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LG

# LG

## Floor Standing Type Air Conditioner

### ***SERVICE MANUAL***

***MODEL: AP-Z Series***

#### **CAUTION**

- BEFORE SERVICING THE UNIT, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.
- ONLY FOR AUTHORIZED SERVICE PERSONNEL.

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# Safety Precautions



To prevent injury to the user or other people and property damage, the following instructions must be followed.

- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

**⚠ WARNING** This symbol indicates the possibility of death or serious injury.

**⚠ CAUTION** This symbol indicates the possibility of injury or damage to properties only.

- Meanings of symbols used in this manual are as shown below.

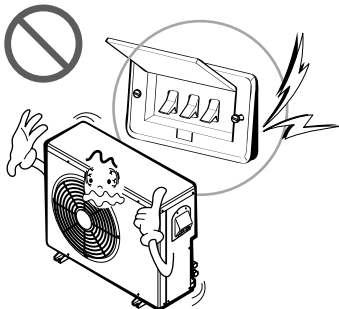
	<b>Be sure not to do.</b>
	<b>Be sure to follow the instruction.</b>

## ⚠ WARNING

### ■ Installation

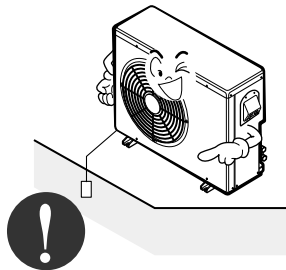
**Do not use a defective or under-rated circuit breaker. Use this appliance on a dedicated circuit.**

- There is risk of fire or electric shock.



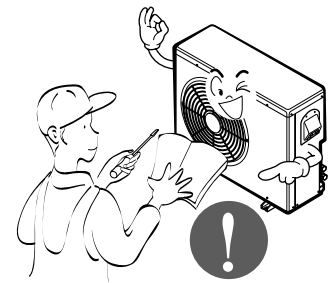
**Always ground the product.**

- There is risk of fire or electric shock.



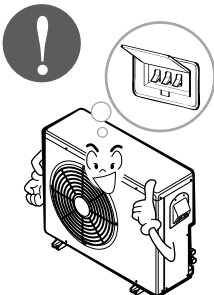
**Install the panel and the cover of control box securely.**

- There is risk of fire or electric shock.



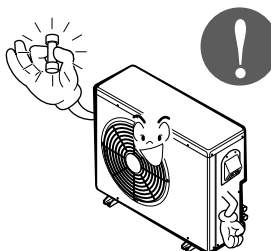
**Always install a dedicated circuit and breaker.**

- Improper wiring or installation may cause fire or electric shock



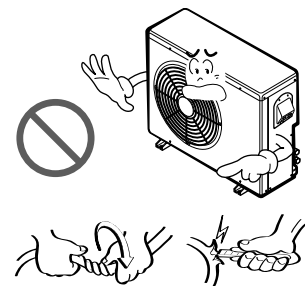
**Use the correctly rated breaker or fuse.**

- There is risk of fire or electric shock.



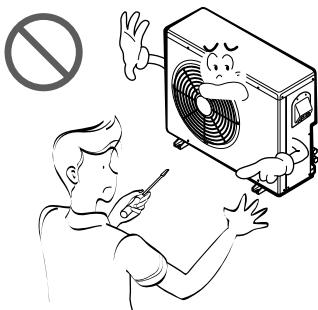
**Do not modify or extend the power cable.**

- There is risk of fire or electric shock.



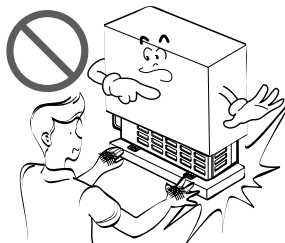
### Do not install, remove, or re-install the unit by yourself (customer).

- There is risk of fire, electric shock, explosion, or injury.



### Be cautious when unpacking and installing the product.

- Sharp edges could cause injury. Be especially careful of the case edges and the fins on the condenser and evaporator.



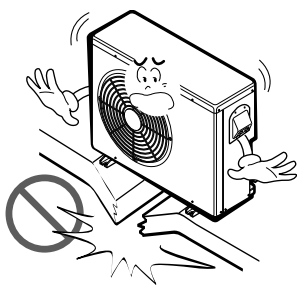
### For installation, always contact the dealer or an Authorized Service Center.

- There is risk of fire, electric shock, explosion, or injury.



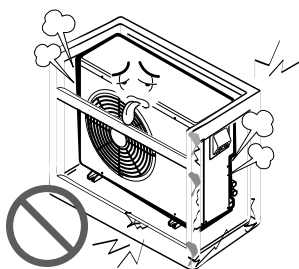
### Do not install the product on a defective installation stand.

- It may cause injury, accident, or damage to the product.



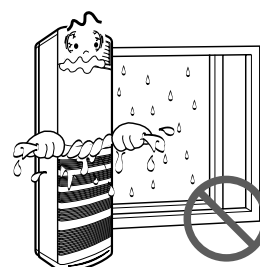
### Be sure the installation area does not deteriorate with age.

- If the base collapses, the air conditioner could fall with it, causing property damage, product failure, and personal injury.



### Do not let the air conditioner run for a long time when the humidity is very high and a door or a window is left open.

- Moisture may condense and wet or damage furniture.



## ■ Operational

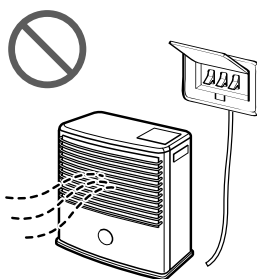
### Do not touch(operate) the product with wet hands.

- There is risk of fire or electrical shock.



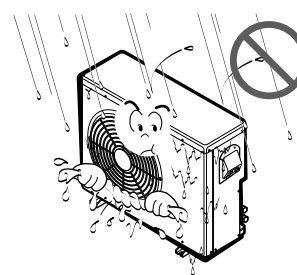
### Do not place a heater or other appliances near the power cable.

- There is risk of fire or electric shock.



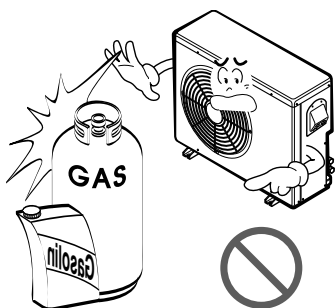
### Do not let electric parts of the product get wet.

- There is risk of fire, failure of the product, or electric shock.



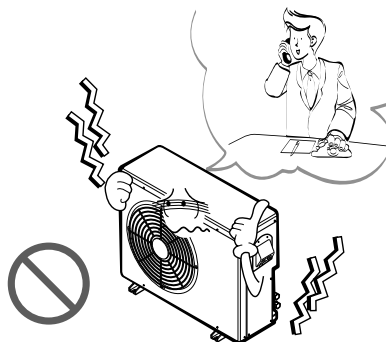
**Do not store or use flammable gas or combustibles near the product.**

- There is risk of fire or failure of product.



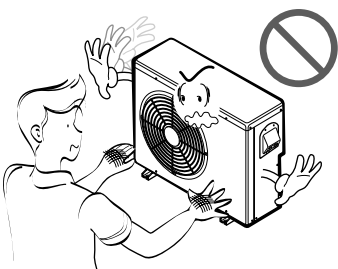
**If strange sounds, or small or smoke comes from product. Turn the breaker off or disconnect the power supply cable.**

- There is risk of electric shock or fire.



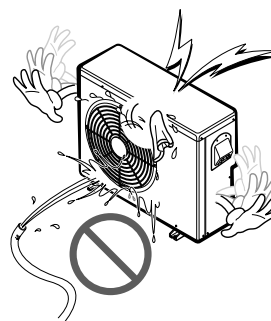
**Do not open the inlet grill of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)**

- There is risk of physical injury, electric shock, or product failure.



**Be cautious that water could not enter the product.**

- There is risk of fire, electric shock, or product damage.

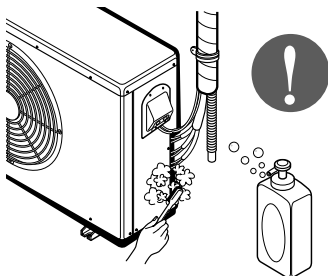


## ⚠ CAUTION

### ■ Installation

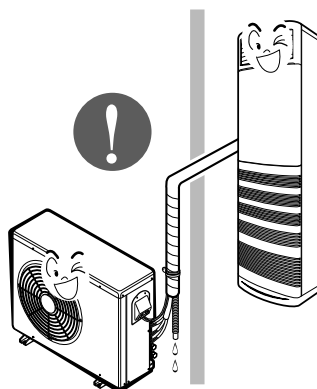
**Always check for gas (refrigerant) leakage after installation or repair of product.**

- Low refrigerant levels may cause failure of product.



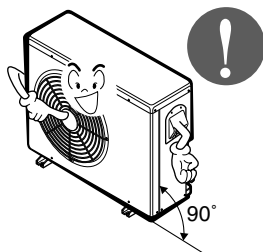
**Install the drain hose to ensure that water is drained away properly.**

- A bad connection may cause water leakage.



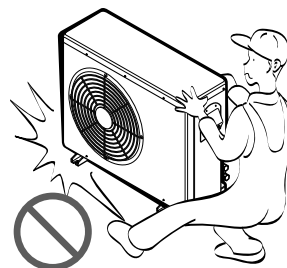
**Keep level even when installing the product.**

- To avoid vibration or water leakage.



**Use two or more people to lift and transport the product.**

- Avoid personal injury.



**■ Operational**

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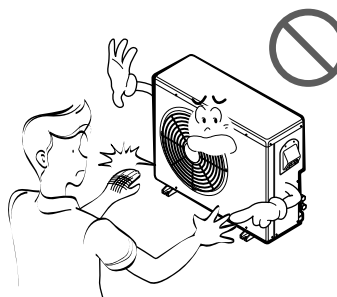
**Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.**

- There is risk of fire, electric shock, or damage to the plastic parts of the product.



**Do not touch the metal parts of the product when removing the air filter. They are very sharp!**

- There is risk of personal injury.



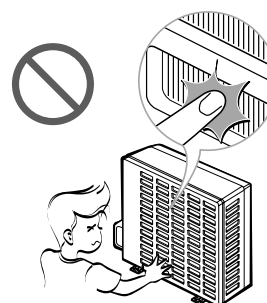
**Do not step on or put anything on the product. (outdoor units)**

- There is risk of personal injury and failure of product.



**Do not insert hands or other objects through the air inlet or outlet while the product is operated.**

- There are sharp and moving parts that could cause personal injury.



# Functions

## Indoor Unit

### Power Switch ON/OFF

### Operation Mode Control

- Cooling, Heating, Soft Dry, Fan

### Indoor Fan Speed Control

- High, Low

### Jet Cool or Turbo -Z (AP-Z286R Model only)

- Speed Cooling operates super high fan speed in cooling mode

### Energy Saving (AP-Z286R Model only)

- Cooling Mode only

### Room Temperature control

- Maintains the room temperature in accordance with the Setting Temp.
- Up: up to 30°C
- Down: down to 16°C

### Sensing Heat Exchanger Temperature

- Heat exchanger temperature sensor (Thermistor)

### Soft Dry Operation Mode

- Intermittent operation of fan at low speed.

### Time Delay Safety Control

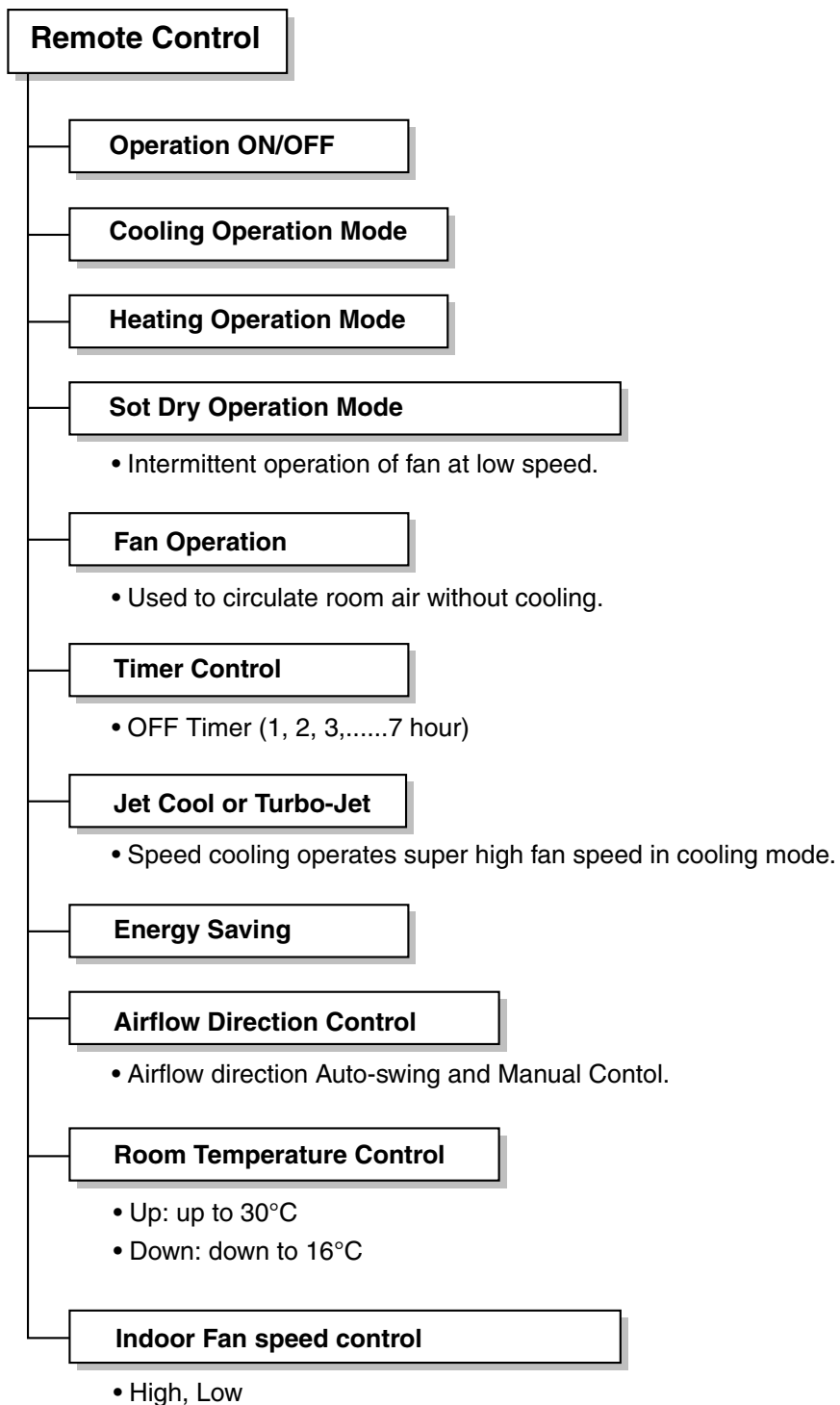
- Restarting is inhibited for approx. 3 minutes.

### Fan Operation

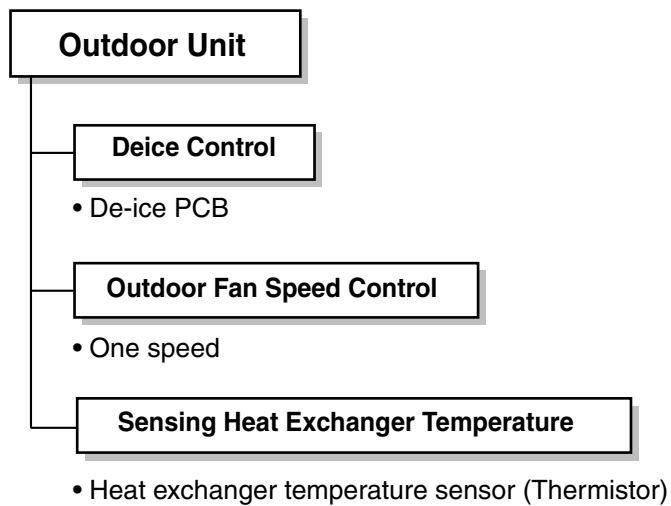
- Used to circulate room air without cooling.

### AutoRestart

- The power comes on again after a power failure.







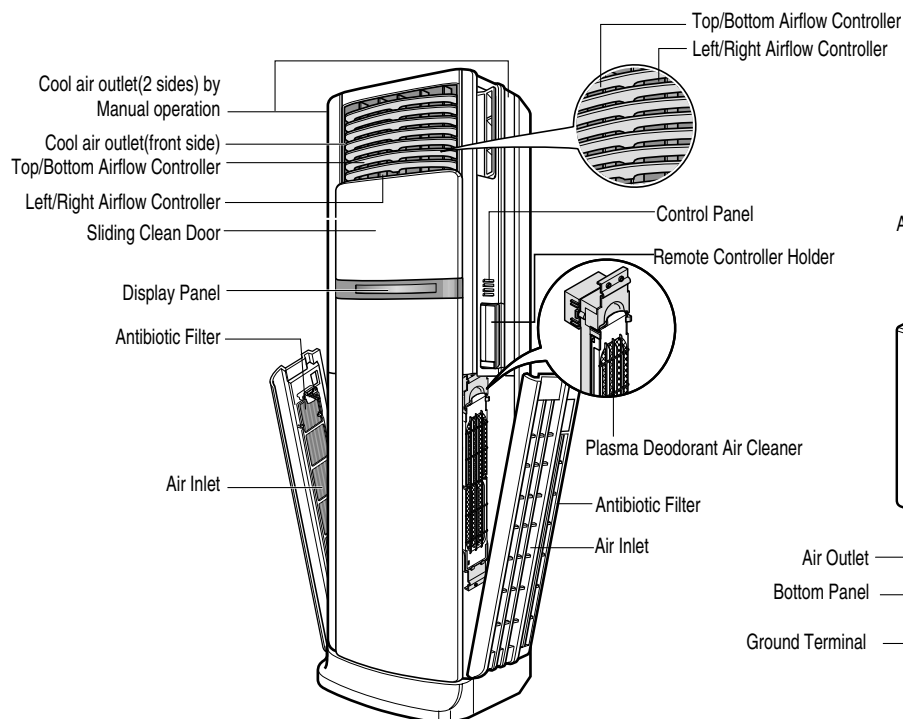
# Product Specifications

## • HEAT PUMP MODELS

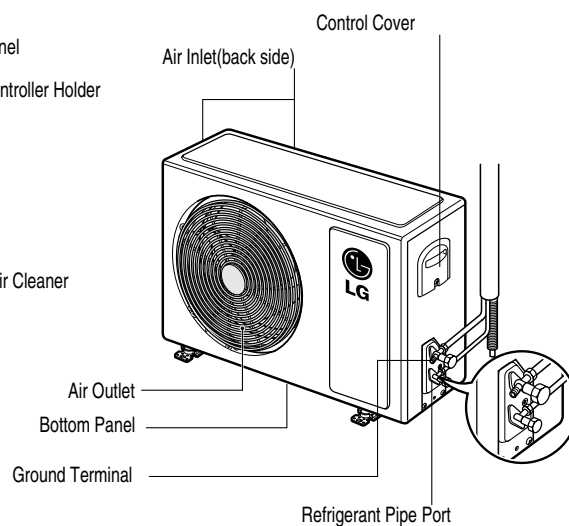
ITEMS			MODEL	AP-Z286RC0 AP-Z286R20 AP-Z286R30	AP-Z488TC0	AP-Z728FA0
			UNIT			
Power Supply			Ø, V, Hz	1 , 220-240~,50	3 , 380~415~,50	3 , 380~415~,50
Cooling	Capacity		Btu/hr	28,000	46,000	72,800
	Power Input		W	2,800	5,300	8,800
	Current		A	13	9.5	15.2
Heating	Capacity		Btu/hr	27,800	48,000	88,000
	Power Input		W	2,800	5,000	8,200
	Current		A	13	9	14.5
Compressor	Model			5JS330DJS A008	AR061YAB	AR061YAB + AQ042YAB
	Maker			Matsushita Ele.	LG Ele.	LG Ele.
	Type			Rotary	Scroll	Scroll
	Capacity		Btu/h	28,101	50,800	50,800 + 35,200
	Input		W	2,915	5,347	5,347 + 3,608
	LRA		A	68	63	63 + 47
Noise Level	Indoor		dB(A)	48 / 46 / 40	53 / 51 / 48	56
	Outdoor			58	58	65
Air Circulation	Indoor		CFM(CMM)	17 (600)	30 / 28 / 26 (1,060 / 989 / 918)	57 / - / 48 (2,013 / - / 1,695)
	Outdoor			58 (2,048)	104 (3,673)	150 (5,297)
Fan	Indoor		Type	Sirroco	Sirroco	Sirroco
	Outdoor			Propeller	Propeller	Propeller
Refrigerant (R410A)			oz(kg)	77.6 (2.2)	102 (2.9)	266 (7.55)
Room Temperature Control				Micom ( 16~30)	Micom ( 16~30)	Micom ( 16~30)
Dimension	Indoor	With	Inch(mm)	22.4 (570)	23.2 (590)	41.3 (1,050)
		Height		71.6 (1,820)	72.8 (1,850)	74.0 (1,880)
		Depth		12.5 (317)	17.3 (440)	19.5 (495)
	Outdoor	Width		34.3 (870)	34.4 (900)	39.4 (1,000)
		Height		31.5(800)	48.2 (1,225)	38 ( 965)
		Depth		12.6 (320)	14.6 (370)	14.6 (370)
Net Weight	Indoor		lb(kg)	70.5 (32)	132.3 (60)	291.0 (132)
	Outdoor			138.9 (63)	198.4 (90)	330.7 (150)
Connections	Liquid		Inch(mm)	3/8 (9.52)	3/8 (9.52)	5/8 (15.88)
	Gas			5/8 (15.88)	3/4 (19.05)	1 (25.4)

## ■ AP-Z286RC0, AP-Z286R20, AP-Z286R30

### Indoor Unit

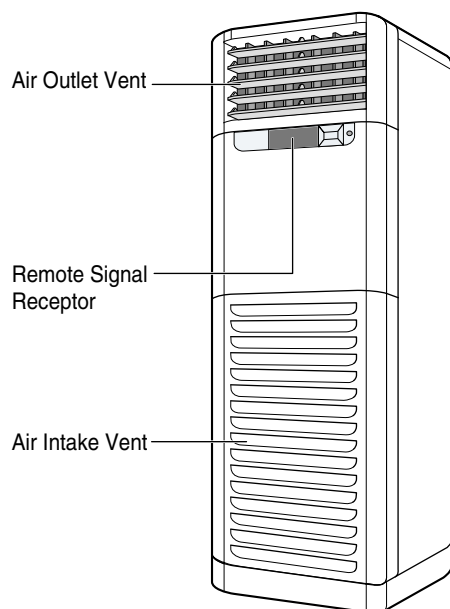


### Outdoor Unit

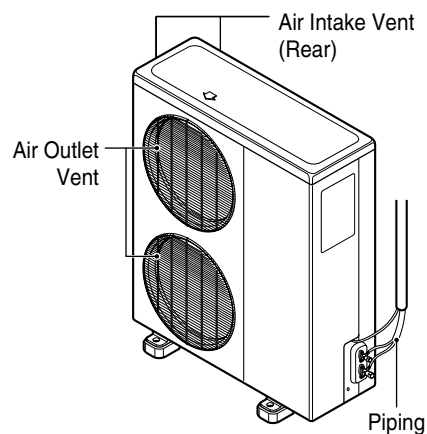


## ■ AP-Z488TC0

### Indoor Unit

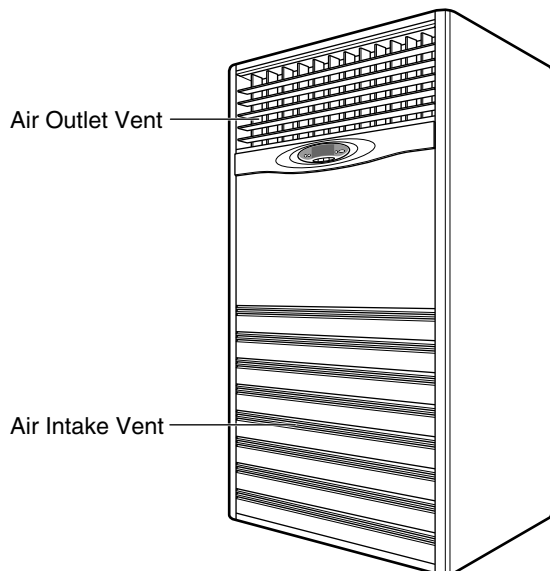


### Outdoor Unit

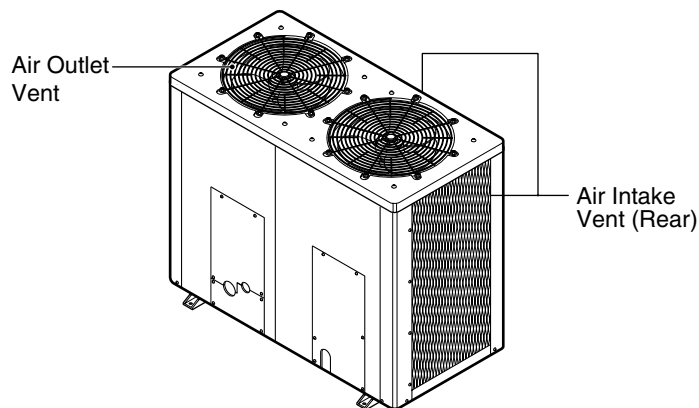


## ■ AP-Z728FA0

### Indoor Unit



### Outdoor Unit

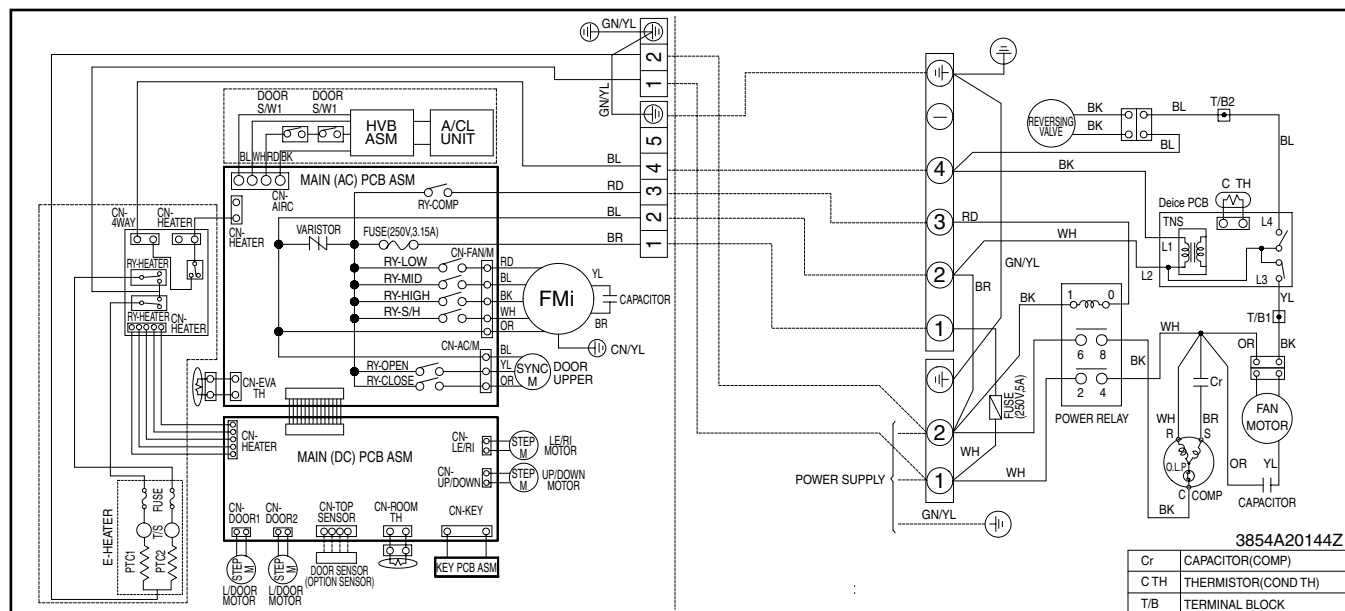


## Wiring Diagram

(1) AP-Z286RC0, AP-Z286R20, AP-Z286R30

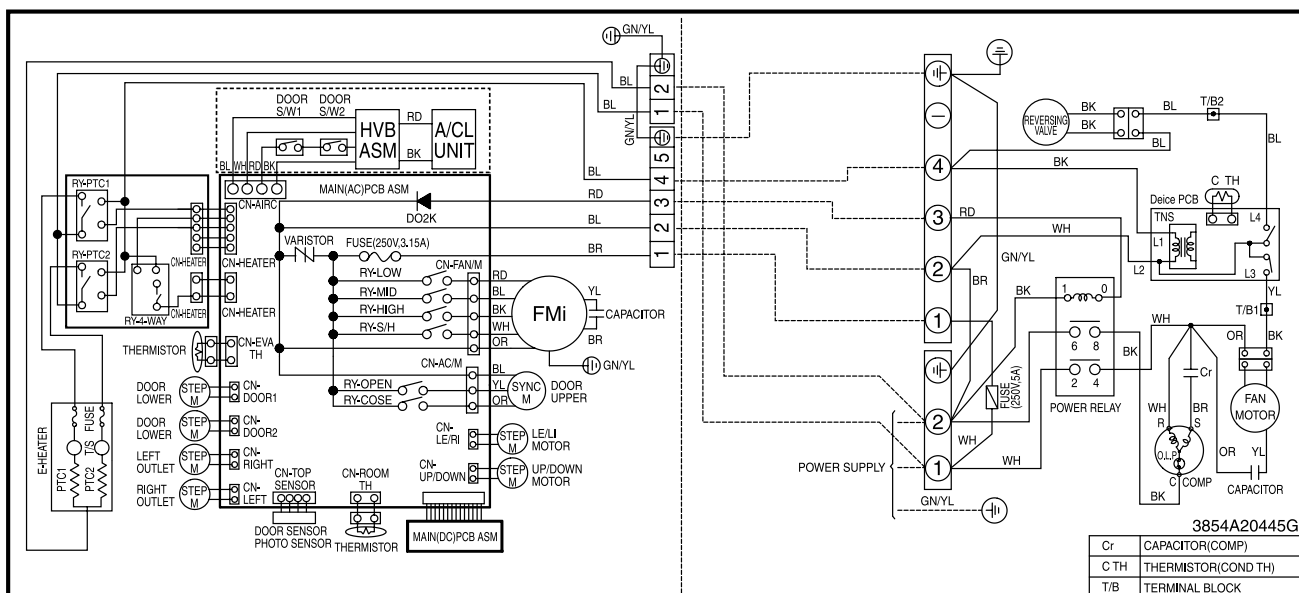
### ■ INDOOR

\*AP-Z286RC0



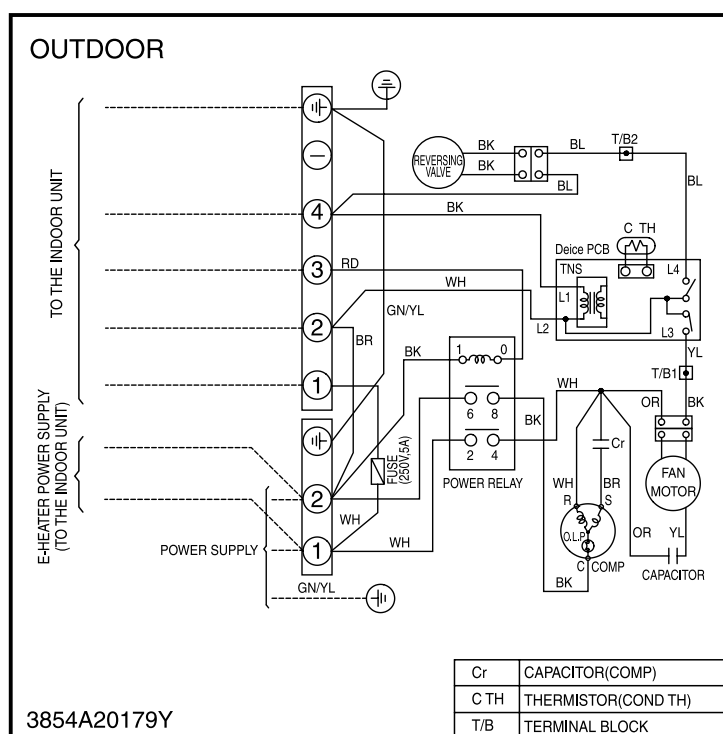
# INDOOR

\*AP-Z286R20, AP-Z286R30

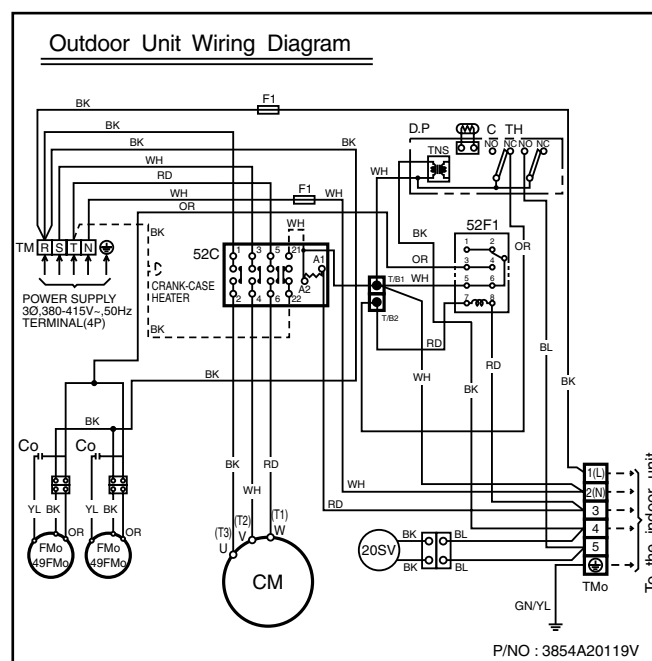
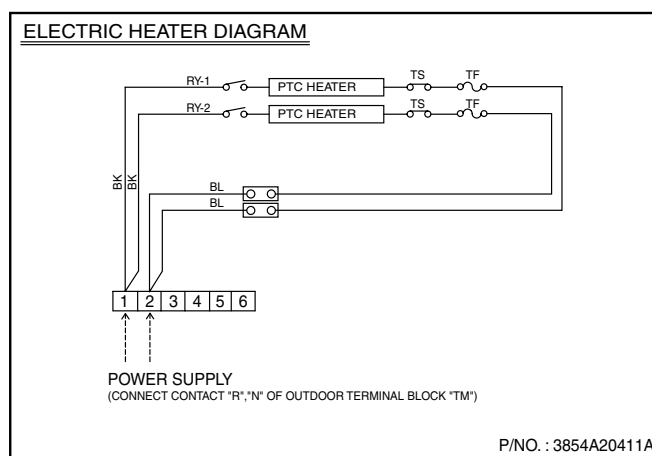
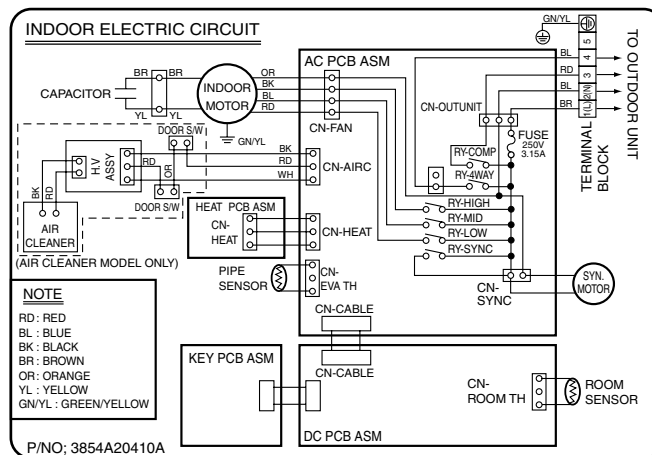


# OUTDOOR

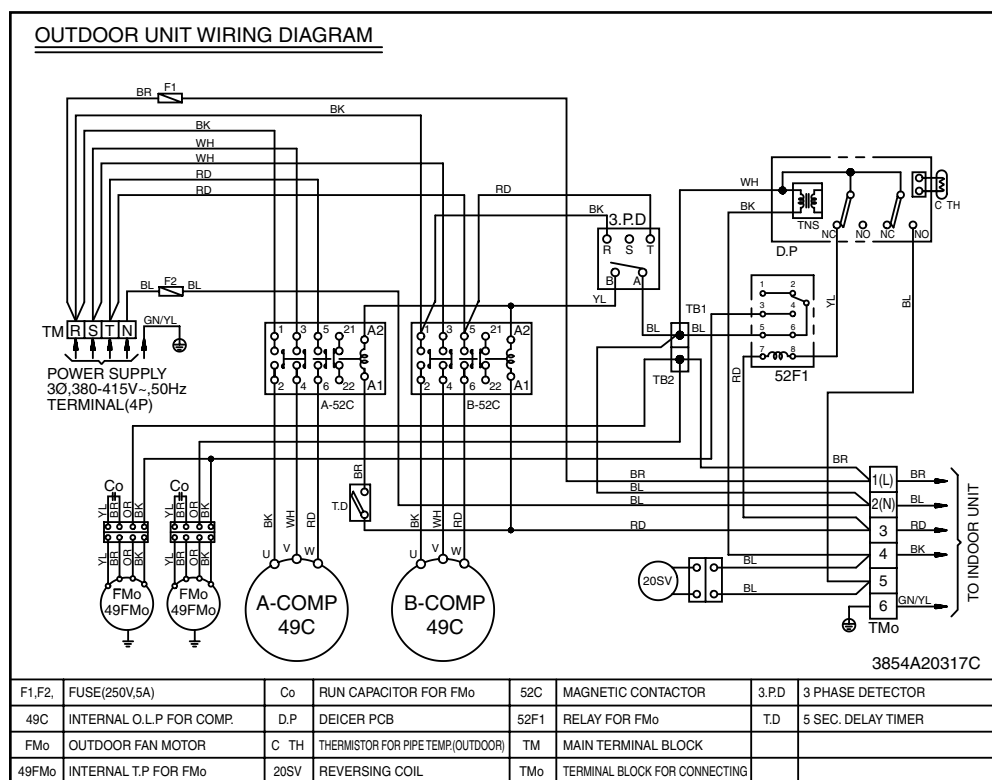
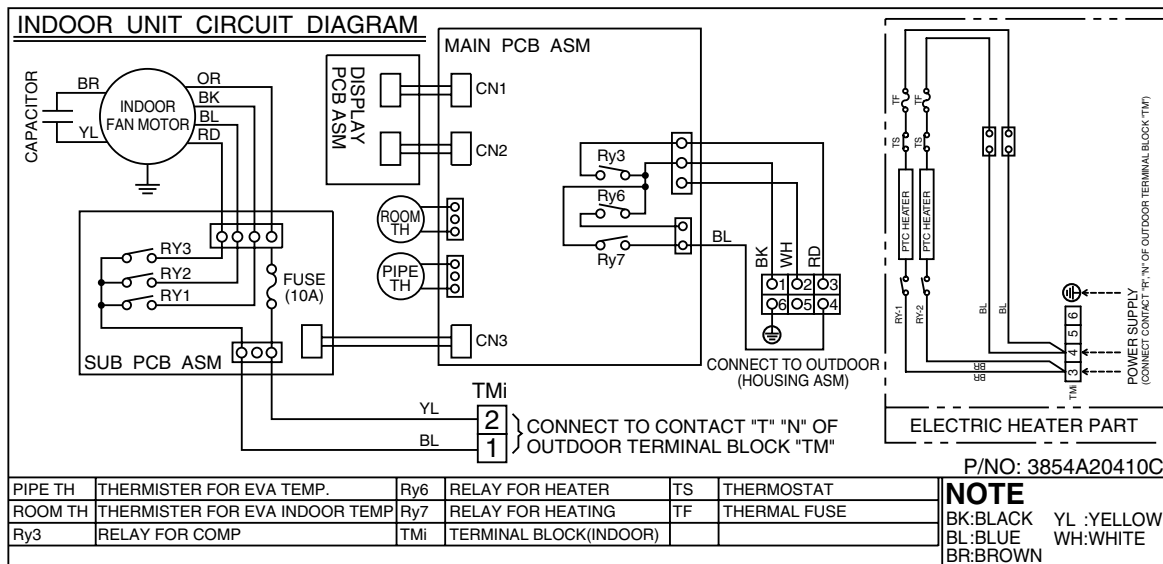
\*AP-Z286RC0, AP-Z286R20, AP-Z286R30



## (2) AP-Z488TC0



### (3) AP-Z728FA0



# Operation Details

## (1) The function of main control

### 1. Time Delay Safety Control

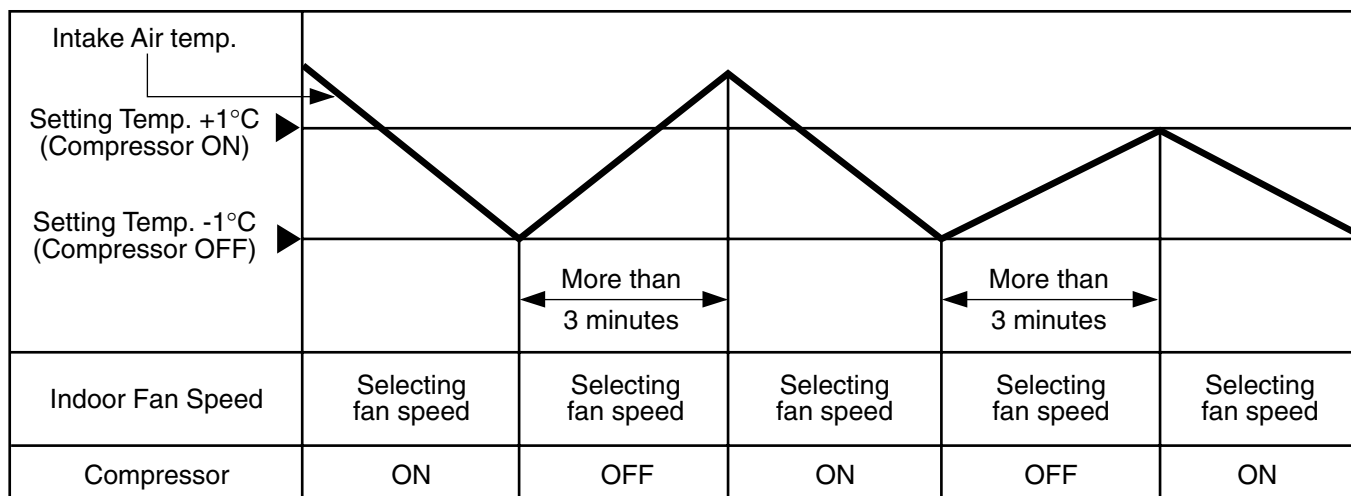
- 3min... The compressor is ceased for 3 minutes to balance the pressure in the refrigeration cycle.  
(Protection of compressor)
- 3sec... The indoor fan is ceased for 3 seconds to prevent relay noise.  
(Protection of fan relay and micro chip)
- 30sec... The 4-way valve is ceased for 30 sec. to prevent the refrigerant-gas abnormal noise when the Heating operation is OFF or switched to the other operation mode.

### 2. Airflow Direction Control (AP-Z286RC0, AP-Z286R20, AP-Z286R30, AP-Z488TC0)

- This function is to swing the louver left and right automatically and to set it at the desired position.
- The procedure is as the following.
  - 1st : Press the ON/OFF Button to operate the product.
  - 2nd : Press the Airflow Direction Control Button to swing the louver left and right automatically.  
(Remote controller)
  - 3rd : Repress the Airflow Direction Control Button to set the louver as the desired position.  
(Remote controller)

### 3. Cooling Mode Operation

- When selecting the Cooling(❄) Mode Operation, the unit will operate according to the setting by the controller and the operation diagram is as following.



### 4. Off Timer Function

This function is to set the time of stopping the unit operation.

The procedure is as the following.

**1st:** Press the timer set button on the Remocon.

**2nd:** The buzzer sounds and then the display window shows the Off-Time to be set as 1 → ... → 7 → 0

- The Off-Time is shifted as the following by each press.

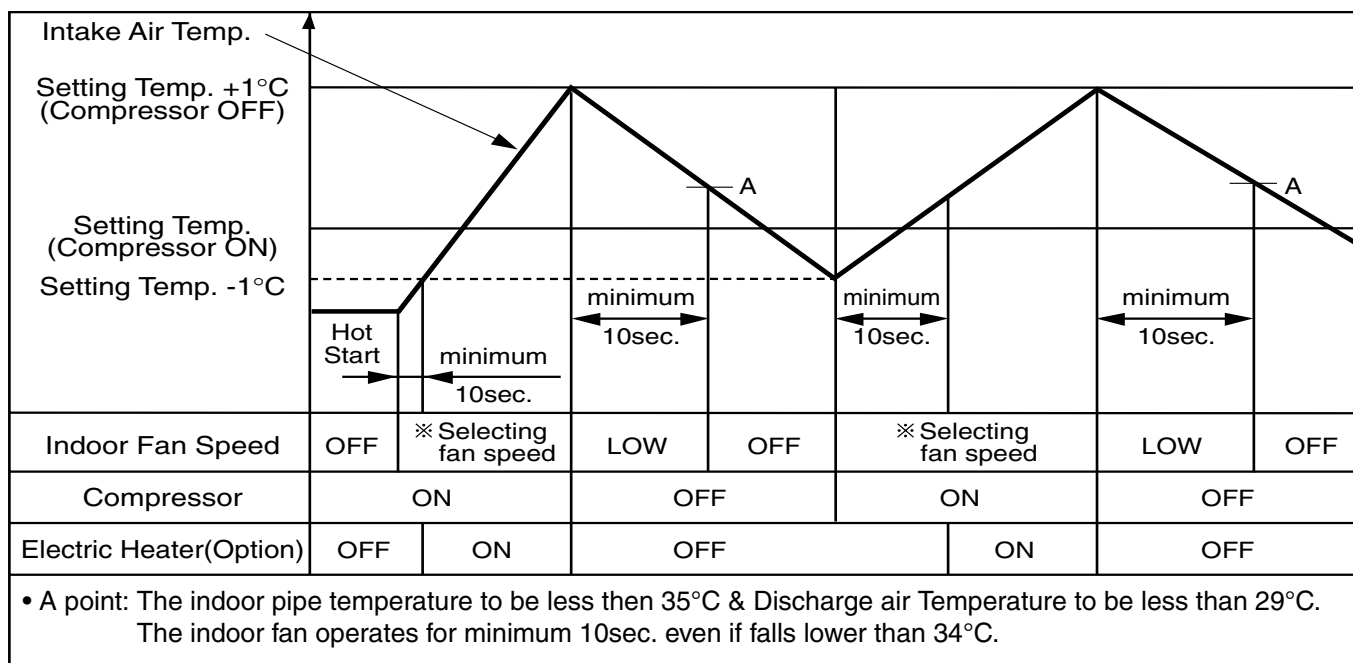
→ 1 → 2 → 3 → 4 → 5 → 6 → 7 → 0

- If you select '0', the Off-Timer function will be cancelled.
- During Off-Timer Operation, if you repress the timer set button, the rest time will be displayed.

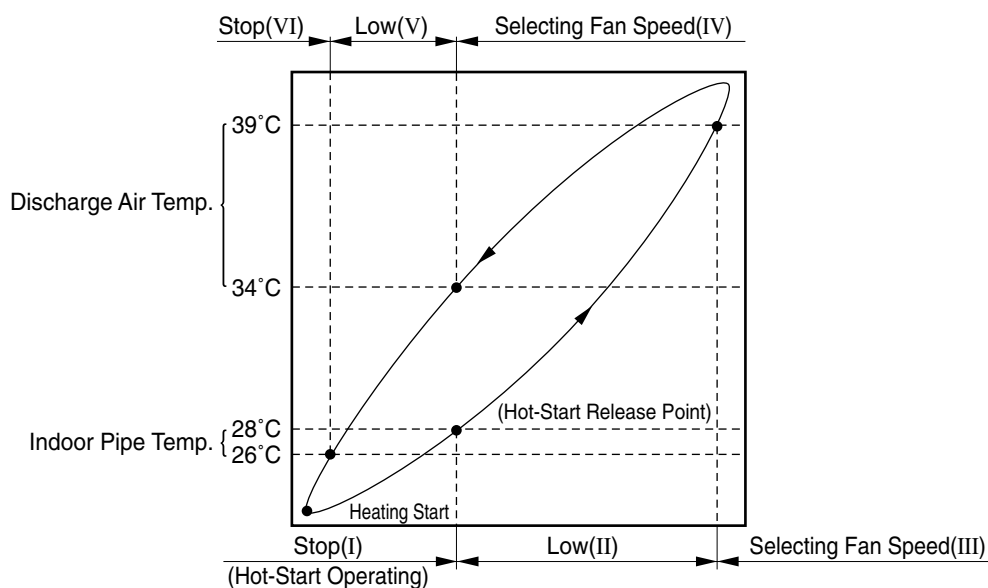


## 5. Heating Mode Operation

The unit will operate according to the setting by the remote controller and the operation diagram is shown as following.



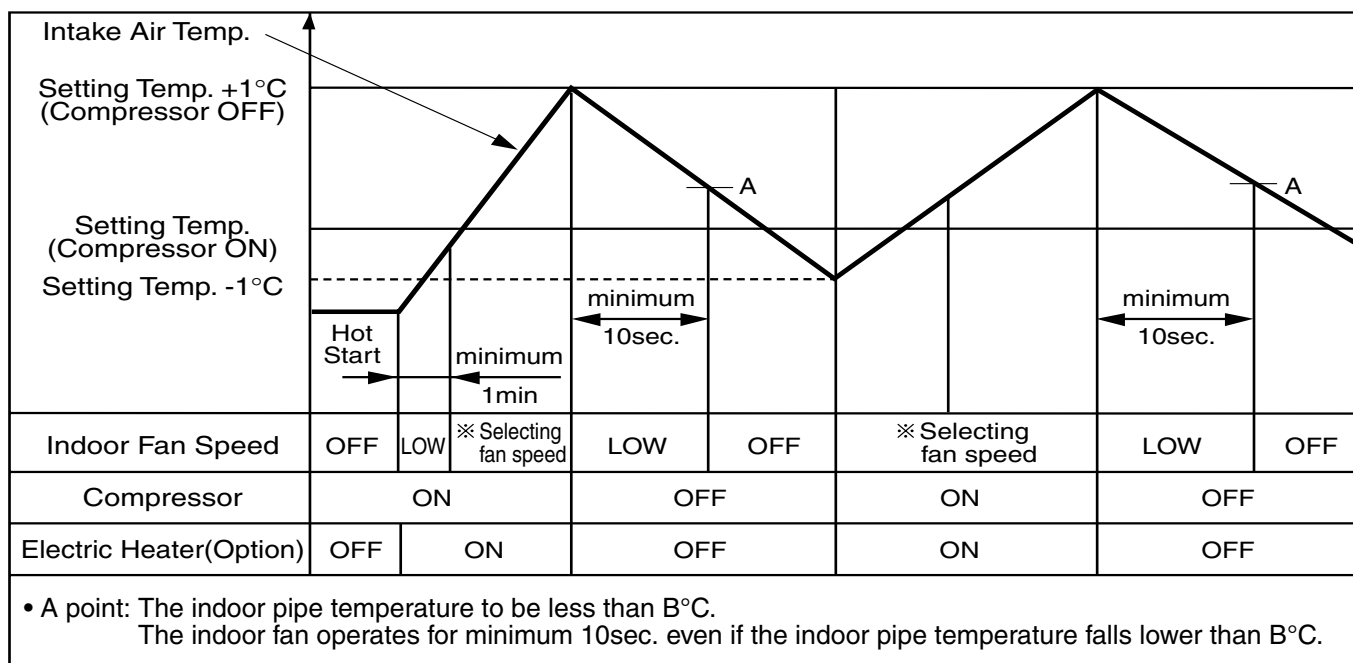
※ During heating operation, the operating procedure of the indoor fan is as the following.



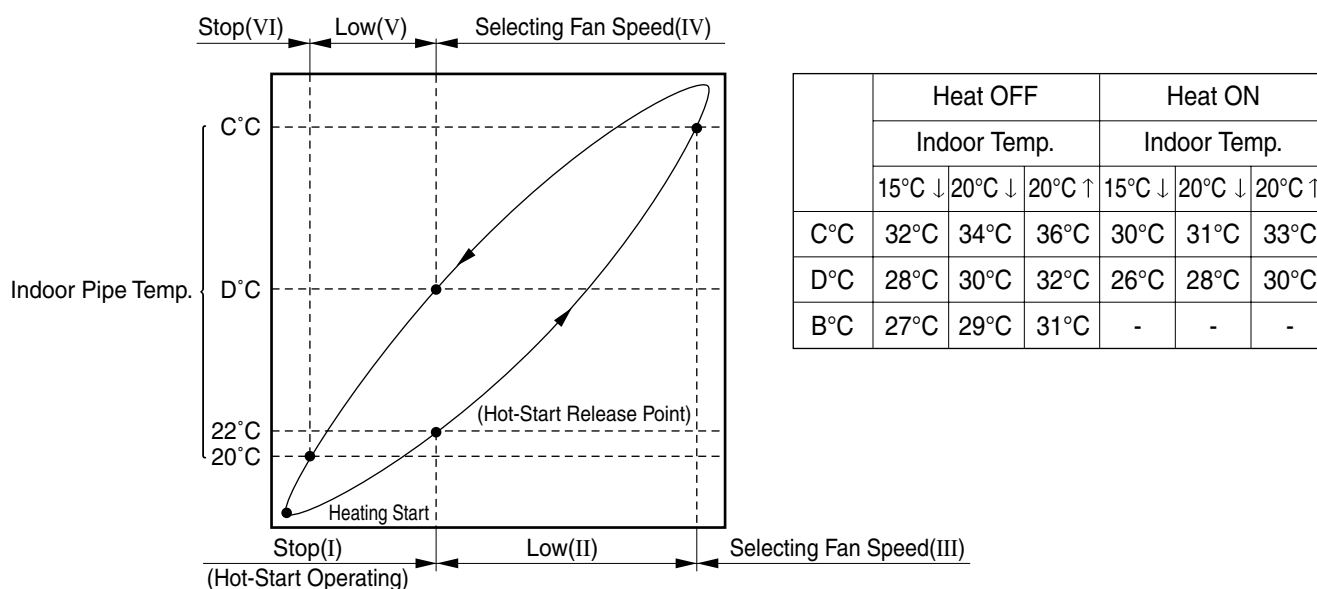
Step	Indoor fan speed	Pipe temp.	Air discharge temp.
I	Off	≤28°C(Hot start operating)	-
II	Low	≥28°C	< 39°C
III	Selecting speed	≥28°C	≥ 39°C
IV	Selecting speed	≥28°C	> 34°C
V	Low	≥26°C	≤ 34°C
VI	Off	≤26°C	-

## 5-1. Heating Mode Operation

The unit will operate according to the setting by the remote controller and the operation diagram is shown as following.



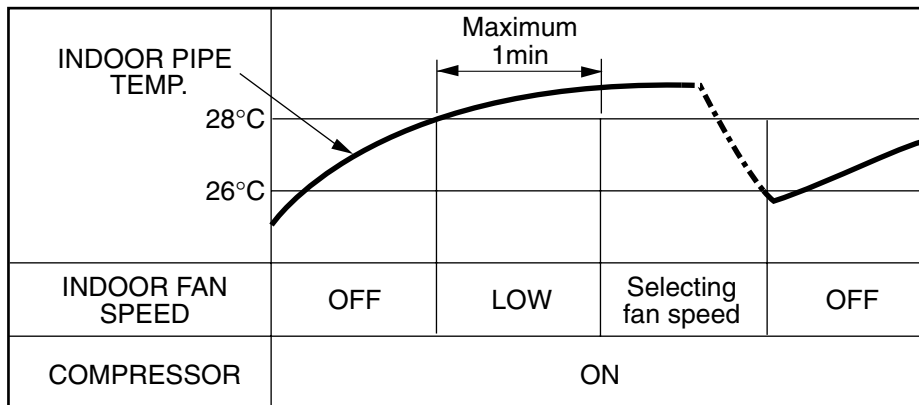
※ During heating operation, the operating procedure of the indoor fan is as the following.



Step	Indoor fan speed	Pipe temp.
I	Off	≤22°C(Hot start operating)
II	Low	≥22°C
III	Selecting speed	≥C°C
IV	Low	≤D°C
V	Off	≤20°C

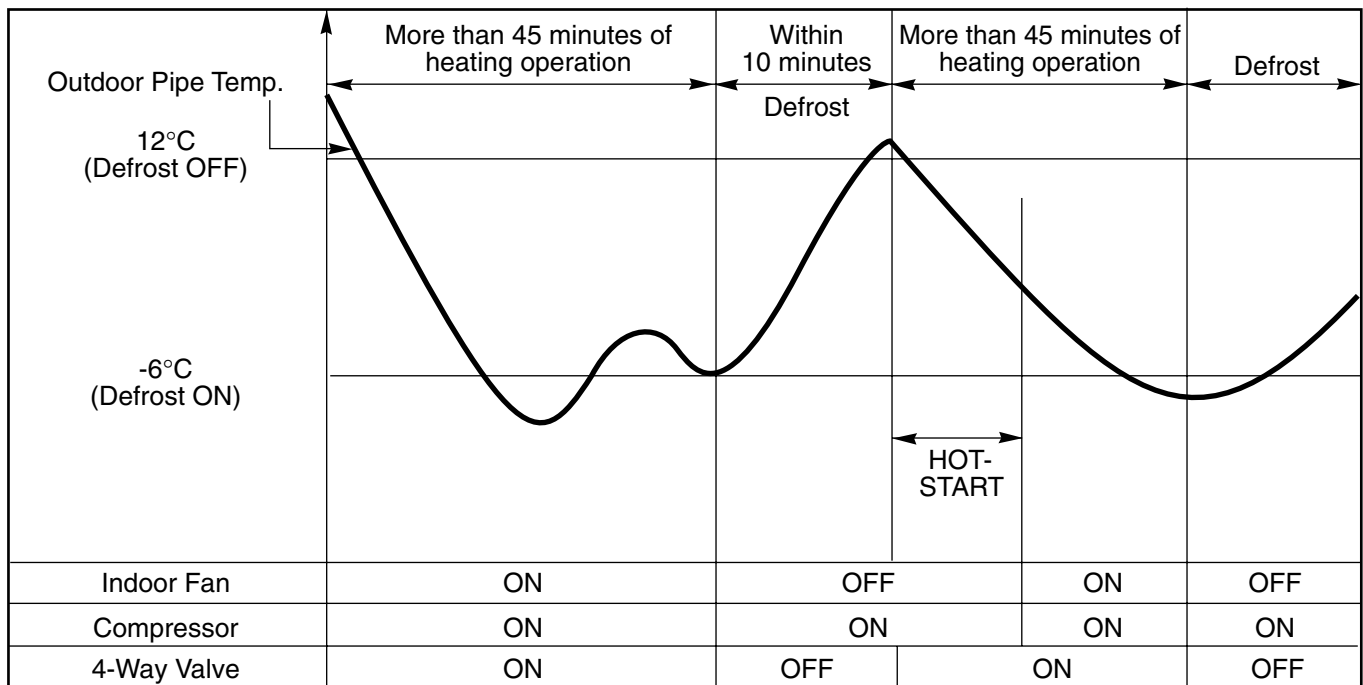
## 6. Hot-Start Control

- The indoor fan stops until the evaporator piping temperature will be reached to 28°C.
- During heating operation, if piping temperatures fall below 26°C fan stops.
- The operation diagram is as following.



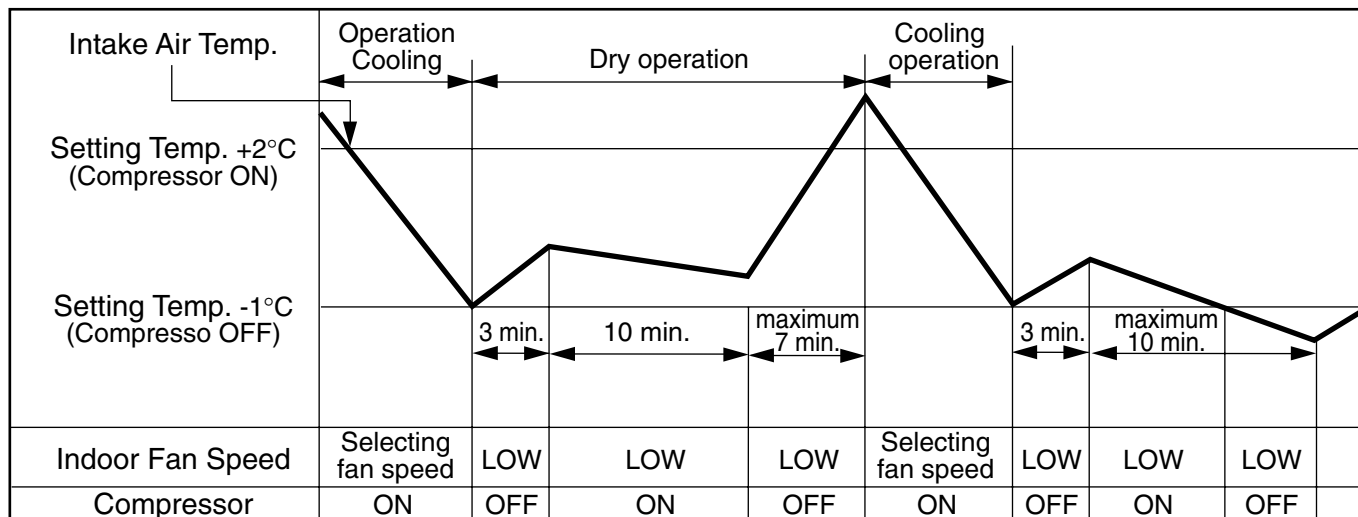
## 7. Defrost Control

- Defrost operation is controlled by timer and sensing temperature of outdoor pipe.
- The first defrost starts only when the outdoor pipe temperature falls below -6°C after 45 minutes passed from starting of heating operation and more than.
- Defrost ends after 10 minutes pass from starting of defrost operation or when the outdoor pipe temperature rises over 12°C even if before 10 minutes.
- The second defrost starts only when the outdoor pipe temperature falls below -6°C after 45 minutes pass from ending of the first defrost and more than.



## 8. Soft Dry Operation Mode

- During Soft Dry Operation, the compressor ON temperature is the setting temperature plus 2°C, the compressor OFF temperature is the setting temperature minus 1°C.
- When the room temperature rises over the compressor ON temperature, the operation mode is switched to the Cooling mode.
- When the room temperature falls between the compressor ON temperature and OFF temperature, the operation mode is switched to the Soft Dry Operation.
- The operation diagram is shown below.



## 9. Protection of the evaporator pipe from frosting

- Compressor and outdoor fan stop when indoor pipe temperature is below -2°C and restart at the pipe temperature is above 12°C.

## 10. Air Purifying Operation(AP-Z286RC0, AP-Z286R20, AP-Z286R30, AP-Z488TC0)

Mode Selecting	Operating Mode	Fan Speed	Outdoor	OFF
Initial Starting of Air purifying Operation	- Outdoor not operating - Fan operating + Air purifying operating	- Low at the initial - But could be switched to Med. Hi	OFF	Repress Air purifying Button or ON/OFF Button
When switched to Air purifying operation	- Outdoor operating - Main Operating + Air purifying operating	Selecting Speed of Main Operating Mode	ON or OFF depend on main operating	

## 11. Child Lock function

This function is to operate Air conditioner only by Remocon.

The procedure is as the following

**1st:** Press the 2 buttons of the temperature control simultaneously, to raise-to lower on the Display Panel of the product for more 3 seconds.

**2nd:** The buzzer sounds and then the window of Display Panel shows  $\overline{CL}$  (CL) mark.

**3rd:** To release this function, the reverse again the operating procedure could be done.

✳ During this function is operating, any buttons of Display Panel don't work. But it is possible to operate with Remote controller.

## 12. Alarm mode display / only displayed while operating.

⌋ : The sensor for sensing room temperature is open or short.

⌋ : The sensor for sensing piping temperature is open or short.

## 13. Jet Cool or Turbo-Jet

□ During the JET COOL function at any moment, the A/C starts to blow the cool air at extremely high speed setting the room temp. automatically to 18°C. It is especially used to cool the room temp. in the shortest time in a hot summer.

In heat pump mode or neuro fuzzy mode however, the JET COOL function is not available.

□ You can select this function during the operation of Cooling/ Soft Dry/ Auto/ Fan.

□ When it is selected, JET COOL lamp is on immediately and fan speed graphic(red) is on 3 times off.

□ Possible to select or cancel using JET COOL key.

□ To cancel the JET COOL Mode, press the JET COOL button again or the Fan Speed button or the Room Temperature Setting button and the unit will operate in high Fan speed on Cooling mode(set up to 18°C).

□ During the operation when it stops and runs again setting up is high fan speed on cooling mode(set up to 18°C).

## 14. Energy Saving

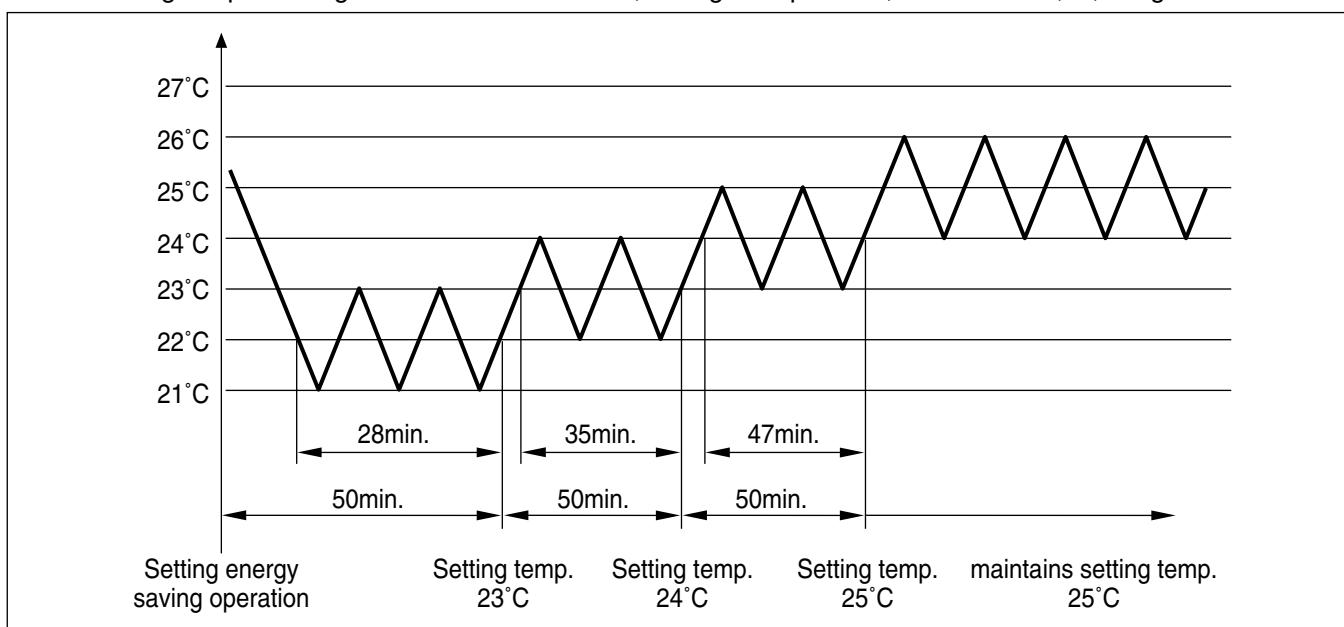
① If setting temperature of starting energy saving operation is under 22°C, first, setting temperature it up to 22°C and perform energy saving operation.

② After energy saving operation starts, if adaptation time of the human body pass from the point which room temperature and setting temperature meet together, increase setting temperature 1°C more.

③ If it doesn't satisfy number ① even in 50 minutes from the start of energy saving operation, increase 1°C.

④ After increasing setting temperature 1°C more by number ①, ②, perform number ②, ③ again, if setting temperature goes up to 25°C, maintain this temperature.

⑤ If setting temperature goes down to under 25°C, during the operation, do number ②, ③, ④ again.



## 15. AUTO RESTART

In case the power comes on again after a power failure, Auto Restarting Operation is the function to operate procedures automatically to the previous operating conditions.

## 16. Function of changing set temperature when re-operation after stop.

Operation is set the following condition when re-operation with start/stop button.

### 1. Operation mode.

Cooling/soft dry mode → Cooling mode

Heating mode → Heating mode

### 2. Setting the set temperature when cooling operation.

Room temperature > Set temperature: to be set to the previous set temperature.

Room temperature ≤ Set temperature

a) Room temperature ≥ 26°C: to be set to 24°C

b) 22°C ≤ Room temperature ≤ 25°C: to be set to 21°C

c) 19°C ≤ Room temperature ≤ 21°C: to be set to -1°C less than room temperature.

d) Room temperature ≤ 18°C: to be set to 18°C

### 3. Setting the set temperature when heating operation.

Room temperature < Set temperature: to be set to the previous set temperature.

Room temperature ≥ Set temperature

a) Room temperature ≤ 20°C: to be set to 23°C

b) 21°C ≤ Room temperature ≤ 25°C: to be set to 26°C

c) 26°C ≤ Room temperature ≤ 28°C: to be set to +1°C more than room temperature.

d) 29°C ≤ Room temperature : to be set to 30°C

## 17. Function for test operation

### 1) Outline of Operation

- This is for checking the condition of installation during the installation, and it is operated by cooling, Fan speed is high, comp. on, and Auto air flow operations without setting temperature.

### 2) Operation or Cancel

- Do test operation, if you push ON/OFF button and the down room temperature checking button over 3 seconds at the same time.
- During the operation, if you push the stop button or push ON/OFF button and the down room temperature checking button over 3 seconds at the same time, the test operation will be cancelled and unit come to rest.
- During the operation, if you input remocon key or key on Display panel, it performs its duties.

### 3) Function

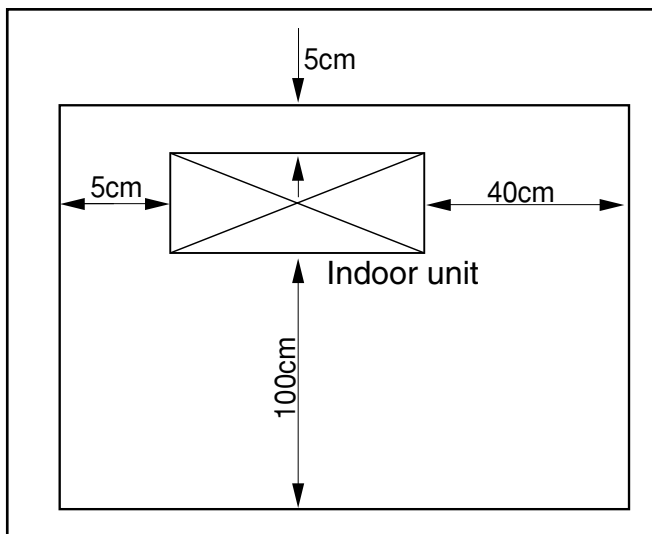
- It operates cooling, fan speed is high, auto air flow operation, comp. on for 18 ± 1 minutes, regardless of room temperature.
- After 18 ± 1 minutes of operation, it becomes off itself.
- During the operation, signal *BB* stands for "Lo"

# Installation of Indoor, Outdoor Unit

## 1. Selection of the best location

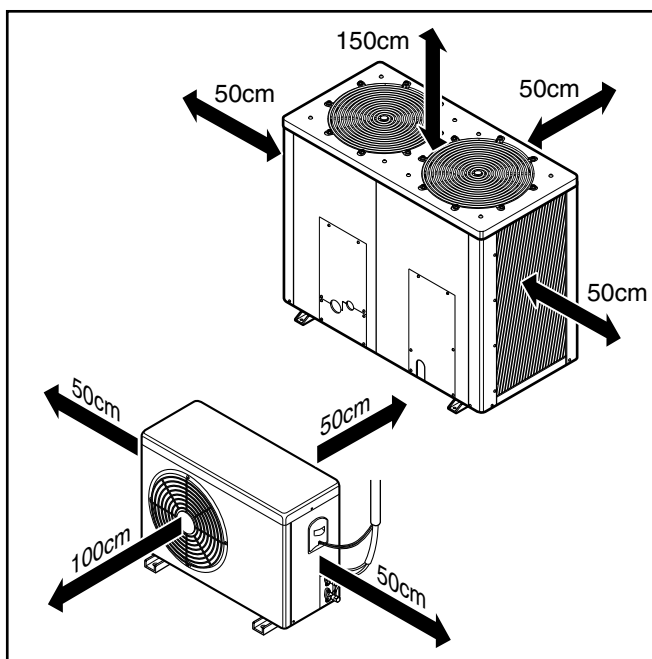
### 1) Indoor unit

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to prevent the air circulation.
- A place where air circulation in the room will be good.
- A place where drainage can be easily obtained.
- 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.



### 2) Outdoor unit

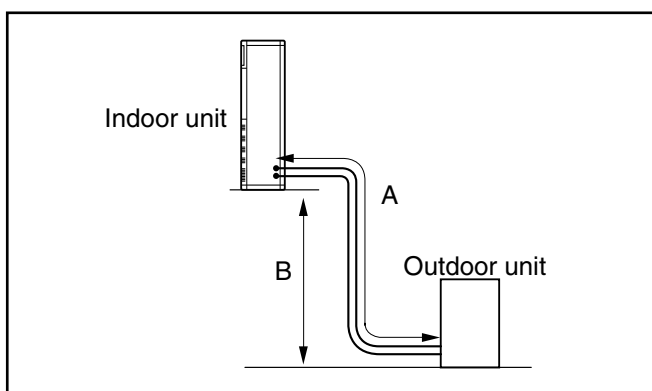
- If an awning is built over the unit to prevent direct sunlight or rain exposure, be careful that heat radiation from the condenser is not restricted.
- There should not be any animals or plants which could be affected by discharged hot air.
- Ensure the space indicated by arrows from the wall, ceiling, fence, or other obstacles.



## 3) Piping length and the elevation

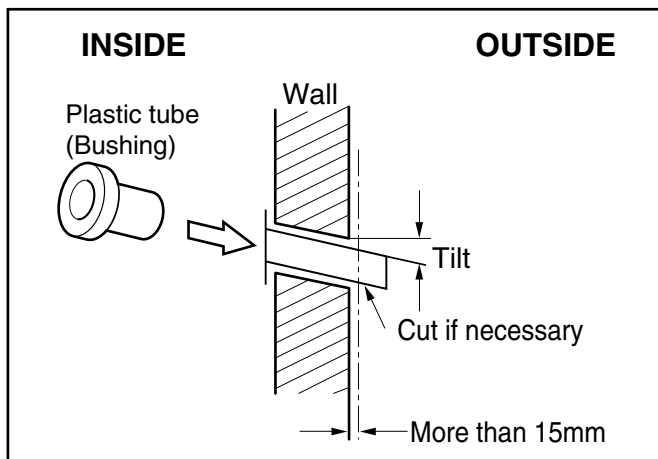
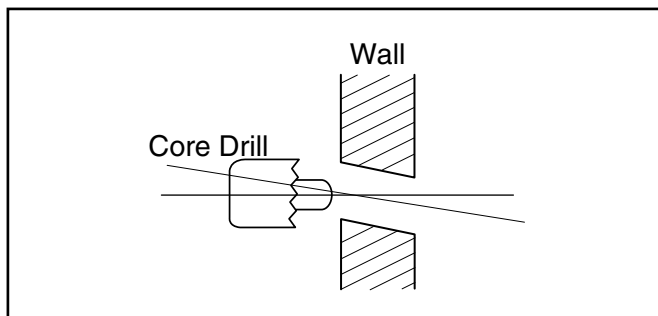
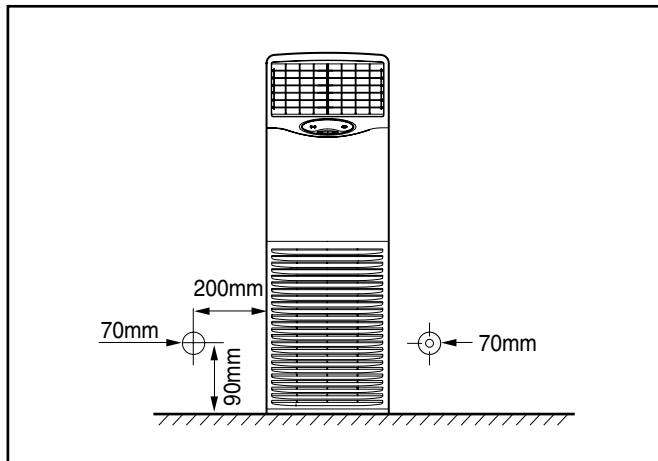
### Cooling Only Model

MODEL	PIPE SIZE		Max. Length A (m)	Max. Elevation B (m)
	GAS SIDE	LIQUID SIDE		
20K	5/8"	1/4"	30	20
28K/30K	5/8"	3/8"	30	20
48K	5/8"	3/8"	30	20
72K	11/10"	1/2"	50	30



## 2. Indoor Unit installation

- ① The mounting floor should be strong and solid enough to prevent it from vibration.
- ② Drill the piping hole with 70mm diameter hole-core drill at either the right or the left of indoor unit. The hole should be slightly slant to the outdoor side.



- ③ Insert the plastic tube through the hole.
- ④ Cut the extruded outside part of the plastic tube, if necessary.

## 3. Outdoor unit Installation

- ① Install the outdoor unit on the concrete or any solid base securely and horizontally by securing it with bolts (Ø12mm) and nuts.
- ② If there is any vibration transmitted to the building, mount the rubber underneath the outdoor unit.

## 4. Refrigerant amount

Before shipment, this air conditioner is filled with the rated amount of refrigerant including additional amount required for air-purging, subject to 5m piping length. (The rated amount of refrigerant is indicated on the name plate.) But when the piping length exceeds 5 meters, additional charge is required according to the following table.

MODEL	REFRIGERANT CHARGE
AP-Z286RC0 AP-Z286R20 AP-Z286R30	30g per 1m
AP-Z488TC0	40g per 1m
AP-Z728FA0	200g per 1m

Example)

In case of 10m long pipe(one-way), the amount of refrigerant to be replenished is:

$$(10 - 5) \times 30 = 150g$$



## Installation Method

### 1. Procedure

No.	Installation works	Descriptions
1	Preparation of tools and installation parts	Preparation of installation
2	Flaring the pipes	To insert the flare nuts, mounted on the connection parts of both indoor and outdoor unit, onto the copper pipes.
3	Pipe bending	To reduce the flow resistance of refrigerant.
4	Connection of installation parts (elbows, socket etc)	Connection of long piping
5	Tighten the flare nut (outdoor)	Connecting the pipings of the outdoor unit.
6	Blowing the pipings	To remove dust and scale in working.
7	Connecting the pipings of the indoor unit.	
8	Check a gas-leakage of the connecting part of the pipings.	
9	Air purging of the piping and indoor unit	The air which contains moisture and which remains in the refrigeration cycle may cause a malfunction on the compressor
10	Open the 3-way (liquid side) and 3-way (gas side) valves.	
11	Form the pipings	To prevent heat loss and sweat
12	Checking the drainage (indoor unit)	To ensure if water flow drain hose of indoor unit.
13	Connecting the cable between outdoor and indoor unit	Preparation of the operating
14	Connecting the main cable to outdoor unit	

## 2. Preparation of installation parts and tools

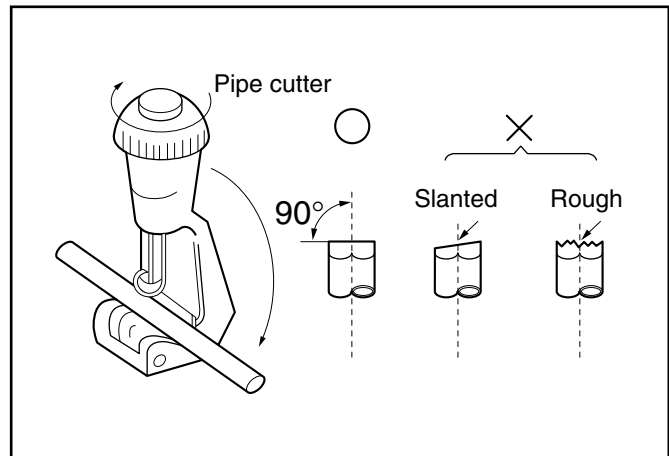
No.	Installation Parts, Tools	Use
1	Flaring tool Flaring the pipes	
2	Remear	Remove burrs from cut edges of pipes.
3	Pipe cutter (MAX 35mm Copper pipe)	Cutting the pipings
4	Wrench (H5, H4 hexagonal wrench)	To open the service valve
5	Pipe bender	Bending the pipings
6	Leak detector	Check a gas-leakage of connecting part of the pipings
7	Manifold gauge	To measure the pressure, to charge the refrigerant
8	Charge-nipple	To connect the Refrigerant Vessel
9	Vacuum pump	To remove the air in the pipe.
10	Charge cylinder balance	To measure the refrigerant amount
11	Refrigerant Vessel	Gas charge Air purge Cleaning the pipe
12	Spanner	To tighten the connecting parts of the pipings
13	Monkey spanner	
14	Driver( $\oplus, \ominus$ )	
15	Pliers (150mm)	Cutting the wires
16	Tapeline	To measure the length
17	Core drill	To make holes through the concrete wall and blocks
18	Voltmeter, Amperemeter, Clampmeter	To measure the current and voltage
19	Insulation resistance tester	To measure the insulation resistance
20	Glass thermometer	To measure the intake and outlet air temperature of the indoor unit
21	Copper tubes	To use the connecting pipings
22	Insulation material	To cover the connecting pipings
23	Tape	To finish the connecting pipings
24	Electrical Leakage Breaker	To shut off the main power
25	Cable	To connect the cable from outdoor unit to indoor unit
26	Drain hose sockets, elbows	To remote the condensing water

## Piping of Indoor Unit

### 1. Preparation of piping

#### ① Cut the pipes and the cable

- Use the accessory piping kit or the pipes purchased locally.
- Measure the distance between the indoor and the outdoor unit.
- Cut the pipes a little longer than measured distance.
- Cut the cable 1.5m longer than the pipe length.



#### ② Remove burrs.

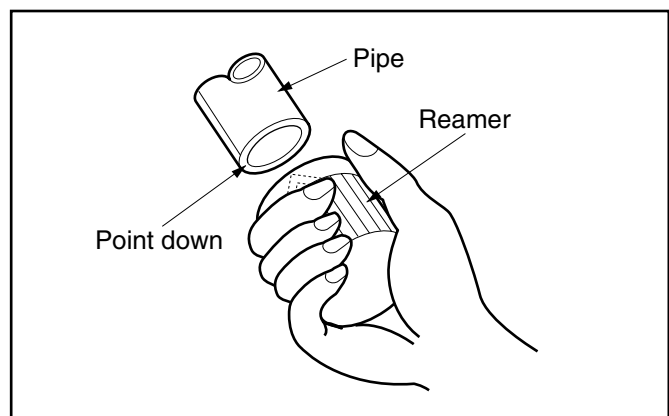
- Remove burrs from cut edges of pipes.
- Turn the pipe end down to avoid the metal powder entering the pipe.

#### Caution:

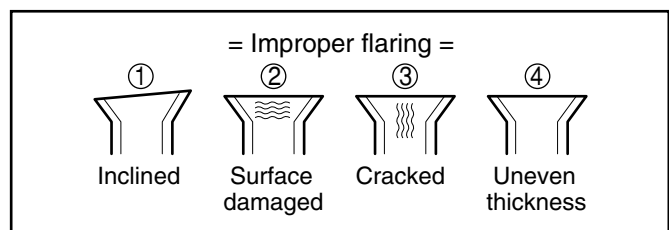
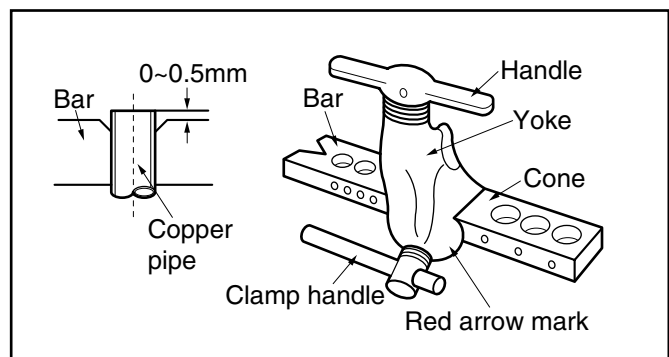
If burrs are not removed, they may cause a gas leakage.

#### ③ Flaring the pipes.

- Insert the flare nuts, mounted on the connection ports of both indoor and outdoor unit, onto the copper pipes. Some refrigerant gas may leak, when the flare nuts are removed from the indoor unit, as some gas is charged to prevent the inside of the pipe from rusting.
- Fit the copper pipe end into the Bar of flare tool about 0~0.5mm higher. (See illustration)
- Flare the pipe ends.



#### ④ Tape the flaring part to protect it from dust or damages.

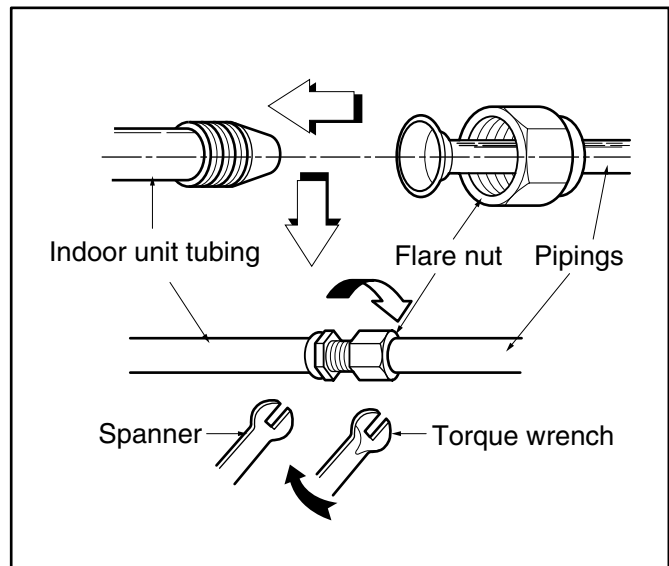


## 2. Connection of piping

- ① **Move the indoor tubing and drain hose to the hole**
  - Remove tubing holder and pull the tubing out of the chassis.
- ② **Replace the tubing holder into original position**
- ③ **Route the tubing and the drain hose straight backwards.**
- ④ **Insert the connecting cable into the indoor unit through the hole.**
  - Do not connect the cable to the indoor unit
  - Make a small loop with the cable for easy connection later.
- ⑤ **Tape the tubing and the connecting cable.**
- ⑥ **Indoor unit installation.**
- ⑦ **Connecting the pipings to the indoor unit.**

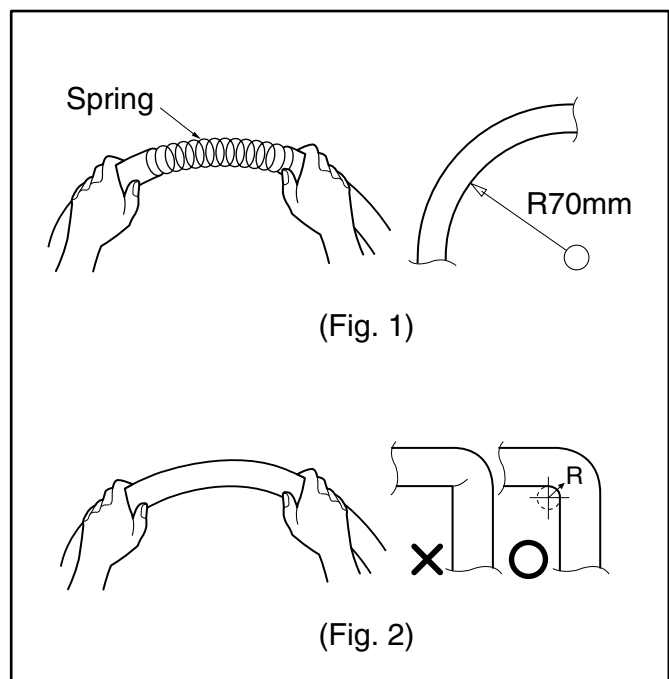
- Align the center of the pipings and sufficiently tighten the flare nut with fingers.
- Finally, tighten the flare nut with torque wrench until the wrench clicks. When tightening the flare nut with torque wrench, ensure the direction for tightening follows the arrow on the wrench.

PIPE SIZE	TORQUE
3/8"	4.2 Kg·m
1/2"	5.5 Kg·m
5/8"	5.5 Kg·m
3/4"	6.5 Kg·m



## 3. Precautions in bending

- ① **If it is necessary to bend or stretch the tubing, use the spring which is attached to the tubing in stead of pipe bender.**
  - Please make a careful notice to make a smooth line.
  - Hold the tubing with your two hands closely and then bend or stretch it slowly not to make any crack.
  - Remember that the radius (R) should not exceed 70mm (Refer to Fig. 1)
- ② **Do not repeat the bending process to prevent the tubing from cracking or crushing.**
- ③ **Keep in mind that the bending part should not be cracked and make the radius (R) as long as possible (Refer to Fig. 2)**



# Test running

## 1. PRECAUTIONS IN TEST RUN

- The initial power supply must provide at least 90% of the rated voltage. Otherwise, the air conditioner should not be operated.

**Caution** Carry out the test run more than 5 minutes without fail.  
(Test run will be cancelled 18 minutes later automatically)

- The test run is started by pressing the down room temperature checking button and ON/OFF button for 3 seconds at the same time.
- To cancel the test run, press ON/OFF button.

### CHECK THE FOLLOWING ITEMS WHEN INSTALLATION IS COMPLETE

- After completing work, be sure to measure and record trial run properties, and store measured data, etc.
- Measuring items are room temperature, outside temperature, suction temperature, blow out temperature, wind velocity, wind volume, voltage, current, presence of abnormal vibration and noise, operating pressure, piping temperature, compressive pressure.
- As to the structure and appearance, check following items.

- ☐ Is the circulation of air adequate?
- ☐ Is the draining smooth?
- ☐ Is the heat insulation complete (refrigerant and drain piping)?
- ☐ Is there any leakage of refrigerant?

- ☐ Is the remote controller switch operated?
- ☐ Is there any faulty wiring?
- ☐ Are not terminal screws loosened?

M4...118N·cm{12kgf·cm}    M5...196N·cm{20kgf·cm}  
M6...245N·cm{25kgf·cm}    M8...588N·cm{60kgf·cm}

## 2. Connection of power supply

1. Connect the power supply cord to the independent power supply.
  - Circuit breaker is required.
2. Operate the unit for fifteen minutes or more.

## 3. Evaluation of the performance

1. Measure the temperature of the intake and discharge air.
2. Ensure the difference between the intake temperature and the discharge one is more than 8°C (Cooling) or reversely (Heating).

## CAUTION

After the confirmation of the above conditions, prepare the wiring as follows:

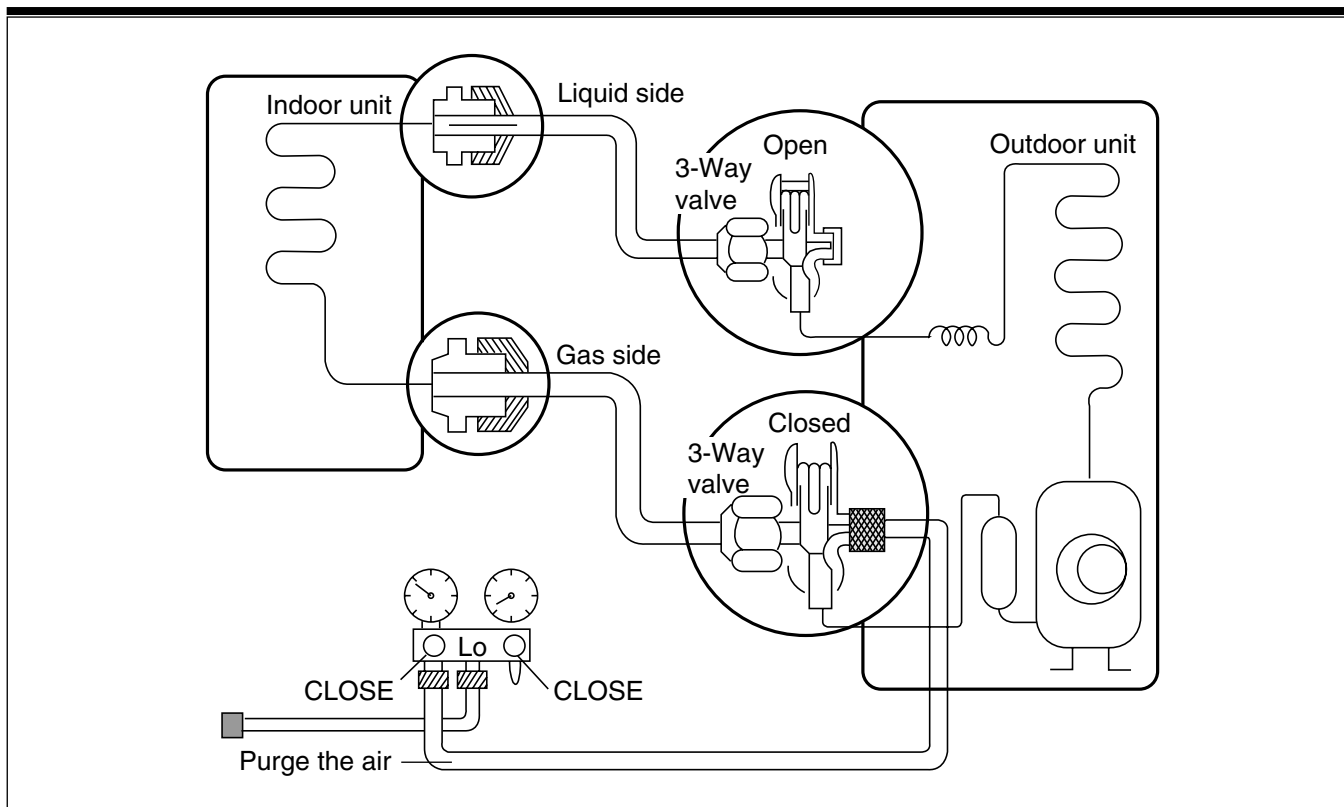
- 1) **Never fail to have an individual power specialized for the air conditioner. As for the method of wiring, be guided by the circuit diagram pasted on the inside of control box cover.**
- 2) **Provide a circuit breaker switch between power source and the unit.**
- 3) **The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)**
- 4) **Specification of power source**
- 5) **Confirm that electrical capacity is sufficient.**
- 6) **Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.**
- 7) **Confirm that the cable thickness is as specified in the power sources specification. (Particularly note the relation between cable length and thickness.)**
- 8) **Never fail to equip a leakage breaker where it is wet or moist.**
- 9) **The following troubles would be caused by voltage drop-down.**
  - Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
  - Proper starting power is not given to the compressor.

## HAND OVER

Teach the customer the operation and maintenance procedures, using the operation manual (air filter cleaning, temperature control, etc.).

# 3-way valve

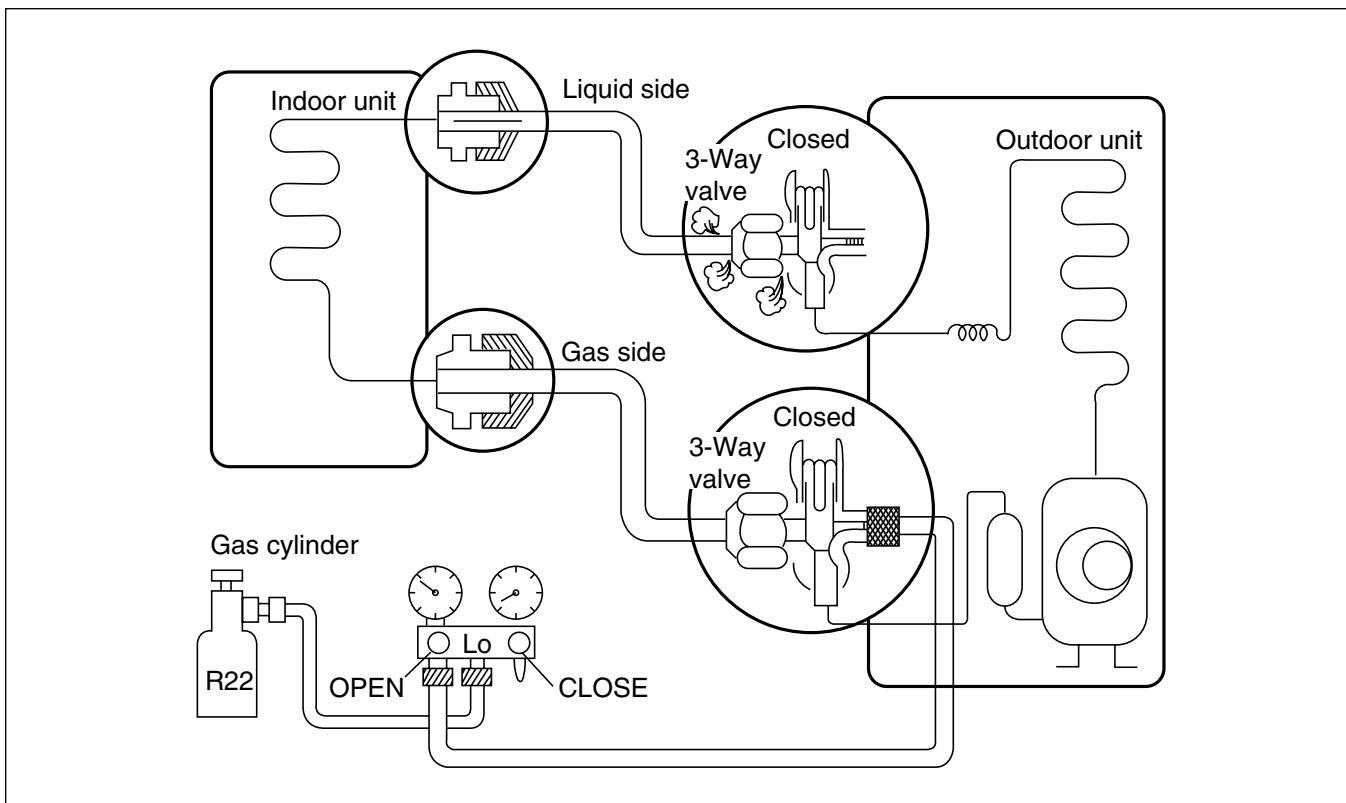
## 1. Pump down



### • Procedure

- (1) **Confirm that both liquid side and gas side valves are set to the open position.**
  - Remove the valve stem caps and confirm that the valve stems are in the raised position.
  - Be sure to use a hexagonal wrench to operate the valve stems.
- (2) **Operate the unit for 10 to 15 minutes.**
- (3) **Stop operation and wait for 3 minutes, then connect the charge set to the service port of the 3-way valve.**
  - Connect the charge hose to the service port.
- (4) **Air purging of the charge hose.**
  - Open the low-pressure valve on the charge set slightly to air purge from the charge hose.
- (5) **Set the liquid side valve to the closed position.**
- (6) **Operate the air conditioner in cooling mode and stop it when the gauge indicates 1kg/cm<sup>2</sup>g.**
- (7) **Immediately set the 3-way valve to the closed position.**
  - Do this quickly so that the gauge ends up indicating 3 to 5kg/cm<sup>2</sup>g.
- (8) **Disconnect the charge set, and mount the 2-way and 3-way valve's stem nuts and the service port nut.**
  - Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.
  - Be sure to check for gas leakage.

## 1) Re-airpurging (Re-installation)



### • Procedure

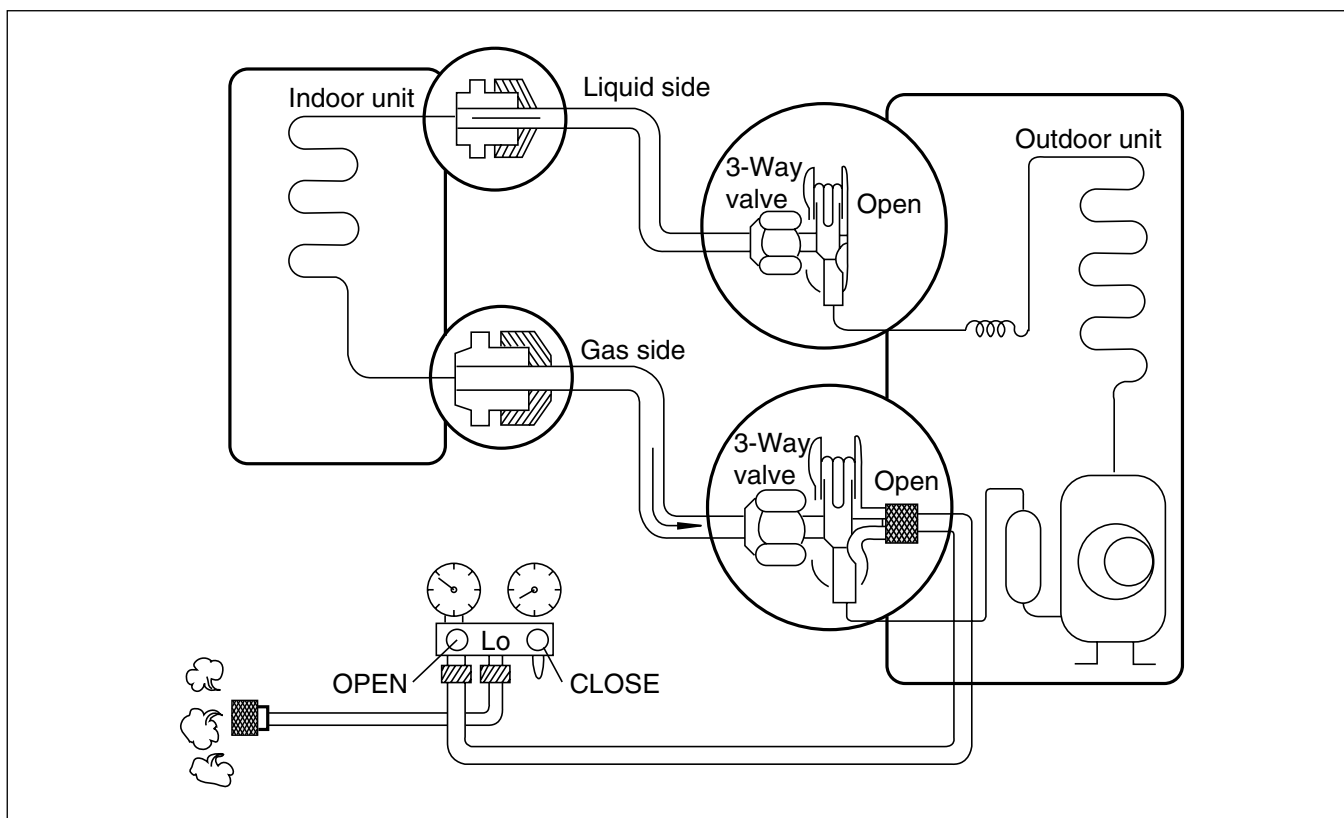
- (1) **Confirm that both the liquid side valve and the gas side valve are set to the closed position.**
- (2) **Connect the charge set and a gas cylinder to the service port of the 3-way valve.**
  - Leave the valve on the gas cylinder closed.
- (3) **Air purging.**
  - Open the valves on the gas cylinder and the charge set. Purge the air by loosening the flare nut on the liquid side valve approximately 45° for 3 seconds then closing it for 1 minute; repeat 3 times.
  - After purging the air, use a torque wrench to tighten the flare nut on liquid side valve.
- (4) **Check for gas leakage.**
  - Check the flare connections for gas leakage.
- (5) **Discharge the refrigerant.**
  - Close the valve on the gas cylinder and discharge the refrigerant until the gauge indicates 3 to 5 kg/cm<sup>2</sup>g.
- (6) **Disconnect the charge set and the gas cylinder, and set the 2-way and 3-way valves to the open position.**
  - Be sure to use a hexagonal wrench to operate the valve stems.
- (7) **Mount the valve stem nuts and the service port nut.**
  - Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.
  - Be sure to check for gas leakage.

**\* CAUTION:**  
**Do not leak the gas in the air during Air Purging.**



## 2) Balance refrigerant of the 3-way valve

(Gas leakage)



### • Procedure

(1) Confirm that both the liquid side and gas side valves are set to the back seat.

(2) Connect the charge set to the 3-way valve's port.

- Leave the valve on the charge set closed.
- Connect the charge hose to the service port.

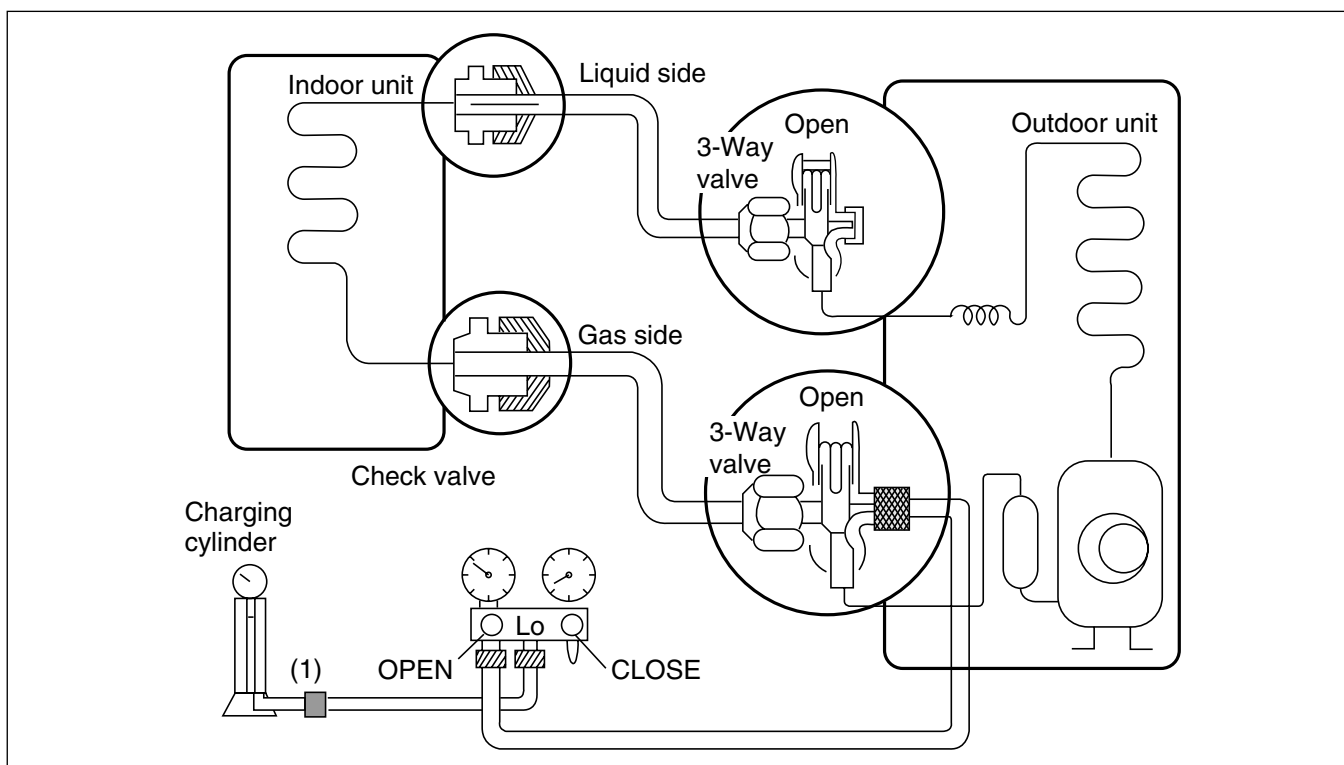
(3) Open the valve (Lo side) on the charge set and discharge the refrigerant until the gauge indicates 0 kg/cm<sup>2</sup>G.

- If there is no air in the refrigerant cycle (the pressure when the air conditioner is not running is higher than 1 kg/cm<sup>2</sup>G), discharge the refrigerant until the gauge indicates 0.5 to 1 kg/cm<sup>2</sup>G. If this is the case, it will not be necessary to apply a vacuum.
- Discharge the refrigerant gradually; if it is discharged too suddenly, the refrigeration oil will also be discharged.



### 3. Gas Charging

(After Evacuation)



#### • Procedure

##### (1) Connect the charge hose to the charging cylinder.

- Connect the charge hose which you dis-connected from the vacuum pump to the valve at the bottom of the cylinder.
- If you are using a gas cylinder, also use a scale and reverse the cylinder so that the system can be charged with liquid.

##### (2) Purge the air from the charge hose.

- Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air. (Be careful of the liquid refrigerant). The procedure is the same if using a gas cylinder.

##### (3) Open the valve (Lo side on the charge set and charge the system with liquid refrigerant.

- If the system can not be charged with the specified amount of refrigerant, it can be charged with a little at a time (approximately 150g each time) while operating the air conditioner in the cooling cycle; however, one time is not sufficient, wait approximately 1 minute and then repeat the procedure (pumping down-pin).

This is different from previous procedures.

Because you are charging with liquid refrigerant from the gas side, absolutely do not attempt to charge with larger amounts of liquid refrigerant while operating the air conditioner.

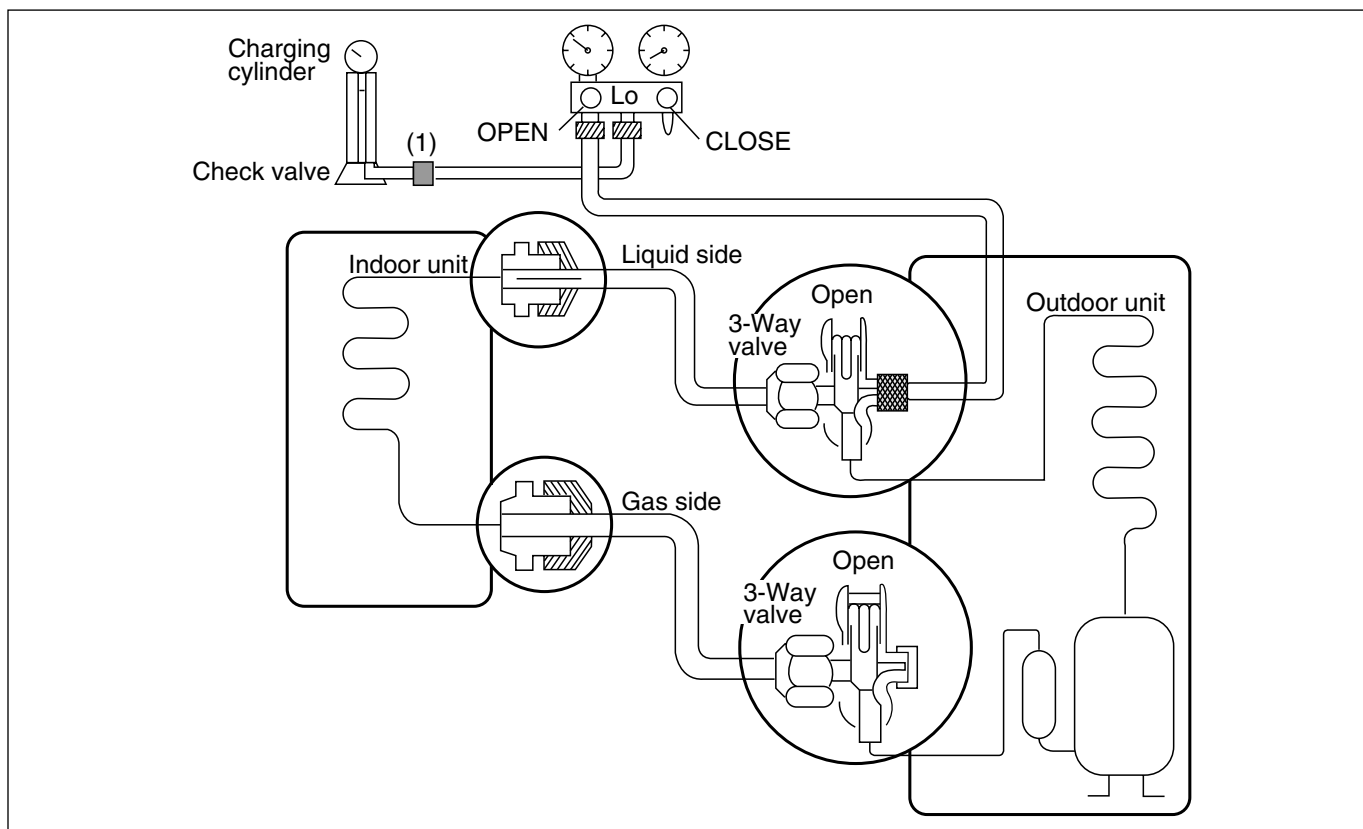
##### (4) Immediately disconnect the charge hose from the 3-way valve's service port.

- Stopping partway will allow the gas to be discharged.
- If the system has been charged with liquid refrigerant while operating the air conditioner turn off the air conditioner before disconnecting the hose.

##### (5) Mount the valve stem nuts and the service port nut.

- Use torque wrench to tighten the service port nut to a torque of 1.8 kg.m.
- Be sure to check for gas leakage.

## 2) Heating Mode (After Evacuation)



### • Procedure

#### (1) Connect the charge hose to the charge cylinder.

- Connect the charge hose which you disconnected from the vacuum pump to the valve at the bottom of the cylinder.
- If you are using a gas cylinder, use a scale and reverse the cylinder so that the system can be charged with liquid.

#### (2) Purge the air from the charge hose.

- Open the valve at the bottom of the cylinder and press the check valve on the charge set to purge the air. (Be careful of the liquid refrigerant). The procedure is the same if using a gas cylinder.

#### (3) Open the valve (Lo side) on the charge set and charge the system with liquid refrigerant.

- If the system can not be charged with the specified amount of refrigerant, it can be charged with a little at a time (approximately 150g each time) while operating the air conditioner in the cooling cycle; however, one time is not sufficient, wait approximately 1 minute and then repeat the procedure (pumping down-pin).

This is different from previous procedures.

Because you are charging with liquid refrigerant from the gas side, absolutely do not attempt to charge with larger amounts of liquid refrigerant while operating the air conditioner.

#### (4) Immediately disconnect the charge hose from the 3-way valve's service port.

- Stopping partway will allow the gas to be discharged.
- If the system has been charged with liquid refrigerant while operating the air conditioner turn off the air conditioner before disconnecting the hose.

#### (5) Mount the valve stem nuts and the service port nut.

- Use a torque wrench to tighten the service port nut.
- Be sure to check gas leakage.

# Cycle Troubleshooting Guide

## Trouble analysis

1. Check temperature difference between intake and discharge air and operating current.

	Temp. difference : approx. 0°C Current : less than 80% of rated current	All amount of refrigerant leaked out Check refrigeration cycle
Temp. Difference	Temp. difference : approx. 8°C Current : less than 80% of rated current	Refrigerant leakage Clog of refrigeration cycle Defective compressor
Operating Current	Temp. difference : less than 8°C Current : over the rated current	Excessive amount of refrigerant
	Temp. difference : over 8°C	Normal

### Notice :

Temperature difference between intake and discharge air depends on room air humidity. When the room air humidity is relatively higher, temperature difference is smaller. When the room air humidity is relatively lower temperature difference is larger.

2. Check temperature and pressure of refrigeration cycle.

Suction pressure (Compared with the normal value)	Temperature (Compared with the normal value)	Cause of Trouble	Description
Higher	High	Defective compressor Defective 4-way reverse valve	Current is low
	Normal	Excessive amount of refrigerant	High pressure does not quickly rise at the beginning of operation
Lower	Higher	Insufficient amount of refrigerant (Leakage) Clogging	Current is low Current is low

### Notice :

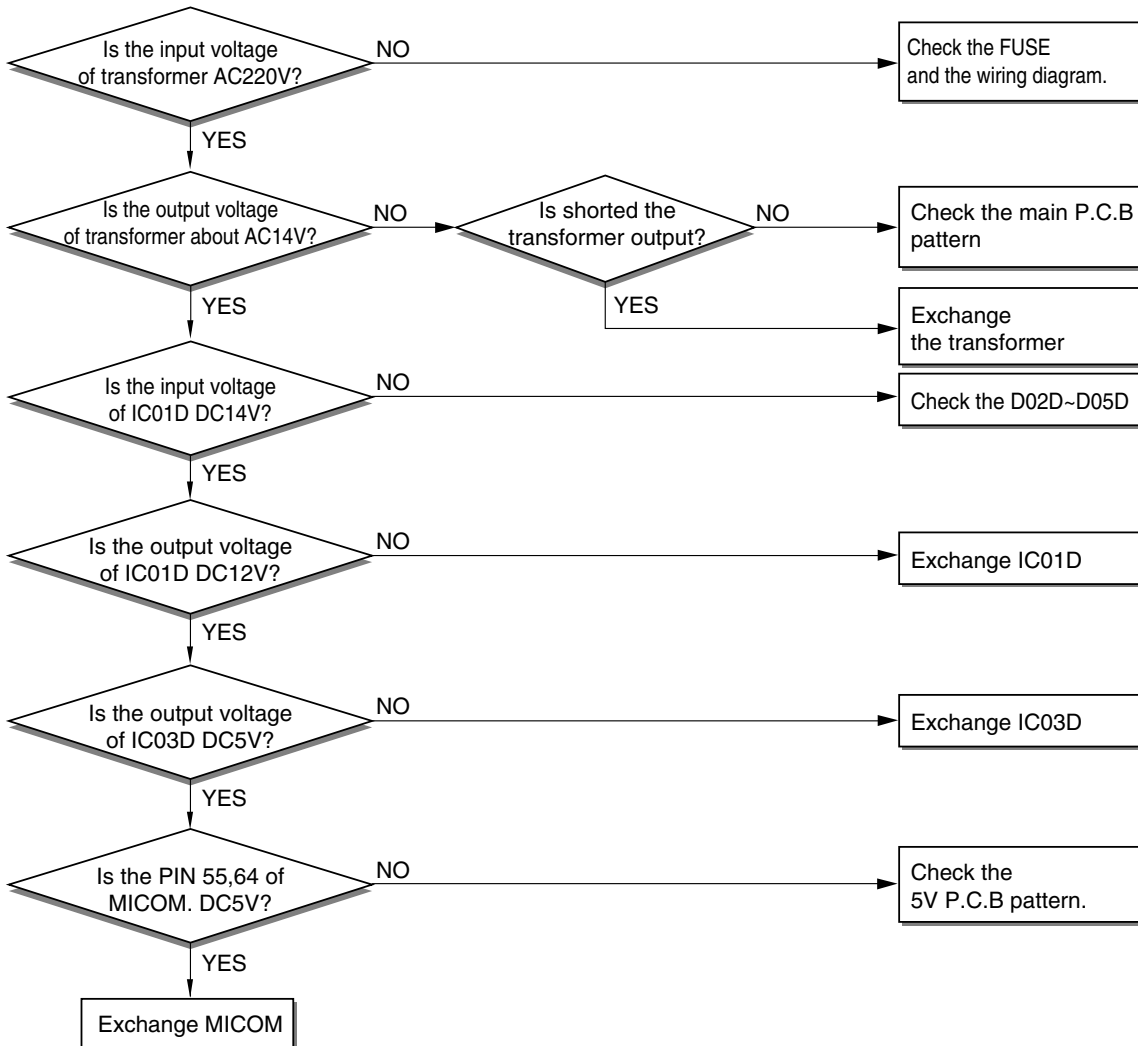
1. The suction pressure is usually 4.5~6.0 kg/cm<sup>2</sup>G at normal condition.
2. The temperature can be measured by attaching the thermometer to the low pressure tubing and wrap it with putty.

# Electronic Parts Troubleshooting Guide

## 1) No Cooling operation performed

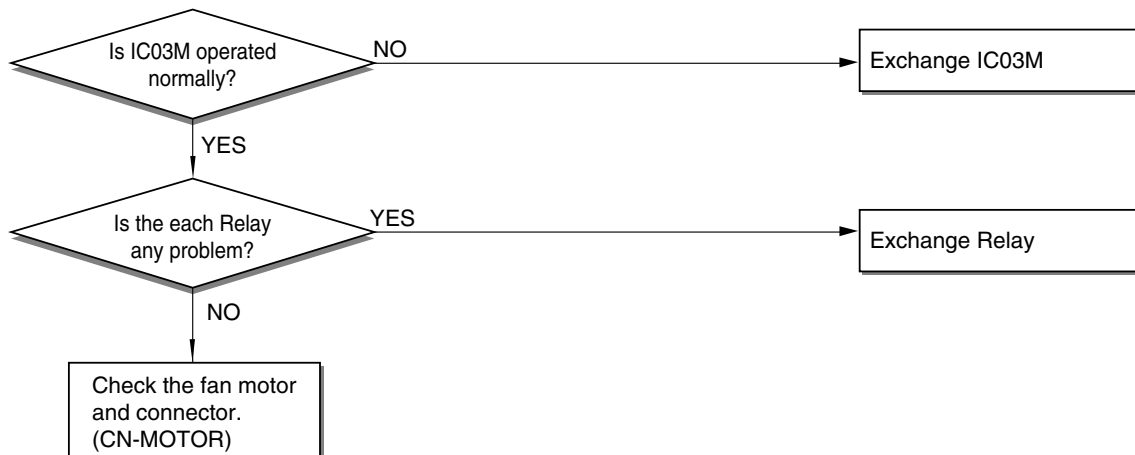
### Possible Trouble 1

: The unit does not operate.

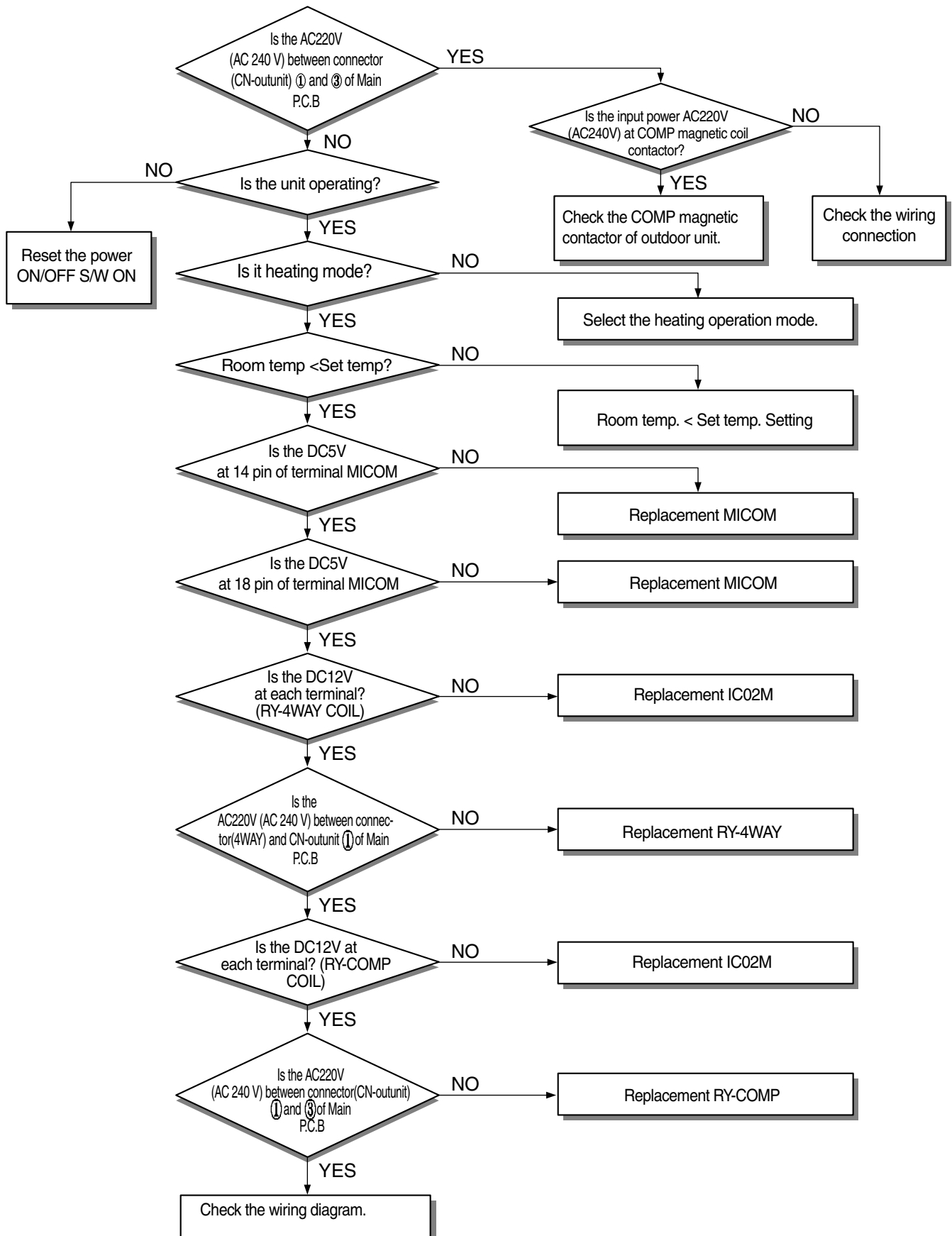


### Possible Trouble 2

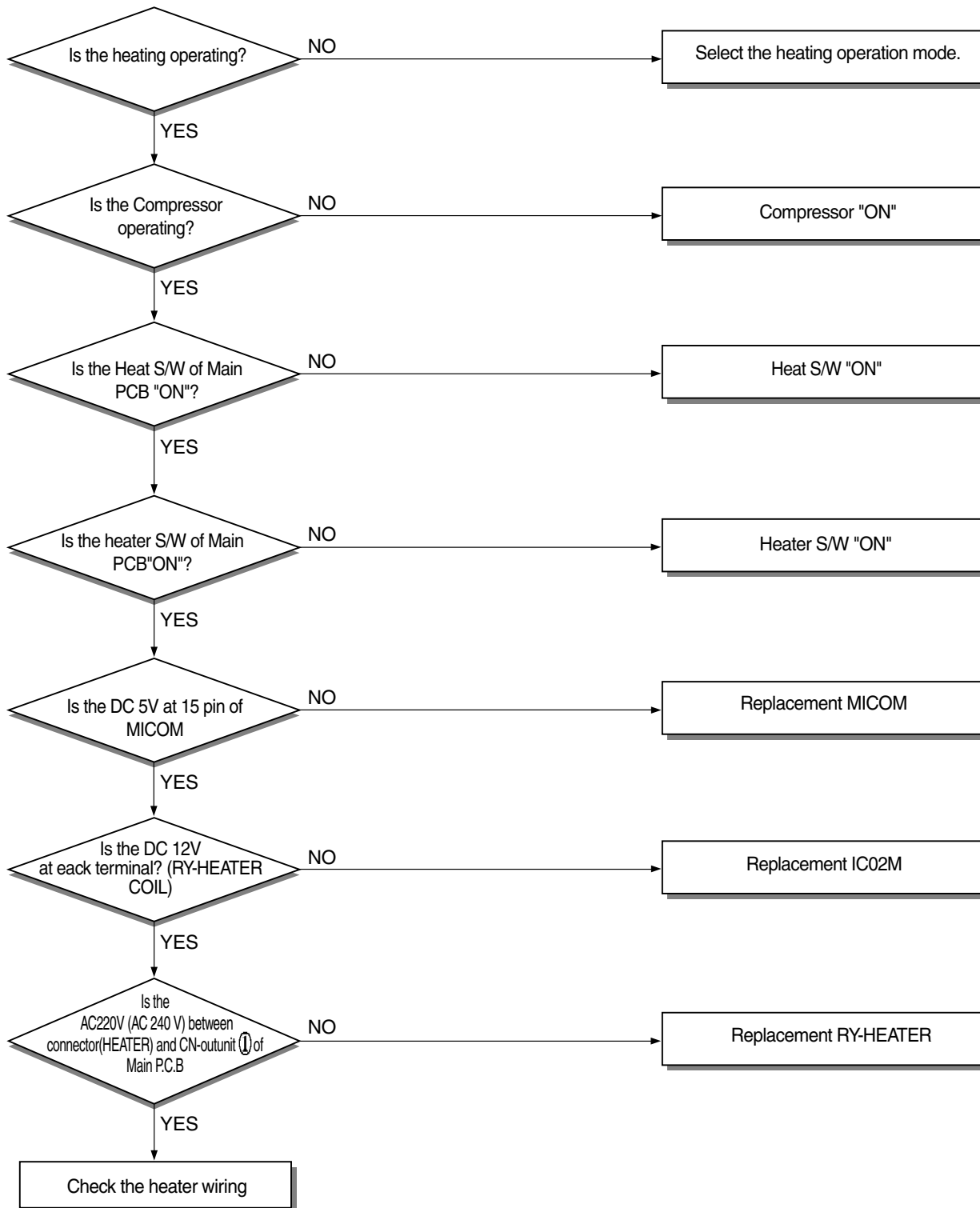
: The indoor fan does not operate.



## 2) No heating operation works



### 3) No heater operation works

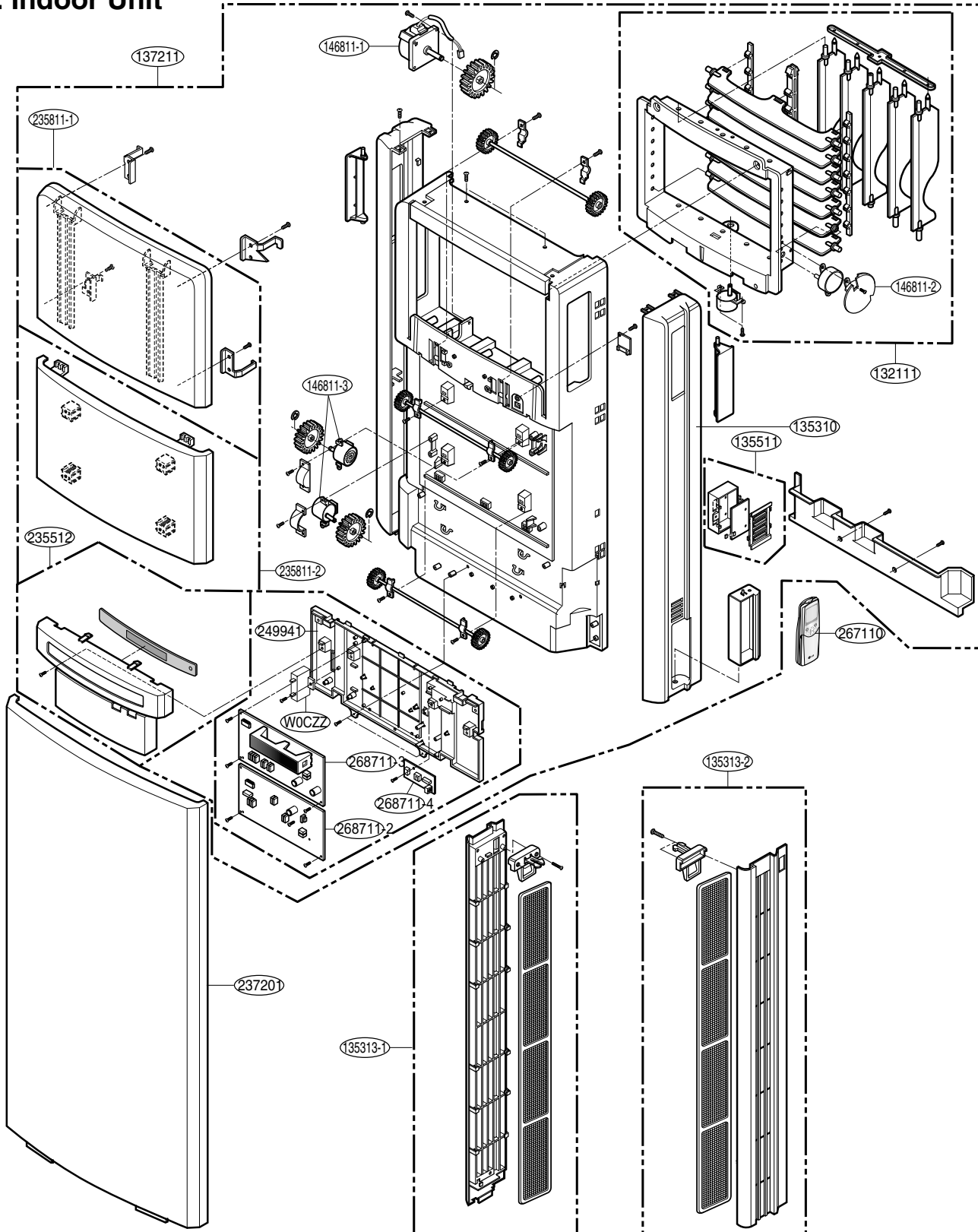


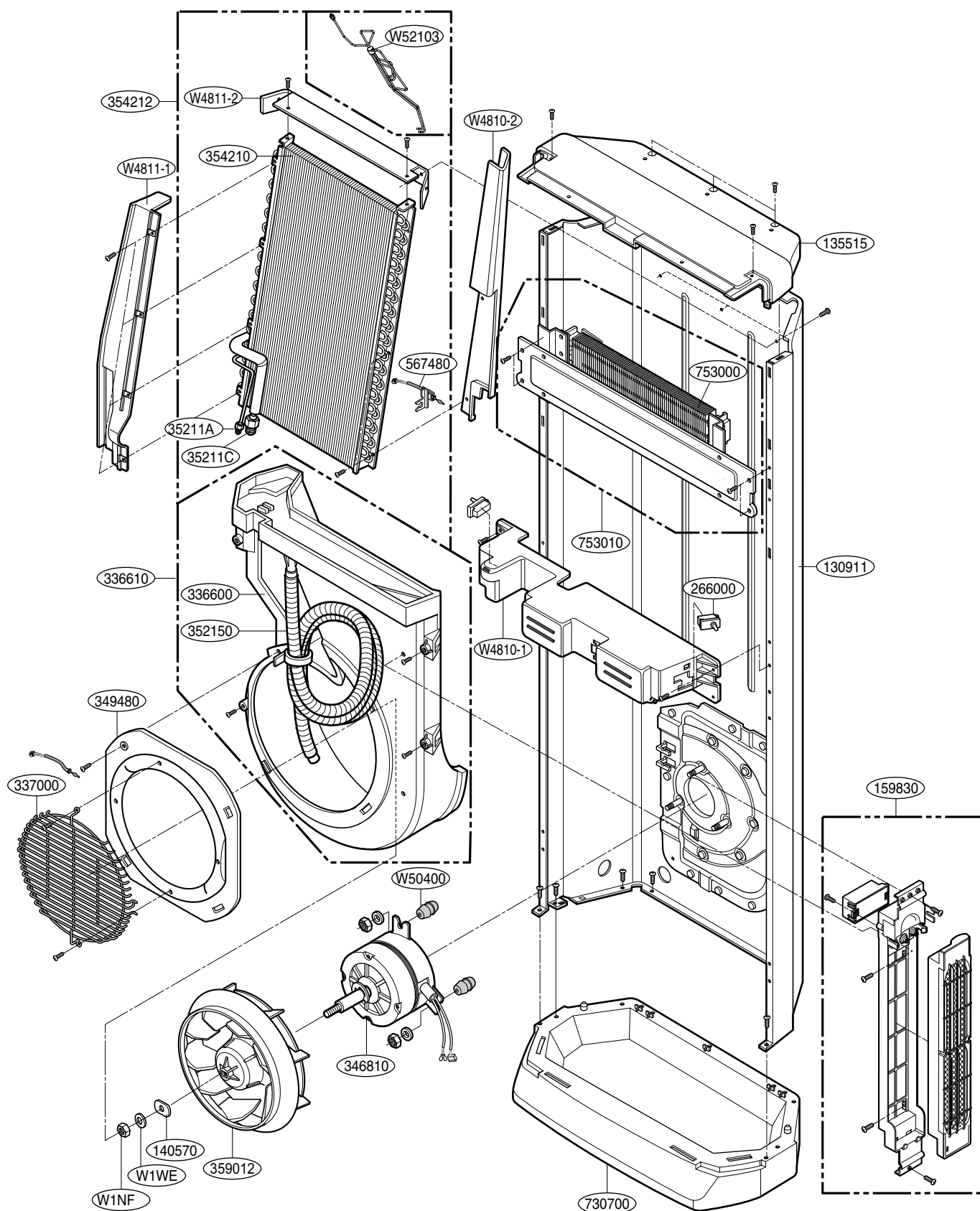


# Exploded View and Replacement Parts List

## ■ AP-Z286RC0, AP-Z286R20, AP-Z286R30

### 1. Indoor Unit

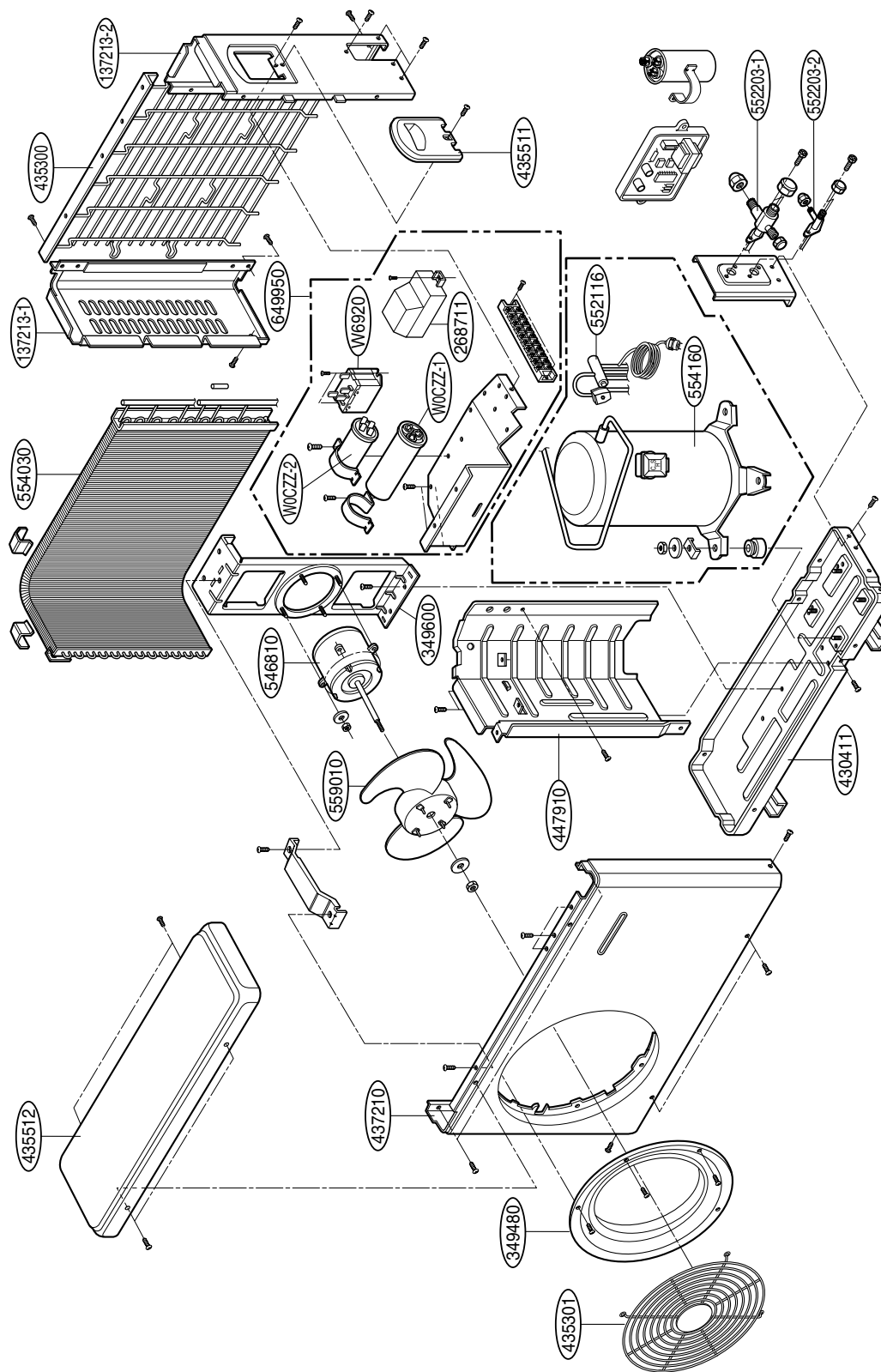




## Parts List (Indoor Unit )

LOCATION No.	DESCRIPTION	PART No.			Q'TY	Remark
		AP-Z286RC0	AP-Z286R20	AP-Z286R30		
130911	CABINET ASSEMBLY,INDOOR	3091A10037E	3091A10037Y	3091A10037S	1	
132111	FRAME ASSEMBLY	3211A20006C	-	-	1	
135310	GRILLE ASSEMBLY DIFFUSER(INDOOR)	3531A10133N	3531A20164D	3531A20164F	1	
135511	COVER ASSEMBLY, CONTROL(INDOOR)	3551A20053C	-	-	1	
135313-1	GRILLE ASSEMBLY,INLET	3531A10135C	3531A10203P	3531A10203R	1	
135313-2	GRILLE ASSEMBLY,INLET	3531A10134C	3531A10203Q	3531A10203S	1	
135515	COVER ASSEMBLY,TOP(INDOOR)	3551A10014A	3551A10022A	3551A10022A	1	
137211	PANEL ASSEMBLY,FRONT(INDOOR)	3721A10047Y	3721A10130C	3721A10130W	1	
140570	LOCKER ASSEMBLY	4A01405C	4A01405C	4A01405C	1	
159830	AIR CLEANER ASSEMBLY	5983A10004S	5983A10004S	5983A10004S	1	
235512	COVER ASSEMBLY,DISPLAY	3551A20052V	3551A20135E	3551A20103F	1	
235811-1	DOOR ASSEMBLY,CLEAN	3581A20002E	3581A20005Y	3581A20005V	1	
235811-2	DOOR ASSEMBLY,CLEAN	3581A20003D	3581A20005T	3581A20006M	1	
237201	PANEL,BASE	3720A10066D	3720A10105B	3721A20120K	1	
249941	CONTROL BOX,INDOOR	4994A10030A	4994A10042A	4994A10042A	1	
266000	SWITCH,PUSH	6600AP2059A	6600AP2059A	6600AP2059A	2	
267110	REMOTE CONTROLLER	6711A20041U	6711A20041U	6711A20041U	1	
268711-2	PWB(PCB) ASSEMBLY,MAIN(AC)	6871A20268N	6871A10171A	6871A10171A	1	
146811-1	Motor Assembly,DC,Stepping	-	4681A20055A	4681A20055A	1	
146811-2	Motor Assembly,DC,Stepping	4681AP2968F	4681AP2968F	4681AP2968F	1	
146811-2	Motor Assembly,DC,Stepping	4681AP2639E	4681AP2639E	4681AP2639E	2	
268711-3	PWB(PCB) ASSEMBLY,MAIN(DC)	6871A20496C	6871A20320E	6871A20489A	1	
567480	THERMISTOR ASSEMBLY	6323A20016A	6323A20016A	6323A20016A	1	
336600	HOUSING (MECH),WRAPPER	3660A20023L	3660A20023J	3660A20023J	1	
336610	HOUSING ASSEMBLY (MECH)	3661A20017P	3661A20033A	3661A20033A	1	
337000	NET,STEEL	3700A30001A	3700A30001A	3700A30001A	1	
346810	MOTOR ASSEMBLY,INDOOR	4681A20134A	4681A20134A	4681A20134A	1	
349480	ORIFICE	4948A20008A	4948A20008B	4948A20008B	1	
352150	HOSE ASSY,DRAIN	5251AR1222N	5251AR1222X	5251A20011H	1	
35211C	TUBE ASSY,DISCHARGE (INDOOR)	5211A20284C	5211A20284C	5211A20284C	1	
354210	EVAPORATOR ASSEMBLY,FIRST	5421A20039G	5421A20039G	5421A20039G	1	
354212	EVAPORATOR ASSEMBLY,FINAL	5421A20179A	5421A20179A	5421A20179A	1	
359012	FAN ASSEMBLY,TURBO	5901A20013A	5901A20021A	5901A20021A	1	
268711-4	PWB(PCB) ASSEMBLY,SUB	6871A20101G	6871AQ3212D	6871AQ3212D	1	
730700	BASE,INSTALL	3040A20041C	3040A20067D	3040A20067B	1	
753000	HEATER, ELECTRIC	5301A10027C	5301A10027C	5301A10027C	1	
753010	HEATER ASSEMBLY,ELECTRIC	5301A10038A	5301A10038A	5301A10038A	1	
W0CZZ	CAPACITOR,DRAWING	3H00660M	3H00660M	3H00660M	1	
W1NF	NUT,HEXAGON	1NHA0801206	1NHA0801206	1NHA0801206	4	
W1WE	WASHER,SPRING LOCK	1WSD0800030	1WSD0800030	1WSD0800030	1	
W4810-1	BRACKET	4810A20074B	4810A20142A	4810A20142A	1	
W4810-2	BRACKET	4810A10008A	4810A10008A	4810A10008A	1	
W4811-1	BRACKET ASSEMBLY	4811A30011B	4811A30011B	4811A30011B	1	
W4811-2	BRACKET ASSEMBLY	4811A30021A	4811A30021A	4811A30021A	1	
W50400	RUBBER	5040A30031A	5040A30031A	5040A30031A	3	
W52103	TUBE,DISTRIBUTOR	2H00351D	2H00351D	2H00351D	1	
35211A	TUBE ASSEMBLY,SUCTION INDOOR	5211A20423D	5211A20423D	5211A20423D	1	

## 2. Outdoor Unit

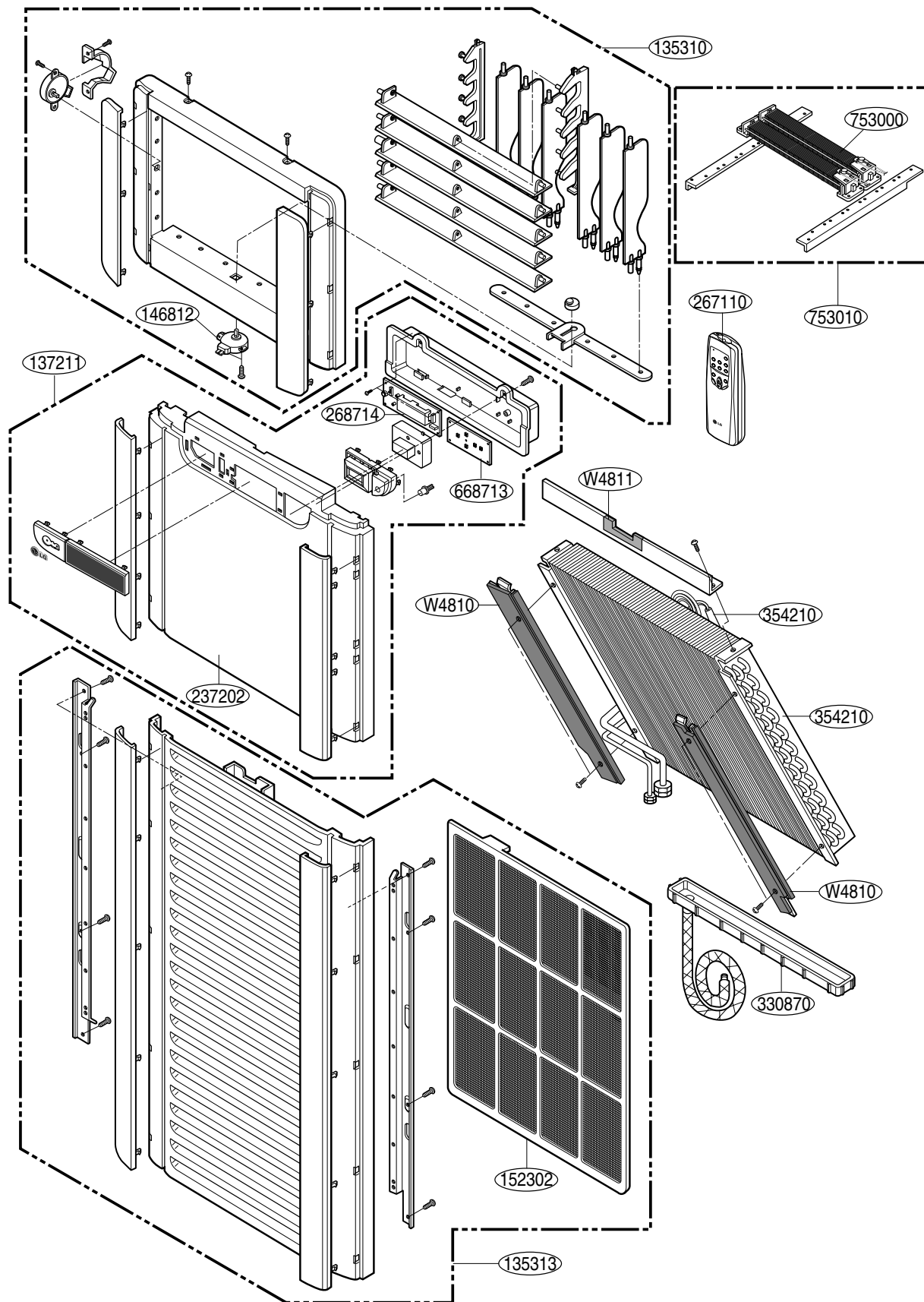


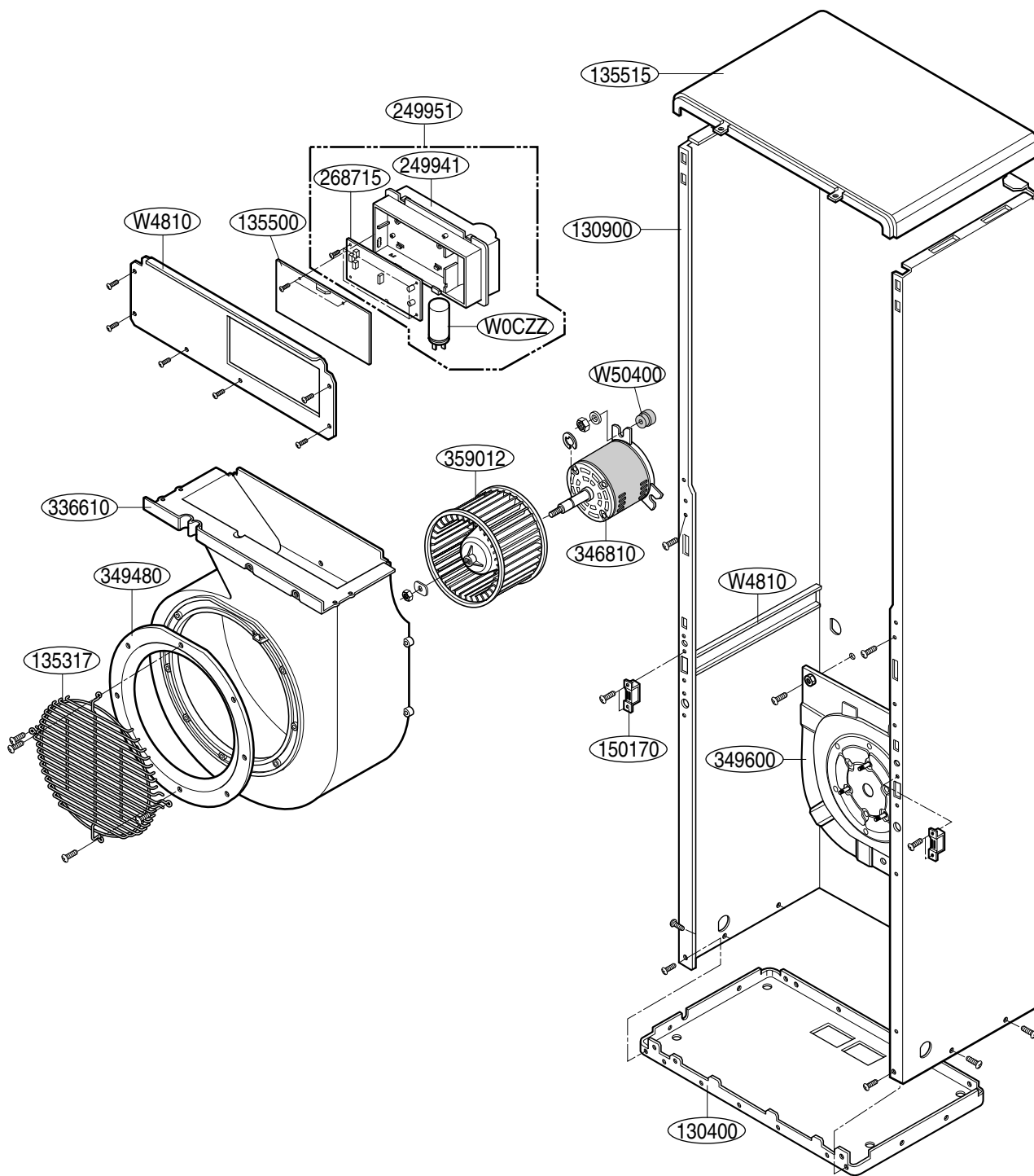
**Parts List (Outdoor Unit )**

LOCATION No.	DESCRIPTION	PART No.	Q'TY	Remark
		AP-Z286RC0/R20/R30		
137213-1	PANEL ASSEMBLY,SIDE	1A00202F	1	
137213-2	PANEL ASSY,SIDE	3A02284L	1	
268711	PWB(PCB) ASSY,DEICER	6871A20015Z	1	
W6920	RELAY	6920AP3400A	1	
349480	ORIFICE	4948AP2527A	1	
349600	MOUNT,MOTOR	1A00206B	1	
430411	BASE ASSEMBLY,WELD[OUTDOOR]	3041A20022G	1	
435301	GRILLE,DISCHARGE	3530A20007J	1	
435511	COVER ASSEMBLY,CONTROL(OUTDOOR)	3551A30071L	1	
435512	COVER ASSEMBLY,TOP(OUTDOOR)	3H03266H	1	
437210	PANEL ASSY,FRONT SUB	1A00197C	1	
435300	GRILLE,REAR	1A00208D	1	
447910	BARRIER ASSEMBLY,OUTDOOR	2A01043L	1	
546810	MOTOR ASSEMBLY,OUTDOOR	4681A10030B	1	
552116	TUBE ASSEMBLY,REVERSING	5211A20493L	1	
552203-1	VALVE,SERVICE	5220A20001R	1	
552203-2	VALVE,SERVICE	5220A20013A	1	
554030	CONDENSER ASSEMBLY,FIRST	5403A20178B	1	
554160	COMPRESSOR	5416A90027A	1	
559010	FAN ASSEMBLY,PROPELLER	1A00195B	1	
649950	CONTROL BOX ASSEMBLY,OUTDOOR	4995A20027L	1	
W0CZZ-1	CAPACITOR,DRAWING	2A00986X	1	
W0CZZ-2	CAPACITOR,DRAWING	2H00841J	1	

# ■ AP-Z488TC0

## 1. Indoor Unit



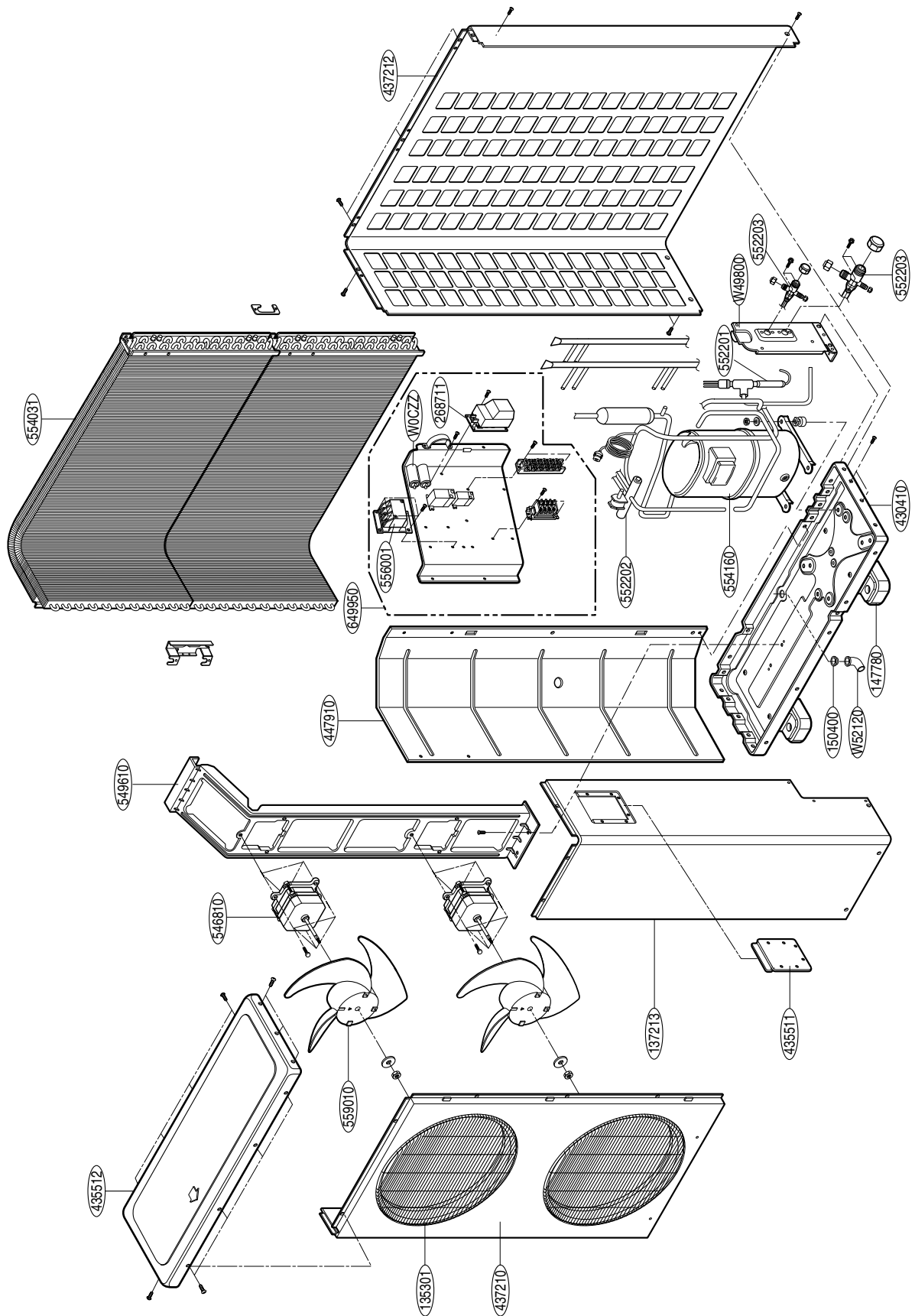


**Parts List (Indoor Unit )**

LOCATION No.	DESCRIPTION	PART No.	Q'TY	Remark
130400	BASE,INDOOR	3040AP2199D	1	
130900	CABINET	3090AP1174D	1	
135310	GRILLE ASSEMBLY,DIFFUSER(INDOOR)	3531A20099H	1	
135313	GRILLE ASSEMBLY,INLET	3531A10126D	1	
135317	GRILLE ASSEMBLY,INDOOR MOTOR	3531A20082A	1	
135511	COVER	3550A10034A	1	
135515	COVER ASSEMBLY, TOP(INDOOR)	3551A10013C	1	
137211	PANEL ASSEMBLY,FRONT(INDOOR)	3721A10044M	1	
146812	MOTOR ASSEMBLY,SYNC.	2H01102A	1	
150170	MAGNET ASSEMBLY,MECH	3A02221A	2	
152302	FILTER(MECH),A/C	5230A20015A	1	
159830	AIR CLEANER ASSEMBLY	5983A10003D	1	
237202	PANEL,FRONT	3720A10055C	1	
247810	CONTROL BOX,INDOOR	4994A10026B	1	
249951	CONTROL BOX ASSEMBLY,INDOOR	4995A20200P	1	
267110	REMOTE CONTROLLER ASSEMBLY	6711A20054R	1	
268712	PWB(PCB) ASSEMBLY,MAIN	6871A10054U	1	
268714	PWB(PCB) ASSEMBLY,MAIN(AC)	6871A20268Q	1	
330870	DRAIN PAN ASSEMBLY	3087A30001D	1	
336600	HOUSING (MECH),WRAPPER	3660A20024C	1	
346810	MOTOR ASSEMBLY,INDOOR	4681A20015D	1	
349480	ORIFICE	4948A30002A	1	
349600	MOUNT,MOTOR	4960AP2285F	1	
354210	EVAPORATOR ASSEMBLY,FIRST	2A00971G	1	
359012	FAN ASSY,BLOWER	5901A00001B	1	
552111	TUBE ASSEMBLY,CAPILLARY	5211A30413C	1	
668713	PWB(PCB) ASSEMBLY,SUB	6871A20184A	1	
753000	HEATER ASSEMBLY, ELECTRIC	5301A10027C	1	
753010	HEATER ASSEMBLY,ELECTRIC	5301A10031C	1	
W0CZZ	CAPACITOR,DRAWING	2H00841C	1	
W4810	BRACKET	4810A30254A	1	
W4811	BRACKET	3A02093B	1	
W4811	BRACKET	3A02094C	1	
W4811	BRACKET ASSEMBLY	4811A30022B	1	

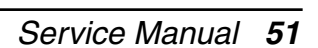


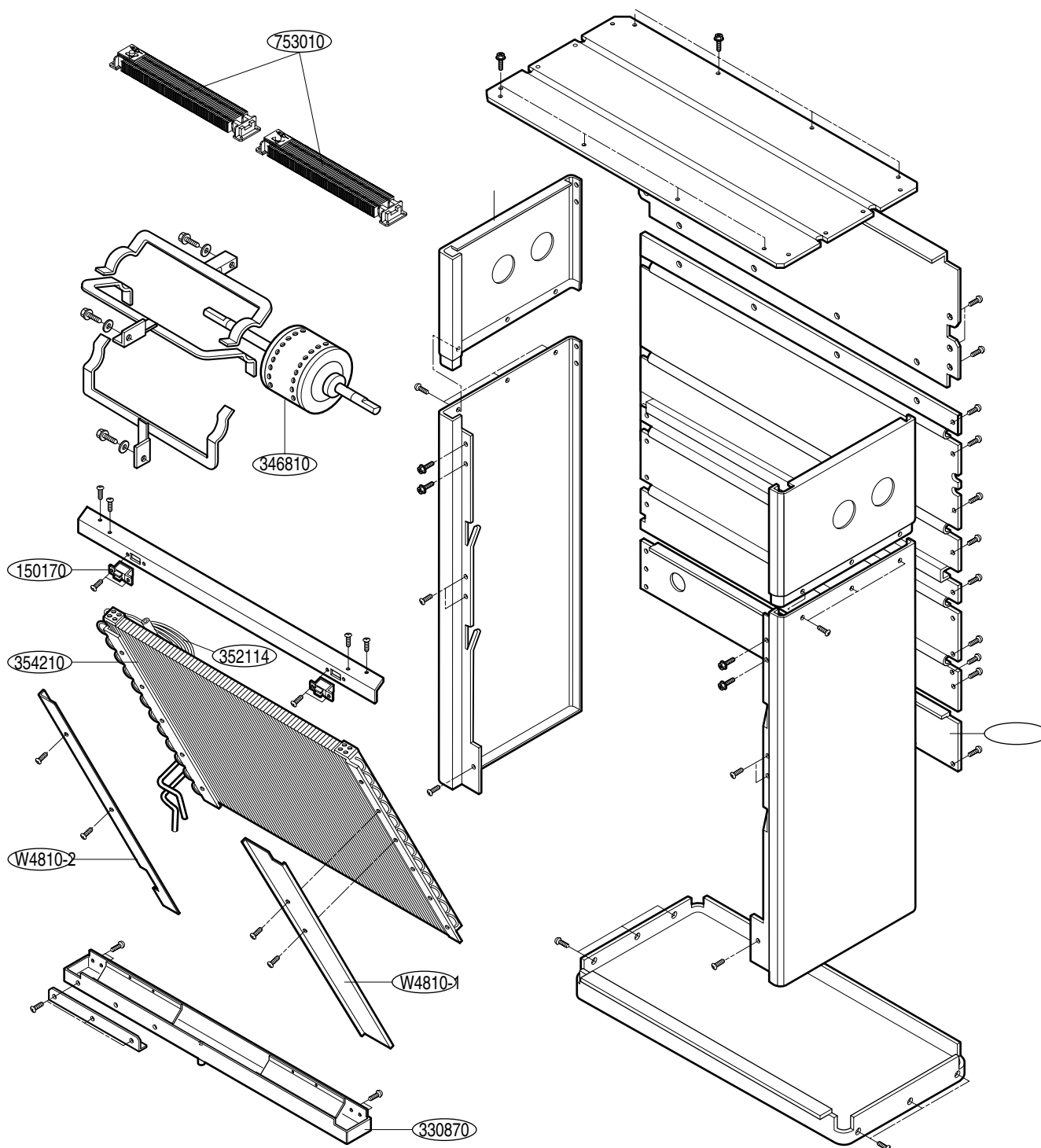
## 2. Outdoor Unit



**Parts List (Outdoor Unit )**

LOCATION No.	DESCRIPTION	PART No.	Q'TY	Remark
135301	GRILLE,DISCHARGE	3530AP1225D	2	
137213	PANEL ASSEMBLY,SIDE	3721A20229A	1	
147780	LEG	3A02521A	2	
150400	RUBBER	5040AP3178A	1	
268711	PWB(PCB) ASSY,DEICER	6871A20034A	1	
430410	BASE ASSEMBLY,WELD[OUTDOOR]	3041A20047B	1	
435511	COVER ASSY,CONTROL(OUTDOOR)	3A01293X	1	
435512	COVER ASSY,TOP(OUTDOOR)	3550AP1213B	1	
437210	PANEL ASSY,FRONT SUB	3720AP1212B	1	
437212	PANEL ASSY,REAR	3720AP1202L	1	
447910	BARRIER,OUTDOOR	4760AP1216C	1	
546810	MOTOR ASSEMBLY,OUTDOOR	4681A10030B	2	
549610	MOUNT,MOTOR	4960A10004A	1	
552201	VALVE,CHECK	3A01020D	1	
552202	COIL ASSEMBLY,REVERSING VALVE	3A02080B	1	
552203	VALVE,SERVICE	2A00499L	1	
552203	VALVE,SERVICE	5220A20001F	1	
554031	CONDENSER ASSEMBLY,FIRST	5403A21001B	1	
554031	CONDENSER ASSEMBLY,FIRST	5403A21001D	1	
554160	COMPRESSOR SET	2520UBAY2BA	1	
556001	SWITCH,MAGNET	6600B000041	1	
559010	FAN ASSEMBLY,PROPELLER	1A00195B	2	
649950	CONTROL BOX ASSEMBLY,OUTDOOR	4995A30011G	1	
W0CZZ	CAPACITOR,DRAWING	2A00986D	1	
W49800	SUPPORTER	4980AP2517B	1	
W52120	ELBOW	5212AP3173A	1	





## Parts List (Indoor Unit )

LOCATION No.	DESCRIPTION	PART No.	Q'TY	Remark
135310	GRILLE ASSEMBLY,DIFFUSER(INDOOR)	3531A20105B	1	
135313	GRILLE ASSEMBLY,INLET	3530AP1109A	1	
135313	GRILLE ASSY,INLET	5237AP2386A	1	
147911	BARRIER ASSEMBLY,INDOOR	4791AP2300D	1	
150170	MAGNET ASSEMBLY,MECH	3A02221A	2	
159830	FILTER ASSY,A/C	5231AP3330A	1	
235450	DISPLAY ASSEMBLY (MECH)	3545A20004S	1	
237202	PANEL,FRONT	3720AP1136P	1	
249941	CONTROL BOX,INDOOR	3500AP2293B	1	
267110	REMOTE CONTROLLER ASSEMBLY	6711A20054S	1	
268711-1	PWB(PCB) ASSEMBLY,DISPLAY	6871A20157C	1	
268711-2	PWB(PCB) ASSEMBLY,MAIN	6871A10150C	1	
330720	CUT OFF	4A00085A	2	
330870	DRAIN PAN ASSEMBLY	3087AP2381A	1	
336610	HOUSING ASSY (MECH)	3661AP1139A	1	
336610	HOUSING ASSY (MECH)	3661AP1139B	1	
346810	MOTOR ASSEMBLY,INDOOR	4681AP2411M	1	
352114	TUBE ASSEMBLY,DISTRIBUTOR	5425AG3363V	1	
354210	EVAPORATOR ASSEMBLY,FIRST	5420AP2380A	1	
359012	FAN ASSY,BLOWER	2A00578R	2	
437210	PANEL ASSEMBLY,FRONT SUB	3721A10028U	1	
648600	CLAMP,CAPACITOR	4H00930D	1	
268711-4	PWB(PCB) ASSEMBLY,SUB	6871A30046A	1	
753010	HEATER ASSEMBLY,ELECTRIC	5301A01001A	1	
W0CZZ	CAPACITOR,DRAWING	2A00986S	1	
W4810	BRACKET	4810AP2296B	1	
W4810	BRACKET	4810AP2298A	1	



**Parts List (Outdoor Unit )**

LOCATION No.	DESCRIPTION	PART No.	Q'TY	Remark
268711	PWB(PCB) ASSY,DEICER	6871A20015S	1	
346811	MOTOR ASSEMBLY,OUTDOOR	4680AP2610B	2	
349490	ORIFICE	4948AP1242R	1	
430411	BASE ASSEMBLY,WELD[OUTDOOR]	3041A10037D	1	
435301	GRILLE ASSY,DISCHARGE(OUTDOOR)	2A00144P	2	
437210	PANEL ASSY,FRONT SUB	3721AP2913P	1	
437210	PANEL ASSY,FRONT SUB	3721AP2913Q	1	
548490	ACCUMULATOR ASSEMBLY(MECH)	4849A10017H	1	
549610	MOUNT ASSEMBLY,MOTOR(OUTDOOR)	3G00789L	1	
552203-1	VALVE,SERVICE	2A00469K	1	
552203-2	VALVE,SERVICE	5220A20035A	1	
554031	CONDENSER ASSEMBLY,BENT	5403A20139A	1	
554031	CONDENSER ASSEMBLY,BENT	5403A20139B	1	
554031	CONDENSER ASSEMBLY,BENT	5403A20139C	1	
554031	CONDENSER ASSEMBLY,BENT	5403A20139D	1	
554160	COMPRESSOR SET	2520UBAY2AA	1	
554160	COMPRESSOR SET	2520UUCY2AA	1	
559010	FAN ASSEMBLY,PROPELLER	0A00026B	2	
566001	SWITCH,MAGNET	6600B000041	1	
649950	CONTROL BOX ASSEMBLY,OUTDOOR	4995A20002L	1	
W0CZZ	CAPACITOR,DRAWING	2A00986D	1	
W6640	TERMINAL BLOCK	3A00493A	1	
W6640	TERMINAL BLOCK	4G00103A	1	

