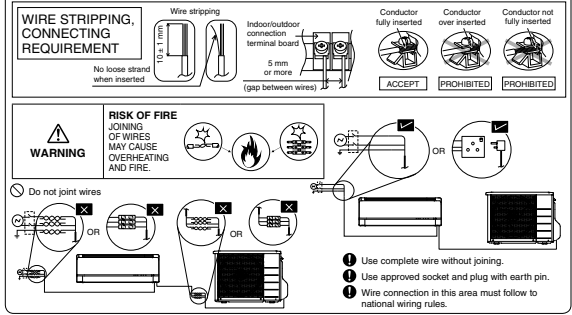
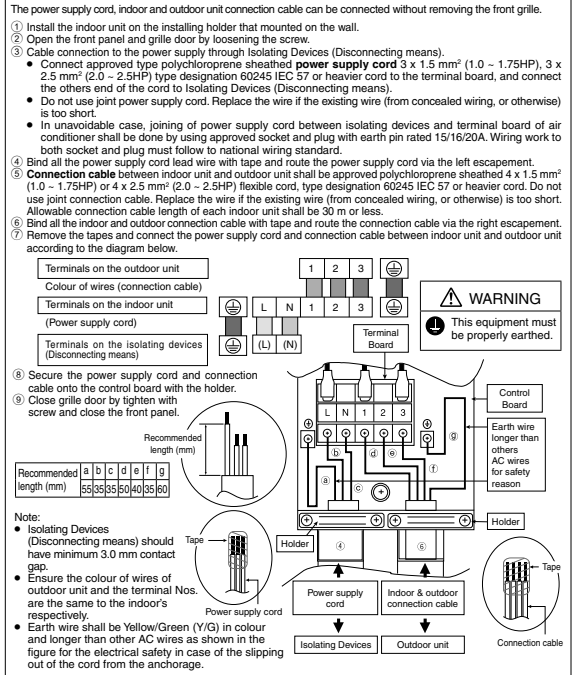
Model	Dimension	(1)	(2)	(3)	(4)	(5)	(6)
RE9***, UE9***, YE9***	490 mm	82 mm	439 mm	432 mm	43 mm	95 mm	
RE12***, UE12***, YE12***							
RE15***							
RE18***, UE18***	590 mm	82 mm	539 mm	532 mm	169 mm	219 mm	
RE24***							

- 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.)
- Drill the piping hole with φ70 mm hole-core drill.
 - Line according to the left and right side of the installation plate. The meeting point of the extended line is the center of the hole. Another method is by 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.
 - Drill the piping hole at either the right or the left and the hole should be slightly slanting to the outdoor side.

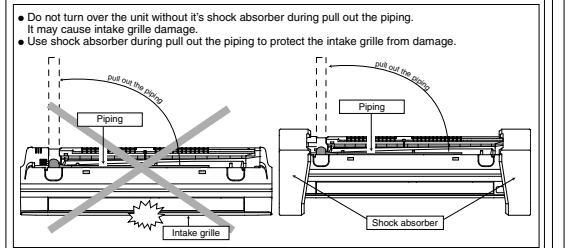
3 TO DRILL A HOLE IN THE WALL AND INSTALL A SLEEVE OF PIPING



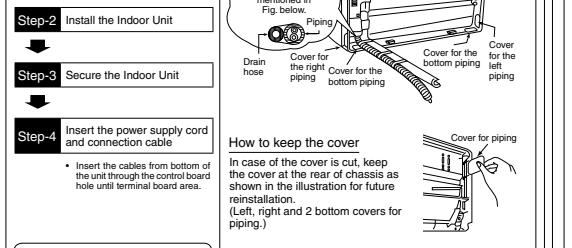
5 CONNECT THE CABLE TO THE INDOOR UNIT



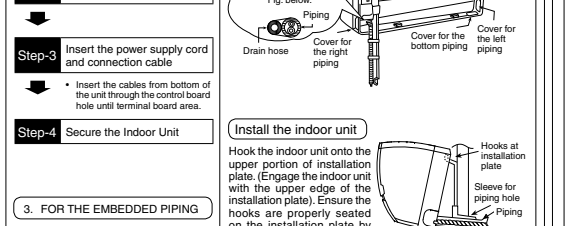
4 INDOOR UNIT INSTALLATION



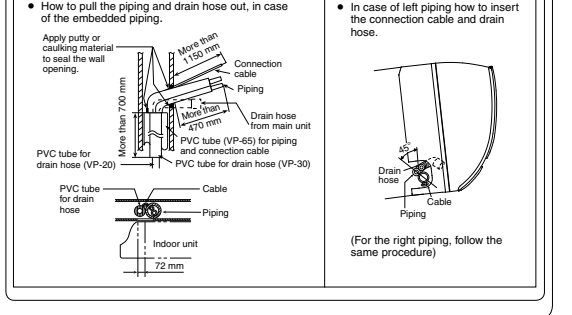
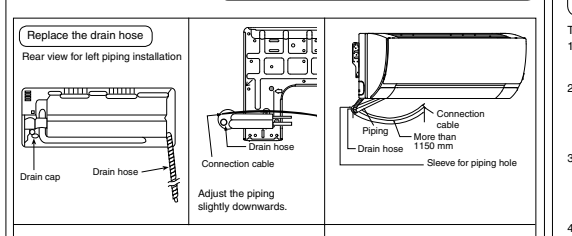
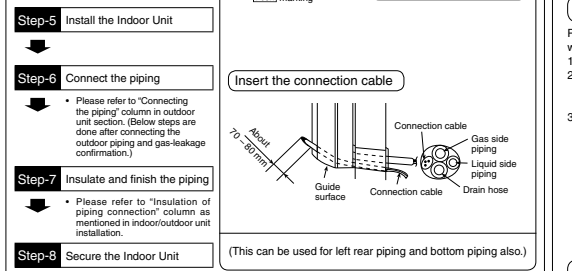
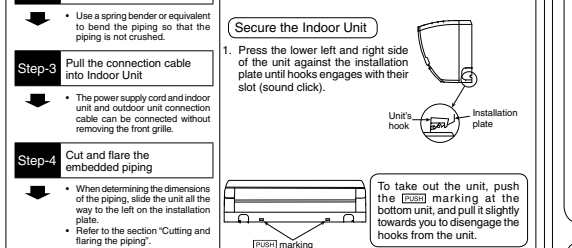
- FOR THE RIGHT REAR PIPING
 - Step-1 Pull out the indoor piping
 - Step-2 Install the Indoor Unit
 - Step-3 Secure the Indoor Unit
 - Step-4 Insert the power supply cord and connection cable



- FOR THE RIGHT AND RIGHT BOTTOM PIPING
 - Step-1 Pull out the indoor piping
 - Step-2 Install the Indoor Unit
 - Step-3 Insert the power supply cord and connection cable
 - Step-4 Secure the Indoor Unit

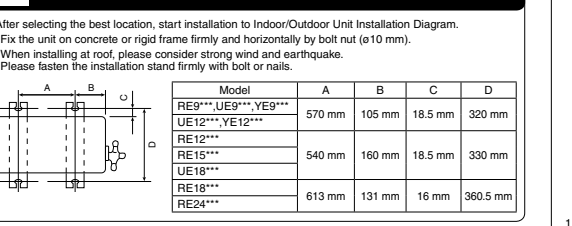


- FOR THE EMBEDDED PIPING
 - Step-1 Replace the drain hose
 - Step-2 Bend the embedded piping
 - Step-3 Pull the connection cable into indoor unit
 - Step-4 Cut and flare the embedded piping



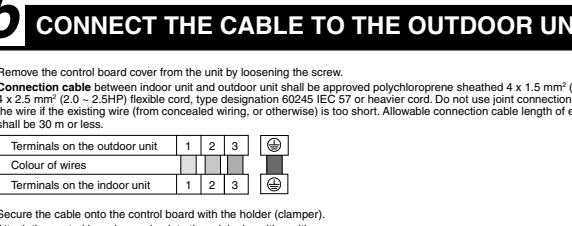
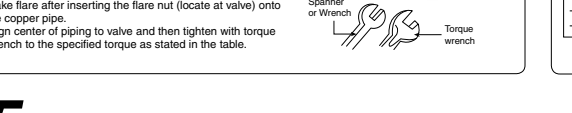
1 SELECT THE BEST LOCATION (Refer to "Select the best location" section)

2 INSTALL THE OUTDOOR UNIT

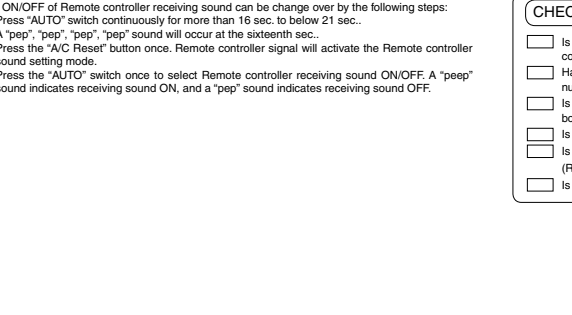
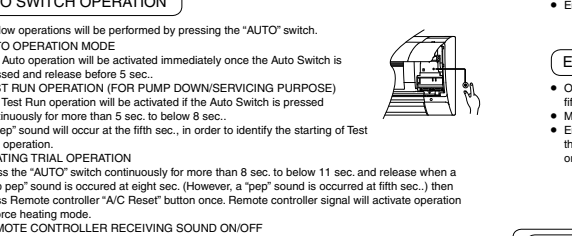
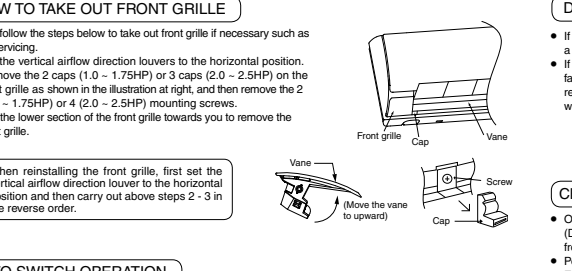
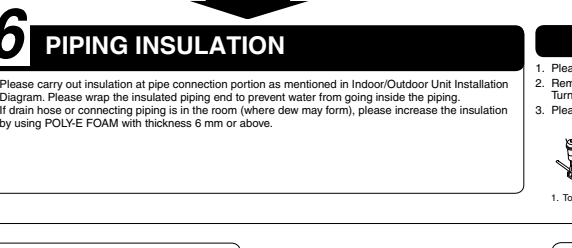


Model	A	B	C	D
RE9***, UE9***, YE9***	570 mm	105 mm	18.5 mm	320 mm
RE12***, UE12***, YE12***				
RE15***				
RE18***	540 mm	160 mm	18.5 mm	330 mm
RE24***				
	613 mm	131 mm	16 mm	360.5 mm

- FOR THE RIGHT REAR PIPING
 - Step-1 Pull out the indoor piping
 - Step-2 Install the Indoor Unit
 - Step-3 Secure the Indoor Unit
 - Step-4 Insert the power supply cord and connection cable

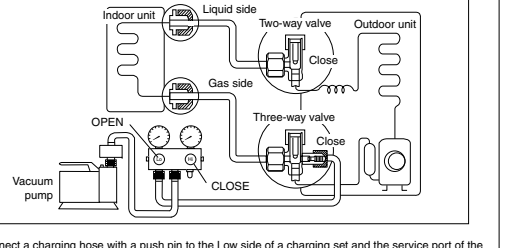


- FOR THE EMBEDDED PIPING
 - Step-1 Replace the drain hose
 - Step-2 Bend the embedded piping
 - Step-3 Pull the connection cable into indoor unit
 - Step-4 Cut and flare the embedded piping

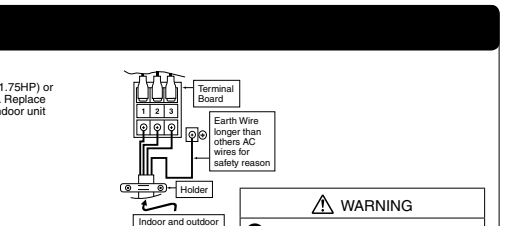


4 EVACUATION OF THE EQUIPMENT

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



- 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.
- Connect the center hose of the charging set to a vacuum pump.
- 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.
- 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.
- Disconnect the charging hose from the vacuum pump and from the service port of the 3-way valve.
- Tighten the service port caps of the 3-way valve at a torque of 18 N·m with a torque wrench.
- Remove the valve caps of both the 2-way valve and 3-way valve. Position both of the valves to "OPEN" using a hexagonal wrench (4 mm).
- Mount valve caps onto the 2-way valve and the 3-way valve.
 - Be sure to check for gas leakage.



- FOR THE EMBEDDED PIPING
 - Step-1 Replace the drain hose
 - Step-2 Bend the embedded piping
 - Step-3 Pull the connection cable into indoor unit
 - Step-4 Cut and flare the embedded piping

