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# LG LFN480CE Owner's Manual

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Internal Use Only

<http://biz.lgservice.com>

# Floor Standing Air Conditioner **SVC MANUAL(Exploded View)**

**MODEL : LF300CP(LP-C303R20)  
LF480CE(LP-C483TA0)**

## **CAUTION**

Before Servicing the unit, read the safety precautions in General SVC 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.

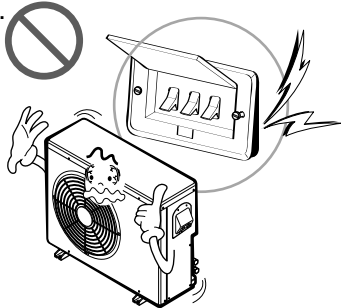
	<b>Be sure not to do.</b>
	<b>Be sure to follow the instruction.</b>

## ⚠ WARNING

### ■ Installation

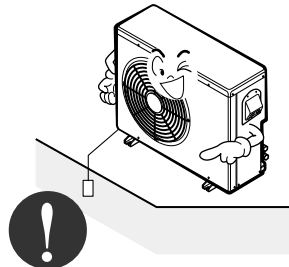
**Do not use a defective or underrated circuit breaker. Use this appliance on a dedicated circuit.**

- There is risk of fire or electric shock.



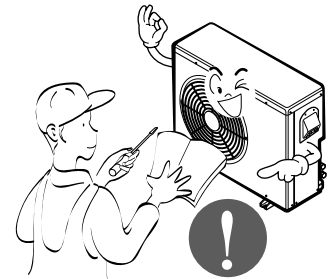
**Always ground the product.**

- There is risk of fire or electric shock.



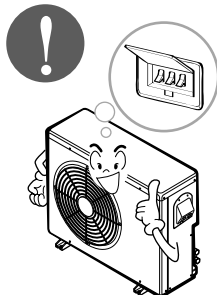
**Install the panel and the cover of control box securely.**

- There is risk of fire or electric shock.



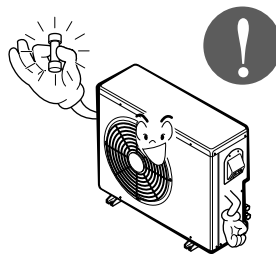
**Always install a dedicated circuit and breaker.**

- Improper wiring or installation may cause fire or electric shock



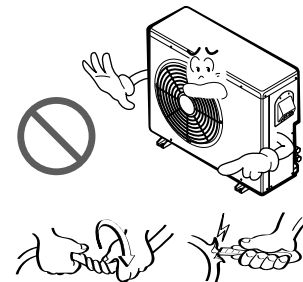
**Use the correctly rated breaker or fuse.**

- There is risk of fire or electric shock.



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

- There is risk of fire or electric shock.



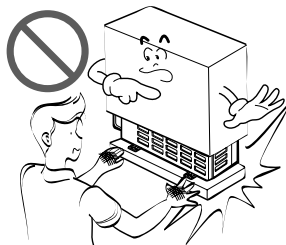
**Do not install, remove, or re-install the unit by yourself (customer).**

- 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.



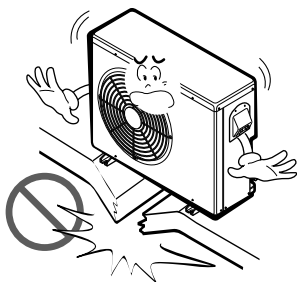
**For installation, always contact the dealer or an Authorized Service Center.**

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



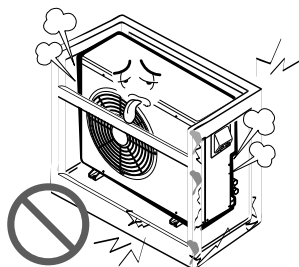
**Do not install the product on a defective installation stand.**

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



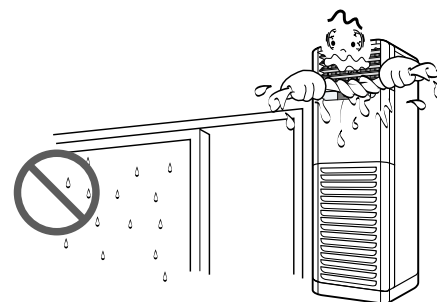
**Be sure the installation area does not deteriorate with age.**

- 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

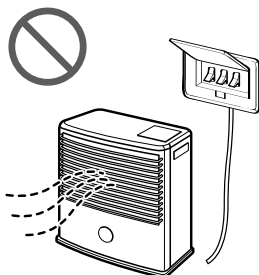
**Do not touch (operate) the product with wet hands.**

- There is risk of fire or electrical shock.



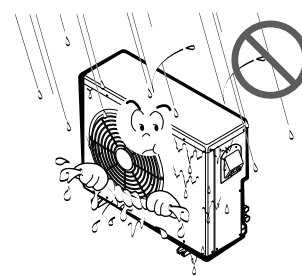
**Do not place a heater or other appliances near the power cable.**

- There is risk of fire or electric shock.



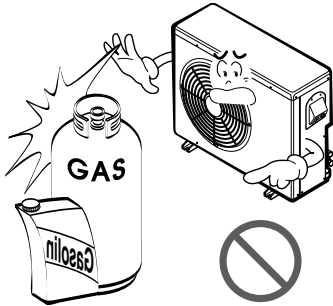
**Do not let electric parts of the product get wet.**

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



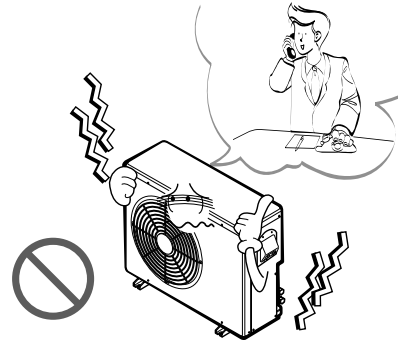
**Do not store or use flammable gas or combustibles near the product.**

- There is risk of fire or failure of product.



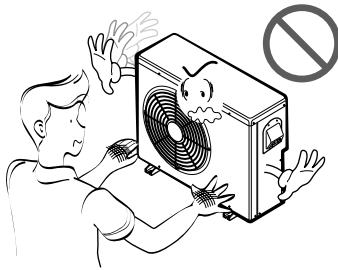
**If strange sounds, or small or smoke comes from product. Turn the breaker off or disconnect the power supply cable.**

- There is risk of electric shock or fire.



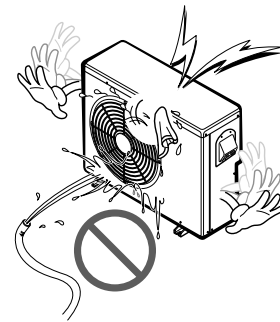
**Do not open the inlet grill of the product during operation. (Do not touch the electrostatic filter, if the unit is so equipped.)**

- 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.

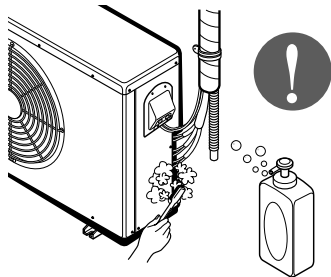


## **CAUTION**

### **Installation**

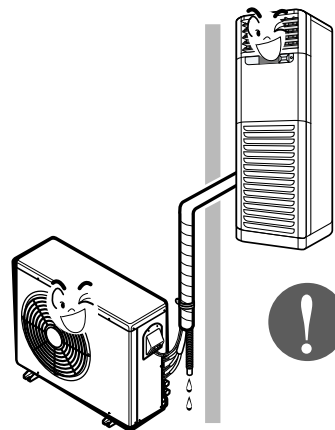
**Always check for gas (refrigerant) leakage after installation or repair of product.**

- Low refrigerant levels may cause failure of product.



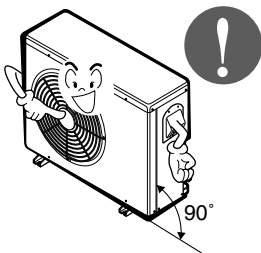
**Install the drain hose to ensure that water is drained away properly.**

- A bad connection may cause water leakage.



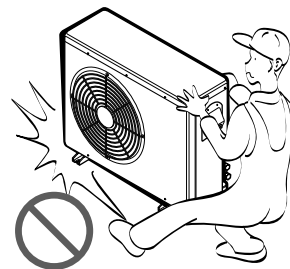
**Keep level even when installing the product.**

- To avoid vibration or water leakage.



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

- Avoid personal injury.



**Operational**

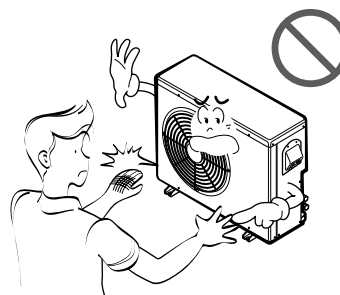
**Use a soft cloth to clean. Do not use harsh detergents, solvents, etc.**

- 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.



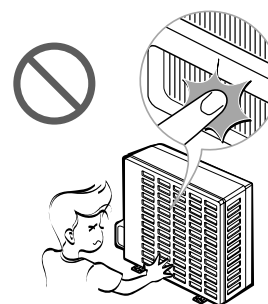
**Do not step on or put anything on the product. (outdoor units)**

- 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

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## Indoor Unit

### Power Switch ON/OFF

### Operation Mode Control

- Cooling, Heating, Soft Dry, Fan

### Indoor Fan Speed Control

- High, Med & Low

### Room Temperature control

- Maintains the room temperature in accordance with the Setting Temp.
- Up: up to 30°C(86.0°F)
- Down: down to 16°C(60.8°F)

### 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.

### AutoRestart

- The power comes on again after a power failure.

## Remote Control

### Operation ON/OFF

### Cooling Operation Mode

### Heating Operation Mode

### Sot Dry Operation Mode

- Intermittent operation of fan at low speed.

### Fan Operation

- Used to circulate room air without cooling.

### Timer Control

- OFF Timer (1, 2, 3,.....7 hour)

### Airflow Direction Control

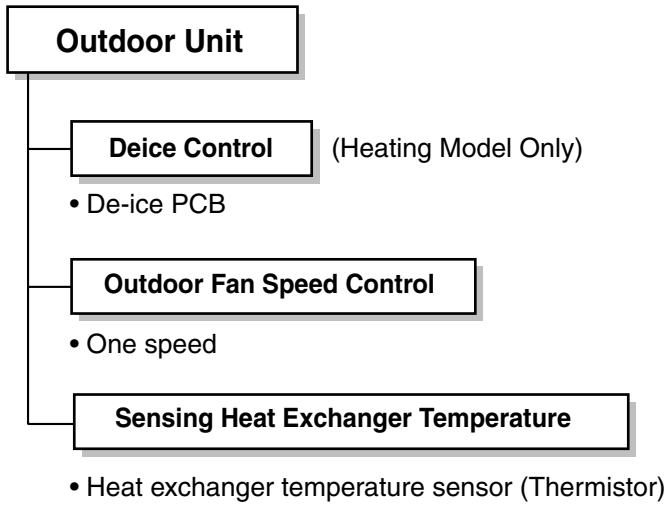
- Airflow direction Auto-swing and Manual Control.

### Room Temperature Control

- Up: up to 30°C(86.0°F)
- Down: down to 16°C(60.8°F)

### Indoor Fan speed control

- High, Med & Low

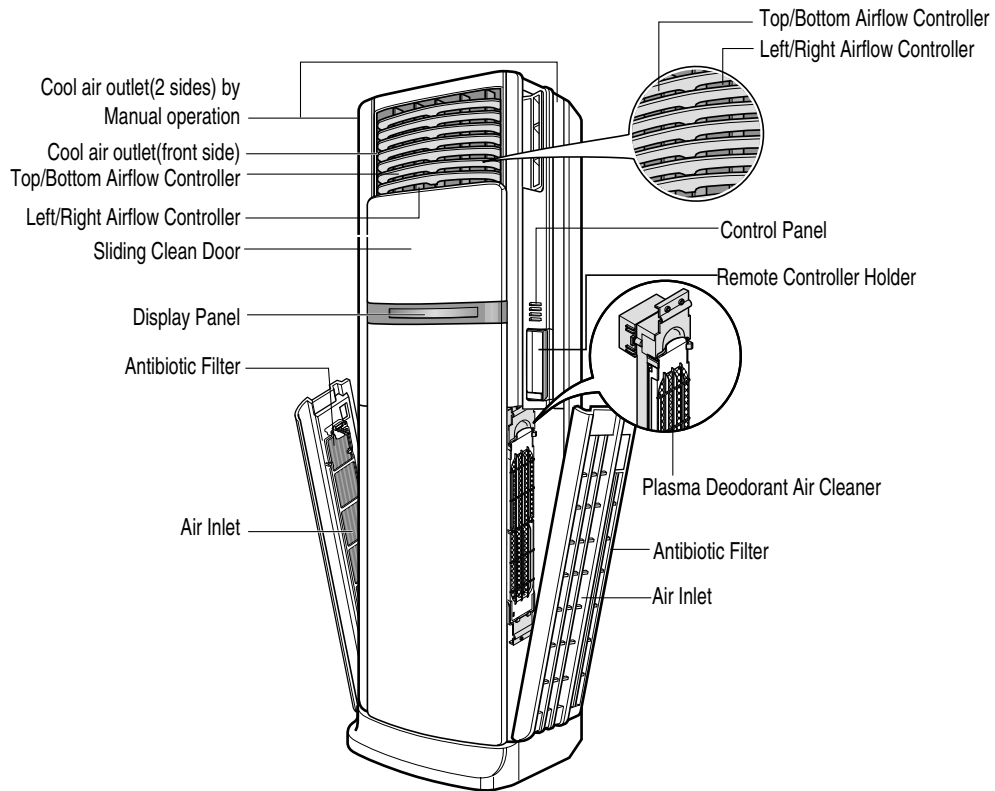


# Product Specifications

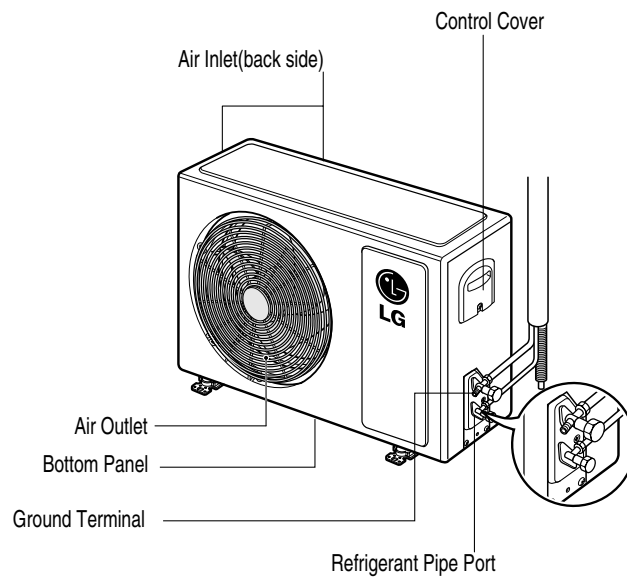
MODEL			LF300CP(LP-C303R20)	LF480CE(LP-C483TA0)
POWER SOURCE (ø, V, Hz)			1, 208/230, 60	1, 208/230, 60
COOLING	CAPACITY	BTU/h	24,000	44,000
		W	8,206	14,067
	INPUT	W	2,600	4,500
	CURRENT	A	11.5	20
HEATING	CAPACITY	BTU/h	-	-
		W	-	-
	INPUT	W	-	-
	CURRENT	A	-	-
COMPRESSOR	MAKER		LG	LG
	TYPE		Rotary	Rotary
	MODEL		QJ250KAB/QK145KBD	QP325KBD * 2
	CAPACITY	BTU/h	17,658/10,100	24000
	CURRENT	A	7.7/4.5	10.2
	INPUT	W	1,635/935	2162
NOISE LEVEL(1m)	INDOOR	dB(A)	45/42/40	56/53/51
	OUTDOOR		53	68
AIR VOLUME	INDOOR	CMM (CFM)	20/16.5/13/6 (706/583/459/212)	35/33/30(1,236/1,165/1,059)
	OUTDOOR		47 (1,660)	104(3,672)
REFRIGERANT R-22		kg(Oz)	1.84 (65)	3.92(124.2)
HEAT EXCHANGER	INDOOR	R/C/FPI	2R/30C/18FPI	3R/28C/18FPI
	OUTDOOR	R/C/FPI	2R/36C/20FPI	2R/26C/21FPI
FAN	INDOOR	TYPE	TURBO FAN	TURBO FAN
	OUTDOOR		Propeller	Propeller
ROOM TEMPERATURE CONTROL			Thermistor	Thermistor
NET WEIGHT	INDOOR	kg(lbs)	32(70.5)	58(127.9)
	OUTDOOR		66(145.5)	90(198.4)
Gross Weight	INDOOR	kg(lbs)	38(83.8)	66(145.5)
	OUTDOOR		71(156.5)	100(220.5)
DIMENSIONS (W ¥ H ¥ D)	INDOOR	mm (Inch)	570 x 1,820x 310 (22.45 x 71.7 x 12.2)	590 x 1,810 x 440 (23.23 x 71.26 x 17.32)
	OUTDOOR		870 x 808 x 320 (34.3 x 31.8 x 12.6)	900 x 1,225 x 370 (35.43 x 48.23 x 14.57)
SVC VALVE	LIQUID	mm (Inch)	9.52(3/8)	9.52(3/8)
	GAS		15.88(5/8)	19.05(3/4)
POWER CABLE		P*mm <sup>2</sup>	3x4.0	3x5.5
CONNECTING CABLE		P*mm <sup>2</sup>	4x1.0	4x1.0
BREAKER CAPACITY		A	30	40

# Dimensions

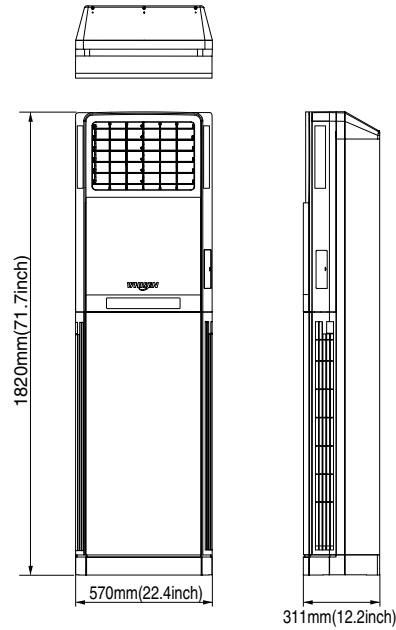
## Indoor Unit: LPNC303R20 (LF300CP)



## Outdoor Unit : LPUC303R20 (LF300CP)

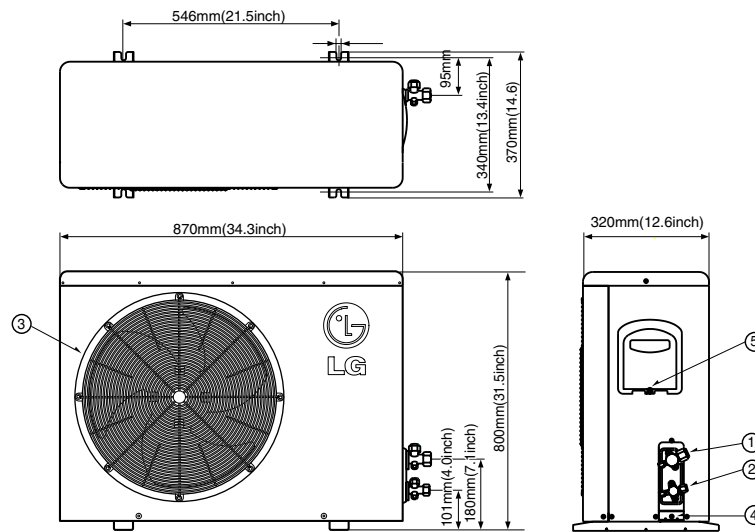


## Indoor Unit



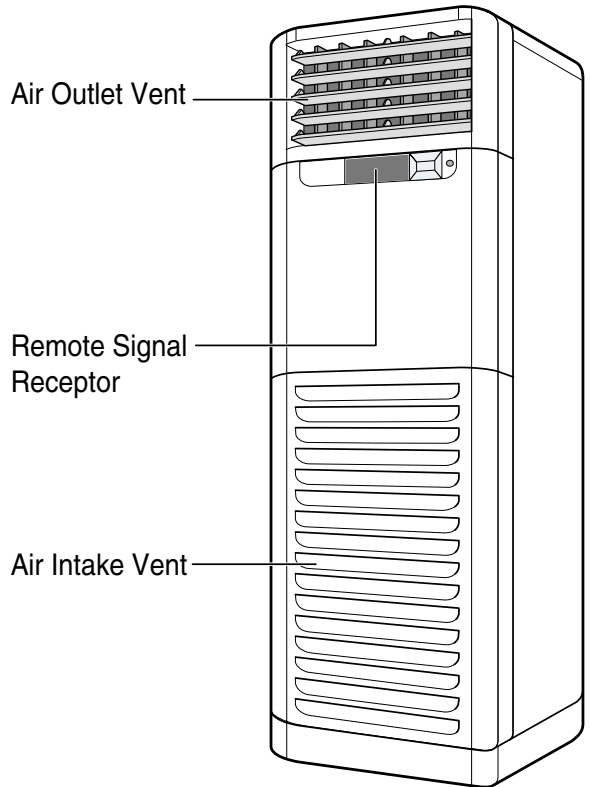
No.	Items
1	Control Display
2	Air outlet vent
3	Air inlet vent

## Outdoor Unit

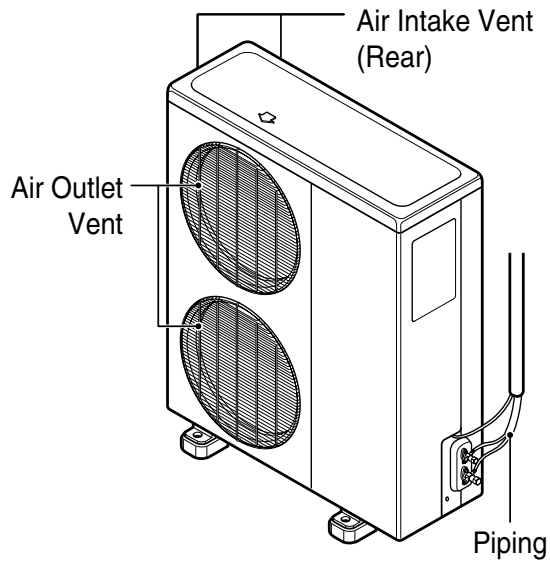


No.	Items
1	Gas side service valve (Ø 15.88mm(5/8inch))
2	Liquid side service valve (Ø 9.52mm(3/8inch))
3	Fan cover
4	Earth screw
5	Connecting cable hole

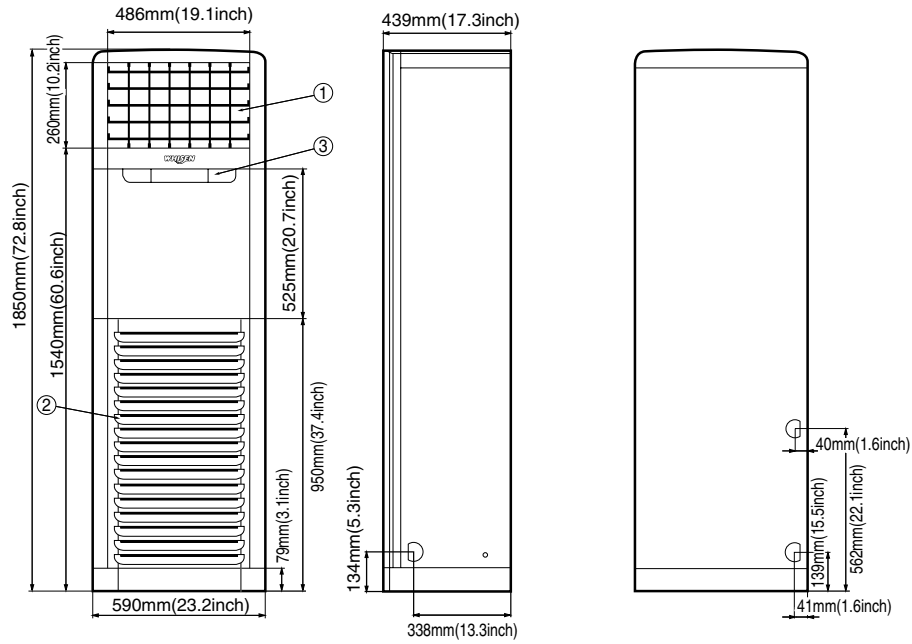
**Indoor Unit : LPNC483TA0 (LF480CE)**



**door Unit : LPUC483TA0 (LF480CE)**

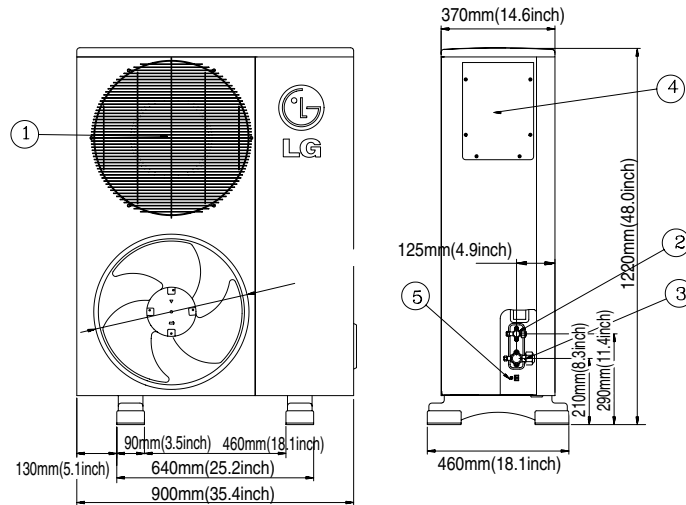


## Indoor Unit



No.	Items
1	Air Outlet Vent
2	Air Inlet Vent
3	Control display

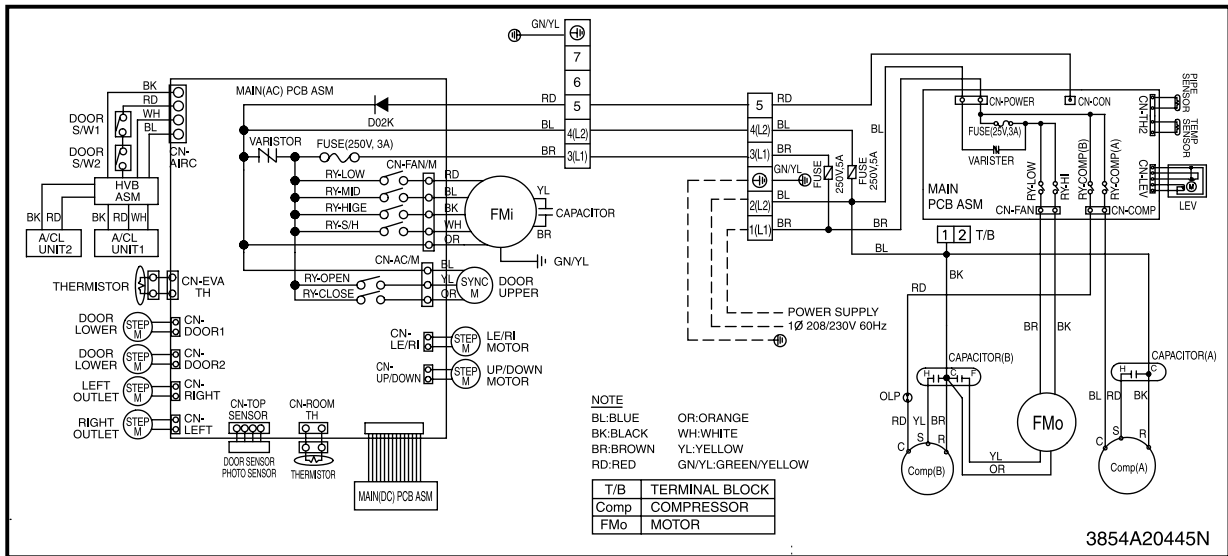
## Outdoor Unit



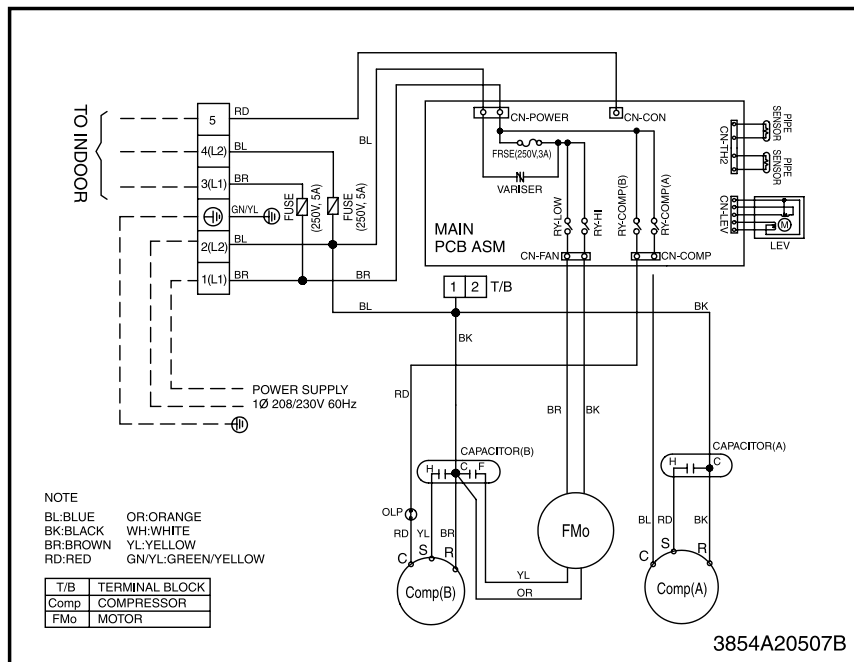
No.	Items
1	Air Outlet Vent
2	Liquid Side SVC Valve(Ø 9.52mm(3/8inch))
3	Gas Side SVC Valve(Ø 19.05mm(3/4inch))
4	Control Box
5	Earth Screw

# Wiring Diagram

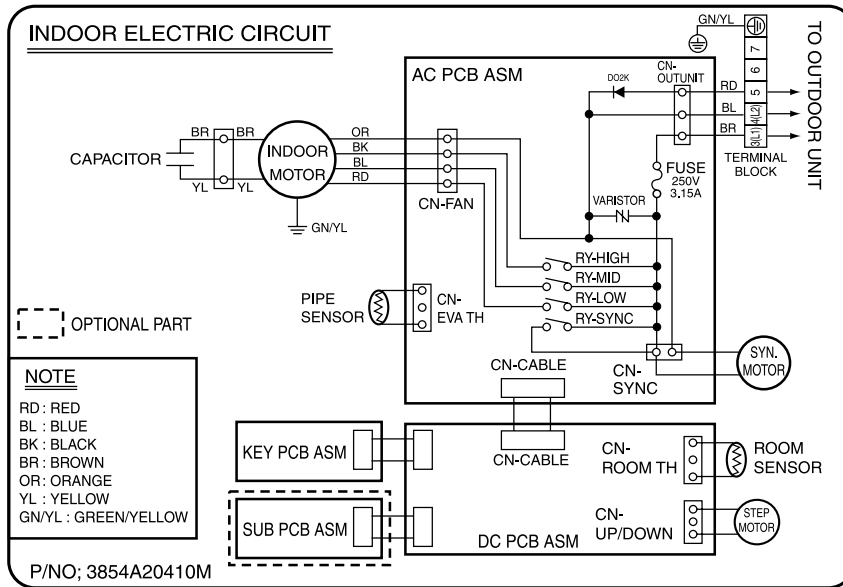
## 1. LF300CP(LP-C303R20)



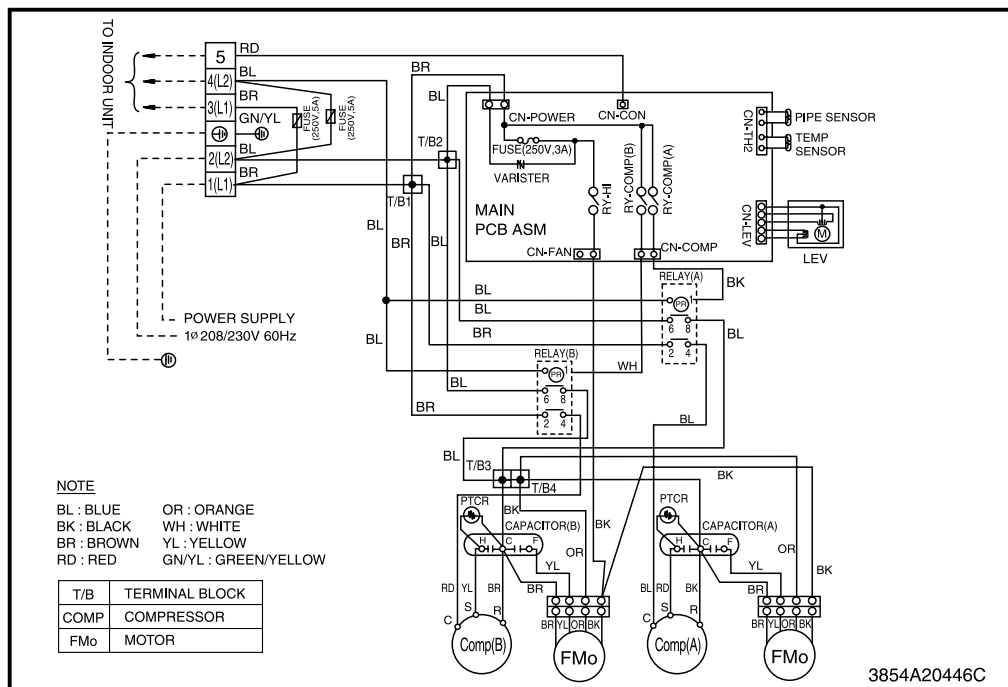
## Outdoor



## 2. LF480CE(LP-C483TA0)



## Outdoor



# Operation Details

## 1. Time Delay Safety Control

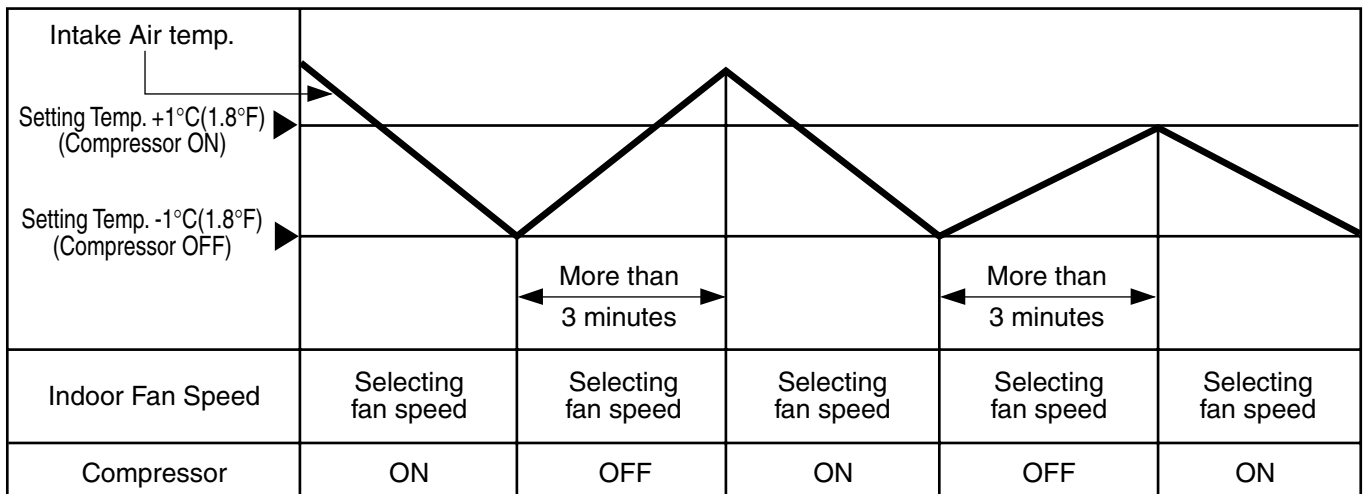
- 3min... The compressor is ceased for 3 minutes to balance the pressure in the refrigeration cycle.  
(Protection of compressor)
- 3sec... The indoor fan is ceased for 3 seconds to prevent relay noise.  
(Protection of fan relay and micro chip)
- 30sec... The 4-way valve is ceased for 30 sec. to prevent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

## 2. Airflow Direction Control

- 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

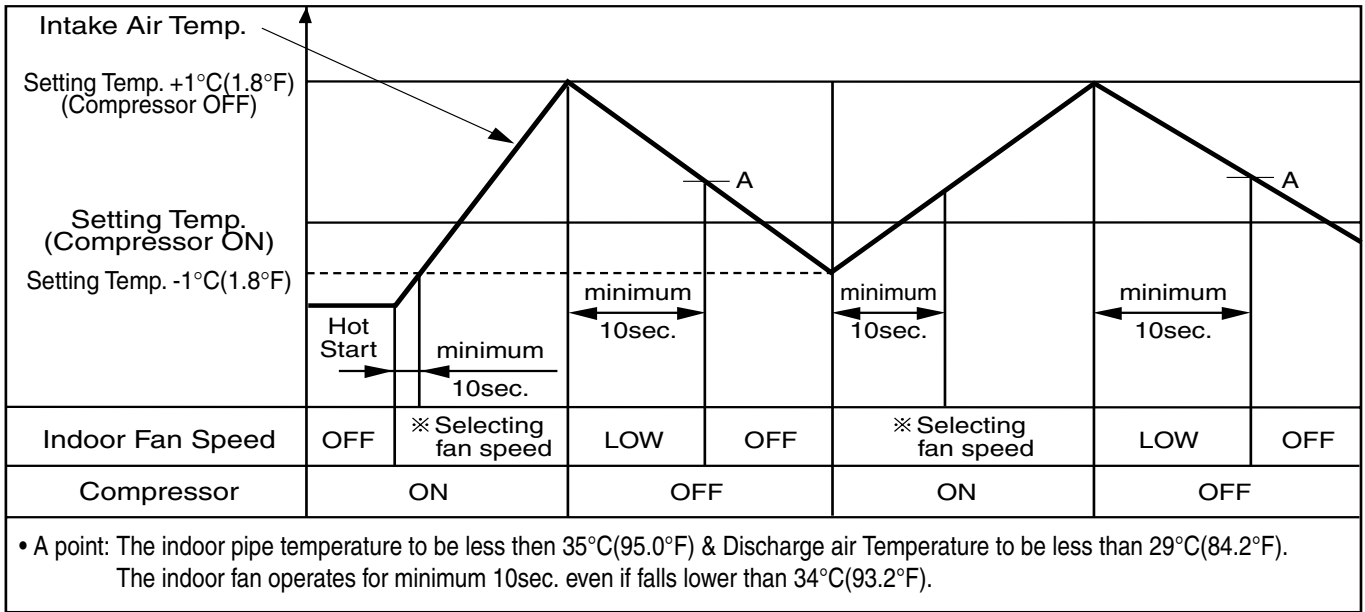
- The Off-Time is shifted as the following by each press.

1 → 2 → 3 → 4 → 5 → 6 → 7 → 0

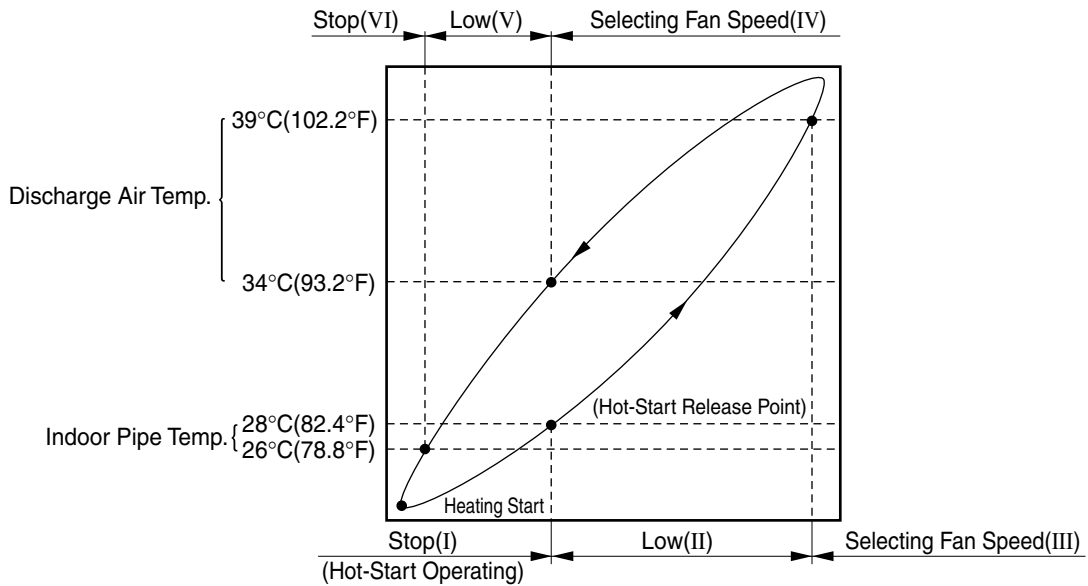
- If you select '0', the Off-Timer function will be cancelled.
- During Off-Timer Operation, if you repress the timer set button, the rest time will be displayed.

## 5. Heating Mode Operation

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



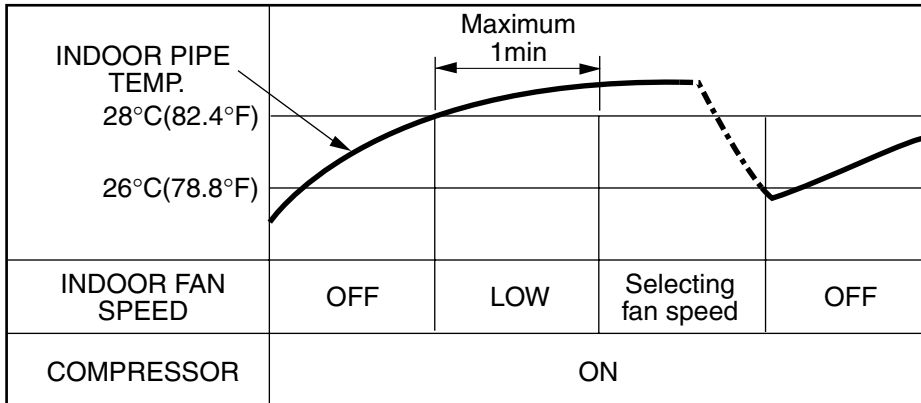
※ During heating operation, the operating procedure of the indoor fan is as the following.



Step	Indoor fan speed	Pipe temp.	Air discharge temp.
I	Off	≤28°C(82.4°F)(Hot start operating)	-
II	Low	≥28°C(82.4°F)	< 39°C(102.2°F)
III	Selecting speed	≥28°C(82.4°F)	≥ 39°C(102.2°F)
IV	Selecting speed	≥28°C(82.4°F)	> 34°C(93.2°F)
V	Low	≥26°C(78.8°F)	≤ 34°C(93.2°F)
VI	Off	≤26°C(78.8°F)	-

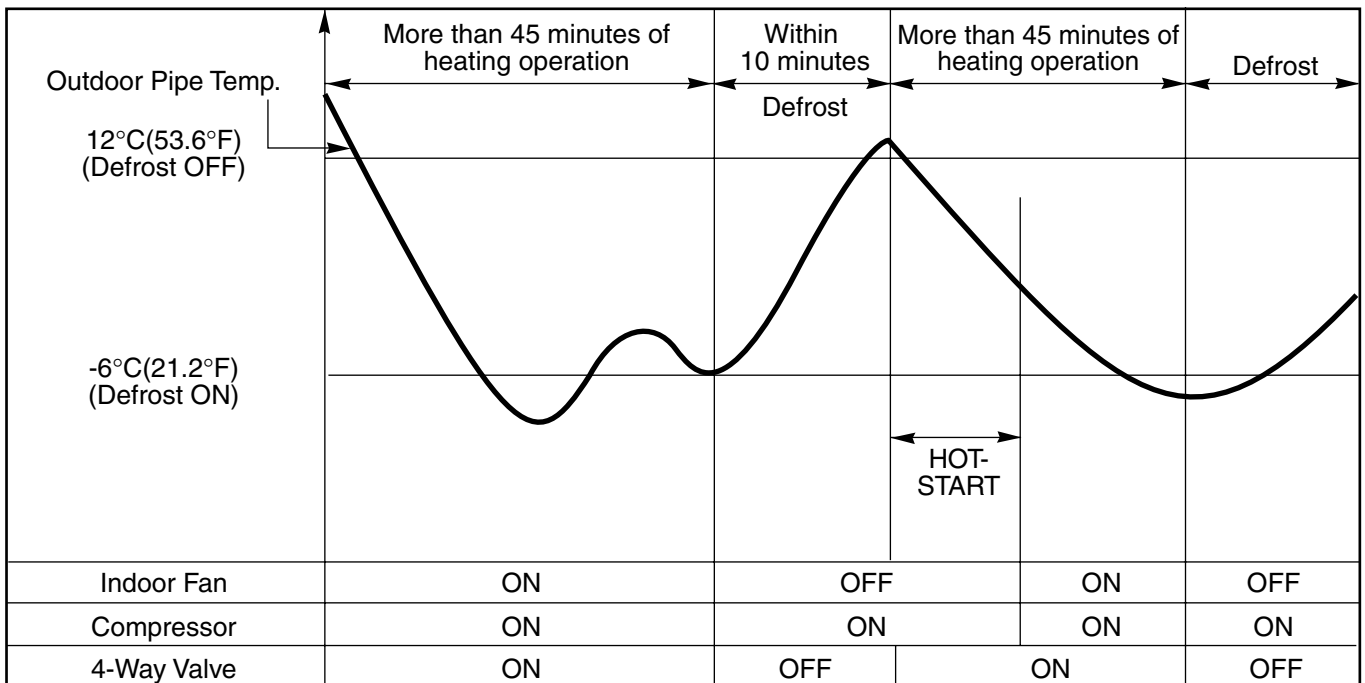
## 6. Hot-Start Control

- The indoor fan stops until the evaporator piping temperature will be reached to 28°C(82.4°F).
- During heating operation, if piping temperatures fall below 26°C(78.8°F) fan stops.
- The operation diagram is as following.



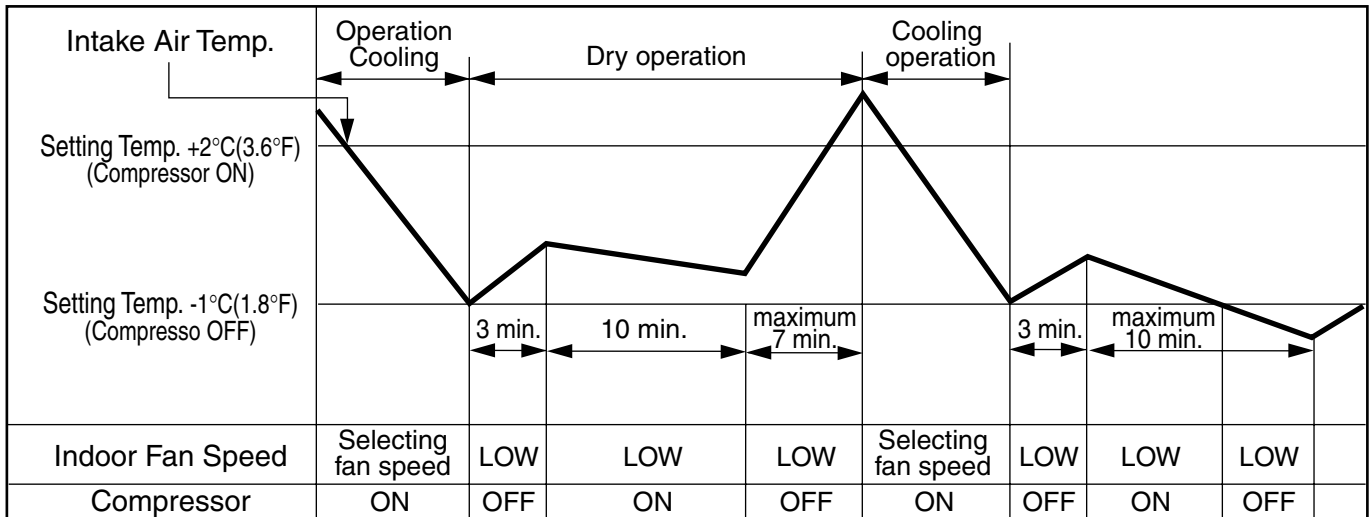
## 7. Defrost Control

- 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(21.2°F) 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(53.6°F) even if before 10 minutes.
- The second defrost starts only when the outdoor pipe temperature falls below -6°C(21.2°F) 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(3.6°F), the compressor OFF temperature is the setting temperature minus 1°C(1.8°F).
- 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(28.4°F) and restart at the pipe temperature is above 12°C(53.6°F).

## 10. Air Purifying Operation(AP-Z286RC0, AP-Z286R20, 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 condition.	

## 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  $\overline{L}$  (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.

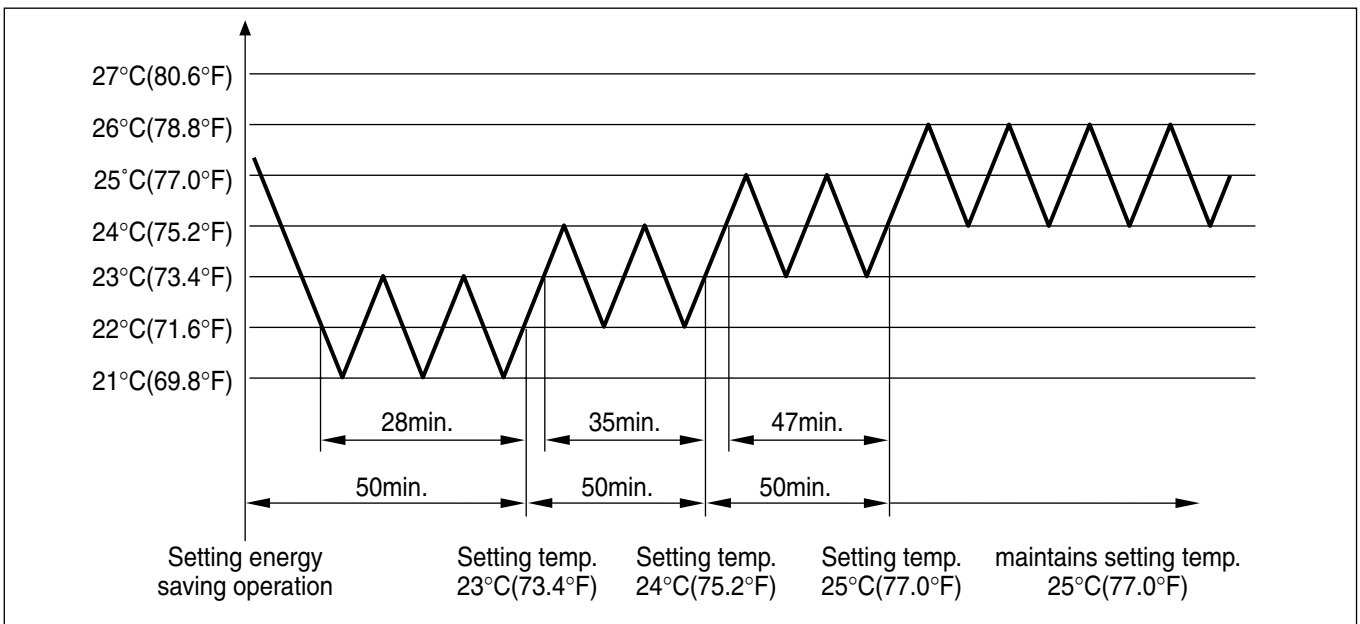
## 12. Alarm mode display / only displayed while operating.

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

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

## 13. Energy Saving

- ① If setting temperature of starting energy saving operation is under 22°C(71.6°F), first, setting temperature it up to 22°C(71.6°F) 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(1.8°F) more.
- ③ If it doesn't satisfy number ① even in 50 minutes from the start of energy saving operation, increase 1°C(1.8°F).
- ④ After increasing setting temperature 1°C(1.8°F) more by number ①, ②, perform number ②, ③ again, if setting temperature goes up to 25°C(77.0°F), maintain this temperature.
- ⑤ If setting temperature goes down to under 25°C(77.0°F), during the operation, do number ②, ③, ④ again.



## 14. 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.

## 15. 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(78.8°F): to be set to 24°C(75.2°F)

b) 22°C(71.6°F) ≤ Room temperature ≤ 25°C(77.0°F): to be set to 21°C(69.8°F)

c) 19°C(66.2°F) ≤ Room temperature ≤ 21°C(69.8°F): to be set to -1°C(1.8°F) less than room temperature.

d) Room temperature ≤ 18°C(64.4°F): to be set to 18°C(64.4°F)

3. Setting the set temperature when heating operation.

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

Room temperature  $\geq$  Set temperature

a) Room temperature  $\leq 20^{\circ}\text{C}(68.0^{\circ}\text{F})$ : to be set to  $23^{\circ}\text{C}(73.4^{\circ}\text{F})$

b)  $21^{\circ}\text{C}(69.8^{\circ}\text{F}) \leq$  Room temperature  $\leq 25^{\circ}\text{C}(77.0^{\circ}\text{F})$ : to be set to  $26^{\circ}\text{C}(78.8^{\circ}\text{F})$

c)  $26^{\circ}\text{C}(78.8^{\circ}\text{F}) \leq$  Room temperature  $\leq 28^{\circ}\text{C}$ : to be set to  $+1^{\circ}\text{C}$  more than room temperature.

d)  $29^{\circ}\text{C}(84.2^{\circ}\text{F}) \leq$  Room temperature : to be set to  $30^{\circ}\text{C}(86.0^{\circ}\text{F})$

## 16. 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 remote key or key on Display panel, it performs its duties.

### 3) Function

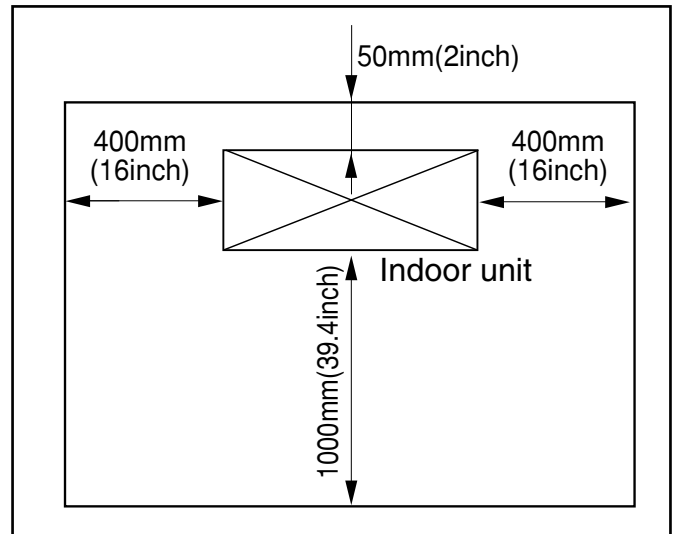
- It operates cooling, fan speed is high, auto air flow operation, comp. on for  $18 \pm 1$  minutes, regardless of room temperature.
- After  $18 \pm 1$  minutes of operation, it becomes off itself.
- During the operation, signal *BB* stands for "Lo"

# Installation of Indoor, Outdoor Unit

## 1. Selection of the best location

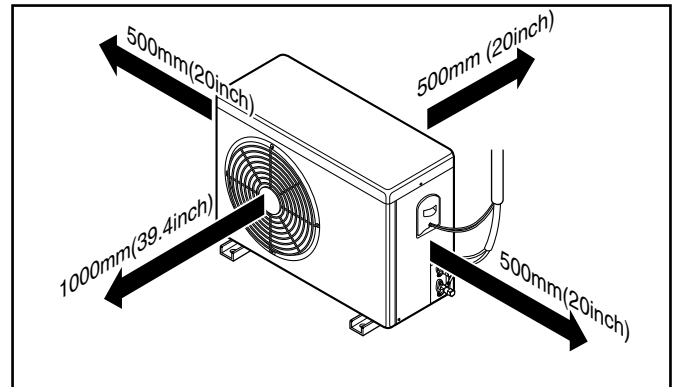
### 1) Indoor unit

- 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

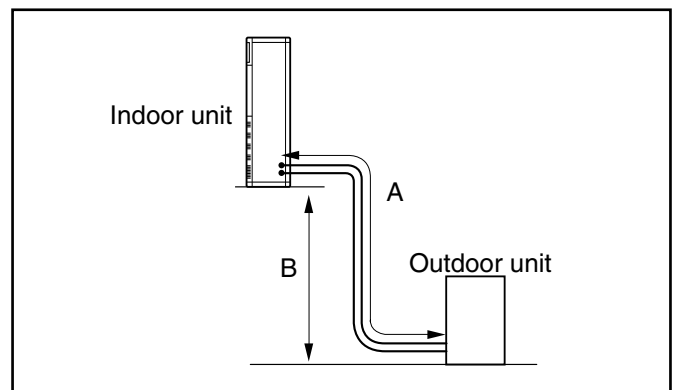
- If an awning is built over the unit to prevent direct sunlight or rain exposure, be careful that heat radiation from the condenser is not restricted.
- There should not be any animals or plants which could be affected by discharged hot air.
- Ensure the space indicated by arrows from the wall, ceiling,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



## 3) Piping length and the elevation

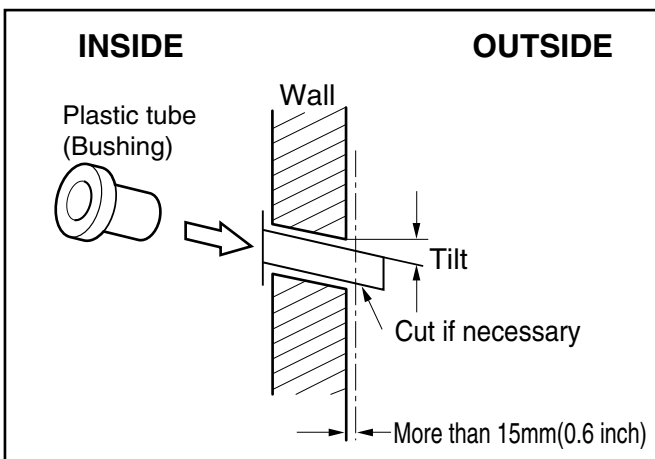
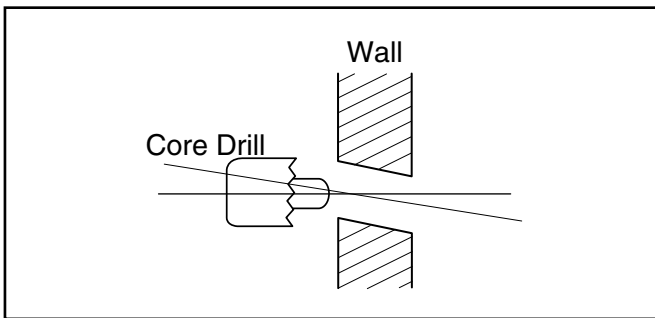
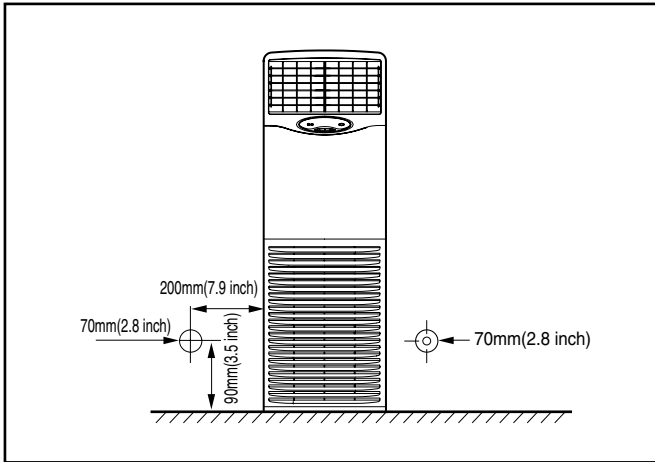
### Cooling Only Model

MODEL (BTU/h)	PIPE SIZE		Max. Length A (m/ft)	Max. Elevation B (m/ft)
	GAS SIDE	LIQUID SIDE		
48k	3/4"	3/8"	40/131	25/82
30k	5/8"	3/8"	30/98	20/66



## 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 2.8 inch 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(0.5inch)) 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 7.5m(25ft) piping length. (The rated amount of refrigerant is indicated on the name plate.) But when the piping length exceeds 7.5m(25ft), additional charge is required according to the following table.

MODEL (BTU/h)	REFRIGERANT CHARGE
48k	40g/m(1.41oz/m)
30k	30g/m(1.06oz/m)

Example)

In case of 15m(49ft) long pipe(one-way), the amount of refrigerant to be replenished is:

$$48k : (15-7.5) \times 40 = 300g$$

$$(15-7.5) \times 1.41 = 10.58oz$$

# 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} 0.8 lbf.ft(10 lbf.in)	M5...196N cm{20kgf·cm} 1.4 lbf.ft(17 lbf.in)
M6...245N cm{25kgf·cm} 1.8 lbf.ft(22 lbf.in)	M8...588N cm{60kgf·cm} 4.3 lbf.ft(52 lbf.in)

## 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(46.4°F) (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.

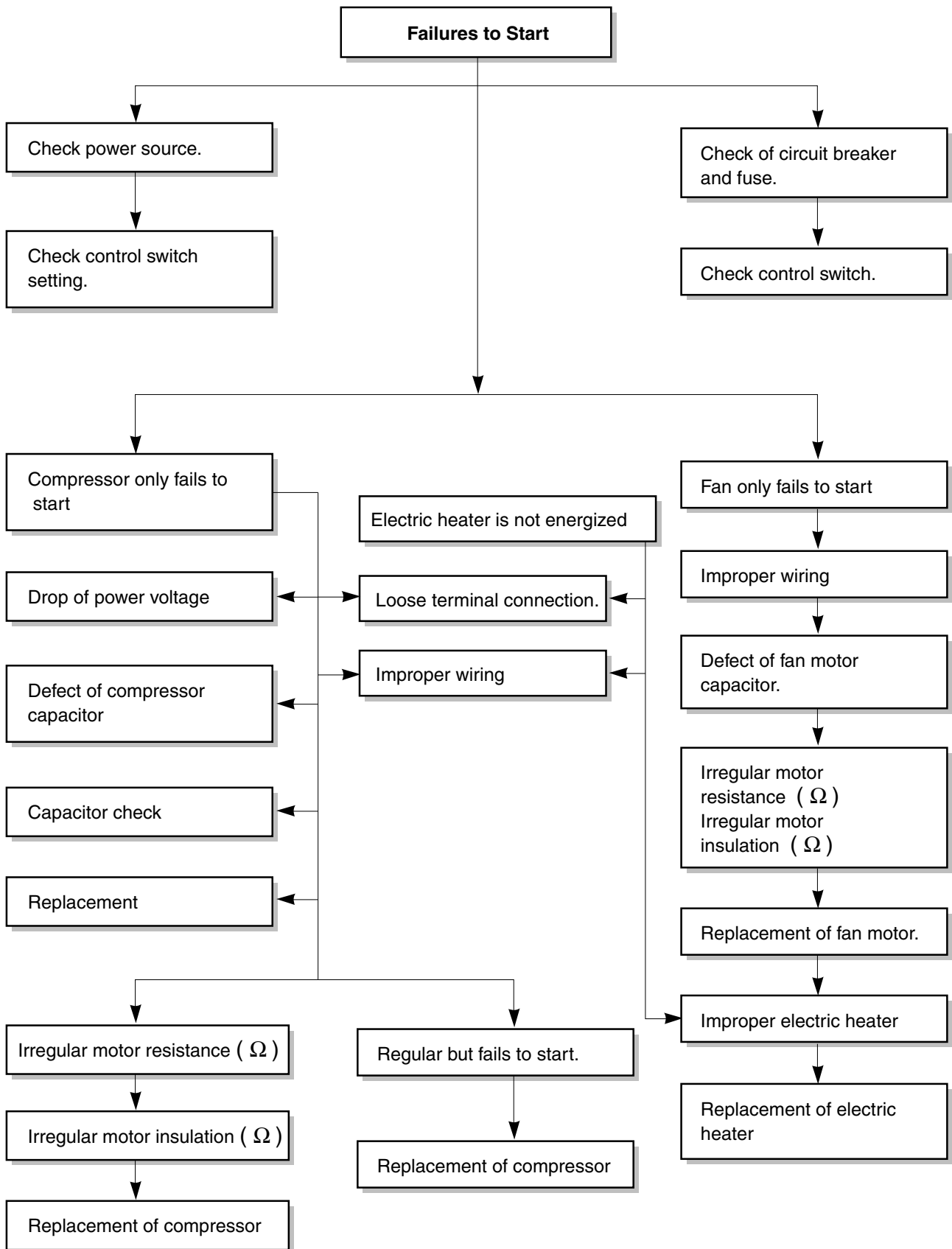
## HAND OVER

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

If Error Code happens in the display of indoor.

Error Code	Error Contents	Checking Point
C0	Indoor Air Sensor Open or Short	1.Check Sensor Connection to PCB whether it's connected well or not. 2.Replace it with new Sensor.
C1	Indoor Pipe Sensor Open or Short	
C3	Outdoor Air Sensor Open or Short	
C4	Outdoor Pipe Sensor Open or Short	
C5	Communication failure between Indoor and outdoor unit.	1.Check connecting cable wiring order between Indoor and outdoor diagram. 2.Check all wire connector whether it is connected or not. 3.Indoor AC PCB defects.(short inside). 4.Outdoor PCB defects.(short inside)

# Troubleshooting Guide



## PACKAGE AIR CONDITIONER VOLTAGE LIMITS

NAME PLATE RATING	MINIMUM	MAXIMUM
380 V	342 V	418 V
220 V	198 V	242 V
380 - 415 V	342 V	456 V

## No cooling and heating operation performed

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Other parts than the unit	Electric supply interrupted Defective power wiring Cut of power fuse	Measure it with a tester in case that the same power source is supplied to other equipment than the unit, what and where trouble can be discovered by checking the operation of other equipment.	Repair a switch box and is relative instrument. Replacement of fuse Request a power supplier to repair.
	Too low voltage	Measure it with a tester.	Check the power source. Use a thick cable if necessary.
Magnetic switch for compressor & fan motor	Control point is on condition of "OFF" due to trouble.	Make short-circuit, then measure it with a tester.	Replace it if necessary.
Operating switch	Troubled or defective contactor	Check it with the eyes or tester.	Repair or replace it.
Protection devices	Opened the contact point with trouble	Check it with the eyes or tester.	Discover the trouble cause and push the rest button.

## 2) Only blowers do not work

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Air volume change over switch	Troubled or defective contact point	Check it with the eyes or a tester	Repair or replace it.
Capacitor	Defected	Check it with a tester.	Replace it.

### 3) Only outdoor fan does not work

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Motor	Over-heated Layer short	Check how it is insulated.	Repair or replace it.
Electric Wiring	Open wire on operation	Check it with a tester.	Rewiring or repair.
	Short circuited on operation		

### 4) Only compressor does not work

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Magnetic switch for compressor motor	Defective contact, magnetic coil troubled.	Check it with the eyes on with a tester.	Repair or replace it.
Compressor motor	Troubled over-heated (layer short)	Check how it is insulated.	Replace or repair the compressor.
Compressor	Troubled or over-heated (lock)	Groaned noise of motor	Repair or replace it.
High pressure switch	Troubled or defective contact or operating	Check it with a tester.	Replace it if necessary.
Electric circuit	Defective connection or disconnection of the circuit for compressor.	Check it with a tester.	Rewiring or push reset button.

## The Units discontinue after the operation started

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Other parts than the unit	Improper opening of the service valves in the refrigerant line	Checking	Open it properly
Outdoor coil	Coil is dirty *1	Checking	Wash it by means of something like chemical washing.
In-condensable gas blended.	Air intruded into the refrigerant pipe line *1	In the event that difference between the saturating temperature corresponding to high pressure and the temperature of air discharged from the outdoor coil is more than 15°C, incondensable gas may be blended.	Extract air by vacuum pump, then recharge the refrigerant.
High pressure switch	Improper adjustment	Check it with a pressure gauge.	Readjust it to normal operating pressure. (Note) Don't alternate the specified adjusting pressure. If the adjusted pressure exceeds the specified range, it will cause a great accident.
Refrigerant	A shortage of refrigerant amount. * 2		Recharge the refrigerant. Repair the spot where it leaks.
Outdoor Fan	Reverse rotation of fan Obstacle Air short circuit *1	Confirm the wind blowing out. Check it with eyes.	If reversed, connect interchanged wires to each terminal. Power wirings.

**Note:** Use an appropriate measuring instrument for readjustment.

\*1: Check the High-pressure switch indication.

\*2: Check the Low- pressure switch indication.

## The unit is working, but not cooling and heating sufficiently

(Both blower and compressor are working)

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Load	Much heat load	Heat load increased. Window or door has many cracks or gaps.	Do necessary disposal respectively.
Air flow	Obstacle disturbs Intake of uniform wind.	Checking	Correct it.
Short air volume	Reverse rotation of blower.	Checking	Correct it.
Refrigerant	Shortage in the charged refrigerant.	Coil inlet pipe is frosted	Replenish it. (Repair the leakage spot).
Air passage	Improper or foreign bodies	Checking	Correct or clear the foreign bodies.
Air filter	Clogged with dust	Checking	Cleaning

## 9.4 All the functions are performed normally, but very noisily and much vibratively.

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Compressor	Liquid refrigerant flooding back from the evaporator.	<ul style="list-style-type: none"> <li>• Check for refrigerant over-charge.</li> <li>• Check to see if the intaking air temperature is extremely cold.</li> <li>• Check for insufficient air flow quantity.</li> </ul>	
	Compressor shipping bracket is not removed.	• Checking	• Remove the shipping bracket.
	Faulty discharge valve and suction valve.	• Checking	• Replace the compressor
Blower	Fan broken. Other materials intruded.	Checking	<ul style="list-style-type: none"> <li>• Repair or replace it.</li> <li>• Clear the other material</li> </ul>
Screws	Looseness or fail-off of screws	Checking	Repair

WHAT TROUBLED	COMPLAINTS	HOW TO CHECK	REMEDY
Electric troubles (Magnetic contactor)	Defective contact. Defective contact point. Rusting and faults in the iron core contact face. Defective contact of the operating switch.	Checking	Repair and clean or replace it.
Others	Improper installation	Checking	Correct it.

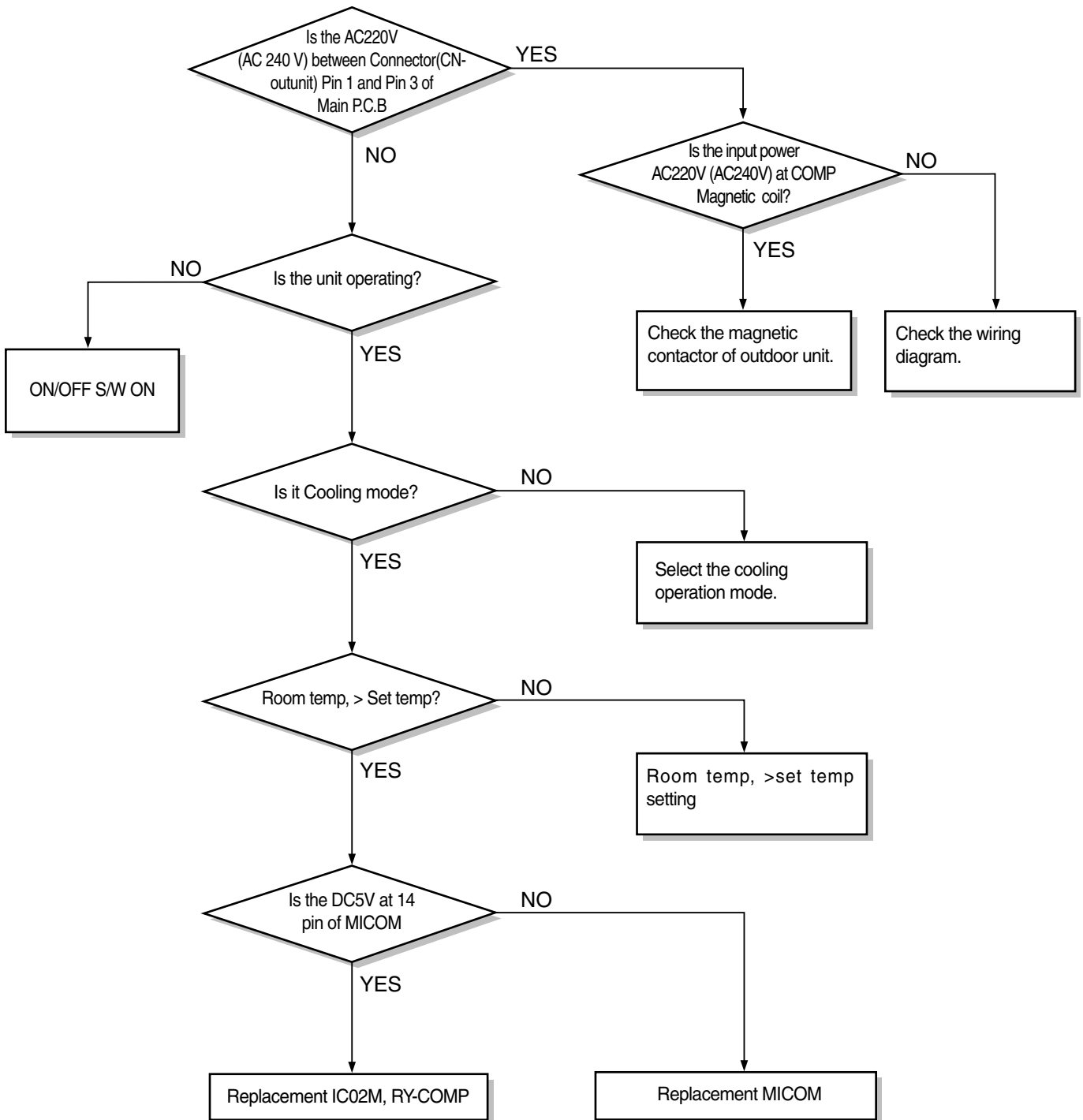
## Trouble checking by protection devices

Fault	Cause	Check/Corrective Action
High Discharge	Condenser cooling air extremely hot or insufficient air flow through the condenser	1. Check the operation of the outdoor motor. 2. Check discharge and suction, air circulation.
	Inside of the condenser tube is clogged.	Clean condenser coil.
	Air in the refrigeration cooling cycle.	Purge air from the cycle.
	Suction pressure is higher than standard.	See "High Suction Pressure".
Low Discharge	Faulty discharge valves or suction valves of the compressor.	1. Check unit operation input 2. Check the suction pressure.
	Refrigerant low-charge or leakage.	Add refrigerant: repair leakage if any.
	Suction pressure is lower than standard.	See "Low Suction Pressure".
High Suction Pressure	Intake air extremely hot or excessive air flow through the evaporator coil.	1. Check fresh air, intake or check for leakage of the return air. 2. Check air flow quantity.
	Refrigerant over-charge.	Purge the refrigerant.
	Faulty discharge valve or suction valve of the compressor.	Check the operating input.
	Discharge pressure is higher than standard	See "High discharge Pressure".
Low Suction Pressure	Intake air extremely cold or insufficient air flow through the evaporator coil.	1. Check air flow quantity. 2. Check air filter. 3. Check evaporator coil frosting
	Refrigerant short-charge or leakage.	Add refrigerant, repair leakage, if any.
	Restricted liquid in the suction line.	Check the capillary tube and the strainer.

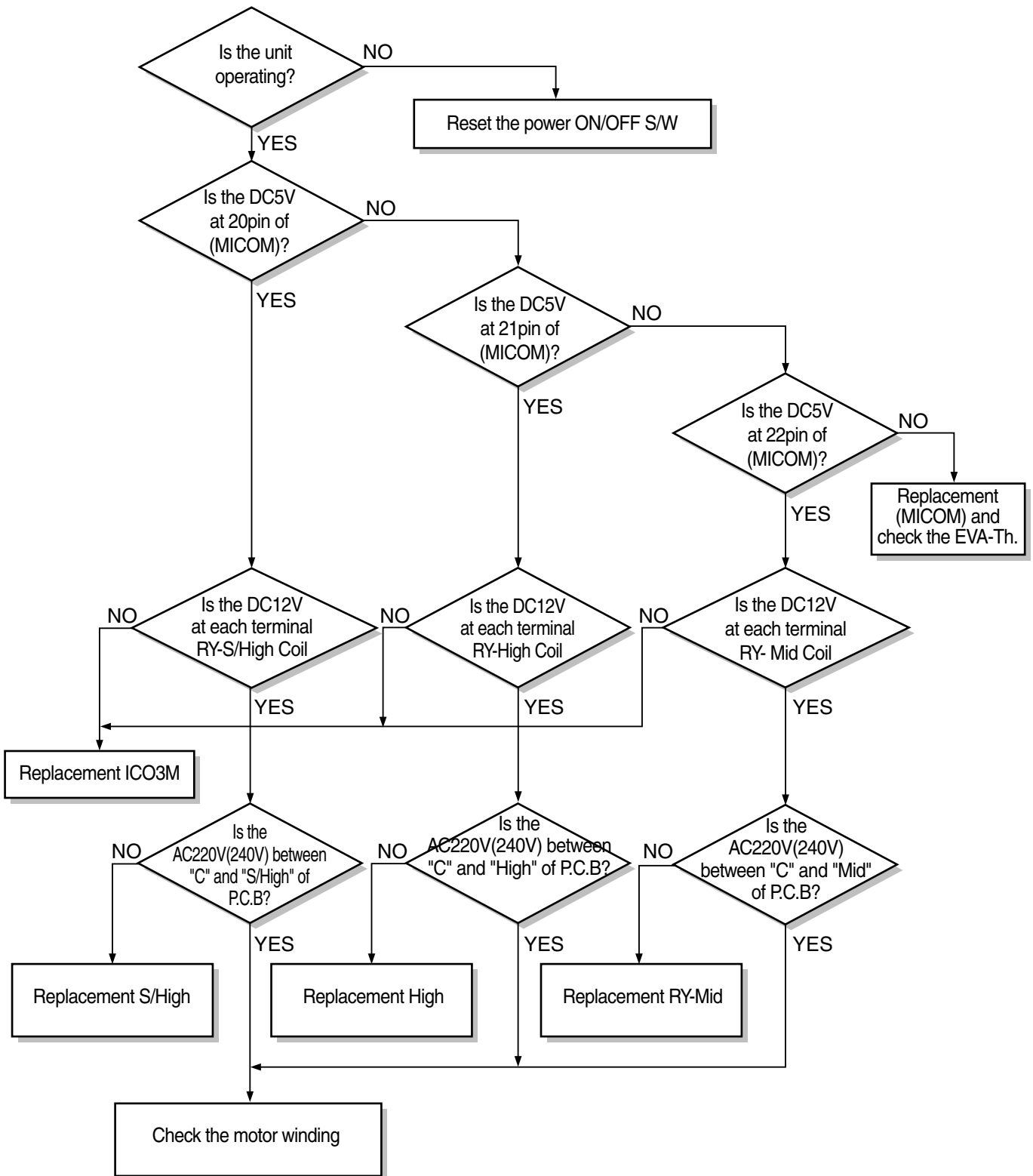
<b>Fault</b>	<b>Cause</b>	<b>Check/Corrective Action</b>
	Discharge pressure is lower than standard.	See "Low Discharge Pressure".
	Single or three phases running.	Check the power supply line and the contactor.
	High or low voltage or phase unbalance.	Check the voltage and phase unbalance.
Internal Thermostat Cut-Off	Refrigerant short charge or leakage.	Add refrigerant, repair leakage, if any.
	Compressor frequently stops and starts.	Check thermistor operation, or any other cause for frequent stop and start operation.
	Discharge and suction pressure are extremely high.	See "High Discharge Pressure" or "High Suction Pressure".
Overcurrent Relay for Compressor Cut-Off	High or low voltage, or phase unbalance.	Check the voltage and phase unbalance.
	Single or three phases running	Check the power supply line and the contact.
	Faulty compressor motor.	Check electric resistance among the compressor terminals, and from the terminals to ground.
	Loose connections.	Check the electric connections.
	Compressor frequently stops and starts.	Check the operation of the thermistor, or any other cause for frequent stop.
Overcurrent Relay for Fan Motor Cut-Off	High or low voltage, or phase unbalance.	Check the voltage and electric wiring.
	Single or three phases running.	Check the power supply line and the contactor.
	Faulty fan motor.	Check the fan motor and wiring.
	Loose connection.	Check the electric connections.
	Faulty fan bearing.	Check repair or replace the bearing.
Fuse Blown	Loose connections.	Check the electric connections.
	Single or three phase running.	Check the power supply line.
	Faulty motor.	Check electric resistance among motor housing, and from the terminals to ground.
Disconnection and Faulty Contact	Disconnection.	1. Check the wires and connect where necessary. 2. Check the contact holding coil.
	Faulty contact.	Check the contact in the magnetic contact, the over-current relay, the pressure control switch, the operation switch, the auxiliary relay.

# Electronic Parts Troubleshooting Guide

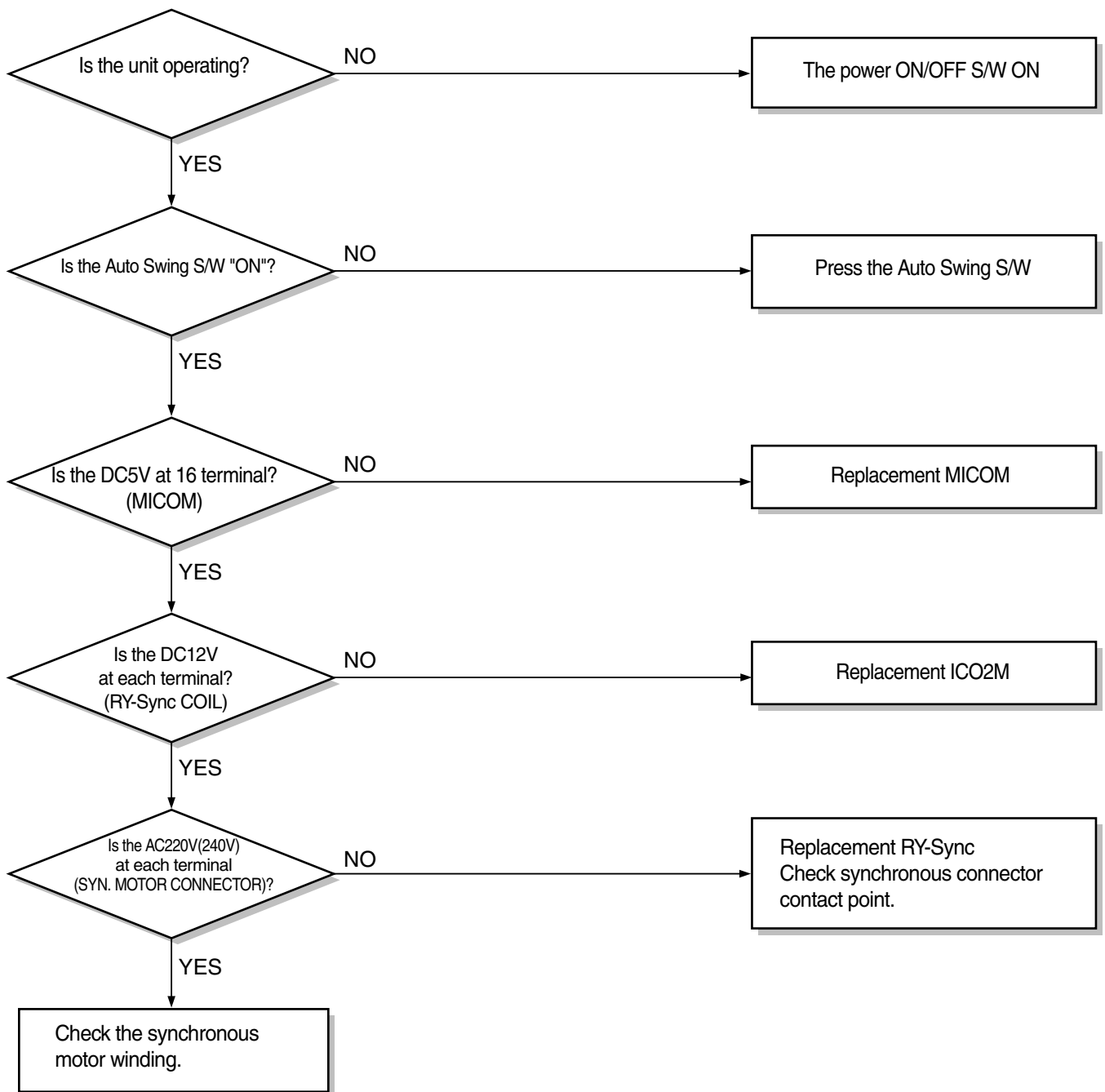
## 1) No cooling operation performed.



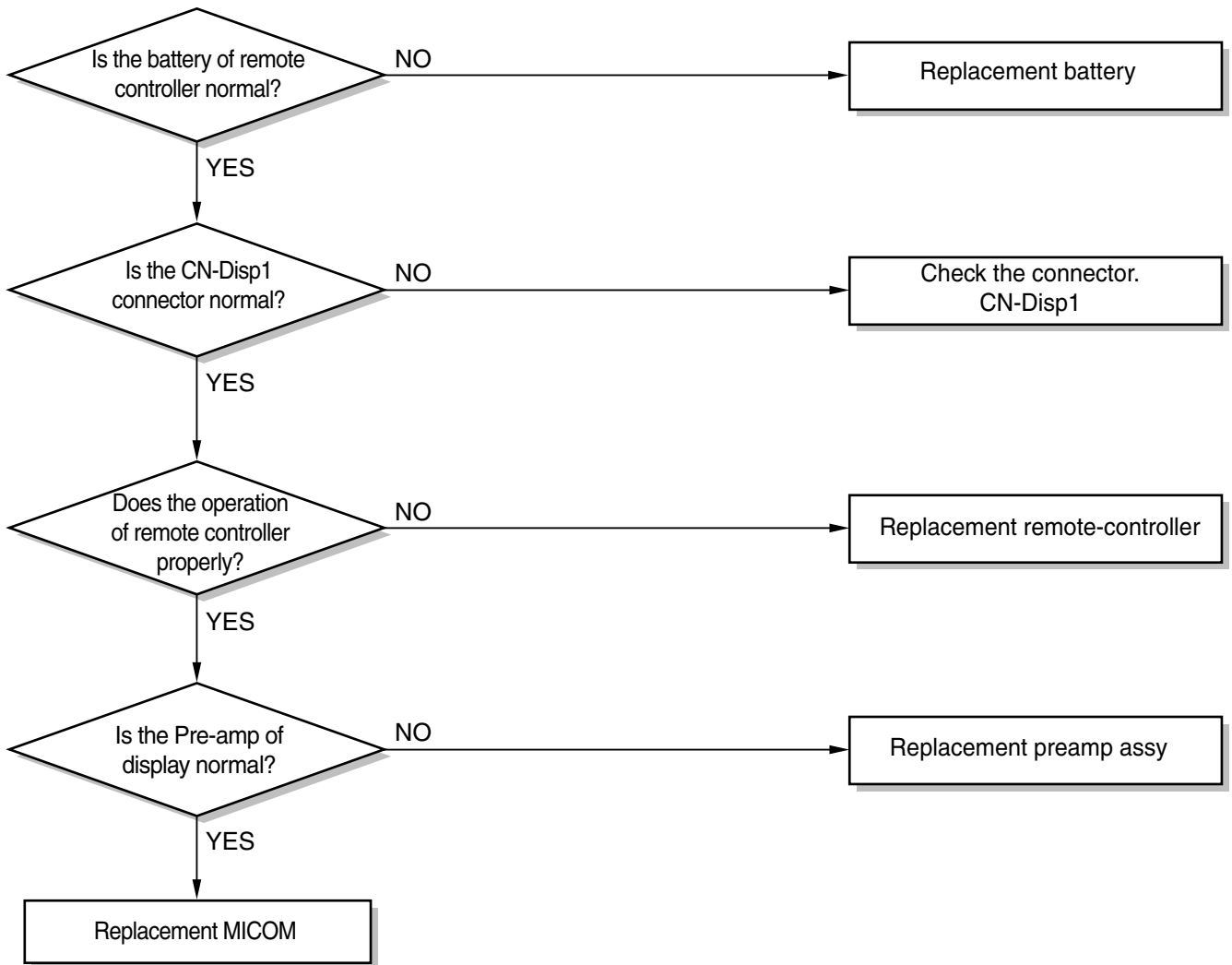
## 2-1) Indoor fan does not operate



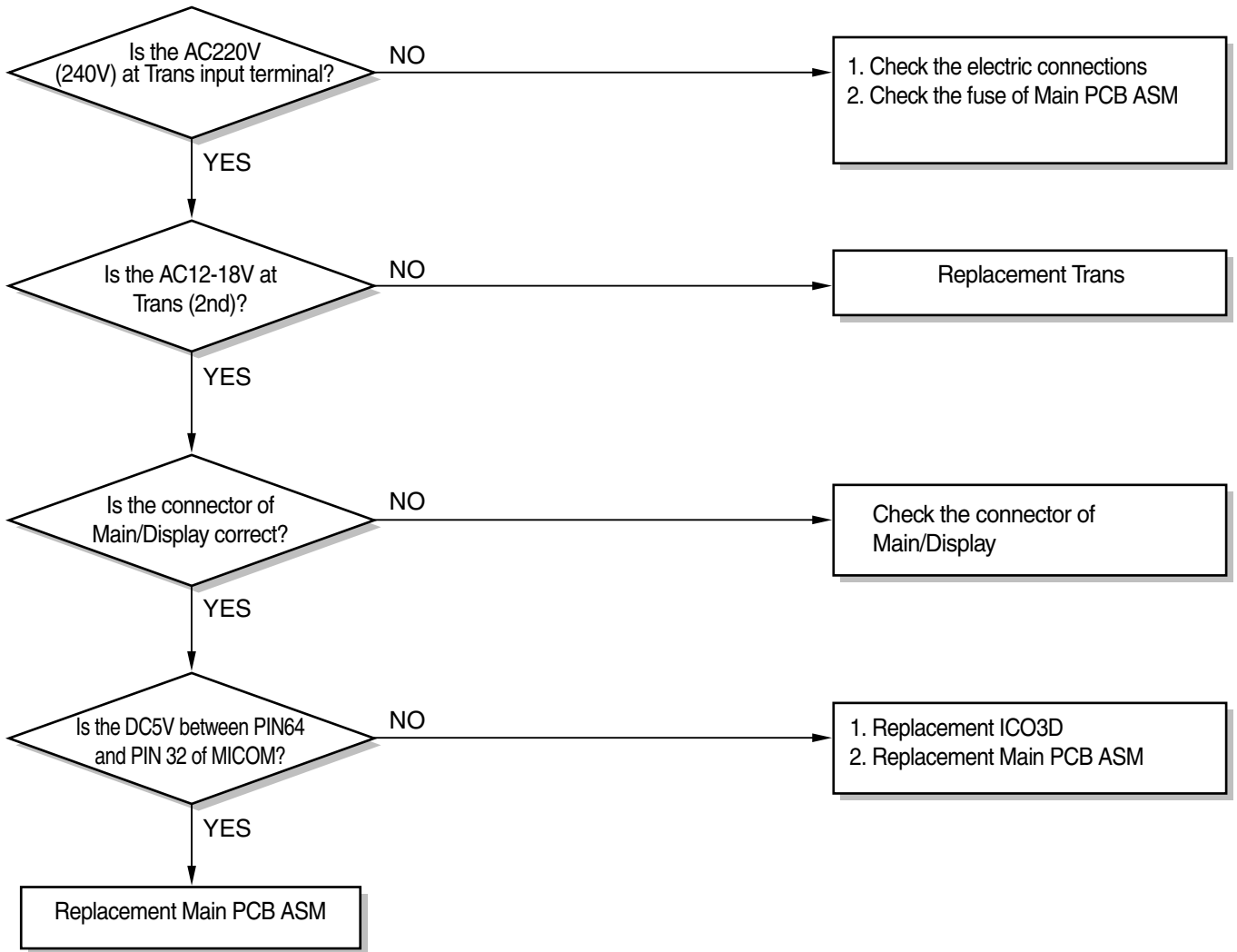
### 3) Airflow Direction does not operate.



#### 4) Remote control does not operate.

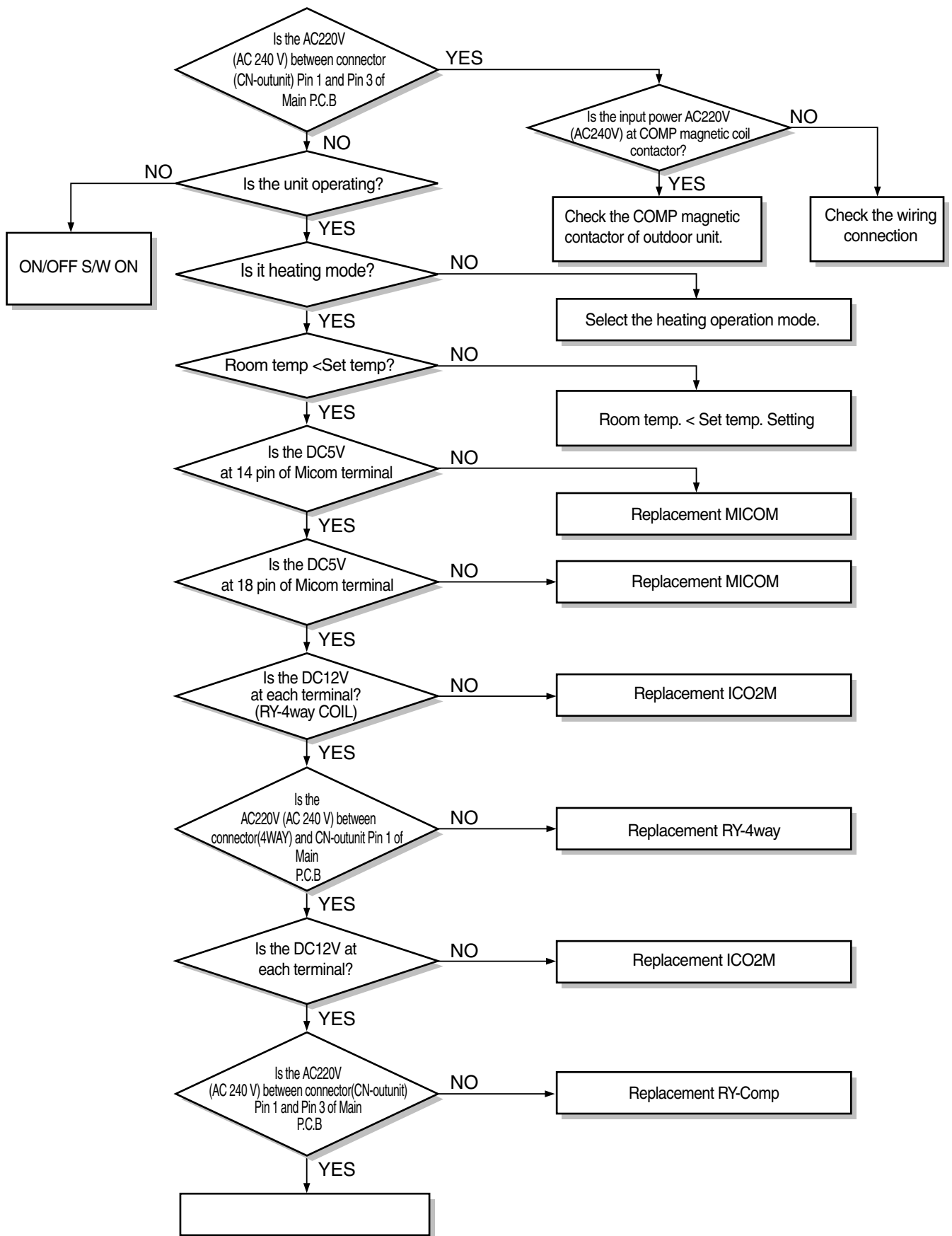


**5) The unit does not operate.**

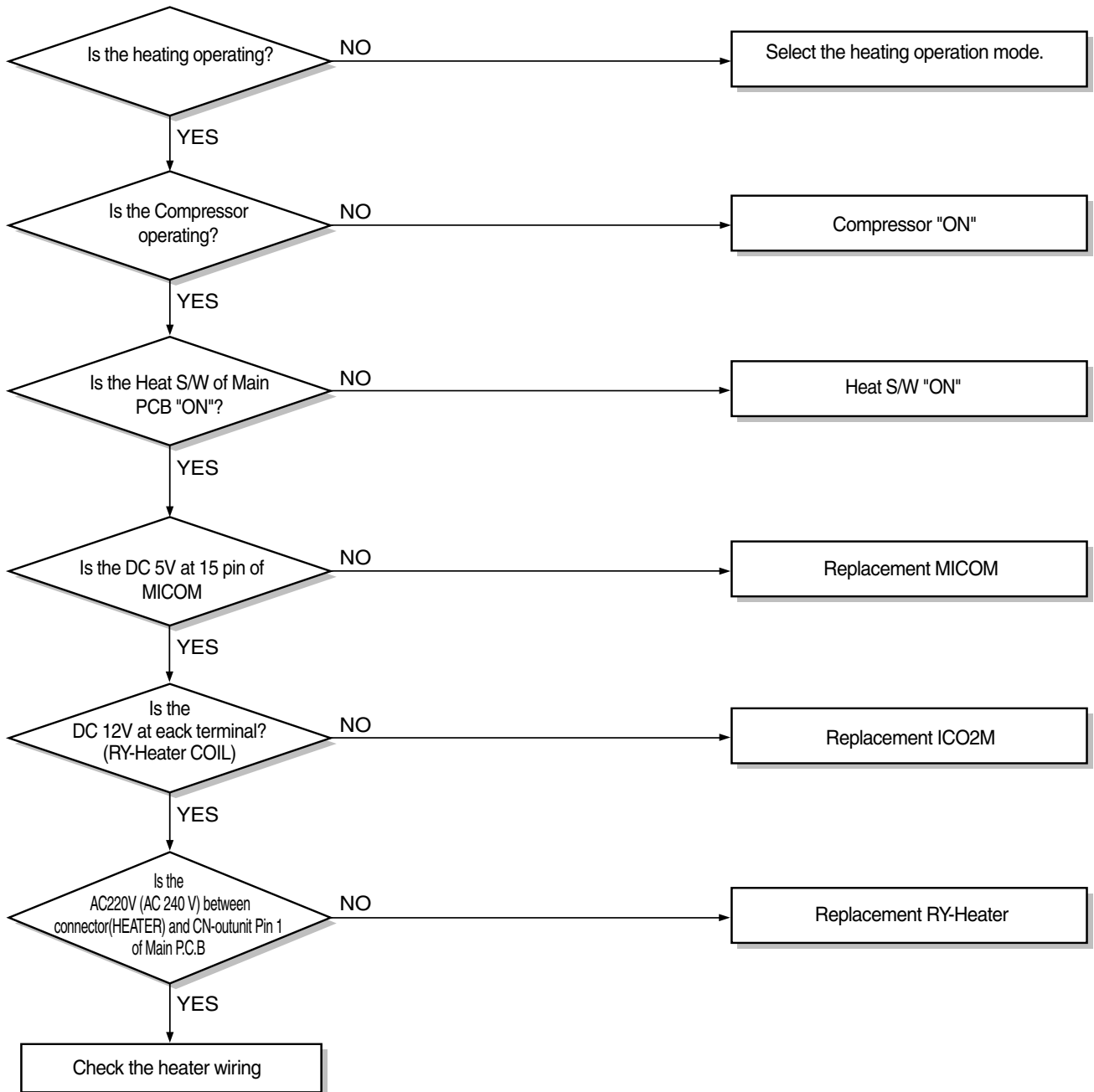


**6) Timer control does not operate.** ————— **Replacement Micom**

## 7) No heating operation works



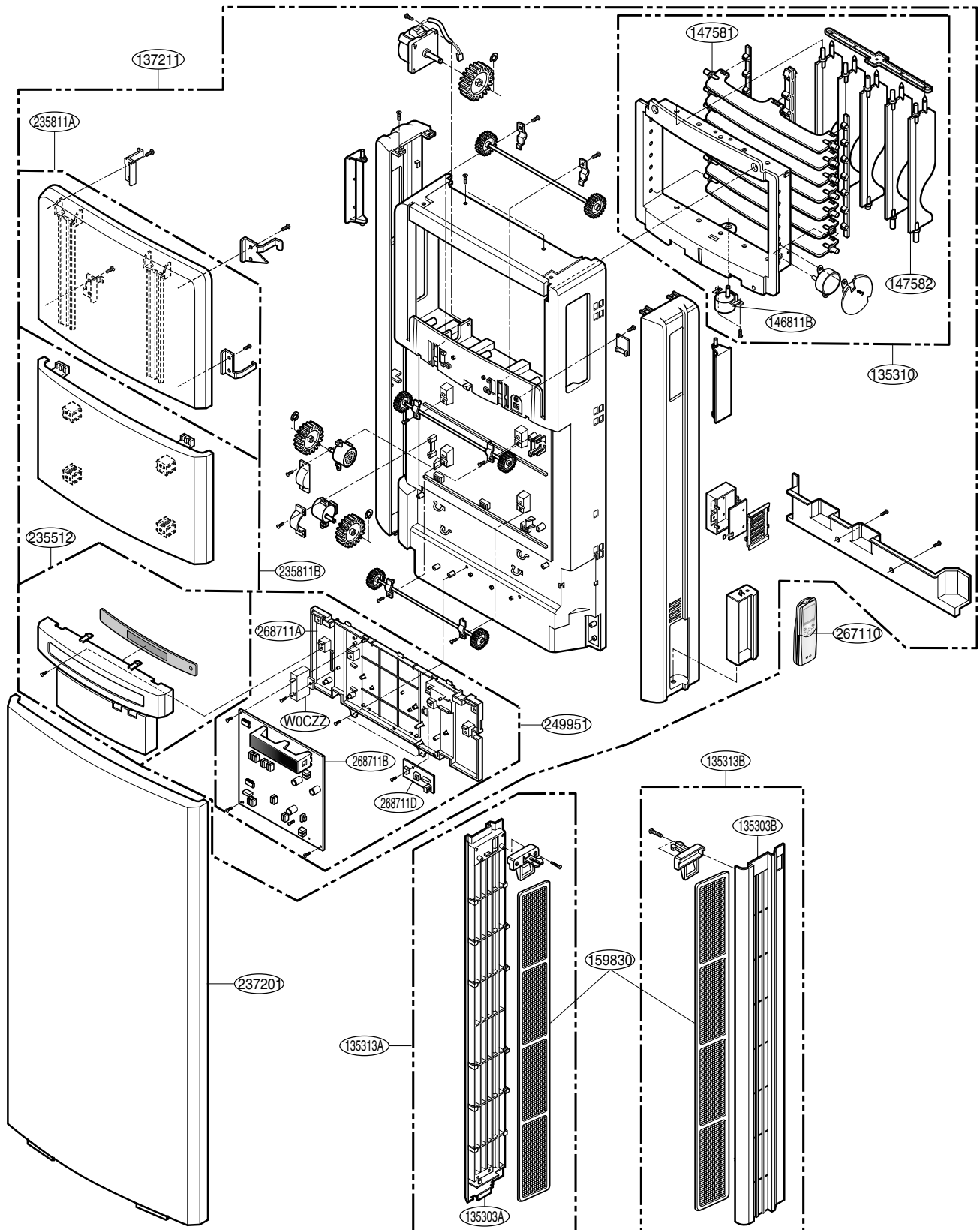
## 8) No heater operation works

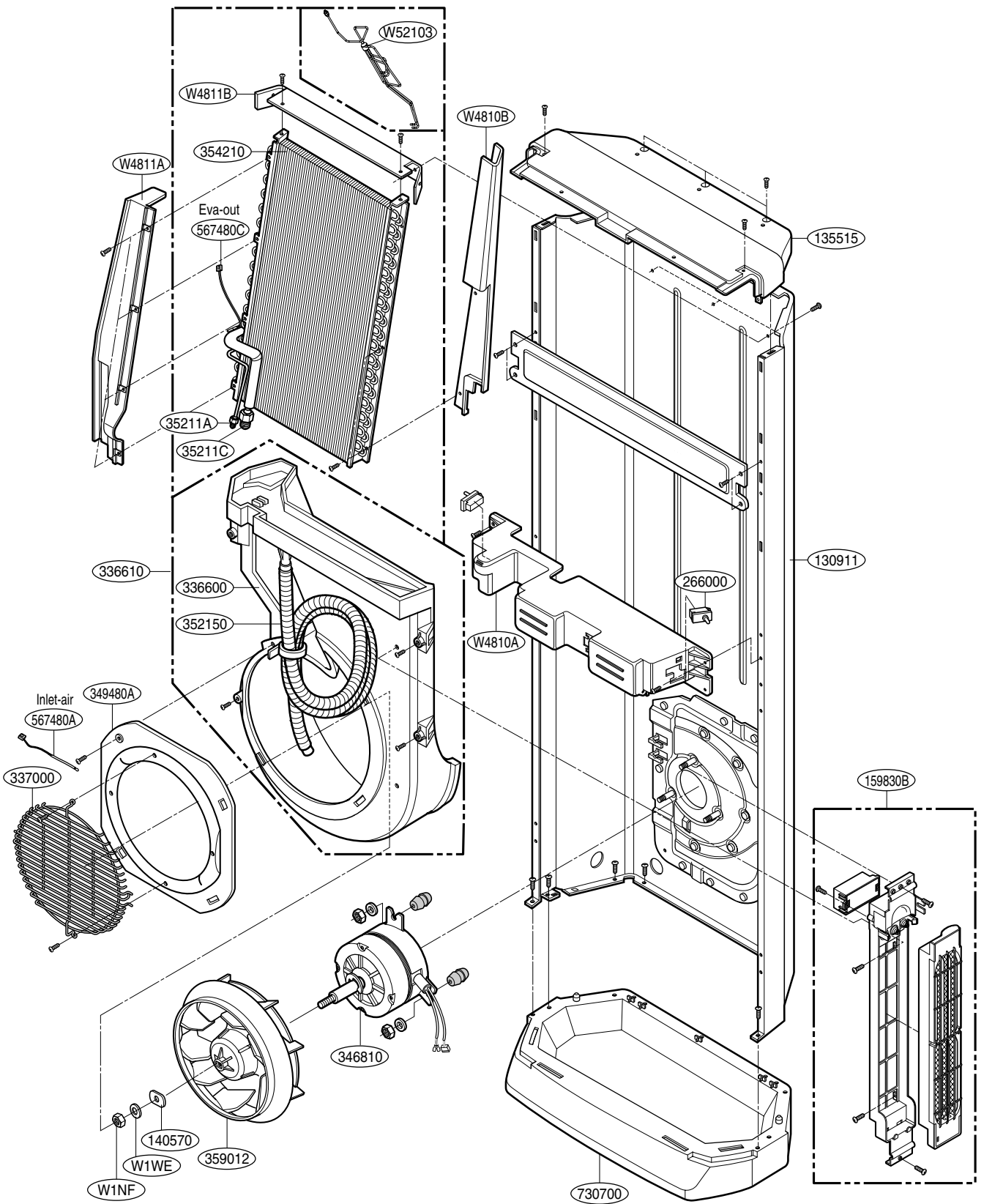


# Exploded View and Replacement Parts List

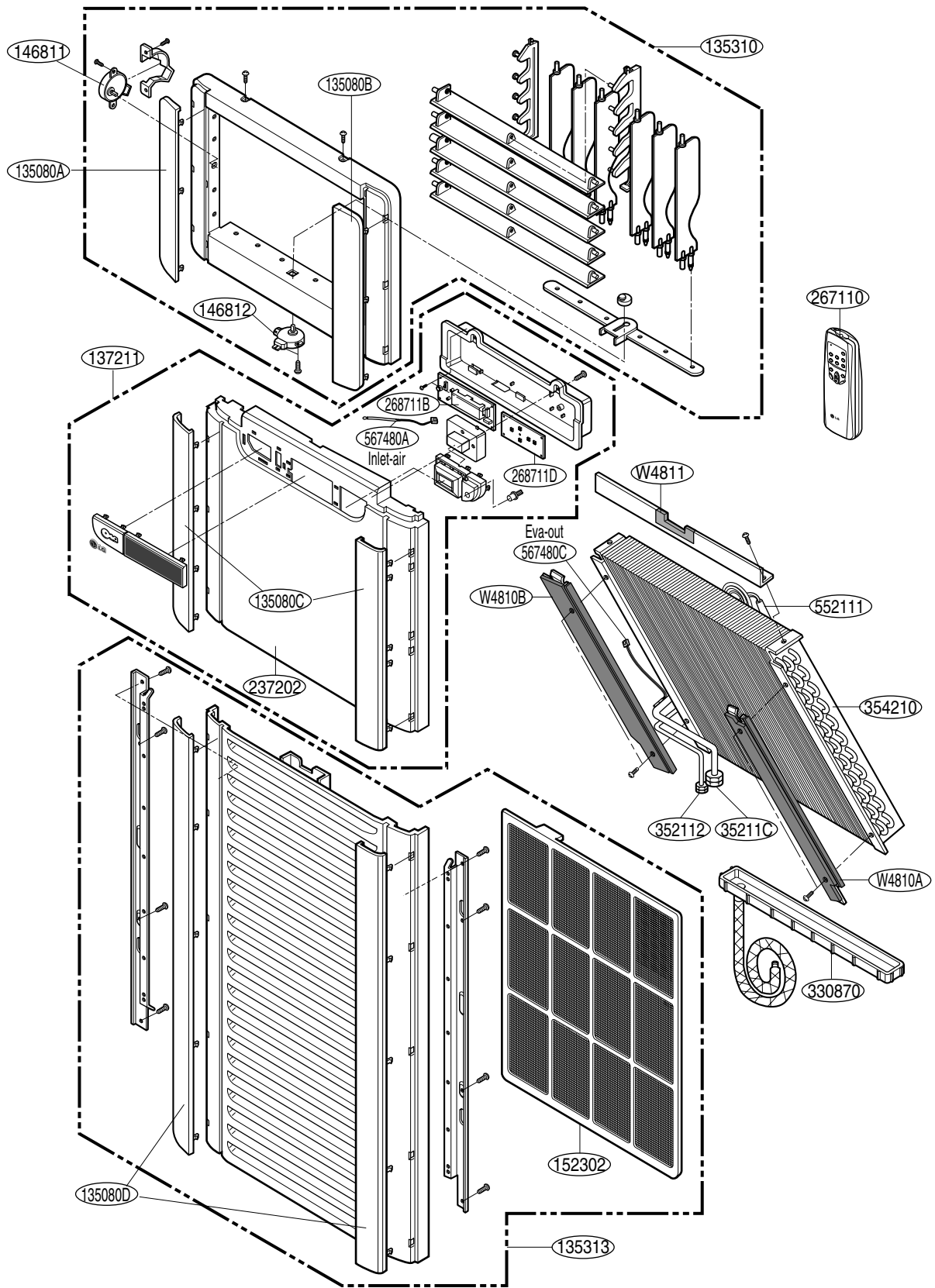
## 1. Indoor Unit

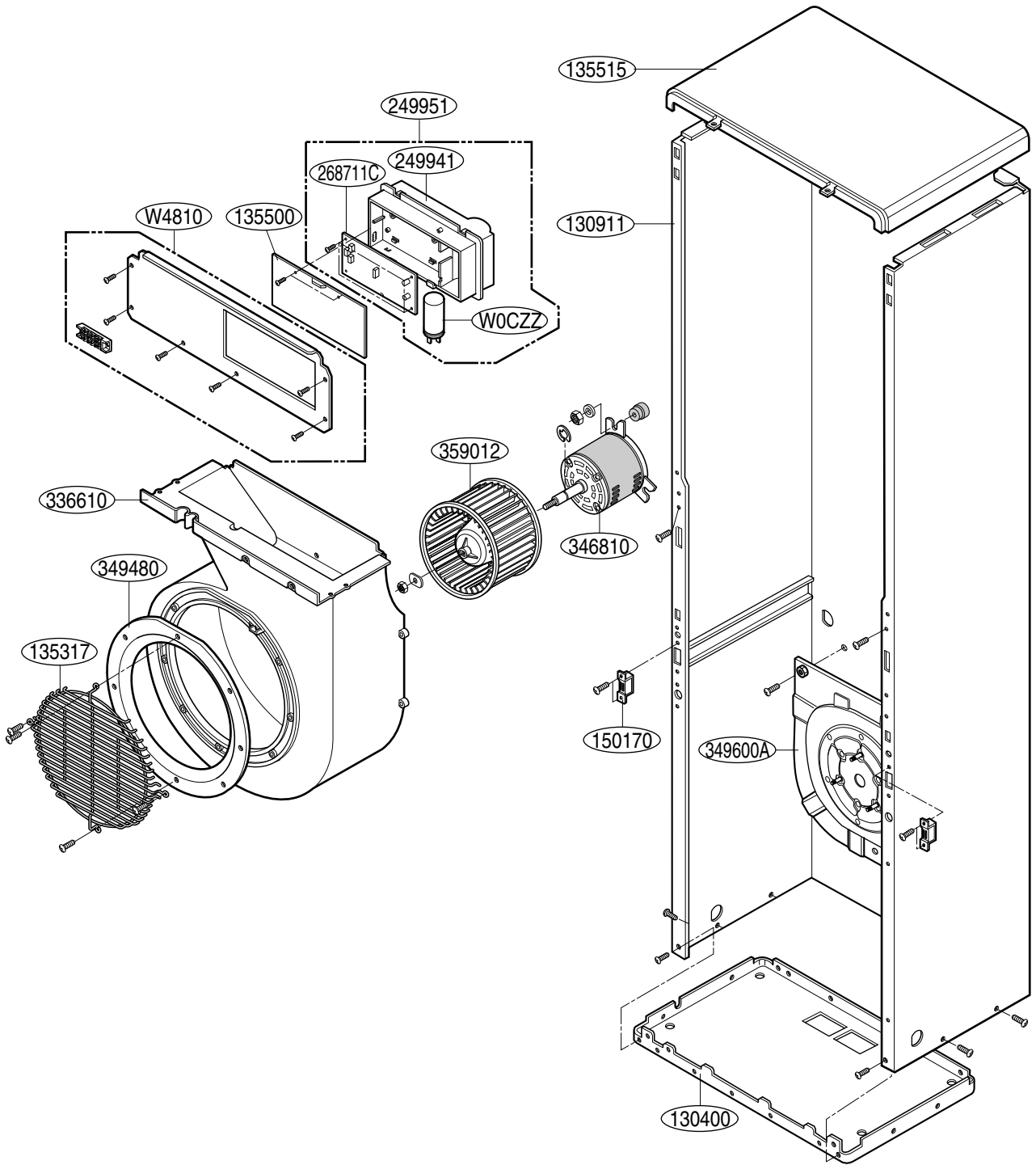
• Model : LF300CP(LP-C303R20)





• Model : LF480CE(LP-C483TA0)











P/NO : 3828A20156T

JANUARY, 2008