




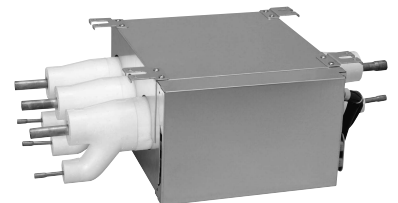
# REMOVAL PROCEDURE



## S E R V I C E M A N U A L

### 11.2/14.0/16.0 kW Class 48000 Btu/h Class

-  Outdoor Unit
-  Inverter
-  Multi Type



# **Service Manual Removal Procedure**

## **Outdoor Unit**

### **●Cooling Only**

**RMKS112LV1A  
RMKS140LV1A  
RMKS160LV1A**

### **●Heat Pump**

**RMXS112LV1A  
RMXS140LV1A  
RMXS160LV1A**

**RMXS48LVJU**

### **●BP Unit**

**BPMKS967A2  
BPMKS967A3**

**BPMKS048A2U  
BPMKS049A3U**

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**Note:**

- ◆ The illustrations may be slightly different depending on the model.
- ◆ The illustrations are for heat pump models as representative.

# 1. Outdoor Unit

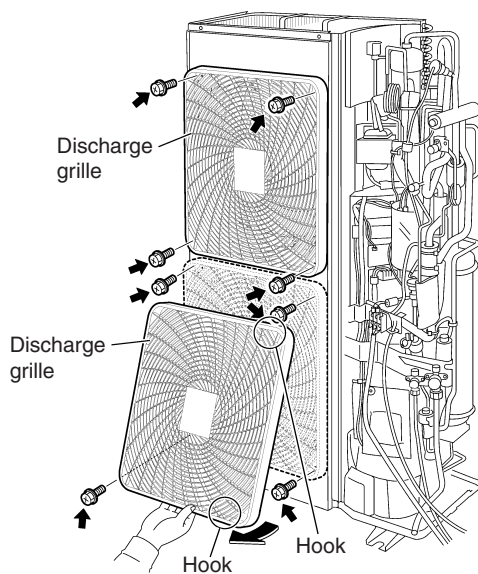
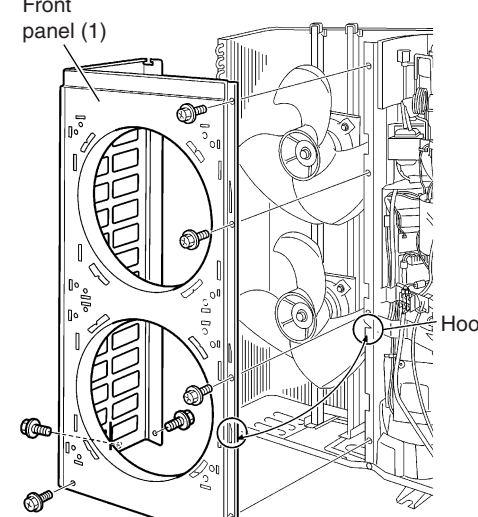
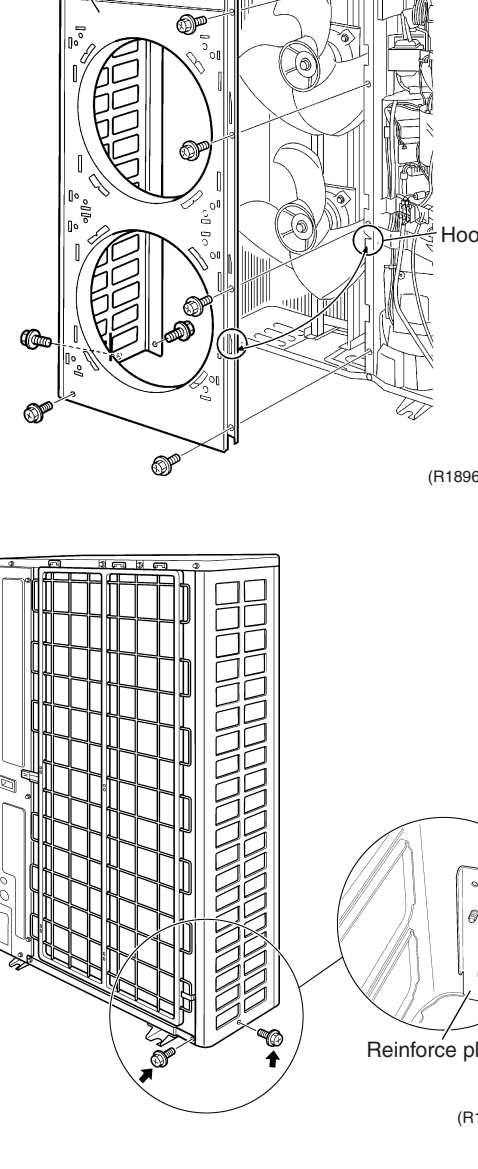
## 1.1 Outer Panels



**Warning**

◆ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Remove the 8 screws and remove the top panel.		<p>■ It is possible to remove only the front panel (2) without removing the top panel.</p>
2	Remove the screw of the front panel (2).		
3	Push the front panel (2) downward to release the hook and remove it.		
4	Remove the screw and remove the piping cover (front).		
5	Remove the 4 screws and remove the piping cover (rear).		
6	Slide the outdoor temperature thermistor to the right and detach it.		
7	Remove the 6 screws and remove the right side panel.		

Step	Procedure	Points	
8	<p>The outdoor unit has 2 discharge grilles. Remove the 4 screws and unfasten the 4 hooks to remove a discharge grille.</p>		<ul style="list-style-type: none"> <li>U.S. model: The front panel (1) has 2 air outlet protection nets. To detach an air outlet protection net, remove the 4 screws.</li> </ul>
9	<p>Remove the 7 screws of the front panel (1).</p>		
10	<p>Push the front panel (1) upward and remove it.</p>		<ul style="list-style-type: none"> <li>On the rear side of the front panel (1), a reinforce plate is attached. Be careful not to lose it while removing the front panel (1).</li> </ul>

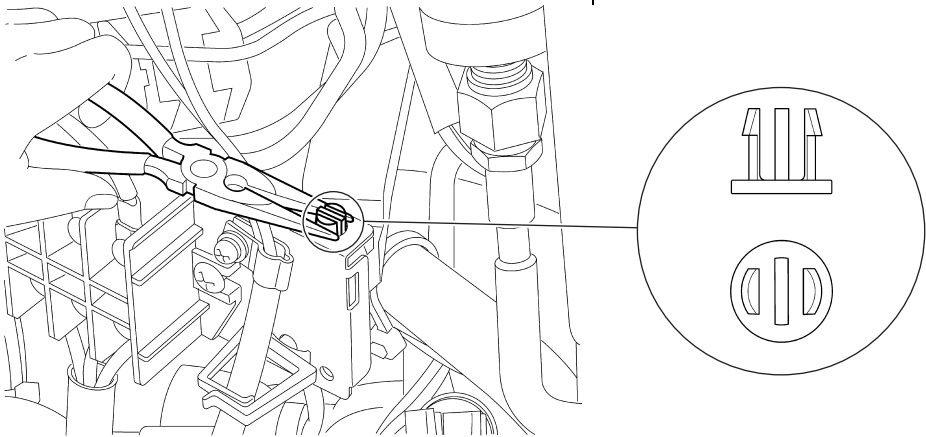
# 1.2 PCBs / Electrical Components

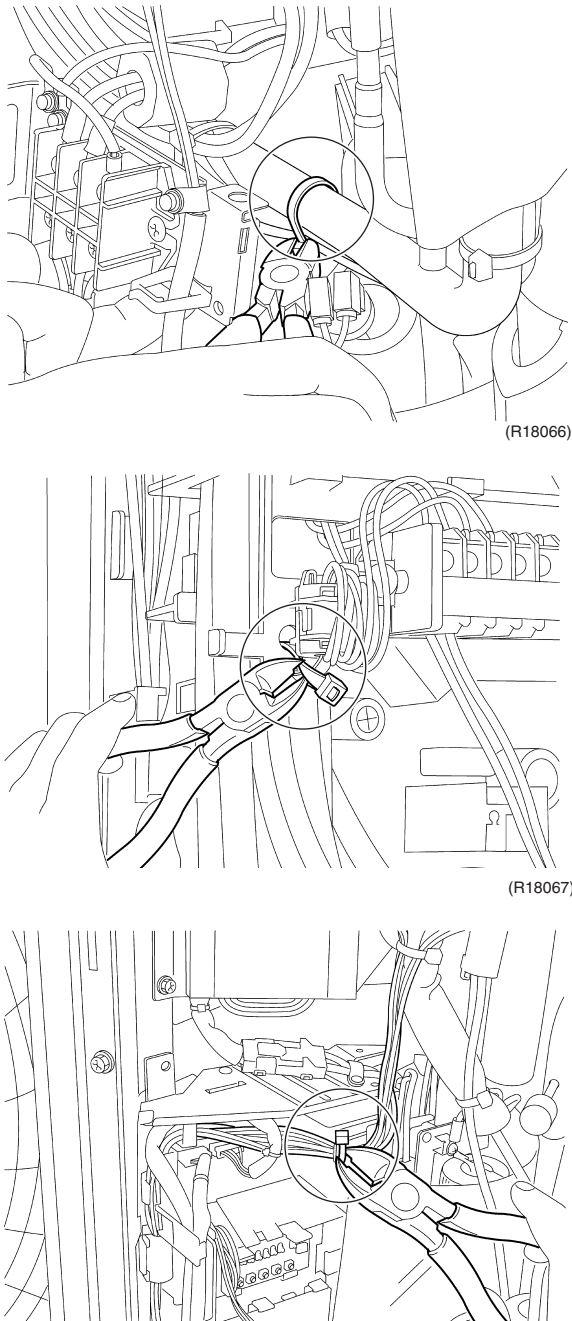
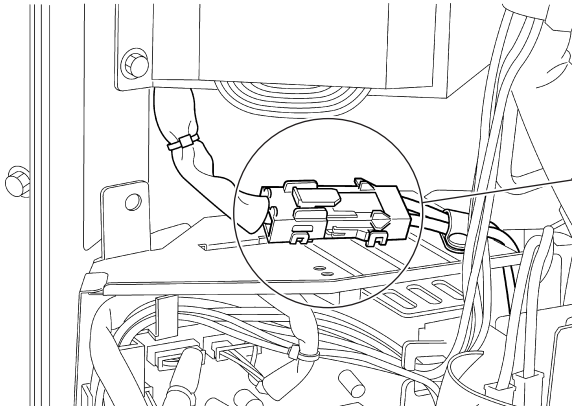
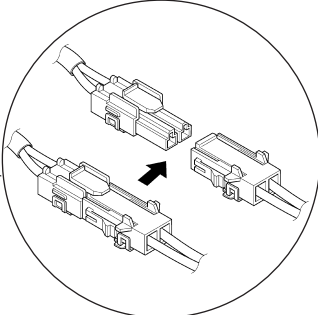


**Warning**

◆ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

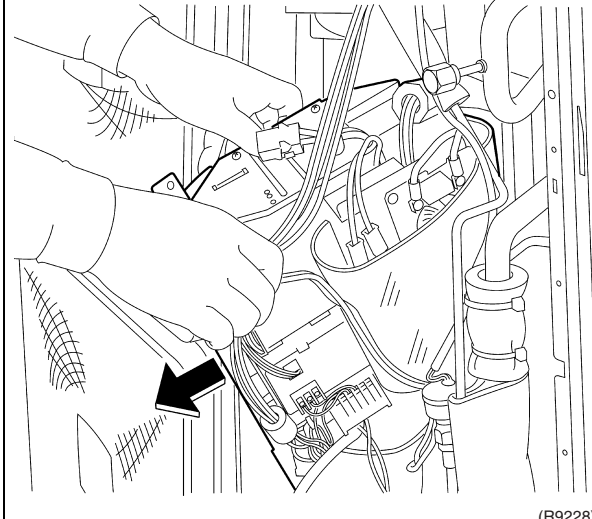
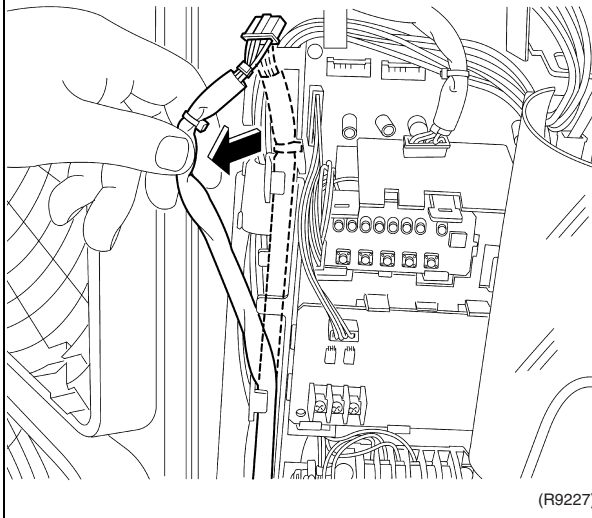
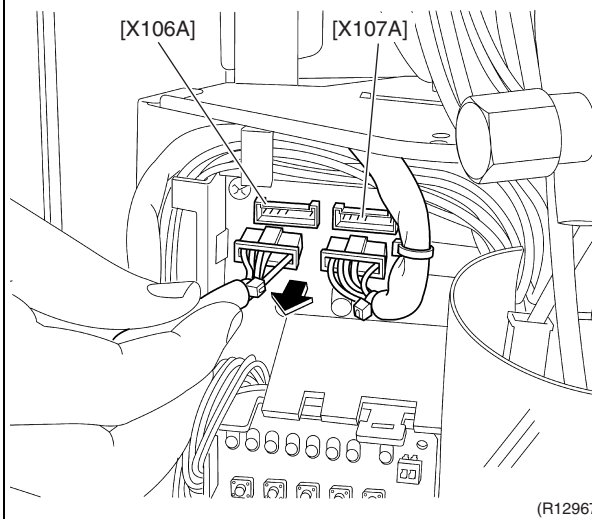
Step	Procedure	Points
1. Remove the terminal cover (The U.S. models only).		
1 Remove the screw on the terminal cover (upper) and open the terminal cover (upper).	<p>Terminal cover (upper)</p> <p>Screw</p> <p>(R18962)</p>	<ul style="list-style-type: none"> <li>■ M5(2) × 12</li> </ul>
2 Remove the screw and open the terminal cover (lower).	<p>Terminal mounting plate</p> <p>Terminal cover (lower)</p> <p>Screw</p> <p>(R18963)</p>	<ul style="list-style-type: none"> <li>■ M5(3) × 12</li> </ul>
3 Remove the 2 screws and remove the terminal covers.	<p>Screw</p> <p>(R18964)</p>	<ul style="list-style-type: none"> <li>■ M5(3) × 12</li> </ul>

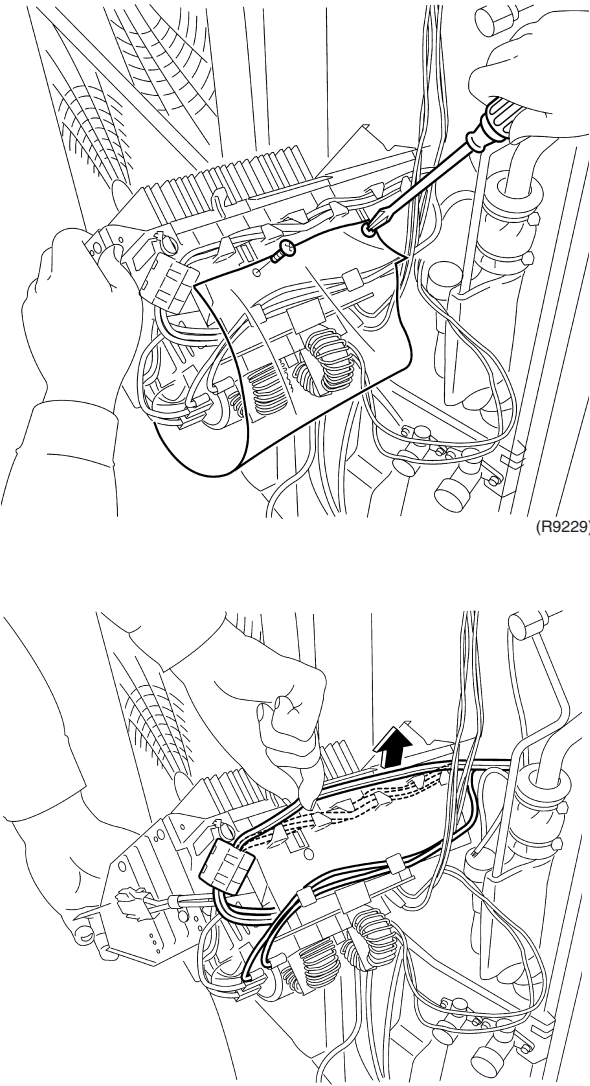
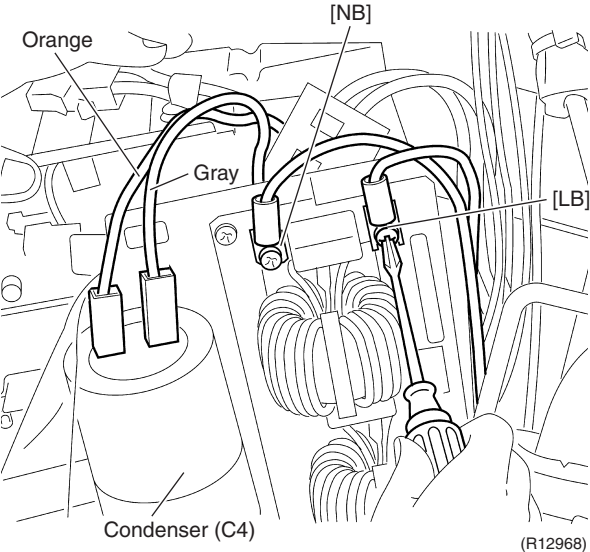
Step	Procedure	Points
2.	Remove the PCBs and electrical components.	<ul style="list-style-type: none"> <li>■ M5(3) × 12</li> </ul>
1	Remove the 2 screws of the terminal mounting plate. (Except the U.S. models.)	
2	Remove the screw above the electrical component assembly.	<ul style="list-style-type: none"> <li>■ M5(3) × 12</li> </ul>
3	Unfasten the clamp from the terminal mounting plate.	 <p>(R18065)</p>

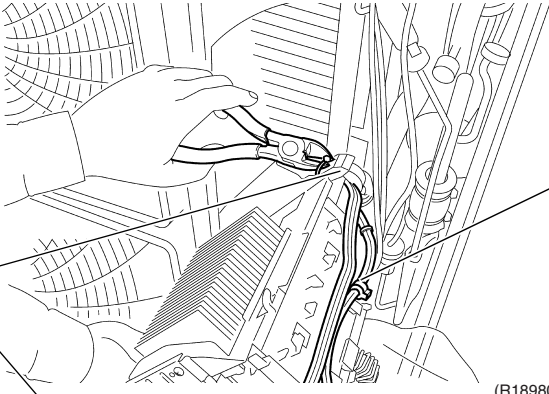
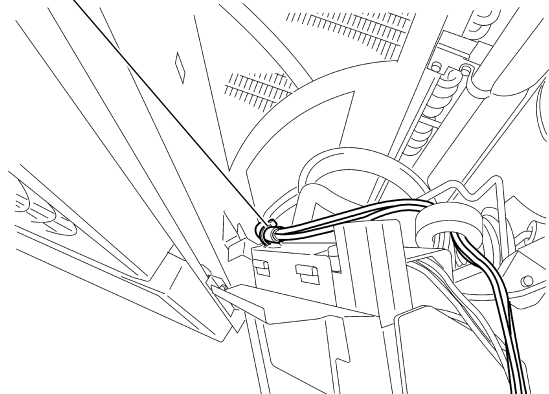
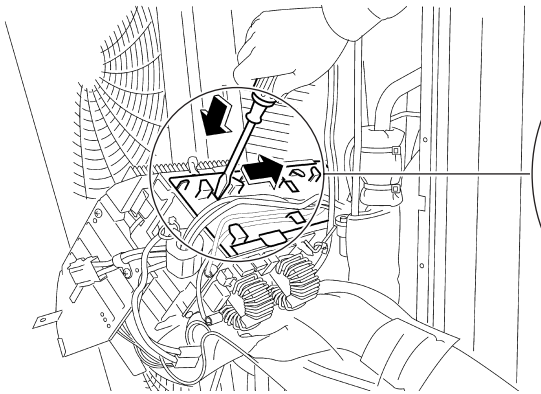
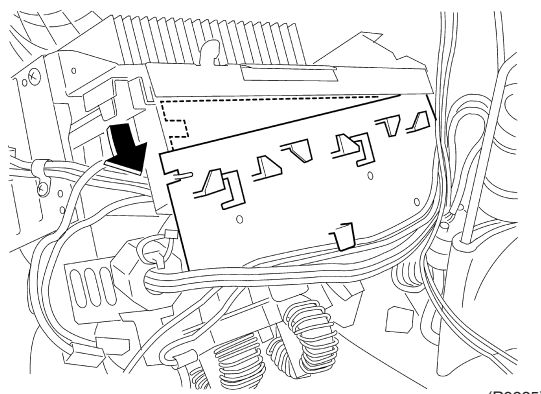
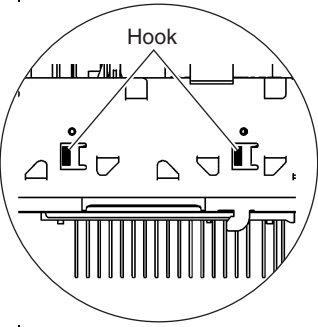
Step		Procedure	Points
4	Cut off the 3 clamps.	 <p>(R18066)</p> <p>(R18067)</p> <p>(R18068)</p>	
5	Disconnect the relay connector for the reactor lead wire from each other.	 <p>(R9225)</p>	

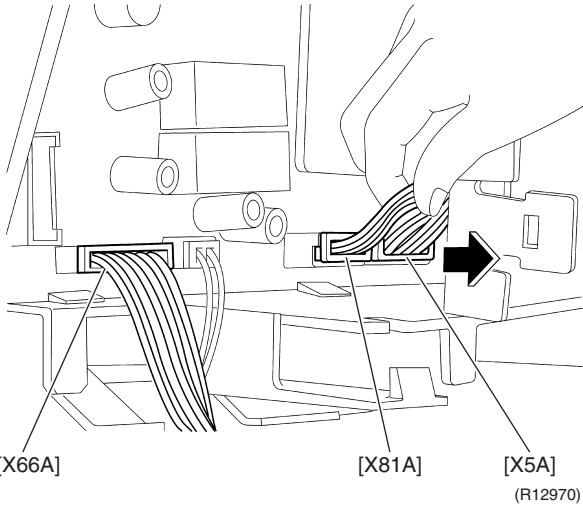
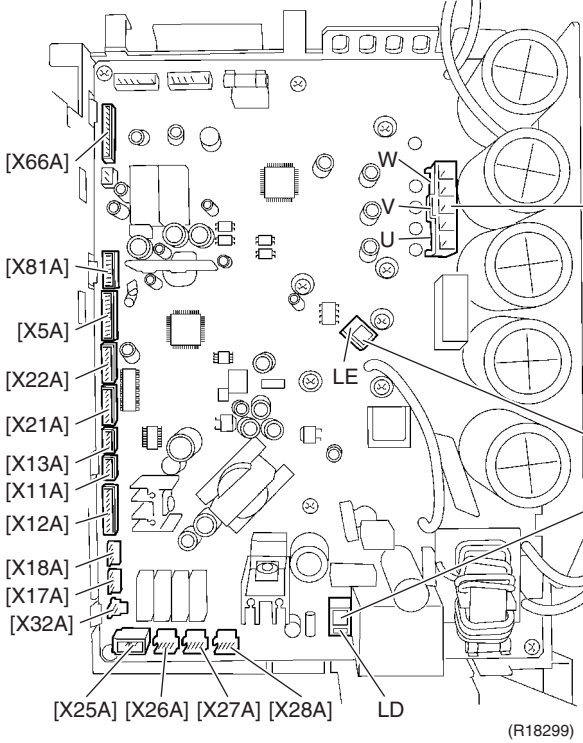


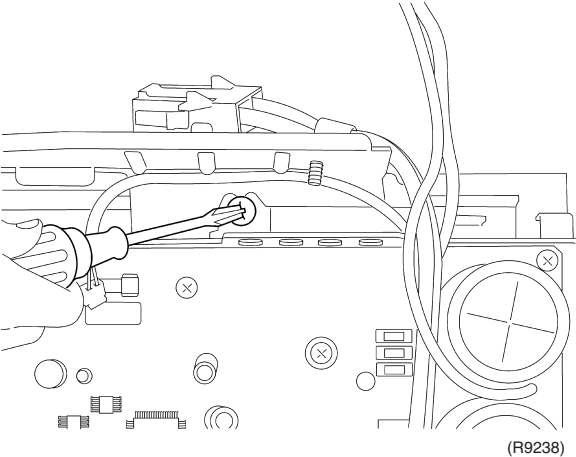
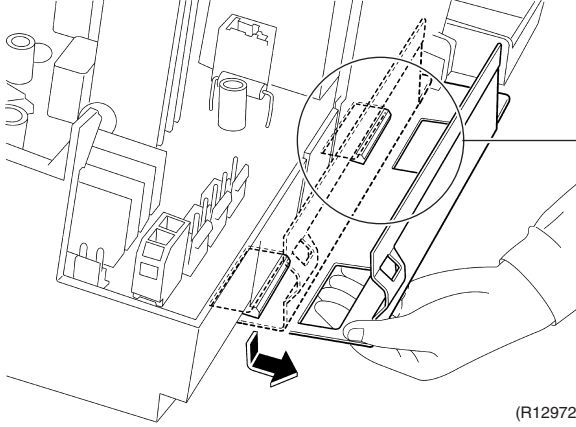
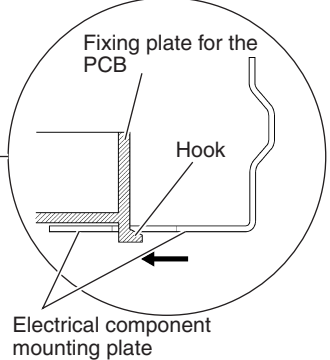
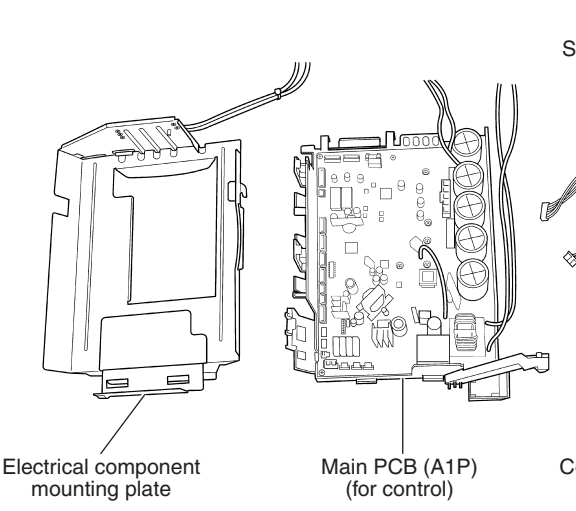
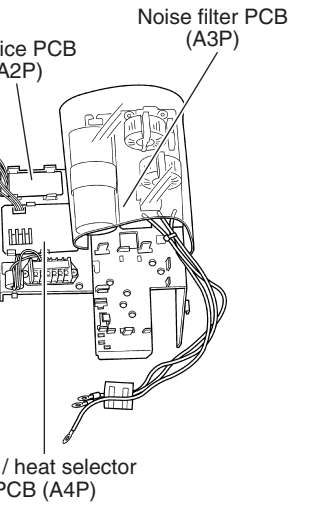
Step	Procedure	Points
6	Disconnect the connectors [X106A] [X107A].	[X106A] [X107A]: fan motor
7	Release the fan motor lead wires from the hooks.	
8	Release the lead wires of the solenoid valves and four way valve from the fixing plate and then remove the electrical component assembly.	



Step	Procedure	Procedure	Points
9	Remove the 2 screws of the insulation sheet and then release the compressor lead wires (blue, red, white) and the relay wires between A1P and A3P (red, blue) from the hooks.	 <p>(R9229)</p> <p>(R9230)</p>	
10	Remove the 2 screws from [LB] (red) and [NB] (blue) on A3P and disconnect the 2 lead wires of condenser (orange, gray).	 <p>(R12968)</p>	<p>■ M4 × 8 with spring washer</p>

Step	Procedure	Points
<p>11 Cut the 2 clamps for the compressor lead wires.</p> <p>12 Cut the clamp for the relay wires from A3P to A1P (red, blue) and for the earth / ground (green).</p> <p>Clamps (2 places) for the compressor lead wires</p>	 <p>(R18980)</p>  <p>(R9233)</p>	<p>Clamp for the relay wires from A3P to A1P and for the earth / ground</p>
<p>13 Push and unfasten the 2 hooks and slide the casing to the right and remove the casing from the electrical component assembly.</p>	 <p>(R9234)</p>  <p>(R9235)</p>	 <p>Hook</p>

Step	Procedure	Points	Points
14	Disconnect the connectors [X66A] [X81A] [X5A].	 <p>[X66A] [X81A] [X5A] (R12970)</p>	
15	Disconnect the reactor lead wire connectors, compressor lead wire connector, and all the other connectors from the main PCB.	 <p>[X66A] [X81A] [X5A] [X22A] [X21A] [X13A] [X11A] [X12A] [X18A] [X17A] [X32A] [X25A] [X26A] [X27A] [X28A] LD</p> <p>Compressor lead wire connector</p> <p>Reactor lead wire connectors</p> <p>(R18299)</p>	

Step	Procedure	Procedure	Points
16	Remove the screw at the top of the electrical component assembly.	 <p>(R9238)</p>	<p>■ M4(2) × 12</p>
17	Unfasten the 2 hooks at the rear side.	 <p>(R12972)</p>	 <p>Fixing plate for the PCB Hook Electrical component mounting plate</p>
18	The figures in the right are PCB assembly.	 <p>Electrical component mounting plate Main PCB (A1P) (for control) Cool / heat selector PCB (A4P)</p> <p>(R12973)</p>	 <p>Service PCB (A2P) Noise filter PCB (A3P) Cool / heat selector PCB (A4P)</p>

# 1.3 Outdoor Fans / Fan Motors



**Warning**

◆ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

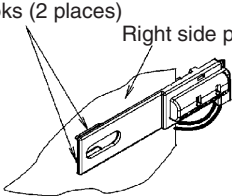
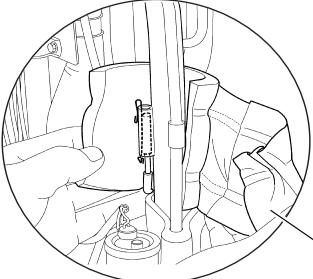
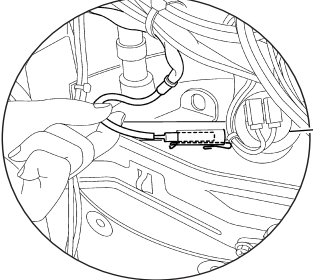
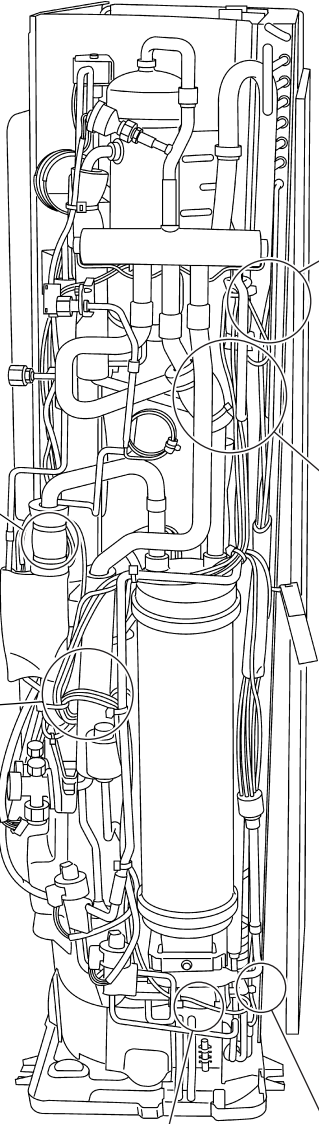
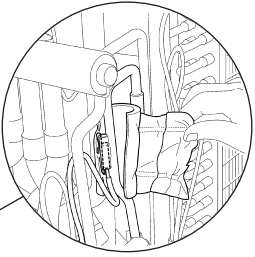
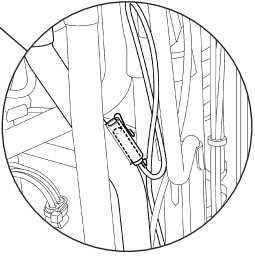
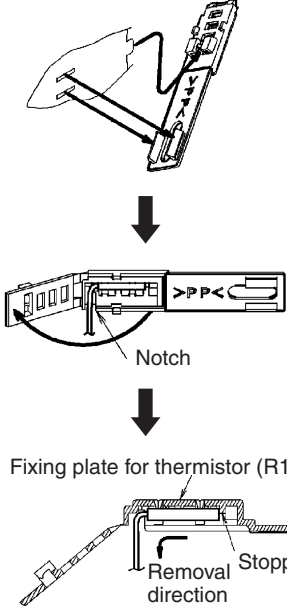
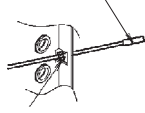
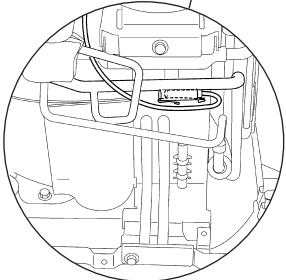
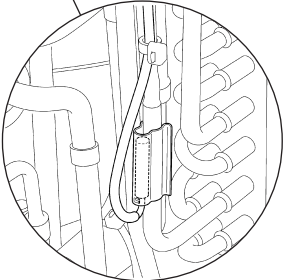
Step	Procedure	Procedure	Points
1	Remove the nuts and remove the outdoor fans.		<ul style="list-style-type: none"> <li>■ Nut size : M8</li> </ul> <ul style="list-style-type: none"> <li>■ When reassembling, align the ▼ mark of the outdoor fan with the D-cut section of the motor shaft.</li> </ul>
2	Cut the clamp.		<ul style="list-style-type: none"> <li>■ Pull out the connector while supporting the fan motor and pushing the engaging hook, without pulling its lead wires.</li> </ul>
3	Remove the 4 screws and remove the fan motor.		<ul style="list-style-type: none"> <li>■ When reassembling, put the fan motor lead wire through the back of the fan motor (so as not to be entangled with the outdoor fan).</li> </ul> <ul style="list-style-type: none"> <li>■ Be sure to remove the lower screws first. If the upper screws are removed first, the fan motor, the center of gravity of which is toward the front, may tilt down or fall, getting you injured.</li> </ul>

# 1.4 Thermistors



**Warning**

◆ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Points	
1	For the details of the removal of the outdoor temperature thermistor (R1T), see the points on the right column.	<p>■ Removal of the outdoor temperature thermistor (R1T)</p> <p>Hooks (2 places) Right side panel</p> 	
2	<p>Pull out the discharge pipe thermistor (R2T).</p>  <p>Suction pipe thermistor 2 (R5T)</p>  <p>Discharge pipe thermistor (R2T)</p>	 <p>Subcooling thermistor (R6T)</p>  <p>Suction pipe thermistor 1 (R3T)</p> 	 <p>Notch</p> <p>Fixing plate for thermistor (R1T)</p> <p>Removal direction</p> <p>Stopper</p>
3	Pull out the suction pipe thermistors (R3T) (R5T).	<p>Outdoor temperature thermistor</p>  <p>Marking (yellow) (R13061)</p>	
4	Pull out the subcooling thermistor (R6T) and the liquid pipe thermistor (R7T).	<p>■ When reassembling, pass the outdoor temperature thermistor through the hole so as the yellow marking comes to the inside edge of the heat exchanger plate.</p>	
5	Pull out the outdoor heat exchanger thermistor (R4T).	<p>Liquid pipe thermistor (R7T)</p>  <p>Outdoor heat exchanger thermistor (R4T)</p>  <p>(R12975)</p>	

# 1.5 Electronic Expansion Valves / Peripheral Equipments



**Warning**

- ♦ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.
- ♦ Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.
- ♦ If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)



**Caution**

- ♦ From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.
- ♦ **Cautions for restoration**
  1. Restore the piping by non-oxidation brazing.
  2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C (248°F).) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry.

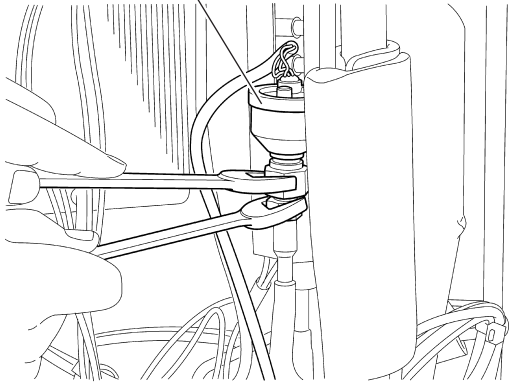
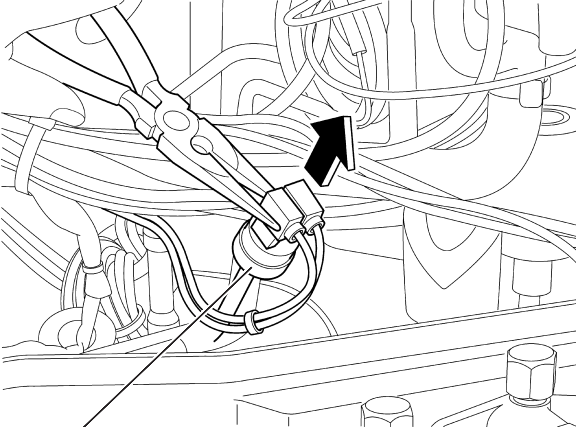
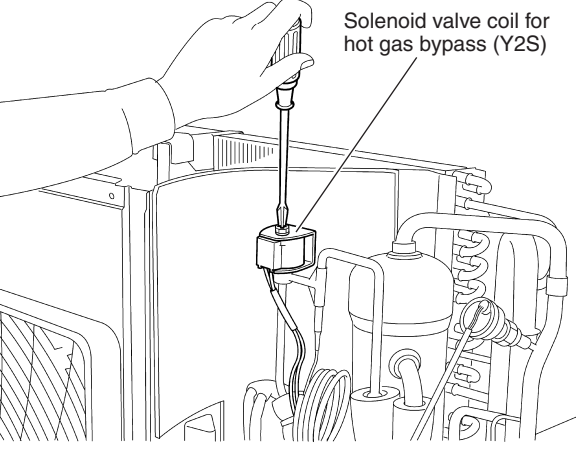
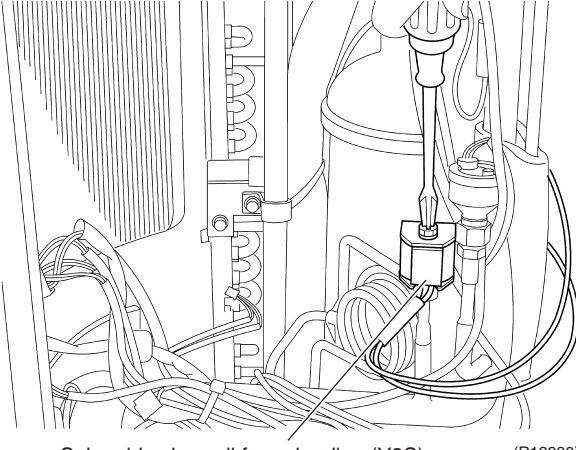


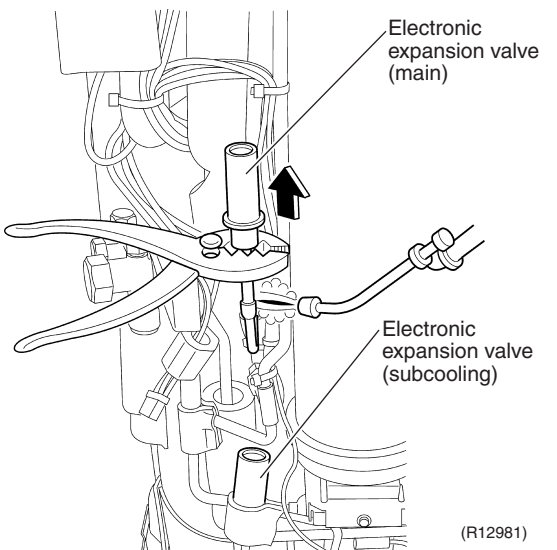
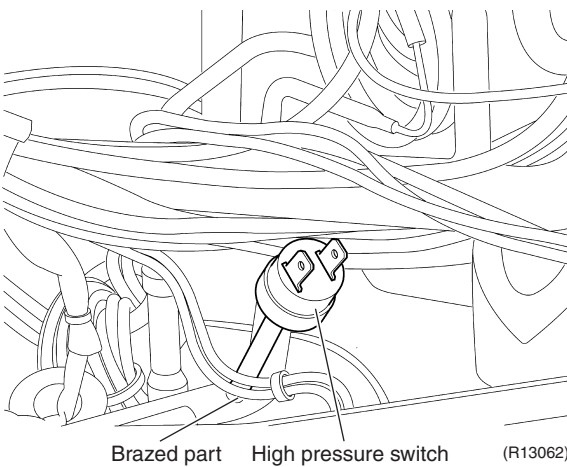
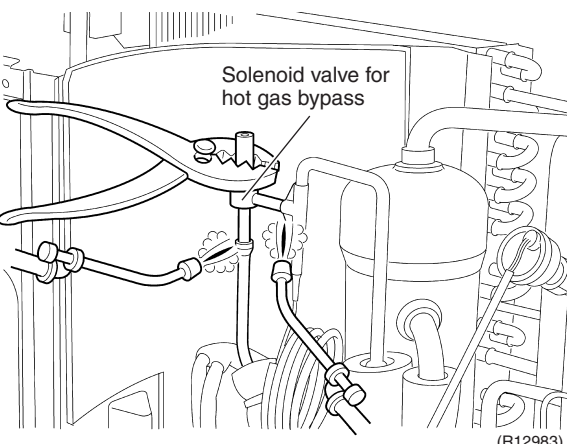
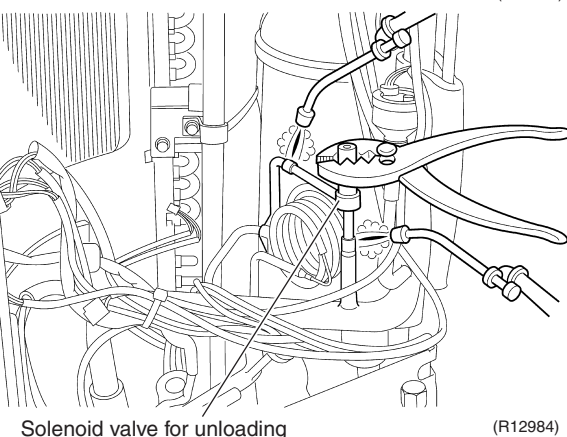
**Note**

- ♦ Before working, make sure that the refrigerant gas is empty in the circuit.
- ♦ Be sure to apply nitrogen replacement when heating up the brazed part.
- ♦ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit.
- ♦ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed.
- ♦ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.
- ♦ Be careful so as not to burn the compressor terminals, the name plate, the outdoor heat exchanger fin.
- ♦ **In case of difficulty with gas brazing machine**
  1. Disconnect the brazed part where is easy to disconnect and restore.
  2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.

Step	Procedure	Diagram	Points
1	Pull out the 2 electronic expansion valve coils.		
2	Remove the 2 pressure sensors.		



Step		Procedure	Points
3	Disconnect the lead wires of the high pressure switch.	<p data-bbox="624 226 911 253">Low pressure sensor (S1NPL)</p>  <p data-bbox="975 640 1045 660">(R12977)</p>  <p data-bbox="507 1115 783 1142">High pressure switch (S1PH)</p> <p data-bbox="1007 1115 1077 1135">(R12978)</p>	<ul style="list-style-type: none"> <li data-bbox="1094 215 1453 376">■ The pressure sensor is equipped with a gauge port with check valve. Therefore, when loosening the nut, refrigerant leak stops.</li> </ul>
4	Remove the screw and remove the solenoid valve coil for hot gas bypass.	 <p data-bbox="837 1182 1045 1234">Solenoid valve coil for hot gas bypass (Y2S)</p> <p data-bbox="1007 1626 1077 1646">(R12979)</p>	
5	Remove the screw and remove the solenoid valve coil for unloading.	 <p data-bbox="550 2107 917 2134">Solenoid valve coil for unloading (Y3S)</p> <p data-bbox="1007 2107 1077 2128">(R12980)</p>	

Step	Procedure	Points
6	Heat up and disconnect the brazed part of the electronic expansion valve.	
		
7	Heat up and disconnect the brazed part of the high pressure switch.	
		
8	Heat up and disconnect the brazed parts of the solenoid valve.	
		
		

## 1.6 Four Way Valve



### Warning

- ♦ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.
- ♦ Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.
- ♦ If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)



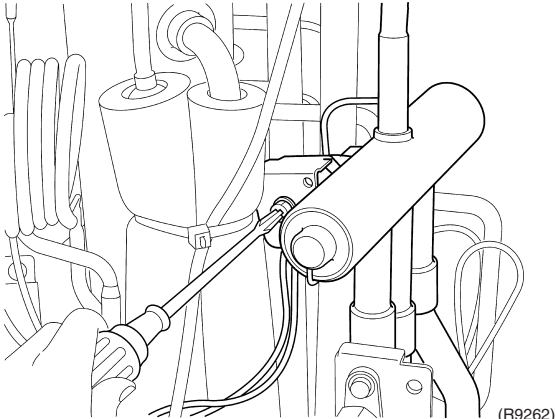
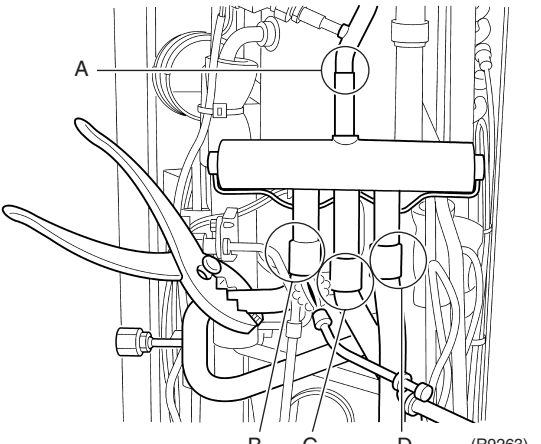
### Caution

- ♦ From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.
- ♦ Cautions for restoration
  1. Restore the piping by non-oxidation brazing.
  2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C (248°F).) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry.



### Note

- ♦ Before working, make sure that the refrigerant gas is empty in the circuit.
- ♦ Be sure to apply nitrogen replacement when heating up the brazed part.
- ♦ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit.
- ♦ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed.
- ♦ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.
- ♦ Be careful so as not to burn the compressor terminals, the name plate, the outdoor heat exchanger fin.
- ♦ In case of difficulty with gas brazing machine
  1. Disconnect the brazed part where is easy to disconnect and restore.
  2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.

Step	Procedure	Points
1	Remove the screw and remove the four way valve coil. 	■ The cooling only models have no four way valve.
2	Heat up and disconnect the brazed part of the four way valve (A, B, C, D). 	

# 1.7 Compressor



**Warning**

- ◆ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.
- ◆ Be careful not to get yourself burnt with the pipes and other parts that are heated by the gas brazing machine.
- ◆ If the refrigerant gas leaks during work, ventilate the room. (If the refrigerant gas is exposed to flames, toxic gas may be generated.)
- ◆ Since it may happen that the refrigerant oil in the compressor catches fire, prepare wet cloth so as to extinguish fire immediately.



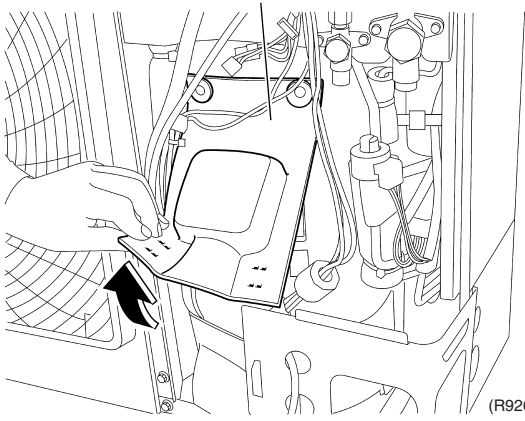
**Caution**

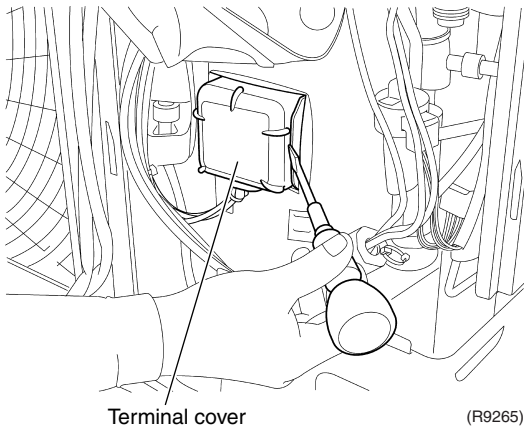
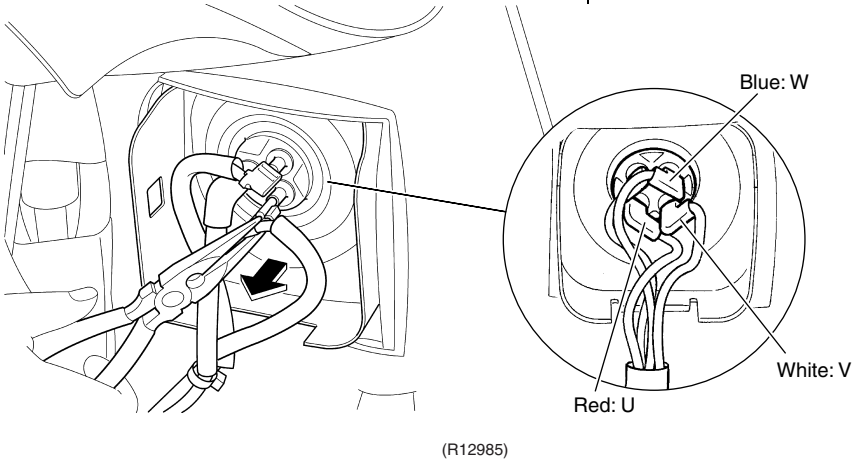
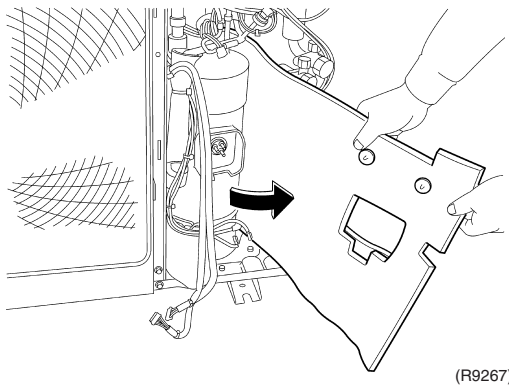
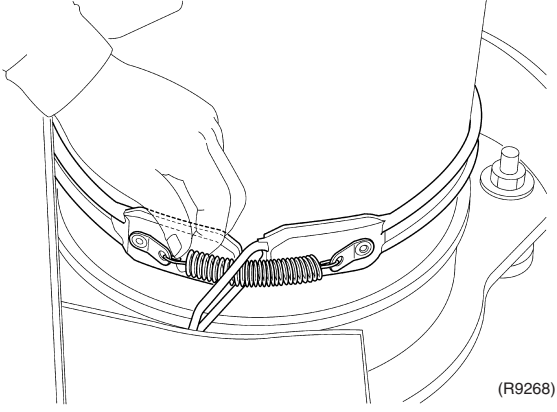
- ◆ From the viewpoint of global environment protection, do not discharge the refrigerant gas in the atmosphere. Make sure to collect all the refrigerant gas.
- ◆ Cautions for restoration
  1. Restore the piping by non-oxidation brazing.
  2. It is required to prevent the carbonization of the oil inside the four way valve and the deterioration of the gaskets affected by heat. (Keep below 120°C (248°F).) For the sake of this, wrap the four way valve with wet cloth and provide water so that the cloth does not dry.



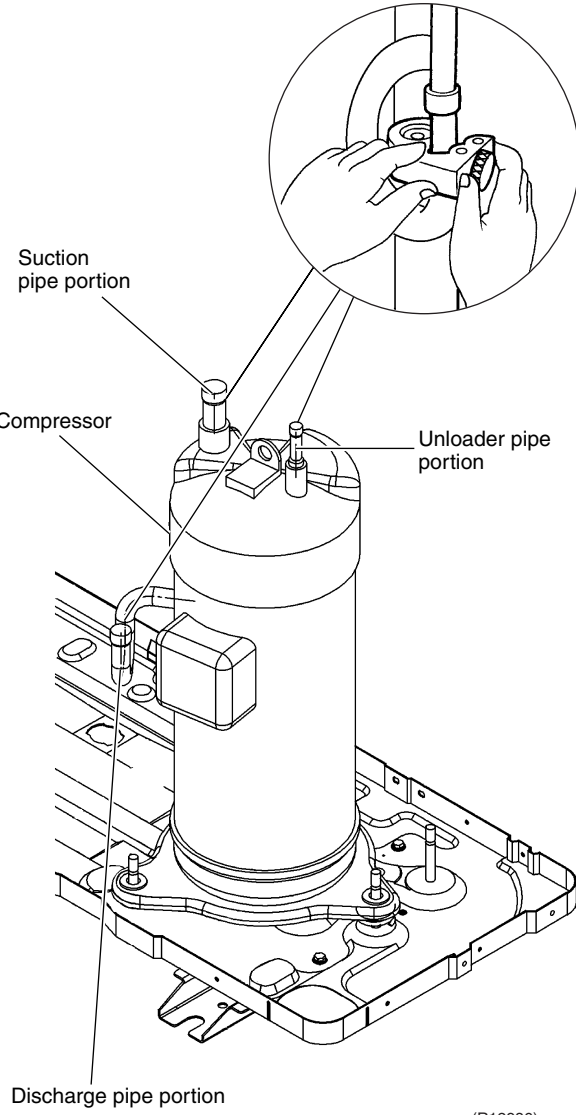
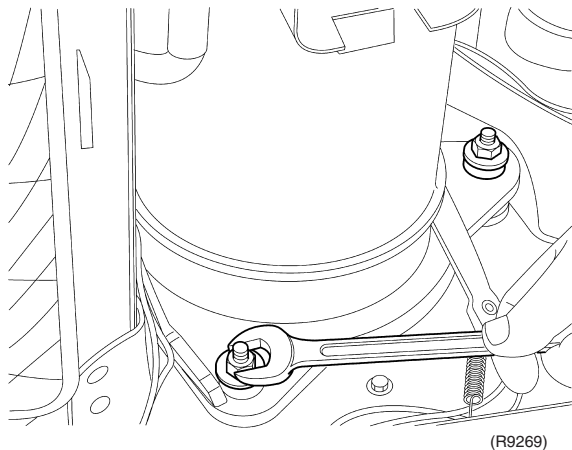
**Note**

- ◆ Before working, make sure that the refrigerant gas is empty in the circuit.
- ◆ Be sure to apply nitrogen replacement when heating up the brazed part.
- ◆ Do not use a metal saw for cutting pipes by all means because the sawdust comes into the circuit.
- ◆ When withdrawing the pipes, be careful not to pinch them firmly with pliers. The pipes may get deformed.
- ◆ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries.
- ◆ Be careful so as not to burn the compressor terminals, the name plate, the outdoor heat exchanger fin.
- ◆ In case of difficulty with gas brazing machine
  1. Disconnect the brazed part where is easy to disconnect and restore.
  2. Cut pipes on the main unit with a tube cutter in order to make it easy to disconnect.

Step	Procedure	Points
1	<p>Open upward the sound insulation for the terminal cover.</p> <div style="text-align: center;"> <p>Sound insulation for the terminal cover</p>  <p>(R9264)</p> </div>	

Step	Procedure	Points
2	Remove the terminal cover with a flat screwdriver.	
	 <p>Terminal cover (R9265)</p>	
3	Disconnect the terminals of the compressor.	
	 <p>Blue: W White: V Red: U (R12985)</p>	
4	Remove the sound insulation for the compressor.	
	 <p>(R9267)</p>	
5	Remove the crankcase heater at the lower of the compressor.	<ul style="list-style-type: none"> <li>■ Pull the spring to release the catch.</li> </ul>
	 <p>(R9268)</p>	

Step	Procedure	Points
6	Remove the 3 nuts of the compressor.	<ul style="list-style-type: none"> <li>■ You can see the rear side nut when the lower discharge grille is removed. Remove the nuts in view first.</li> </ul>
7	Cut off the suction pipe, discharge pipe and unloader pipe of compressor with a pipe cutter (3 places).	
8	Remove the compressor.	
9	Heat up and disconnect the brazed parts and remove the remained pipes.	



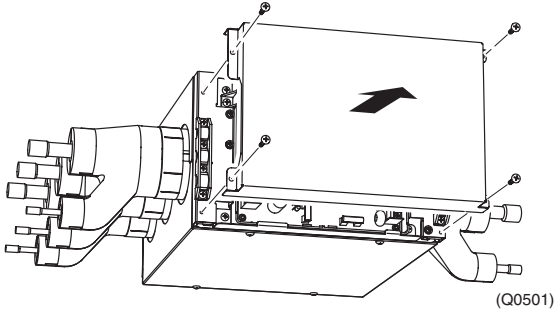
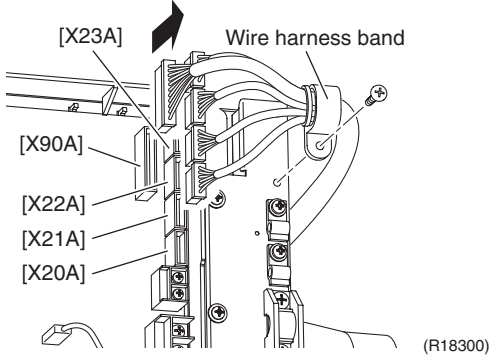
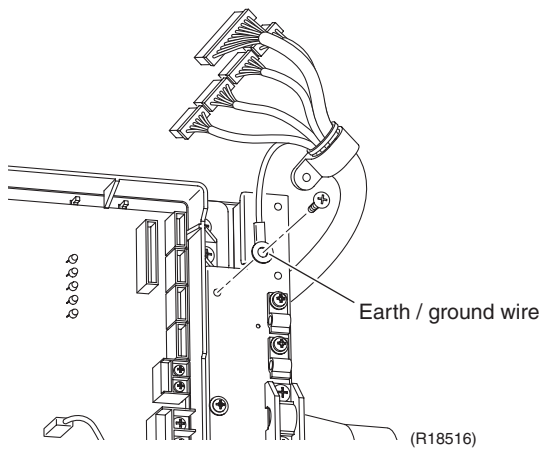
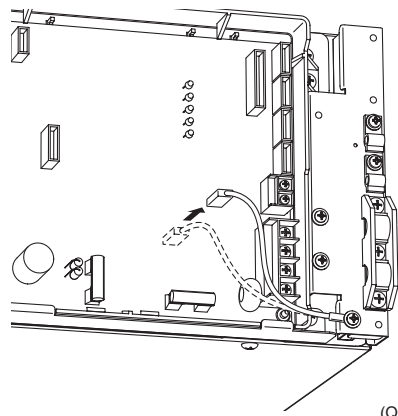
## 2. BP Unit

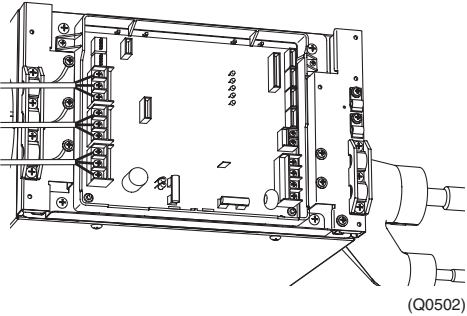
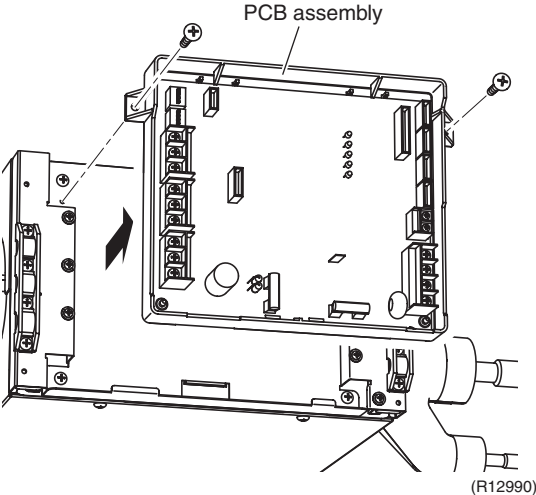
### 2.1 PCB Assembly



**Warning**

- ◆ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Remove the 4 screws and remove the electrical box cover.	 <p style="text-align: right;">(Q0501)</p>	<ul style="list-style-type: none"> <li>■ The PCB is waterproof with resin. This means that the fuse and varistor cannot be replaced.</li> <li>■ When reassembling, conduct test operation for checking wrong wiring.</li> </ul>
2	Disconnect the connectors for the electronic expansion valve [X20A] [X21A] [X22A] [X23A] and the connector for the thermistors [X90A].	 <p style="text-align: right;">(R18300)</p>	<p>[X20A]: bypass  [X21A]: for room A  [X22A]: for room B  [X23A]: for room C  (3-room models only)  [X90A]: thermistors</p>
3	Remove the screw of the wire harness band.		
4	Remove the screw of the earth / ground wire.	 <p style="text-align: right;">(R18516)</p>	
5	Disconnect the terminal of the earth / ground wire.	 <p style="text-align: right;">(Q0507)</p>	

Step	Procedure	Points
6	<p>Disconnect all the relay cables.</p> 	
7	<p>Remove the 2 screws and remove the PCB assembly.</p> 	

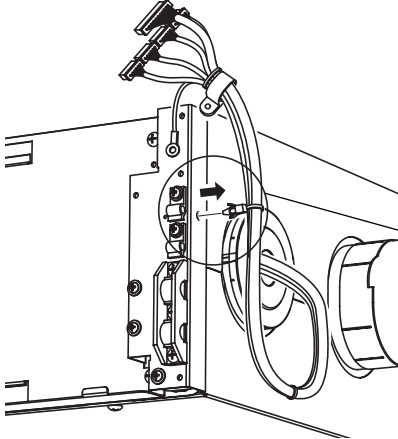
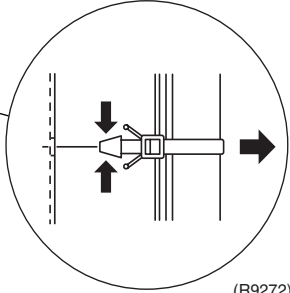
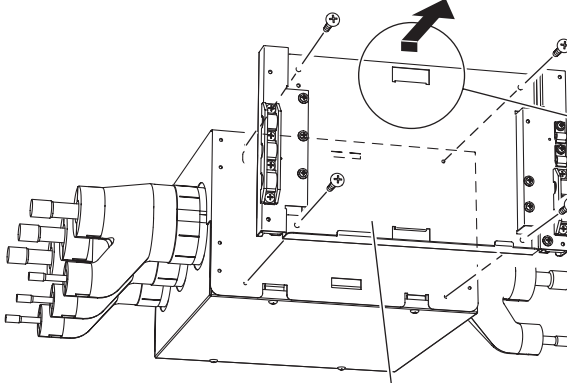
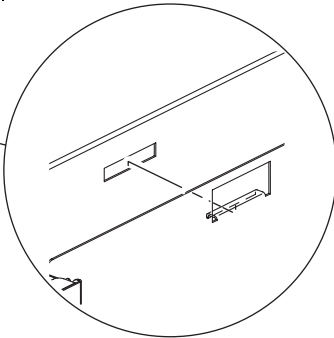
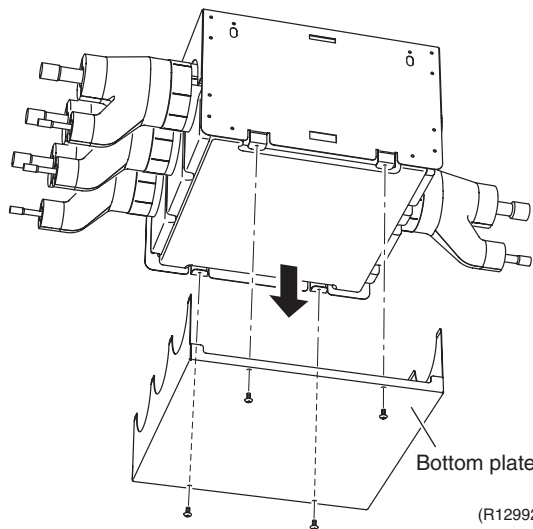


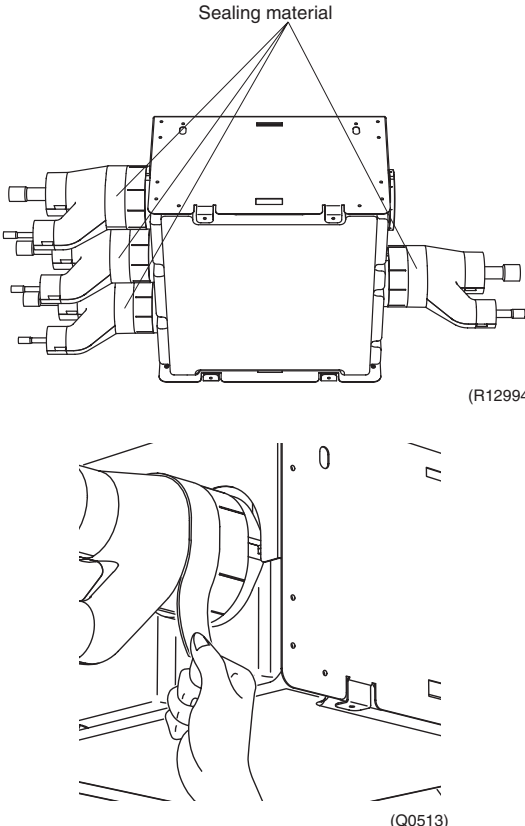
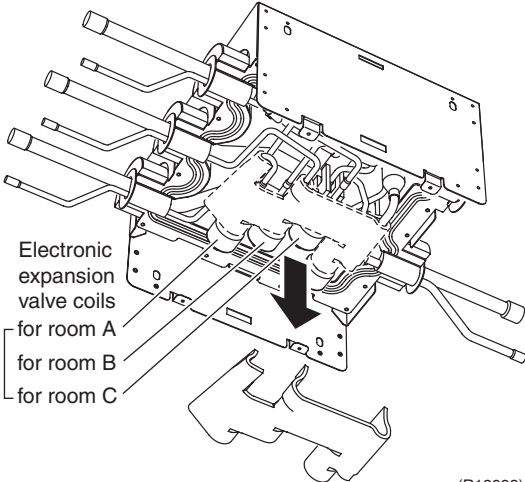
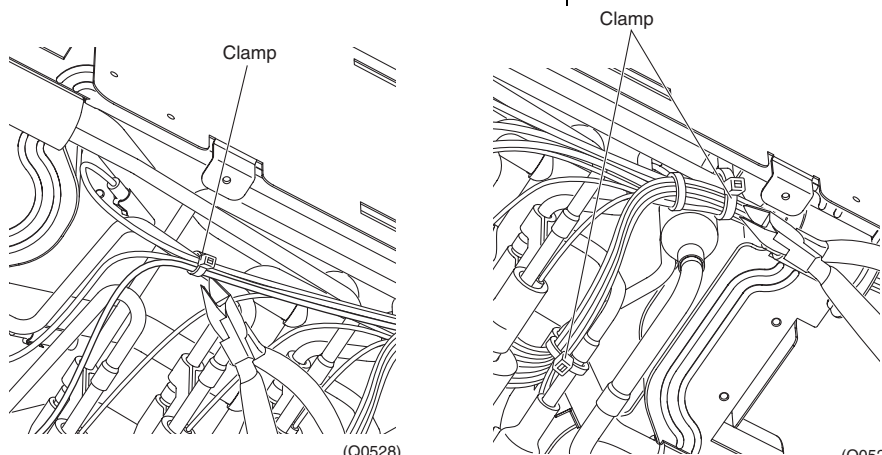
## 2.2 Electronic Expansion Valve Coils



**Warning**

◆ Be sure to wait for 10 minutes or more after turning off all power supplies before disassembling work.

Step	Procedure	Procedure	Points
1	Detach the clamp of the wire harnesses.	 <p style="text-align: right;">(Q0509)</p>	 <p style="text-align: right;">(R9272)</p>
2	Remove the 4 screws and remove the electrical component mounting plate.	 <p style="text-align: center;">Electrical component mounting plate</p>	 <p style="text-align: right;">(R18071)</p>
3	Remove the 4 screws and remove the bottom plate.	 <p style="text-align: right;">Bottom plate</p> <p style="text-align: right;">(R12992)</p>	

Step	Procedure	Procedure	Points
4	Remove the sealing materials of the pipe insulation sleeves.	 <p style="text-align: center;">Sealing material</p> <p style="text-align: right;">(R12994)</p> <p style="text-align: right;">(Q0513)</p>	
5	Remove the putty.	 <p>Electronic expansion valve coils for room A for room B for room C</p> <p style="text-align: right;">(R12993)</p>	
6	Cut off the clamps and pull out the electronic expansion valve coils.	 <p style="text-align: center;">Clamp</p> <p style="text-align: right;">(Q0528)</p> <p style="text-align: right;">(Q0529)</p>	

# Revision History

Month / Year	Version	Revised contents
12 / 2012	Si181296	First edition
04 / 2013	Si181296_A	Model addition: RMXS48LVJU, BPMKS048A2U, BPMKS049A3U

Warning



- Daikin products are manufactured for export to numerous countries throughout the world. Prior to purchase, please confirm with your local authorised importer, distributor and/or retailer whether this product conforms to the applicable standards, and is suitable for use, in the region where the product will be used. This statement does not purport to exclude, restrict or modify the application of any local legislation.
- Ask a qualified installer or contractor to install this product. Do not try to install the product yourself. Improper installation can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Use only those parts and accessories supplied or specified by Daikin. Ask a qualified installer or contractor to install those parts and accessories. Use of unauthorised parts and accessories or improper installation of parts and accessories can result in water or refrigerant leakage, electrical shock, fire or explosion.
- Read the User's Manual carefully before using this product. The User's Manual provides important safety instructions and warnings. Be sure to follow these instructions and warnings.

If you have any enquiries, please contact your local importer, distributor and/or retailer.

### Cautions on product corrosion

1. Air conditioners should not be installed in areas where corrosive gases, such as acid gas or alkaline gas, are produced.
2. If the outdoor unit is to be installed close to the sea shore, direct exposure to the sea breeze should be avoided. If you need to install the outdoor unit close to the sea shore, contact your local distributor.

### Dealer

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