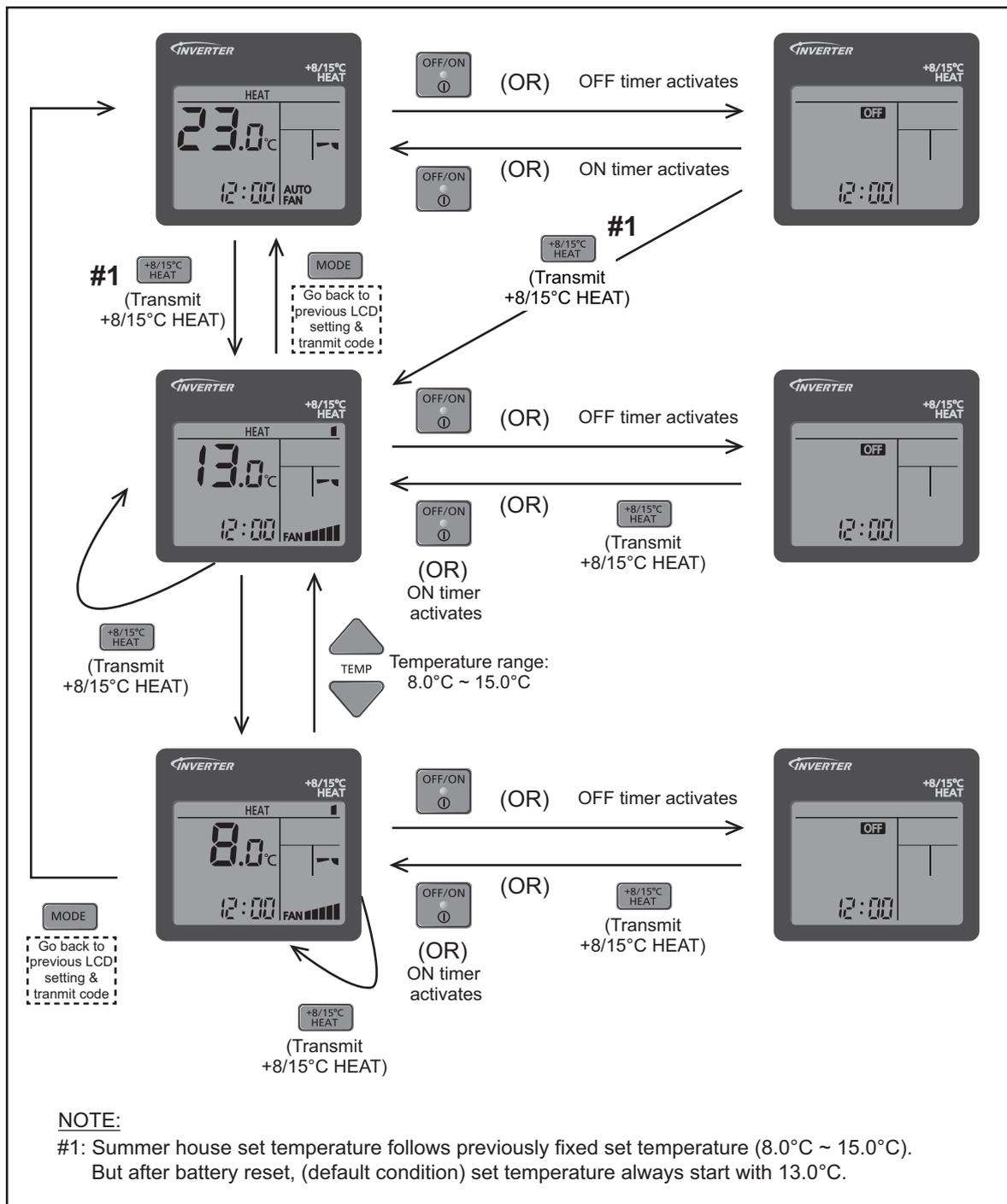


## 14.12 +8/15°C Heat Operation

- +8/15°C Heat operation provides heating at low setting temperature in unoccupied houses during winter for the purpose of protecting equipments or housing appliances which may be destroyed by the extreme cold weather.
- This operation can be ON by pressing the +8/15°C heat button on the remote control.
- The temperature settings range are;
  - 8.0°C ~ 15.0°C (Pressing TEMP up and TEMP down button at the remote control)
- During the operation of this mode;
  - The indoor fan speed will remain at Hi fan tap all the time included deice process.
  - Powerful operation, Quiet operation and Fan Speed selection are disabled.
  - Cold draft prevention control is disabled.
- Control condition;



### • Caution!

If the indoor temperature constantly is less than 0°C (Door, windows not close properly), the error code F11 may occur. This is because in open area, the indoor sensor will misjudge operation condition and will give error code.

## 15. Protection Control

### 15.1 Protection Control for All Operations

#### 15.1.1 Restart Control (Time Delay Safety Control)

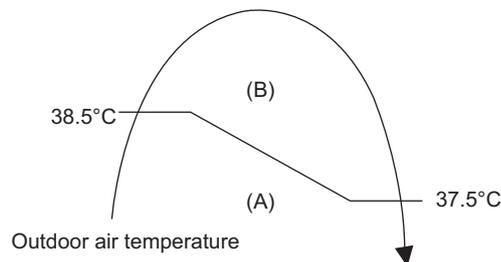
- The Compressor will not turn on within 3 minutes from the moment operation stops, although the unit is turned on again by pressing OFF/ON button at remote control within this period.
- This control is not applicable if the power supply is cut off and on again.
- This phenomenon is to balance the pressure inside the refrigerant cycle.

#### 15.1.2 Total Running Current

- 1 When the outdoor unit total running current (AC) exceeds X value, the frequency instructed for compressor operation will be decreased.
- 2 If the running current does not exceed X value for 5 seconds, the frequency instructed will be increased.
- 3 However, if total outdoor unit running current exceeds Y value, compressor will be stopped immediately for 3 minutes.

Model	NZ25VKE/QZ25VKE		NZ35VKE		NZ50VKE	
Operation Mode	X (A)	Y (A)	X (A)	Y (A)	X (A)	Y (A)
Cooling / Soft Dry (A)	4.53	14.66	6.79	14.66	10.32	14.66
Cooling / Soft Dry (B)	4.07		6.43		9.87	
Cooling / Soft Dry (C)	4.07		6.43		9.87	
Heating	7.06		9.87		10.05	

- 4 The first 30 minutes of cooling operation, (A) will be applied.

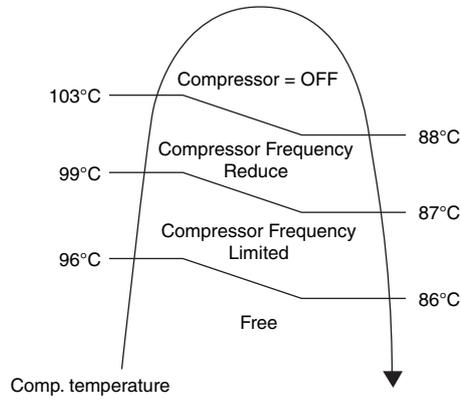


#### 15.1.3 IPM (Power transistor) Prevention Control

- Overheating Prevention Control
  - 1 When the IPM temperature rises to 120°C, compressor operation will stop immediately.
  - 2 Compressor operation restarts after 3 minutes the temperature decreases to 110°C.
  - 3 If this condition repeats continuously 4 times within 20 minutes, timer LED will be blinking ("F96" is indicated).
- DC Peak Current Control
  - 1 When electric current to IPM exceeds set value, the compressor will stop operate. Then, operation will restart after 3 minutes.
  - 2 If the set value is exceeded again more than 30 seconds after the compressor starts, the operation will restart after 1 minute.
  - 3 If the set value exceeded again within 30 seconds after the compressor starts, the operation will restart after 1 minute. If this condition repeats continuously for 7 times, all indoor and outdoor relays will be cut off, timer LED will be blinking ("F99" is indicated).

#### 15.1.4 Compressor Overheating Prevention Control

- Instructed frequency for compressor operation will be regulated by compressor temperature. The changes of frequency are as below.
- If compressor temperature exceeds 103°C, compressor will be stopped, occurs 4 times per 20 minutes, timer LED will be blinking. ("F97" is indicated.)



### 15.1.5 Low Pressure Prevention Control (Gas Leakage Detection)

- Control start conditions
  - For 5 minutes, the compressor continuously operates and outdoor total current is between 0.75A and 0.95A, 1.38A.
  - During Cooling and Soft Dry operations:  
Indoor suction temperature - indoor piping temperature is below 4°C.
  - During Heating operations :  
Indoor piping temperature - indoor suction is under 5°C.
- Control contents
  - Compressor stops (and restart after 3 minutes).
  - If the conditions above happen 2 times within 20 minutes, the unit will:
    - Stop operation
    - Timer LED blinks and “F91” indicated.

### 15.1.6 Low Frequency Protection Control 1

- When the compressor operate at frequency lower than 24 Hz continued for 20 minutes, the operation frequency will be changed to 23 Hz for 2 minutes.

### 15.1.7 Low Frequency Protection Control 2

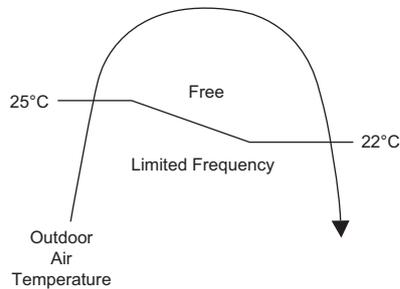
- When all the below conditions comply, the compressor frequency will change to lower frequency.

Temperature, T, for:	Cooling/Soft Dry	Heating
Indoor intake air (°C)	$T < 14$ or $T \geq 30$	$T < 14$ or $T \geq 28$
Outdoor air (°C)	$T < 13$ or $T \geq 38$	$T < 4$ or $T \geq 24$
Indoor heat exchanger (°C)	$T < 30$	$T \geq 0$

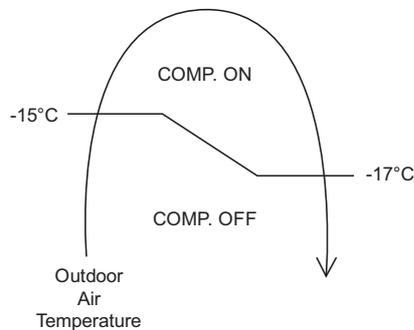
## 15.2 Protection Control for Cooling & Soft Dry Operation

### 15.2.1 Outdoor Air Temperature Control

- The compressor operating frequency is regulated in accordance to the outdoor air temperature as shown in the diagram below.
- This control will begin 1 minute after the compressor starts.
- Compressor frequency will adjust base on outdoor air temperature.



- The compressor will be stopped to avoid compressor overloading.



### 15.2.2 Cooling Overload Control

- Detects the Outdoor pipe temperature and carry out below restriction/limitation (Limit the compressor Operation frequency).
- The compressor stop if outdoor pipe temperature exceeds 60°C.
- If the compressor stops 4 times in 20 minutes, Timer LED blinking (F95 indicated: outdoor high pressure rise protection).

### 15.2.3 Freeze Prevention Control 1

- When indoor heat exchanger temperature is lower than 0°C continuously for 6 minutes, compressor will stop operating.
- Compressor will resume its operation 3 minutes after the indoor heat exchanger is higher than 5°C.
- At the same time, indoor fan speed will be higher than during its normal operation.
- If indoor heat exchanger temperature is higher than 5°C for 5 minutes, the fan speed will return to its normal operation.

### 15.2.4 Freeze Prevention Control 2

- Control start conditions
  - During Cooling operation and soft dry operation
    - During thermo OFF condition, indoor intake temperature is less than 10°C or
    - Compressor stops for freeze prevention control
  - Either one of the conditions above occurs 5 times in 60 minutes.
- Control contents
  - Operation stops
  - Timer LED blinks and "H99" indicated

### 15.2.5 Dew Prevention Control 1

- To prevent dew formation at indoor unit discharge area.
- This control will be activated if:
  - Outdoor air temperature and Indoor pipe temperature judgment by microcontroller is fulfilled.
  - When Cooling or Dry mode is operated more than 20 minutes or more.
- This control stopped if:
  - Compressor stopped.
  - Remote control setting changed (fan speed / temperature).
  - Outdoor air temperature and indoor intake temperature changed.
- Fan speed will be adjusted accordingly in this control.

### 15.2.6 Odor Cut Control

- To reduce the odor released from the unit.
  - Start Condition
    - AUTO FAN Speed is selected during COOL or DRY operation.
    - During freeze prevention control and timer preliminary operation, this control is not applicable.
  - Control content
    - Depends on compressor conditions:
      1. Compressor OFF → Compressor ON.  
The indoor unit fan stops temporarily and then starts to blow at minimum airflow for 30 seconds.
      2. Compressor ON → Compressor OFF.  
The indoor unit fan stops for 90 seconds and then blows at minimum airflow for 20 seconds.

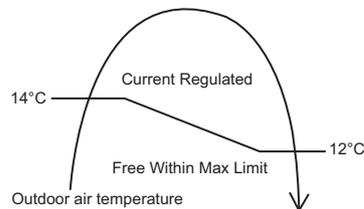
### 15.3 Protection Control for Heating Operation

#### 15.3.1 Intake Air Temperature Control

Compressor will operate at limited freq., if indoor intake air temperature is 30°C or above.

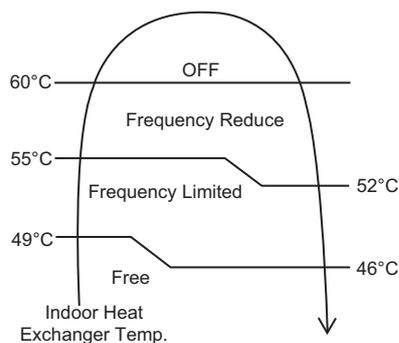
#### 15.3.2 Outdoor Air Temperature Control

- The Max current value is regulated when the outdoor air temperature rise above 14°C in order to avoid compressor overloading.



#### 15.3.3 Overload Protection Control

- The compressor operating frequency is regulated in accordance to indoor heat exchanger temperature as shown below.
- If the heat exchanger temperature exceeds 60°C, compressor will stop.



#### 15.3.4 Cold Draught Prevention Control

- When indoor pipe temperature is low, cold draught operation starts where indoor fan speed will be reduced.

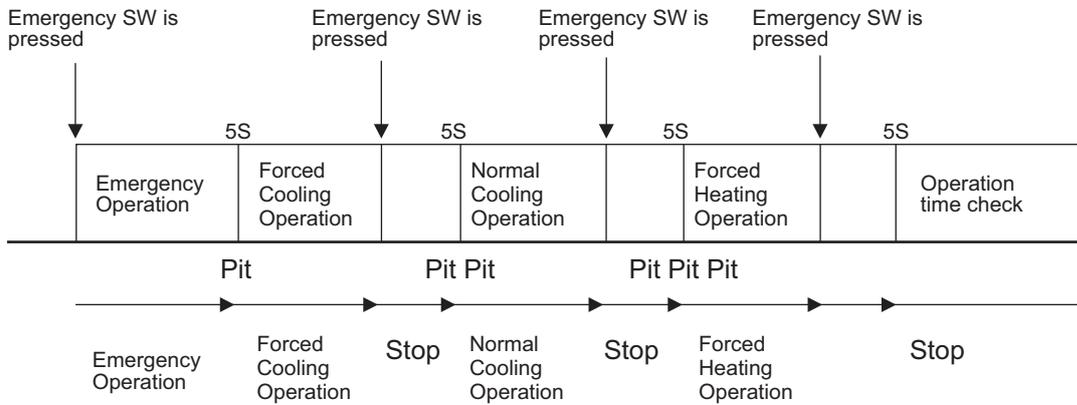
#### 15.3.5 Deice Operation

- When outdoor pipe temperature and outdoor air temperature is low, deice operation start where indoor fan motor and outdoor fan motor stop and Deice LED ON.

# 16. Servicing Mode

## 16.1 Auto OFF/ON Button

### 16.1.1 Mode setting by Emergency SW



- Emergency Operation (Auto Operation) will begin immediately when the Emergency SW is pressed and released within 5 seconds.
- The unit will enter into Forced Cooling Operation if the Emergency SW is pressed, and held for at least 5 seconds before releasing (Code receiving sound - pit).
- The unit will enter into Normal Cooling Operation if the Emergency SW is pressed, and held for at least 5 seconds before releasing within 5 minutes after Force Cooling Operation begins (Code receiving sound - pit pit).
- The unit will enter into Forced Heating Operation if the Emergency SW is pressed, and held for at least 5 seconds before releasing within 5 minutes after Normal Cooling Operation begins (Code receiving sound - pit pit pit).
- The unit will enter into Operation Time Check Mode if the Emergency SW is pressed, and held for at least 5 seconds before releasing within 5 minutes after Force Heating Operation begins (Code receiving sound - peet).
- The unit will enter into Forced Cooling Operation again if the Emergency SW is pressed, and held for at least 5 seconds before releasing within 5 minutes after Operation Time Check Mode begins.
- All modes will be cancelled when it receives any remocon code.

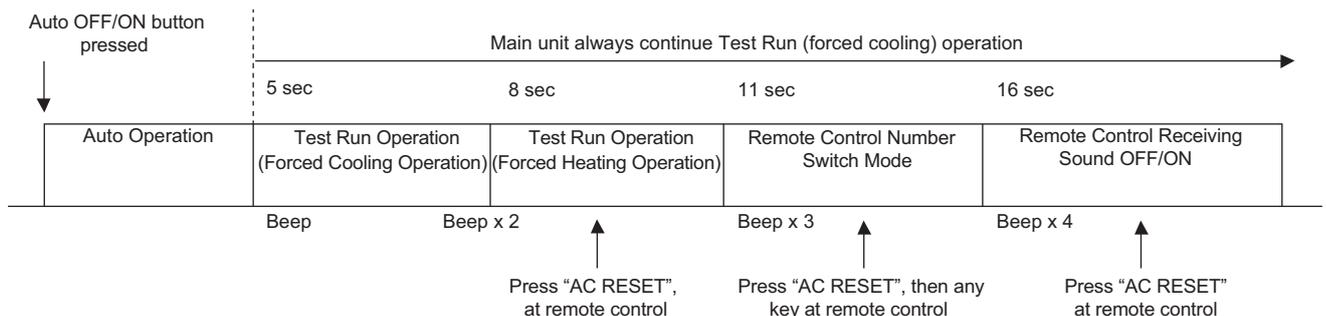
#### 1 AUTO OPERATION MODE

The Auto operation will be activated immediately once the Auto OFF/ON button is pressed. This operation can be used to operate air conditioner with limited function if remote control is misplaced or malfunction.

#### 2 TEST RUN OPERATION (FOR PUMP DOWN/SERVICING PURPOSE)

The Test Run operation will be activated if the Auto OFF/ON button is pressed continuously for more than 5 seconds. A “beep” sound will heard at the fifth seconds, in order to identify the starting of Test Run operation (Forced cooling operation). Within 5 minutes after Forced cooling operation start, the Auto OFF/ON button is pressed for more than 5 seconds. A 2 “beep” sounds will heard at the fifth seconds, in order to identify the starting of Forced heating operation.

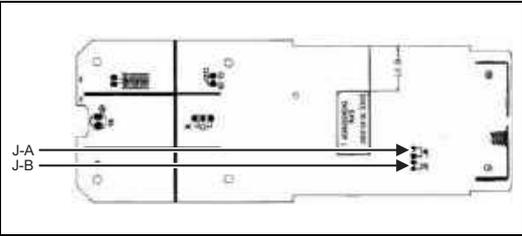
The Auto OFF/ON button may be used together with remote control to set / change the advance setting of air conditioner operation.



### 3 REMOTE CONTROL NUMBER SWITCH MODE

The Remote Control Number Switch Mode will be activated if the Auto OFF/ON button is pressed continuously for more than 11 seconds (3 “beep” sounds will occur at 11th seconds to identify the Remote Control Number Switch Mode is in standby condition) and press “AC RESET” button and then press any button at remote control to transmit and store the desired transmission code to the EEPROM.

There are 4 types of remote control transmission code could be selected and stored in EEPROM of indoor unit. The indoor unit will only operate when received signal with same transmission code from remote control. This could prevent signal interference when there are 2 or more indoor units installed nearby together. To change remote control transmission code, short or open jumpers at the remote control printed circuit board.

Remote Control Printed Circuit Board			
	Jumper A (J-A)	Jumper B (J-B)	Remote Control No.
	Short	Open	A (Default)
	Open	Open	B
	Short	Short	C
	Open	Short	D

- During Remote Control Number Switch Mode, press any button at remote control to transmit and store the transmission code to the EEPROM.

### 4 REMOTE CONTROL RECEIVING SOUND OFF/ON MODE

The Remote Control Receiving Sound OFF/ON Mode will be activated if the Auto OFF/ON button is pressed continuously for more than 16 seconds (4 “beep” sounds will occur at 16th seconds to identify the Remote Control Receiving Sound Off/On Mode is in standby condition) and press “AC Reset” button at remote control.

Press “Auto OFF/ON button” to toggle remote control receiving sound.

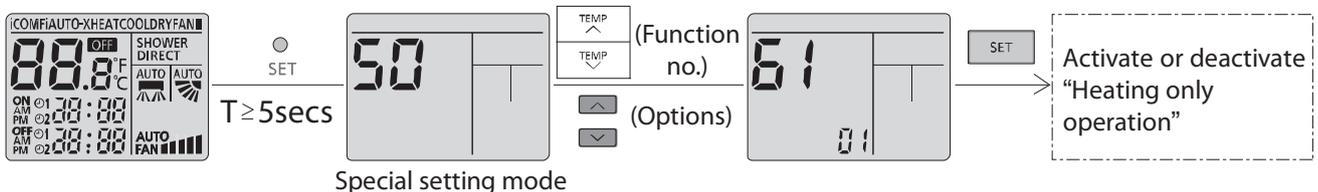
- Short “beep”: Turn OFF remote control receiving sound.
- Long “beep”: Turn ON remote control receiving sound.

After Auto OFF/ON Button is pressed, the 20 seconds counter for Remote Control Receiving Sound OFF/ON Mode is restarted.

## 16.2 Heat Only Operation

### 16.2.1 How to Activate/Deactivate Heat only Operation

- Use remote controller to set heating only operation. When the unit in standby mode, follow the steps below:
  - a) Press  continuously for more than 5 seconds to enter special setting mode.
  - b) Press  to choose function 61, and then press  or  to set “01”. (To enable the “Heat Only” mode) or “00” (To disable the “Heat Only” mode).
  - c) Press  to activate “Heating only operation” or deactivate “Heating only operation”.



## 16.2.2 Operation mode during Heating Only Operation

- The table below shows the operation mode comparison when Heating Only Operation Mode Activated and Deactivated.

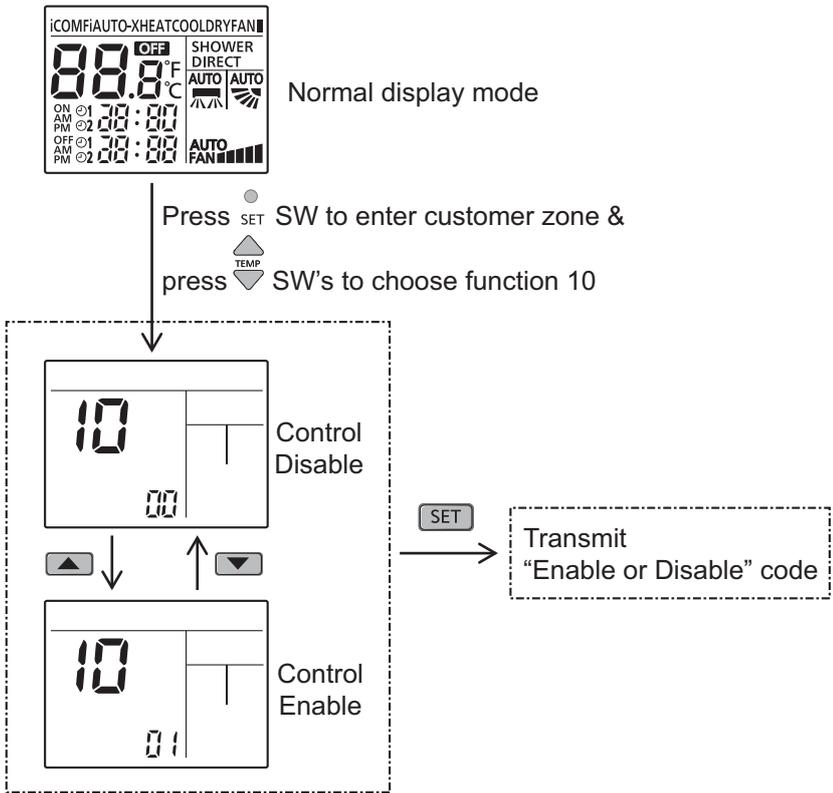
Operation Mode	Heating Only Operation Mode Activated	Heating Only Operation Mode Deactivated
AUTO	After 30s sampling, regardless of the indoor intake or outdoor intake temperature judgment, the unit will run Heating operation.	After 30s sampling, the unit will judge the operation mode base on remote controller temperature setting and Indoor Intake Sensor (New Auto Mode) or Outdoor Intake Sensor (Old Auto Mode).
HEAT	The unit will run Heating operation.	The unit will run Heating operation.
COOL	The unit will stop and Power LED blinking.	The unit will run Cooling operation.
DRY	The unit will stop and Power LED blinking.	The unit will run Cooling Dry operation.
NANOE Stand-alone	The unit will stop and Power LED blinking.	The unit will run Naoe Stand-alone operation.
Force Cooling	The unit will run Force Cooling Operation for X_CTRYTM [15] minutes	The unit will run Force Cooling operation.
Force Heating	The unit will run Force Heating operation.	The unit will run Force Heating operation.
AUTO (with Timer)	The unit will turn ON by the timer and run Auto Operation. After 30s sampling, regardless of the indoor intake or outdoor intake temperature judgment, the unit will run Heating operation.	The unit will turn ON by the timer and run Auto Operation. After 30s sampling, the unit will judge the operation mode base on remote controller temperature setting and Indoor Intake Sensor (New Auto Mode) or Outdoor Intake Sensor (Old Auto Mode).
HEAT (with Timer)	The unit will turn ON by the timer and run Heating Operation.	The unit will turn ON by the timer and run Heating Operation.
COOL (with Timer)	The unit will not turn ON by the timer. Power LED blinking.	The unit will turn ON by the timer and run Cooling Operation.
DRY (with Timer)	The unit will not turn ON by the timer. Power LED blinking.	The unit will turn ON by the timer and run Cooling Dry Operation.
Cooling Test Mode	The unit will stop and Power LED blinking.	The unit will operate according to specify Cooling test mode operation parameter.
Heating Test Mode	The unit will operate according to specify Heating test mode operation parameter.	The unit will operate according to specify Heating test mode operation parameter.

## 16.3 Remote Control Button

### 16.3.1 SET Button

- To check remote control transmission code and store the transmission code to EEPROM:
  - Press "Set" button by using pointer.
  - Press "Timer Set" button until a "beep" sound is heard as confirmation of transmission code changed.
- To limit set temperature range for COOL & DRY, HEAT mode.
  - Press "Set" button by using pointer.
  - Press TEMP increment or decrement button to choose No. 3.
  - Press Timer increment or decrement button to select desired temperature low limit of set temperature for COOL & DRY mode.
  - Press Timer Set button to confirm low limit selection.
  - Press TEMP increment or decrement button to choose No. 4.
  - Press Timer decrement or increment button to select desired temperature high limit of set temperature for COOL & DRY mode.
  - Press Timer Set button to confirm high limit selection.
  - Press TEMP increment or decrement button to choose No. 5.
  - Press Timer increment or decrement button to select desired temperature low limit of set temperature for HEAT mode.
  - Press Timer Set button to confirm low limit selection.
  - Press TEMP increment or decrement button to choose No. 6.
  - Press Timer decrement or increment button to select desired temperature high limit of set temperature for HEAT mode.
  - Press Timer Set button to confirm high limit selection.
  - LCD returns to original display if remote control does not operate for 30 seconds or press Timer Cancel button.

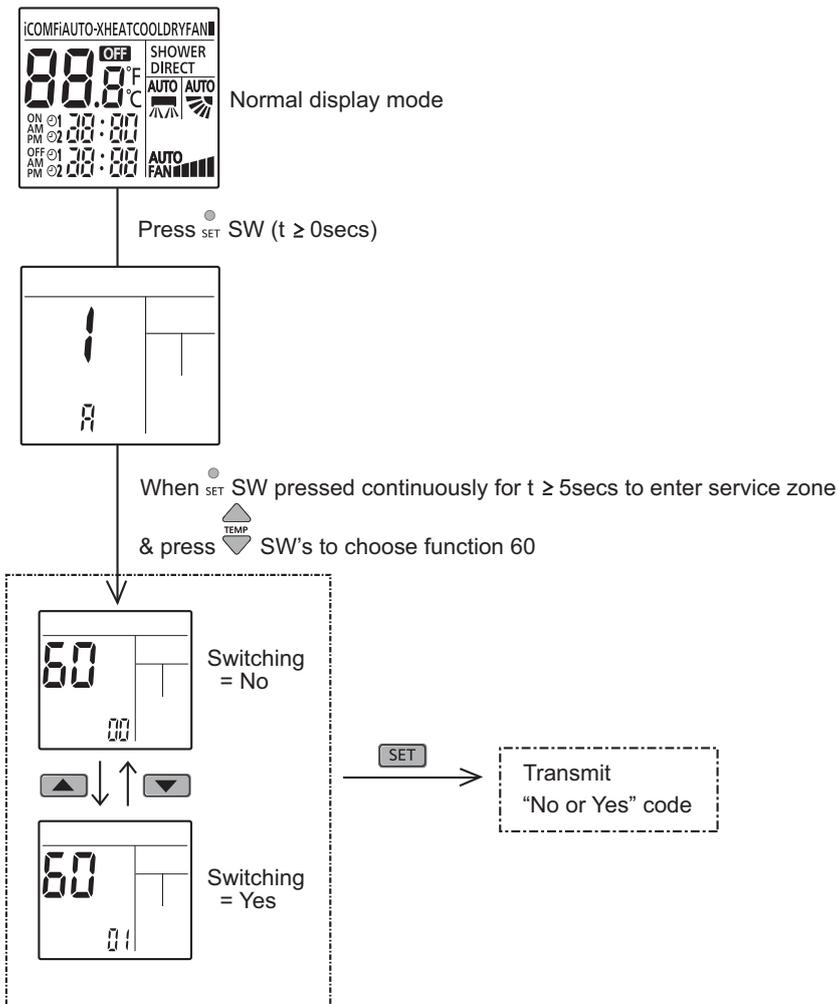
- Auto restart enable/disable selection



- ① Press SW, special setting is immediately cancelled and normal mode starts.
- ② If no SW is pressed for 30secs, then special setting mode is cancelled and normal mode starts.
- ③ Under this function, only , , , , & SW's are effective.

Note:  
By default is enable.

- New Deice Judgement Selection



Note:  
By default is New Deice Judgement.

### 16.3.2 RESET (RC)

- To clear and restore the remote control setting to factory default.
  - Press once to clear the memory.

### 16.3.3 RESET (AC)

- To restore the unit's setting to factory default.
  - Press once to restore the unit's setting.

### 16.3.4 TIMER ▲

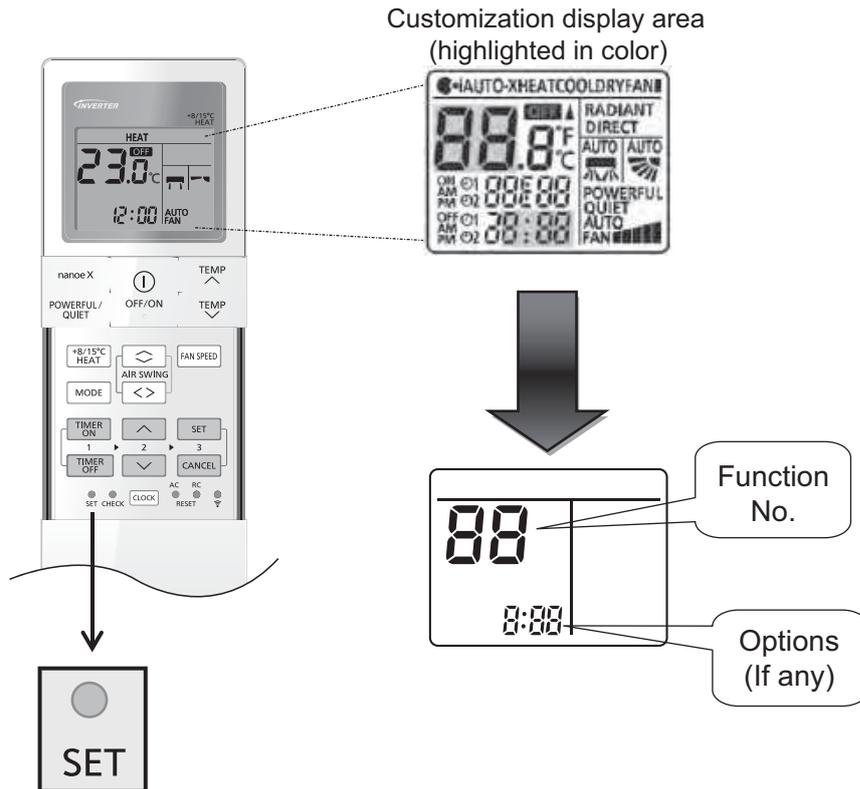
- To change indoor unit indicator's LED intensity.
  - Press continuously for 5 seconds.

### 16.3.5 TIMER ▼

- To change remote control display from Degree Celsius ( $^{\circ}\text{C}$ ) to Degree Fahrenheit ( $^{\circ}\text{F}$ ).
  - Press continuously for 10 seconds.

### 16.3.6 Customization mode

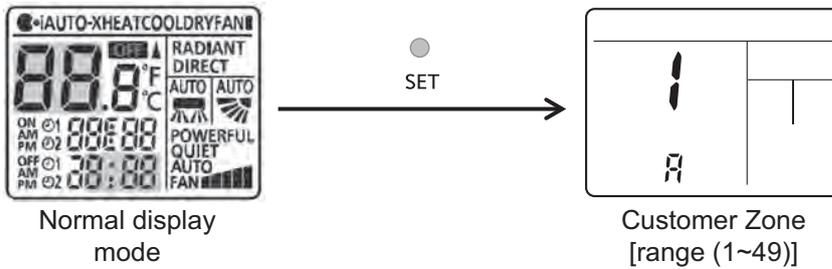
1 LCD display area:



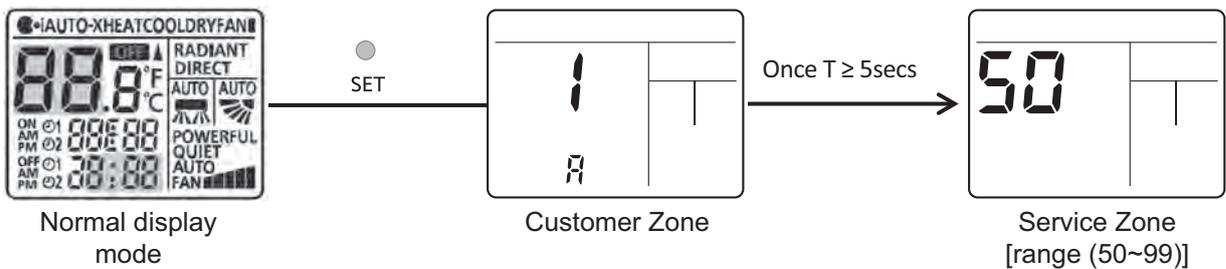
2 Cannot enter this customization mode under the following conditions:

- ① Operation ON.
- ② Under [Real/ON/OFF] time setting mode.

3 To enter Customer zone:



4 To enter Service zone: (Press SET continuously for T ≥ 5 secs)



5 Customization list table:

Note: The functions described in the table may not be applicable to the model and may subject to change without further notice.

		Customization		Options	Remark
No	Name				
Customer Zone	1	Remote control number selection		A, B, C, D	
	2	Solar radiation sensitivity level adjustment		1, 2, 3, 4, 5	
	3	[iAUTO-X/iAUTO/iCOMF, Cool & Dry] mode set temperature [Low2]		16°C ~ [High2]	
	4	[iAUTO-X/iAUTO/iCOMF, Cool & Dry] mode set temperature [High2]		[Low2] ~ 30°C	
	5	Heat mode set temperature Low1 selection		16°C ~ [High1]	
	6	Heat mode set temperature High1 selection		[Low1] ~ 30°C	
	7	Filter cleaning selection		00 – Disable 01 – Enable	
	8	nanoe/nanoe-G default ON selection		00 – Disable 01 – Enable	
	9	Dust sensor monitoring & LED selection		00 – Disable 01 – Enable	
	10	Auto restart selection		00 – Disable 01 – Enable	
	11	Dust sensor sensitivity level adjustment		1, 2, 3	
	12 ~ 49	Reserve			
Service Zone	50	ECO demo ON		None (No display)	
	51	Light sensor check		None (No display)	
	52	nanoe-G / ECO sensor check		None (No display)	
	53	DOA check		None (No display)	
	54	Odor cut control selection		00 – Disable 01 – Enable	
	55	Frequency tolerance selection		03 – ±3Hz 07 – ±7Hz	
	56	Fixed fan speed selection during heat mode compressor OFF		00 – Disable 01 – Enable	
	57	nanoe check		None (No display)	
	58	Heat mode thermo shift adjustment		-3°C ~ 3°C	
	59	Others (Cool & Dry) mode thermo shift adjustment		-3°C ~ 3°C	
	60	Deice start determination judgment temperature switching		00 – No 01 – Yes	
	61	Cool mode disable selection		00 – No 01 – Yes	
	62	Heat mode disable selection		00 – No 01 – Yes	
	63	Base pan heater selection		A – Base pan A b – Base pan B	
	64	Disable fan speed reduction during cool mode thermo-Off		00 – No 01 – Yes	
	65	LED smart OFF selection		00 – Disable 01 – Enable	
	66	nanoe-G ON/OFF duration selection		01 – Pattern 1 02 – Pattern 2 03 – Pattern 3 04 – Pattern 4	
	67	Operation OFF deice function selection		00 – Disable 01 – Enable	
	68	Compressor frequency change speed selection		01 – Pattern 1 02 – Pattern 2 03 – Pattern 3	
	69	Up/Down air swing upper limit restriction selection		00 – Disable 01 – Enable	
70	Failure diagnosis mode disable		None (No display)		
71	Compressor Fhmax setting selection		01 – Offset 1 02 – Offset 2 03 – Offset 3		
72 ~ 99	Reserve				

# 17. Troubleshooting Guide

## 17.1 Refrigeration Cycle System

In order to diagnose malfunctions, make sure that there are no electrical problems before inspecting the refrigeration cycle.

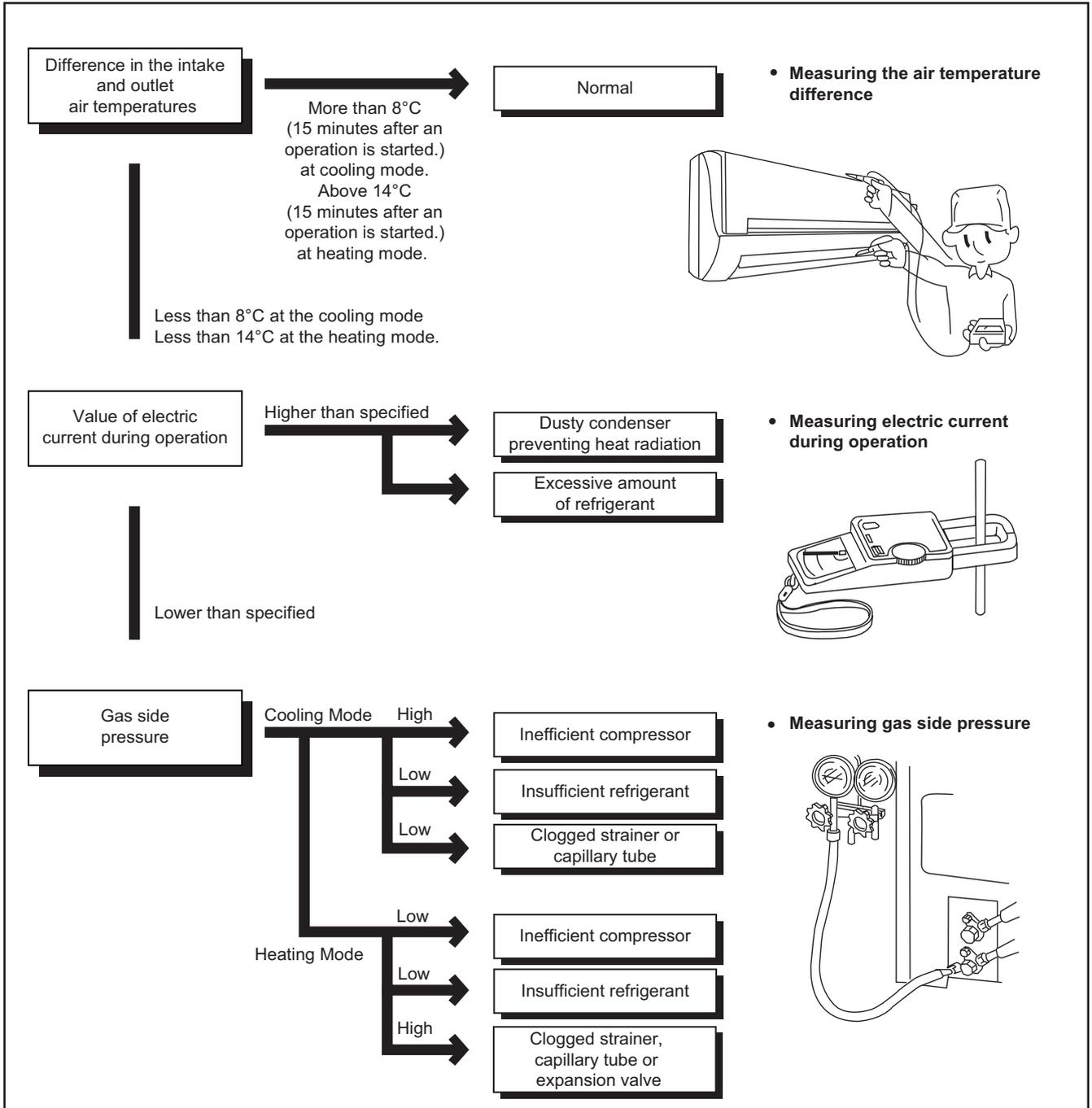
Such problems include insufficient insulation, problem with the power source, malfunction of a compressor and a fan.

The normal outlet air temperature and pressure of the refrigeration cycle depends on various conditions, the standard values for them are shown in the table on the right.

Normal Pressure and Outlet Air Temperature (Standard)

	Gas Pressure MPa (kg/cm <sup>2</sup> G)	Outlet air Temperature (°C)
Cooling Mode	0.9 ~ 1.2 (9 ~ 12)	13 ~ 17
Heating Mode	2.0 ~ 2.7 (20 ~ 27)	32 ~ 42

- \*Condition:
- Indoor fan speed = High
  - Outdoor temperature 35°C at the cooling mode and 7°C at the heating mode
  - Compressor operates at rated frequency



### 17.1.1 Relationship Between the Condition of the Air Conditioner and Pressure and Electric Current

Condition of the air conditioner	Cooling Mode			Heating Mode		
	Low Pressure	High Pressure	Electric current during operation	Low Pressure	High Pressure	Electric current during operation
Insufficient refrigerant (gas leakage)	↘	↘	↘	↘	↘	↘
Clogged capillary tube or Strainer	↘	↘	↘	↗	↗	↗
Short circuit in the indoor unit	↘	↘	↘	↗	↗	↗
Heat radiation deficiency of the outdoor unit	↗	↗	↗	↘	↘	↘
Inefficient compression	↗	↘	↘	↗	↘	↘

- Carry out the measurement of pressure, electric current, and temperature fifteen minutes after an operation is started.

## 17.2 Breakdown Self Diagnosis Function

### 17.2.1 Self Diagnosis Function (Three Digits Alphanumeric Code)

- Once abnormality has occurred during operation, the unit will stop its operation, and Timer LED blinks.
  - Although Timer LED goes off when power supply is turned off, if the unit is operated under a breakdown condition, the LED will light up again.
  - In operation after breakdown repair, the Timer LED will no more blink. The last error code (abnormality) will be stored in IC memory.
- 5 Every press of the button (up or down) will increase abnormality numbers and transmit abnormality code signal to the main unit.
  - 6 When the latest abnormality code on the main unit and code transmitted from the remote controller are matched, power LED will light up for 30 seconds and a beep sound (continuously for 4 seconds) will be heard. If no codes are matched, power LED will light up for 0.5 seconds and no sound will be heard.

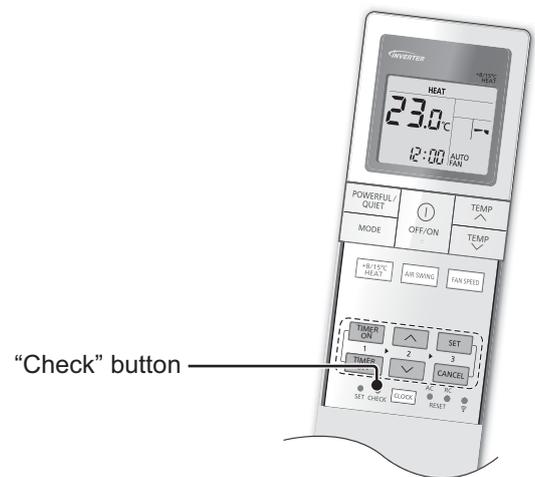
### 17.2.2 To Make a Diagnosis

- 1 Timer LED start to blink and the unit automatically stops the operation.
- 2 Press the CHECK button on the remote controller continuously for 5 seconds.
- 3 “- -” will be displayed on the remote controller display.  
Note: Display only for “- -”. (No transmitting signal, no receiving sound and no Power LED blinking.)
- 4 Press the “TIMER” ▲ or ▼ button on the remote controller. The code “H00” (no abnormality) will be displayed and signal will be transmitted to the main unit.
- 5 Every press of the button (up or down) will increase abnormality numbers and transmit abnormality code signal to the main unit.
- 6 When the latest abnormality code on the main unit and code transmitted from the remote controller are matched, power LED will light up for 30 seconds and a beep sound (continuously for 4 seconds) will be heard. If no codes are matched, power LED will light up for 0.5 seconds and no sound will be heard.
- 7 The breakdown diagnosis mode will be canceled unless pressing the CHECK button continuously for 5 seconds or operating the unit for 30 seconds.
- 8 The LED will be off if the unit is turned off or the RESET button on the main unit is pressed.

### 17.2.3 To Display Memorized Error Code (Protective Operation)

- 1 Turn power on.
- 2 Press the CHECK button on the remote controller continuously for 5 seconds.
- 3 “- -” will be displayed on the remote controller display.  
Note: Display only for “- -”. (No transmitting signal, no receiving sound and no Power LED blinking.)
- 4 Press the “TIMER” ▲ or ▼ button on the remote controller. The code “H00” (no abnormality) will be displayed and signal will be transmitted to the main unit. The power LED lights up. If no abnormality is stored in the memory, three beeps sound will be heard.

- 7 The breakdown diagnosis mode will be canceled unless pressing the CHECK button continuously for 5 seconds or operating the unit for 30 seconds.
- 8 The same diagnosis can be repeated by turning power on again.



### 17.2.4 To Clear Memorized Error Code after Repair (Protective Operation)

- 1 Turn power on (in standby condition).
- 2 Press the AUTO button for 5 seconds (A beep receiving sound) on the main unit to operate the unit at Forced Cooling Operation modes.
- 3 Press the CHECK button on the remote controller for about 1 second with a pointed object to transmit signal to main unit. A beep sound is heard from main unit and the data is cleared.

### 17.2.5 Temporary Operation (Depending On Breakdown Status)

- 1 Press the AUTO button (A beep receiving sound) on the main unit to operate the unit. (Remote control will become possible.)
- 2 The unit can temporarily be used until repaired.

## 17.3 Error Codes Table

Diagnosis display	Abnormality / Protection control	Abnormality Judgment	Protection Operation	Problem	Check location
H00	No memory of failure	—	Normal operation	—	—
H11	Indoor/outdoor abnormal communication	After operation for 1 minute	Indoor fan only operation can start by entering into force cooling operation	Indoor/outdoor communication not establish	<ul style="list-style-type: none"> <li>Indoor/outdoor wire terminal</li> <li>Indoor/outdoor PCB</li> <li>Indoor/outdoor connection wire</li> </ul>
H12	Indoor unit capacity unmatched	90s after power supply	—	Total indoor capability more than maximum limit or less than minimum limit, or number of indoor unit less than two	<ul style="list-style-type: none"> <li>Indoor/outdoor connection wire</li> <li>Indoor/outdoor PCB</li> <li>Specification and combination table in catalogue</li> </ul>
H14	Indoor intake air temperature sensor abnormality	Continuous for 5s	—	Indoor intake air temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Indoor intake air temperature sensor lead wire and connector</li> </ul>
H15	Compressor temperature sensor abnormality	Continuous for 5s	—	Compressor temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Compressor temperature sensor lead wire and connector</li> </ul>
H16	Outdoor current transformer (CT) abnormality	—	—	Current transformer faulty or compressor faulty	<ul style="list-style-type: none"> <li>Outdoor PCB faulty or compressor faulty</li> </ul>
H19	Indoor fan motor mechanism lock	Continuous happen for 7 times	—	Indoor fan motor lock or feedback abnormal	<ul style="list-style-type: none"> <li>Fan motor lead wire and connector</li> <li>Fan motor lock or block</li> </ul>
H23	Indoor heat exchanger temperature sensor abnormality	Continuous for 5s	—	Indoor heat exchanger temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Indoor heat exchanger temperature sensor lead wire and connector</li> </ul>
H24	Indoor heat exchanger temperature sensor 2 abnormality	Continuous for 5s	—	Indoor heat exchanger temperature sensor 2 open or short circuit	<ul style="list-style-type: none"> <li>Indoor heat exchanger temperature sensor 2 lead wire and connector</li> </ul>
H25	Indoor ion device abnormality	Port is ON for 10s during ion device off	—	—	<ul style="list-style-type: none"> <li>ion device PCB</li> </ul>
H27	Outdoor air temperature sensor abnormality	Continuous for 5s	—	Outdoor air temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Outdoor air temperature sensor lead wire and connector</li> </ul>
H28	Outdoor heat exchanger temperature sensor 1 abnormality	Continuous for 5s	—	Outdoor heat exchanger temperature sensor 1 open or short circuit	<ul style="list-style-type: none"> <li>Outdoor heat exchanger temperature sensor 1 lead wire and connector</li> </ul>
H30	Outdoor discharge pipe temperature sensor abnormality	Continuous for 5s	—	Outdoor discharge pipe temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Outdoor discharge pipe temperature sensor lead wire and connector</li> </ul>
H32	Outdoor heat exchanger temperature sensor 2 abnormality	Continuous for 5s	—	Outdoor heat exchanger temperature sensor 2 open or short circuit	<ul style="list-style-type: none"> <li>Outdoor heat exchanger temperature sensor 2 lead wire and connector</li> </ul>
H33	Indoor / outdoor misconnection abnormality	—	—	Indoor and outdoor rated voltage different	<ul style="list-style-type: none"> <li>Indoor and outdoor units check</li> </ul>
H34	Outdoor heat sink temperature sensor abnormality	Continuous for 2s	—	Outdoor heat sink temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Outdoor heat sink sensor</li> </ul>
H36	Outdoor gas pipe temperature sensor abnormality	Continuous for 5s	Heating protection operation only	Outdoor gas pipe temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Outdoor gas pipe temperature sensor lead wire and connector</li> </ul>
H37	Outdoor liquid pipe temperature sensor abnormality	Continuous for 5s	Cooling protection operation only	Outdoor liquid pipe temperature sensor open or short circuit	<ul style="list-style-type: none"> <li>Outdoor liquid pipe temperature sensor lead wire and connector</li> </ul>
H38	Indoor/Outdoor mismatch (brand code)	—	—	Brand code not match	<ul style="list-style-type: none"> <li>Check indoor unit and outdoor unit</li> </ul>
H39	Abnormal indoor operating unit or standby units	3 times happen within 40 minutes	—	Wrong wiring and connecting pipe, expansion valve abnormality, indoor heat exchanger sensor open circuit	<ul style="list-style-type: none"> <li>Check indoor/outdoor connection wire and connection pipe</li> <li>Indoor heat exchanger sensor lead wire and connector</li> <li>Expansion valve and lead wire and connector</li> </ul>

Diagnosis display	Abnormality / Protection control	Abnormality Judgment	Protection Operation	Problem	Check location
H41	Abnormal wiring or piping connection	—	—	Wrong wiring and connecting pipe, expansion valve abnormality	<ul style="list-style-type: none"> <li>• Check indoor/outdoor connection wire and connection pipe</li> <li>• Expansion valve and lead wire and connector</li> </ul>
H59	ECONAVI sensor abnormality	Continuous for 25s	—	ECONAVI sensor open or short circuit	<ul style="list-style-type: none"> <li>• ECONAVI sensor (defective or disconnected)</li> <li>• ECONAVI PCB</li> </ul>
H64	Outdoor high pressure sensor abnormality	Continuous for 1 minutes	—	High pressure sensor open circuit during compressor stop	<ul style="list-style-type: none"> <li>• High pressure sensor</li> <li>• Lead wire and connector</li> </ul>
H67	Nanoe abnormality	Nanoe stop for 5 minutes for 3 times	—	Nanoe faulty	<ul style="list-style-type: none"> <li>• PCB</li> <li>• Nanoe system</li> <li>• High voltage</li> </ul>
H70	Light sensor abnormality	Continuous for 24 hours, 15 days	—	Light sensor open or short circuit	<ul style="list-style-type: none"> <li>• Light sensor (defective or disconnect)</li> </ul>
H85	Abnormal communication between indoor & wireless LAN module	Communication error for 10 minutes for 3 times	—	Wireless LAN LED Off or timer LED blinking	<ul style="list-style-type: none"> <li>• Network adaptor</li> <li>• Router</li> <li>• Network coverage</li> </ul>
H97	Outdoor fan motor mechanism lock	2 times happen within 30 minutes	—	Outdoor fan motor lock or feedback abnormal	<ul style="list-style-type: none"> <li>• Outdoor fan motor lead wire and connector</li> <li>• Fan motor lock or block</li> </ul>
H98	Indoor high pressure protection	—	—	Indoor high pressure protection (Heating)	<ul style="list-style-type: none"> <li>• Check indoor heat exchanger</li> <li>• Air filter dirty</li> <li>• Air circulation short circuit</li> </ul>
H99	Indoor operating unit freeze protection	—	—	Indoor freeze protection (Cooling)	<ul style="list-style-type: none"> <li>• Check indoor heat exchanger</li> <li>• Air filter dirty</li> <li>• Air circulation short circuit</li> </ul>
F11	4-way valve switching abnormality	4 times happen within 30 minutes	—	4-way valve switching abnormal	<ul style="list-style-type: none"> <li>• 4-way valve</li> <li>• Lead wire and connector</li> </ul>
F17	Indoor standby units freezing abnormality	3 times happen within 40 minutes	—	Wrong wiring and connecting pipe, expansion valve leakage, indoor heat exchanger sensor open circuit	<ul style="list-style-type: none"> <li>• Check indoor/outdoor connection wire and pipe</li> <li>• Indoor heat exchanger sensor lead wire and connector</li> <li>• Expansion valve lead wire and connector</li> </ul>
F90	Power factor correction (PFC) circuit protection	4 times happen within 10 minutes	—	Power factor correction circuit abnormal	<ul style="list-style-type: none"> <li>• Outdoor PCB faulty</li> </ul>
F91	Refrigeration cycle abnormality	2 times happen within 20 minutes	—	Refrigeration cycle abnormal	<ul style="list-style-type: none"> <li>• Insufficient refrigerant or valve close</li> </ul>
F93	Compressor abnormal revolution	4 times happen within 20 minutes	—	Compressor abnormal revolution	<ul style="list-style-type: none"> <li>• Power transistor module faulty or compressor lock</li> </ul>
F94	Compressor discharge overshoot protection	4 times happen within 30 minutes	—	Compressor discharge pressure overshoot	<ul style="list-style-type: none"> <li>• Check refrigeration system</li> </ul>
F95	Outdoor cooling high pressure protection	4 times happen within 20 minutes	—	Cooling high pressure protection	<ul style="list-style-type: none"> <li>• Check refrigeration system</li> <li>• Outdoor air circuit</li> </ul>
F96	Power transistor module overheating protection	4 times happen within 30 minutes	—	Power transistor module overheat	<ul style="list-style-type: none"> <li>• PCB faulty</li> <li>• Outdoor air circuit (fan motor)</li> </ul>
F97	Compressor overheating protection	3 times happen within 30 minutes	—	Compressor overheat	<ul style="list-style-type: none"> <li>• Insufficient refrigerant</li> </ul>
F98	Total running current protection	3 times happen within 20 minutes	—	Total current protection	<ul style="list-style-type: none"> <li>• Check refrigeration system</li> <li>• Power source or compressor lock</li> </ul>
F99	Outdoor direct current (DC) peak detection	Continuous happen for 7 times	—	Power transistor module current protection	<ul style="list-style-type: none"> <li>• Power transistor module faulty or compressor lock</li> </ul>

## 17.4 Self-diagnosis Method

### 17.4.1 H11 (Indoor/Outdoor Abnormal Communication)

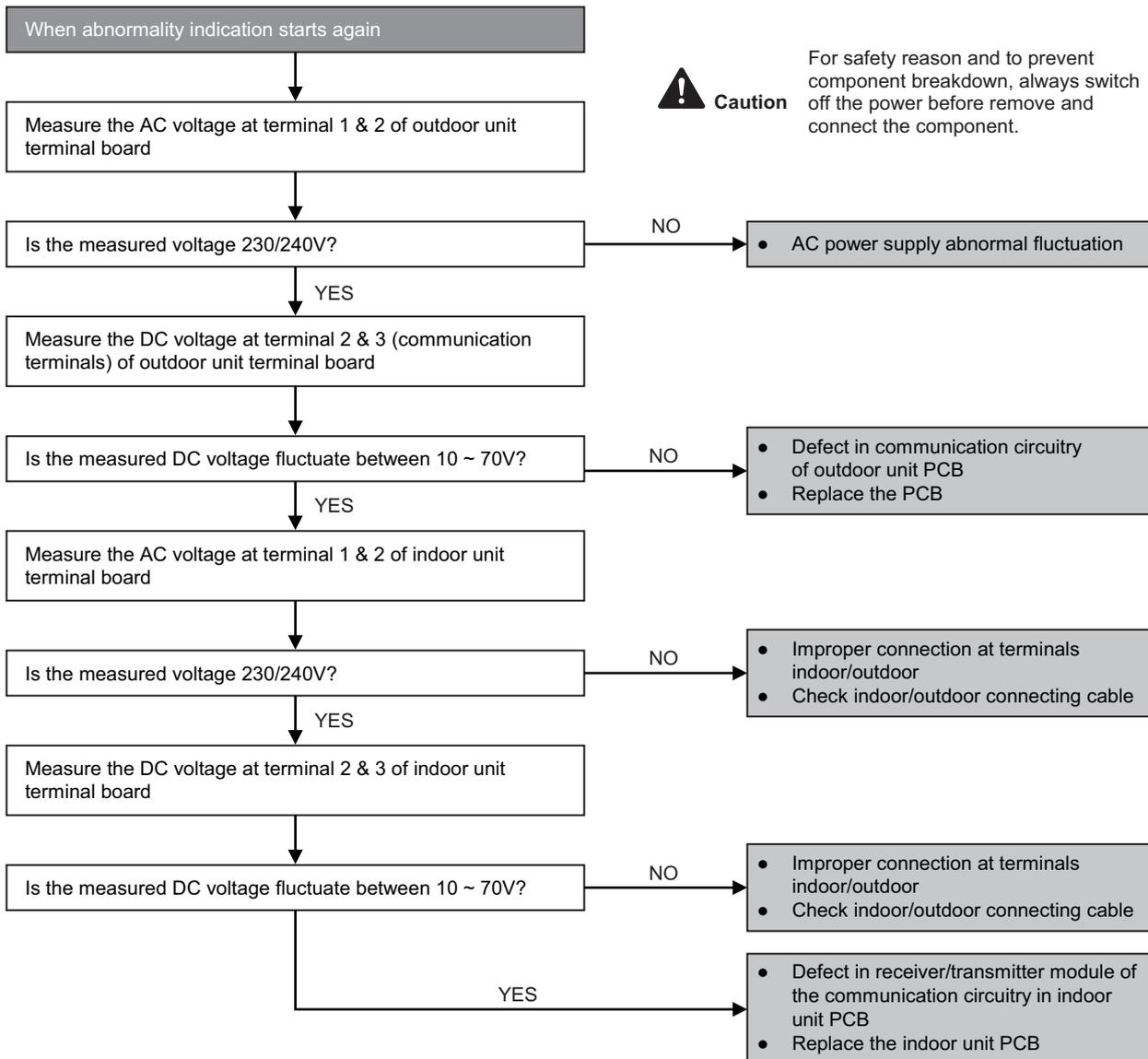
#### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the data received from outdoor unit in indoor unit signal transmission is checked whether it is normal.

#### Malfunction Caused

- Faulty indoor unit PCB.
- Faulty outdoor unit PCB.
- Indoor unit-outdoor unit signal transmission error due to wiring error.
- Indoor unit-outdoor unit signal transmission error due to breaking of wire in the connection wires between the indoor and outdoor units.

#### Troubleshooting



## 17.4.2 H12 (Indoor/Outdoor Capacity Rank Mismatched)

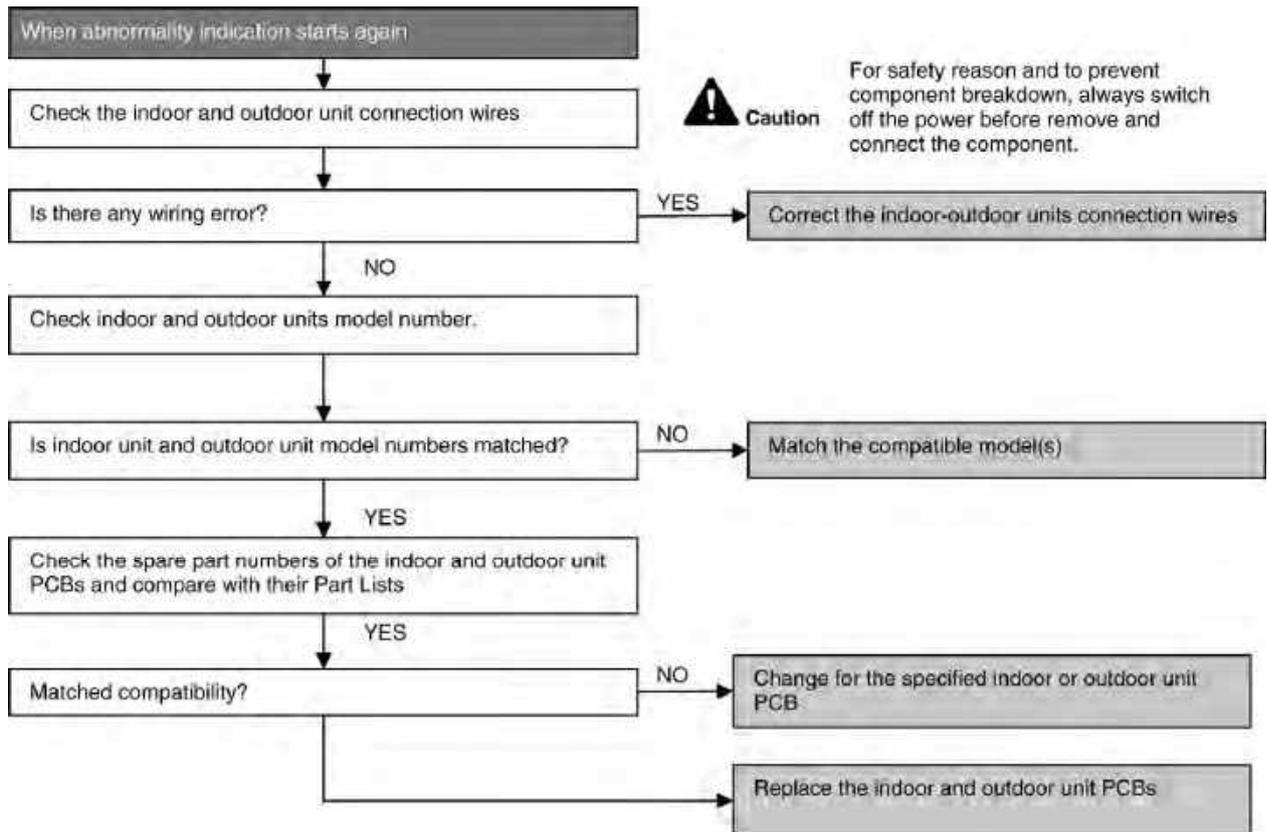
### Malfunction Decision Conditions

- During startup, error code appears when different types of indoor and outdoor units are interconnected.

### Malfunction Caused

- Wrong models interconnected.
- Wrong indoor unit or outdoor unit PCBs mounted.
- Indoor unit or outdoor unit PCBs defective.
- Indoor-outdoor unit signal transmission error due to wrong wiring.
- Indoor-outdoor unit signal transmission error due to breaking of wire 3 in the connection wires between the indoor and outdoor units.

### Troubleshooting



### 17.4.3 H14 (Indoor Intake Air Temperature Sensor Abnormality)

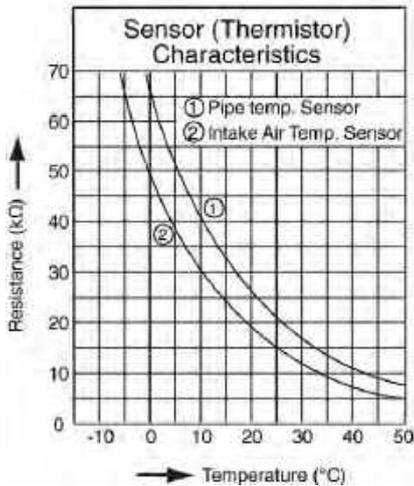
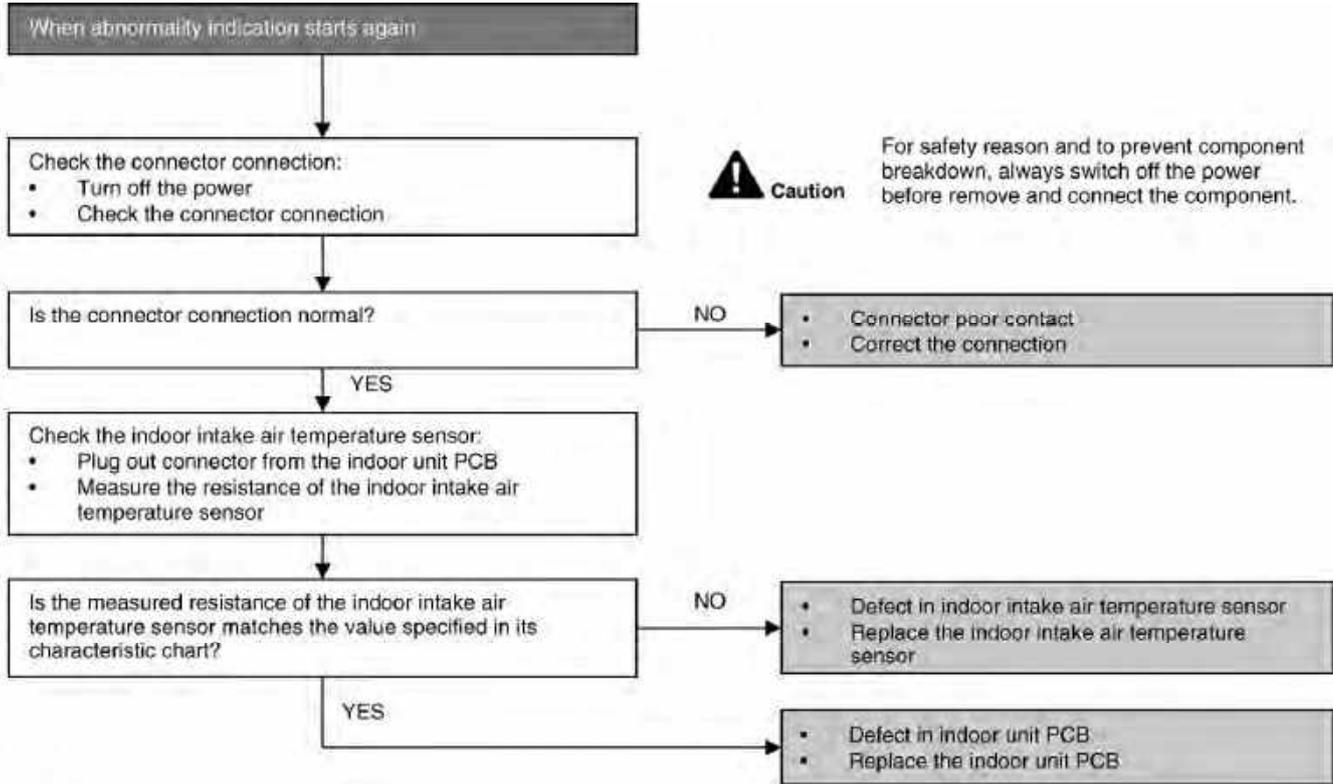
#### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the indoor intake air temperature sensor are used to determine sensor errors.

#### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

#### Troubleshooting



## 17.4.4 H15 (Compressor Temperature Sensor Abnormality)

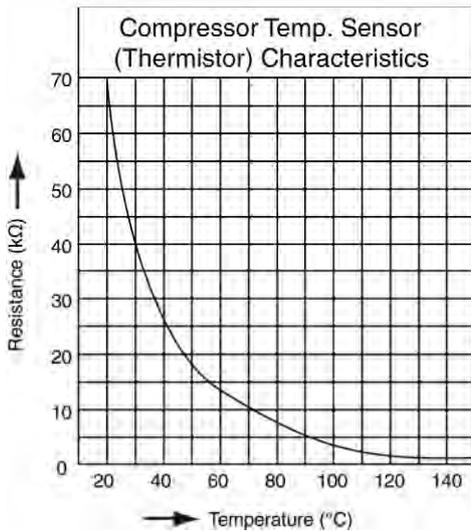
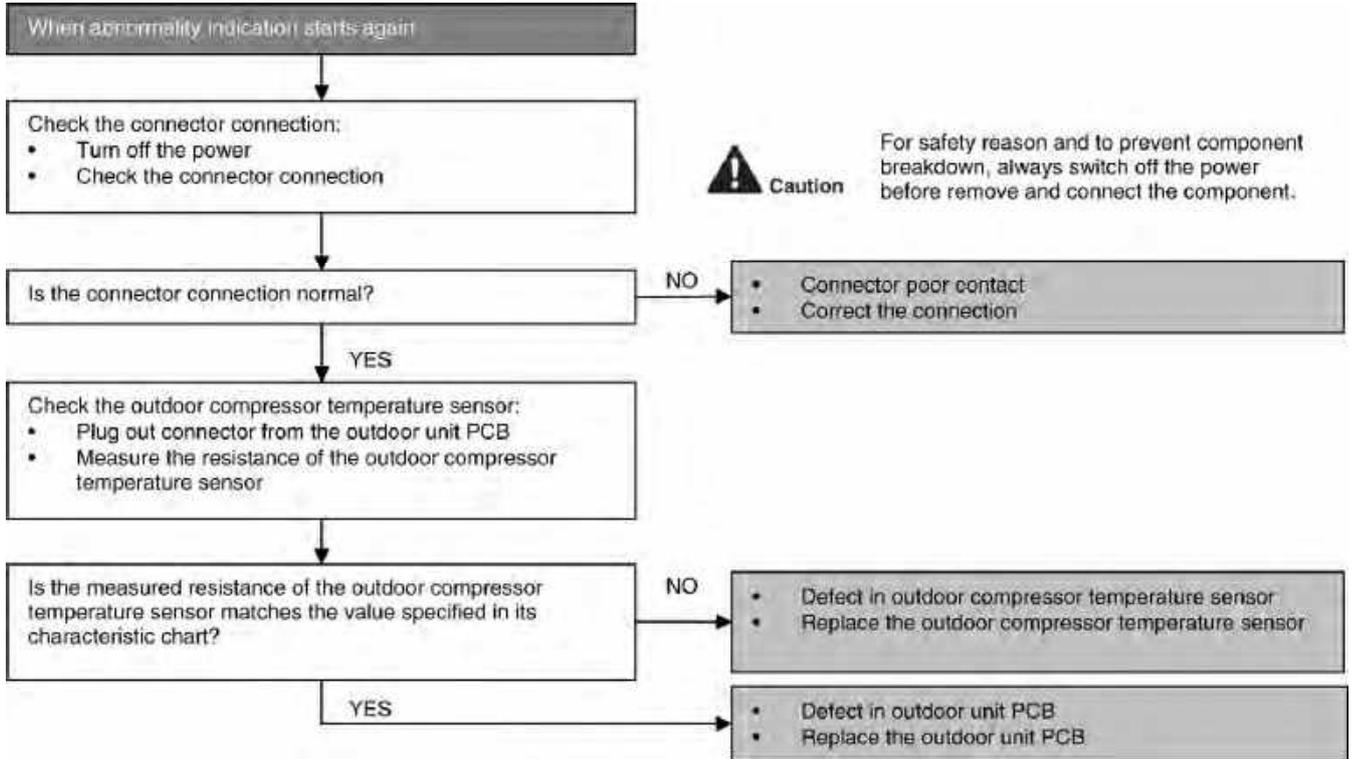
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor compressor temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



## 17.4.5 H16 (Outdoor Current Transformer)

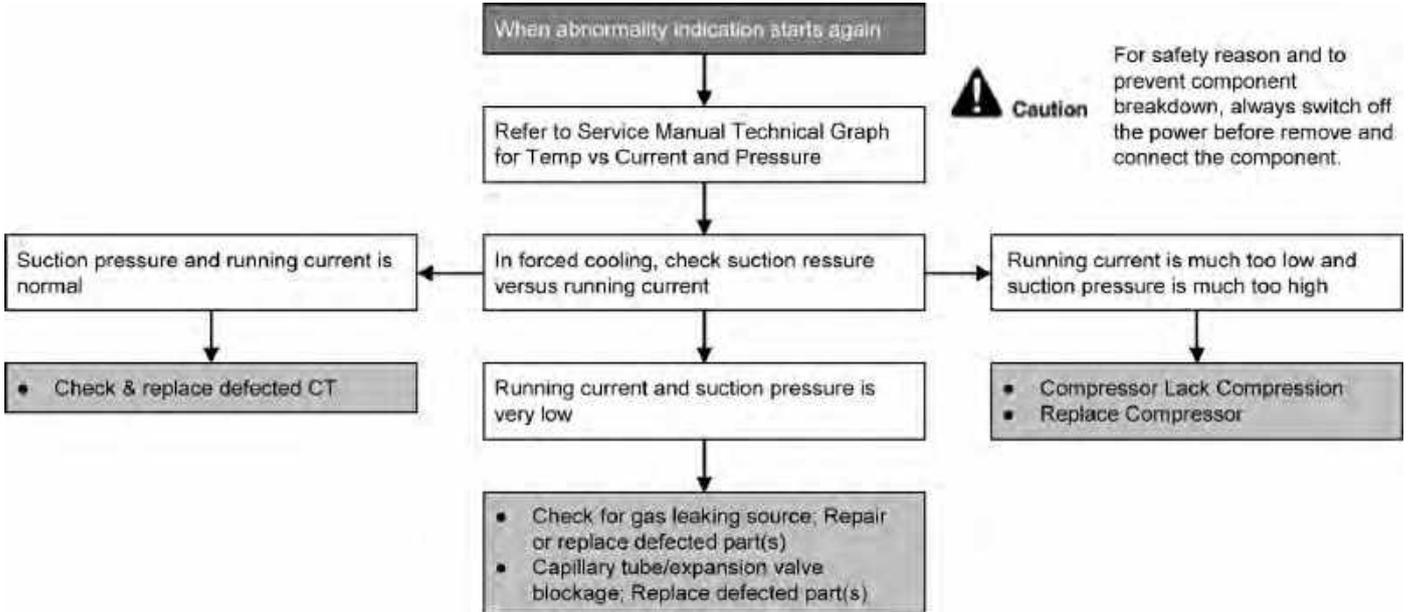
### Malfunction Decision Conditions

- An input current, detected by Current Transformer CT, is below threshold value when the compressor is operating at certain frequency value for 3 minutes.

### Malfunction Caused

- Lack of gas
- Broken CT (current transformer)
- Broken Outdoor PCB

### Troubleshooting



## 17.4.6 H19 (Indoor Fan Motor – DC Motor Mechanism Locked)

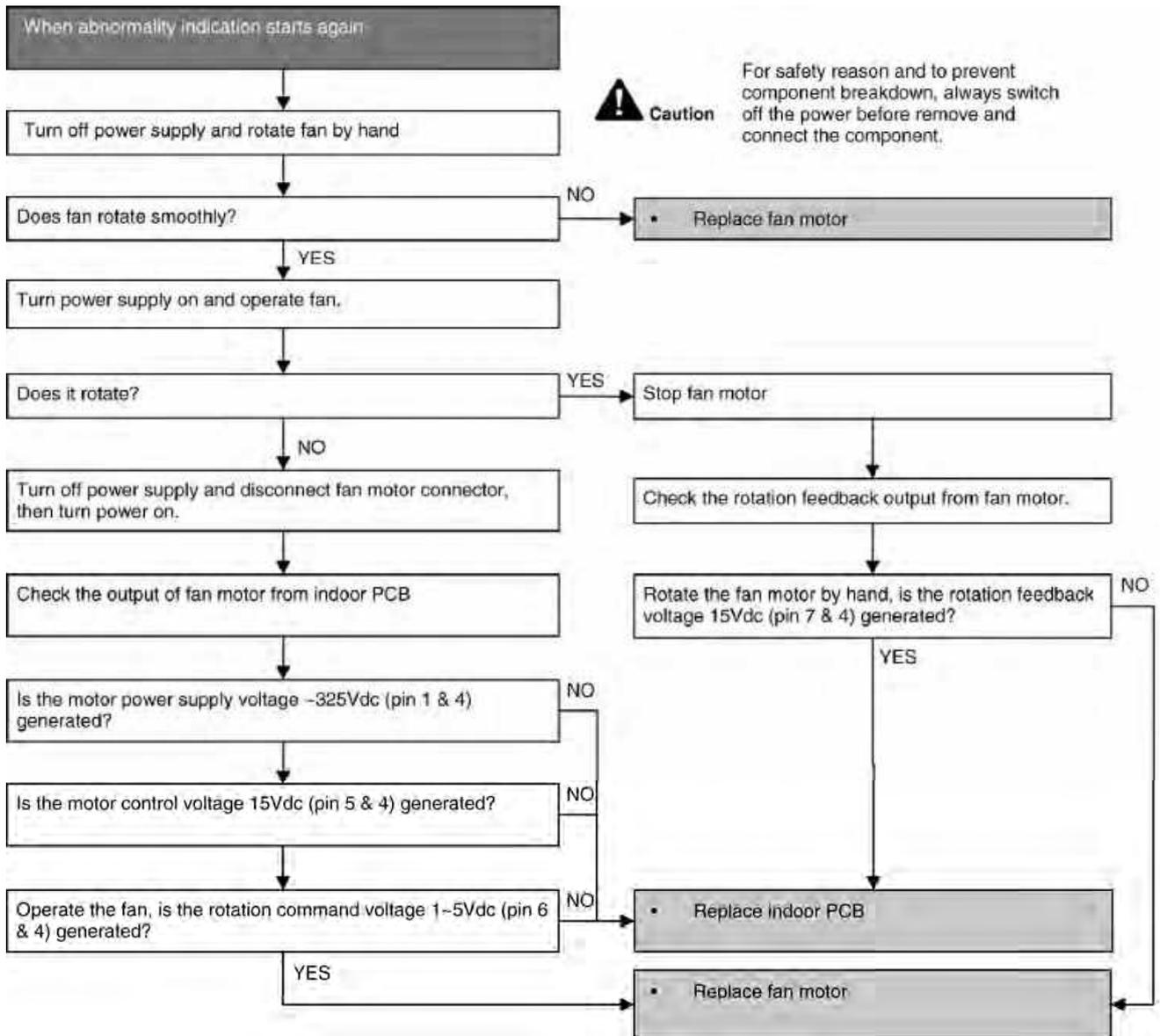
### Malfunction Decision Conditions

- The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor (feedback of rotation > 2550 rpm or < 50 rpm)

### Malfunction Caused

- Operation stops due to short circuit inside the fan motor winding.
- Operation stops due to breaking of wire inside the fan motor.
- Operation stops due to breaking of fan motor lead wires.
- Operation stops due to Hall IC malfunction.
- Operation error due to faulty indoor unit PCB.

### Troubleshooting



## 17.4.7 H23 (Indoor Pipe Temperature Sensor Abnormality)

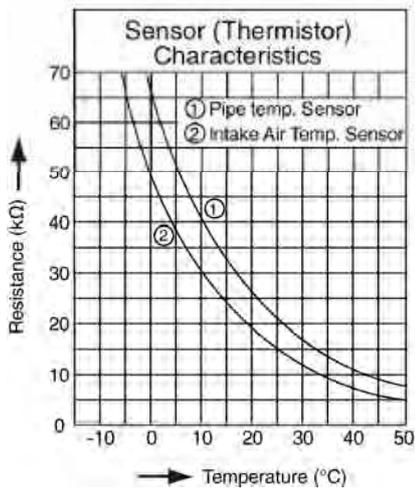
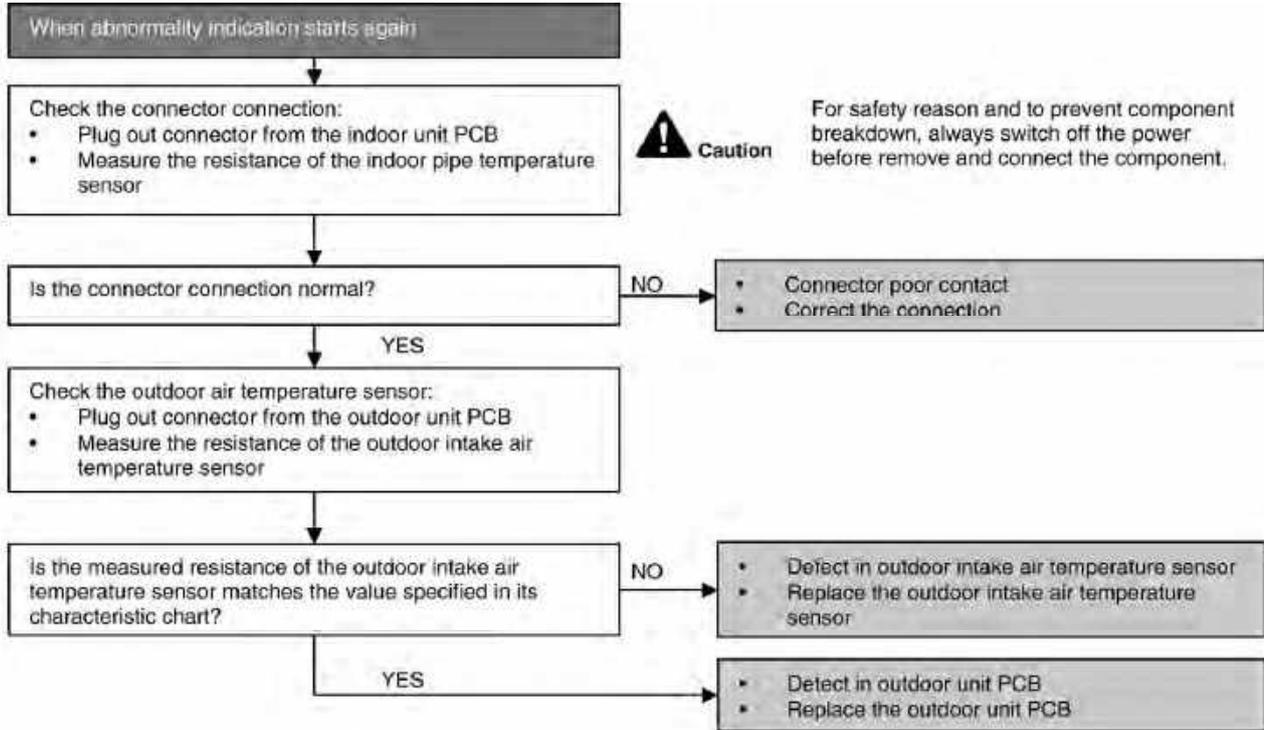
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the indoor heat exchanger temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



## 17.4.8 H27 (Outdoor Air Temperature Sensor Abnormality)

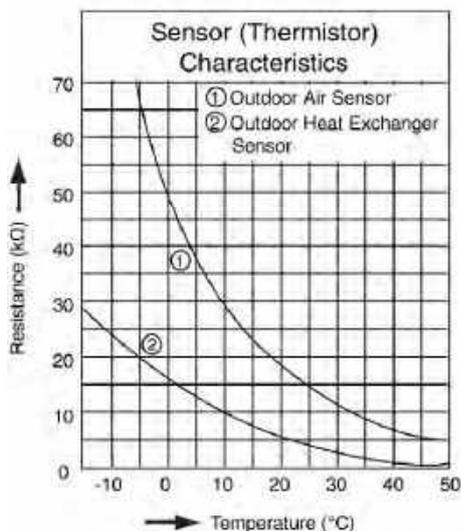
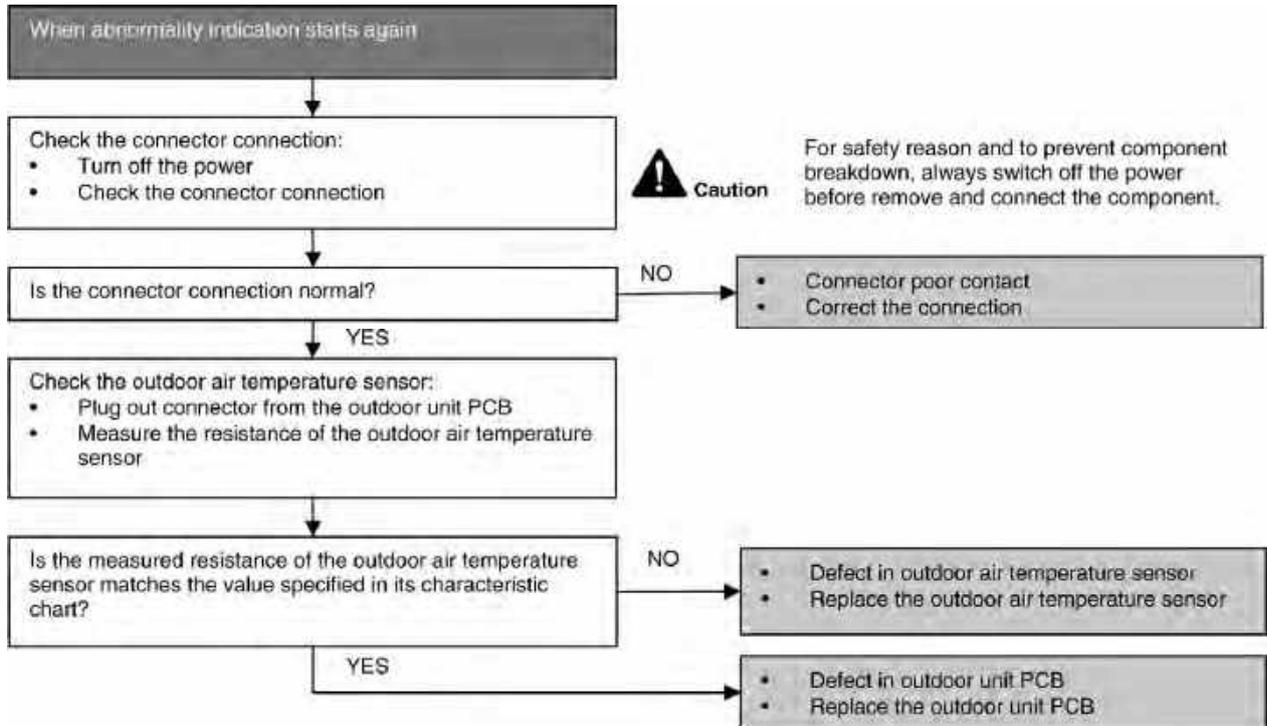
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor air temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



## 17.4.9 H28 (Outdoor Pipe Temperature Sensor Abnormality)

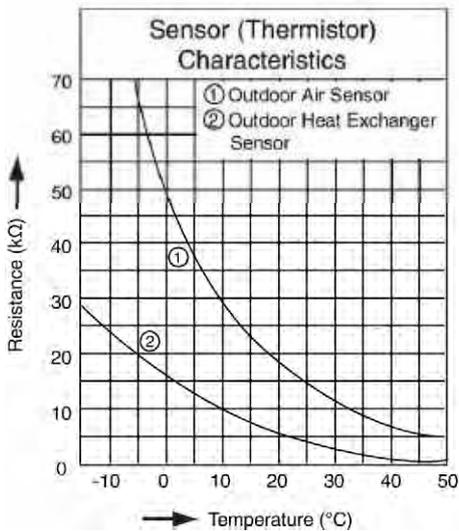
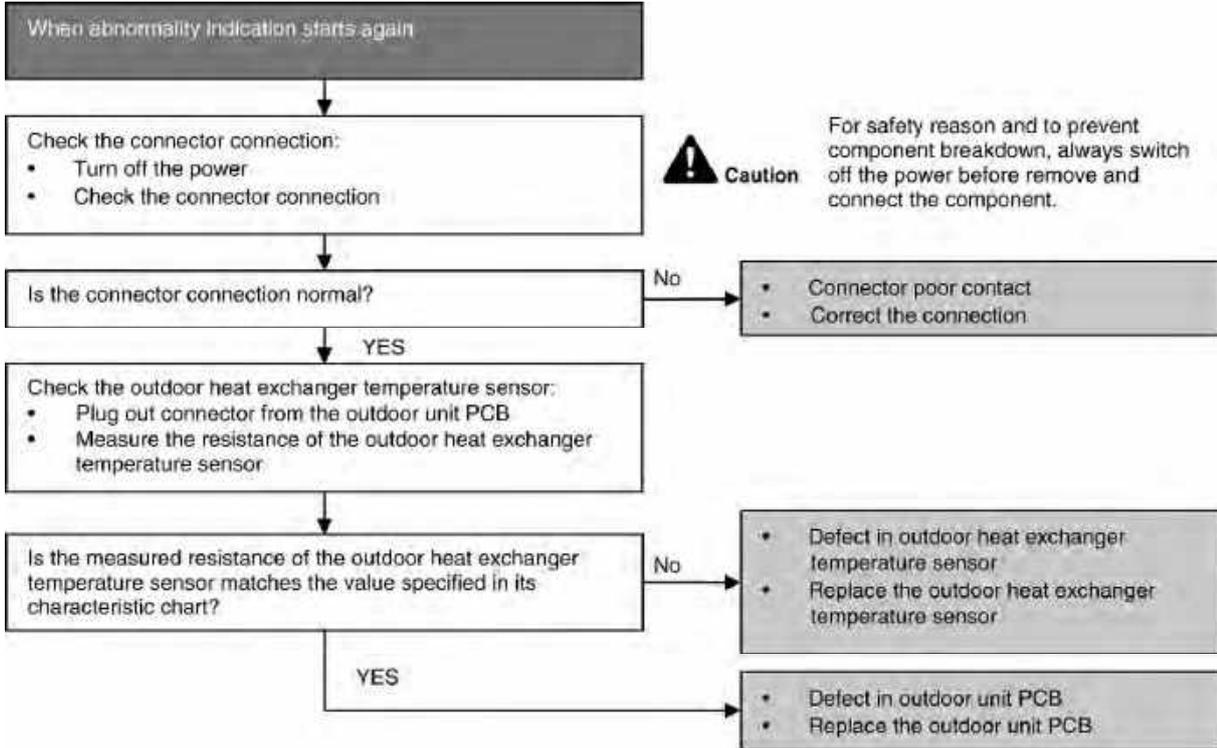
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor pipe temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



### 17.4.10 H30 (Compressor Discharge Temperature Sensor Abnormality)

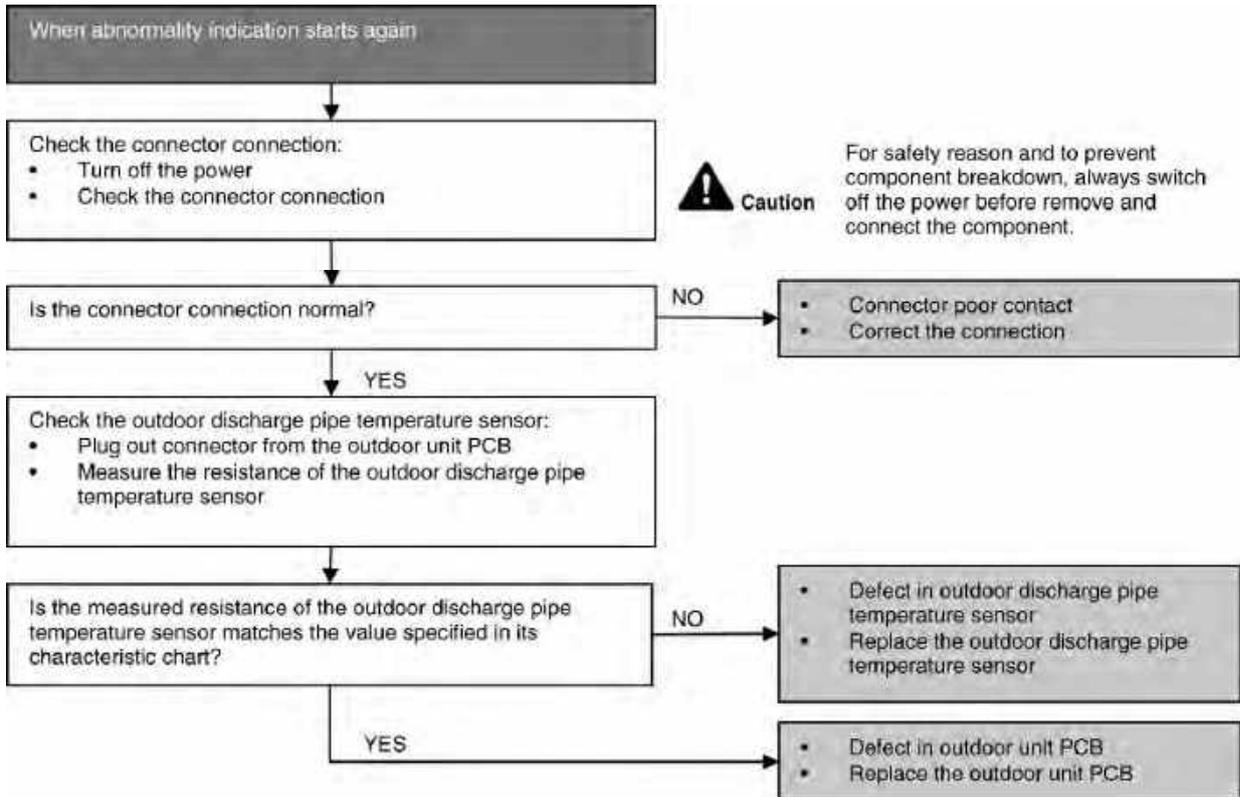
#### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor discharge pipe temperature sensor are used to determine sensor errors.

#### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

#### Troubleshooting



## 17.4.11 H32 (Outdoor Heat Exchanger Temperature Sensor 2 Abnormality)

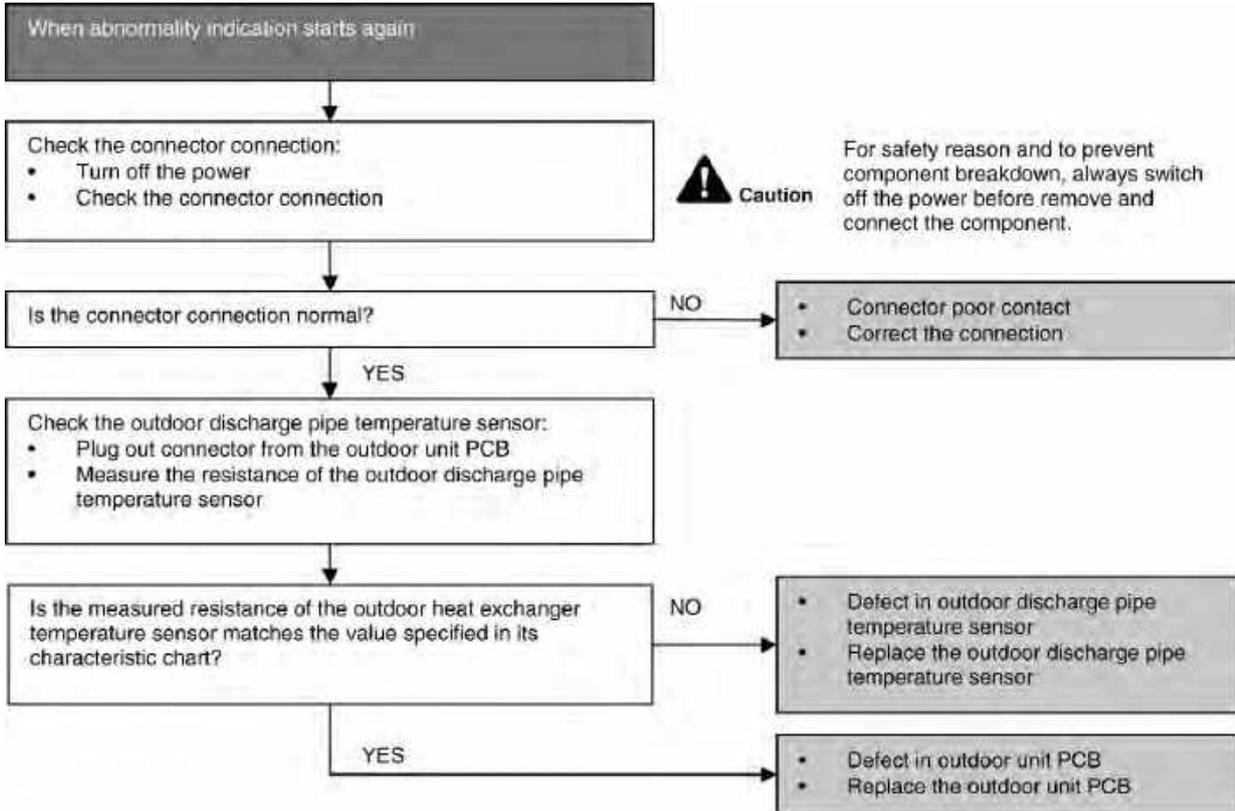
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor heat exchanger temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



## 17.4.12 H33 (Unspecified Voltage between Indoor and Outdoor)

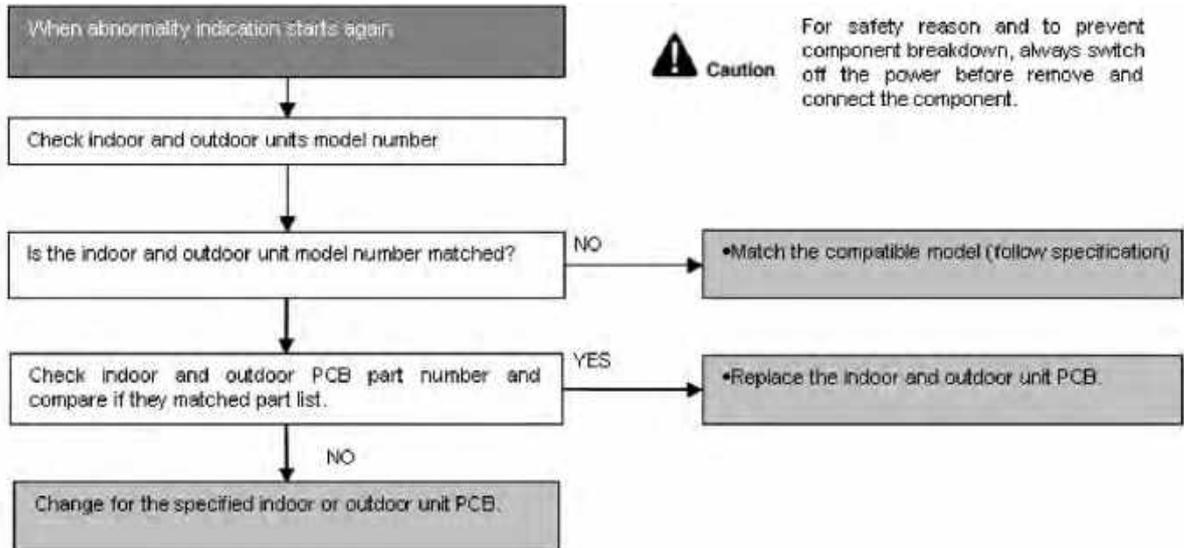
### Malfunction Decision Conditions

- The supply power is detected for its requirement by the indoor/outdoor transmission.

### Malfunction Caused

- Wrong models interconnected.
- Wrong indoor unit and outdoor unit PCBs used.
- Indoor unit or outdoor unit PCB defective.

### Troubleshooting



### 17.4.13 H34 (Outdoor Heat Sink Temperature Sensor Abnormality)

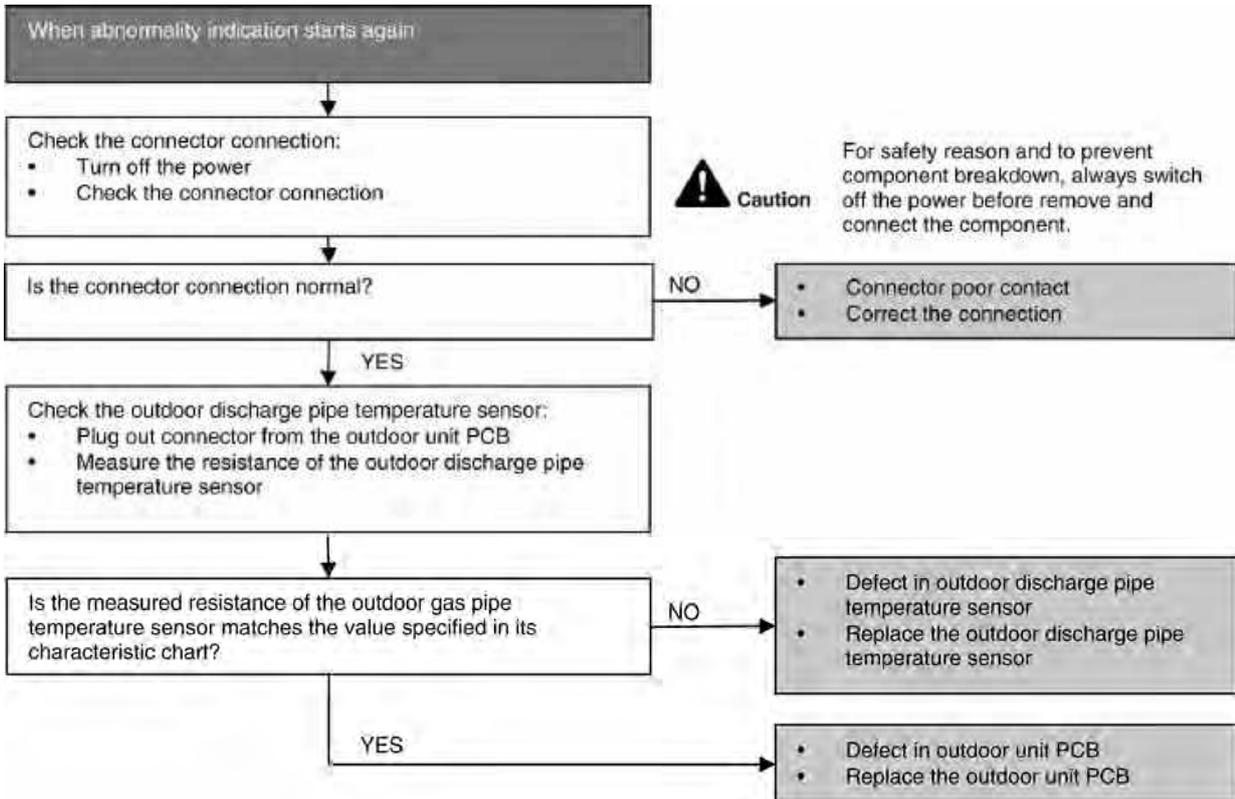
#### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor heat sink temperature sensor are used to determine sensor errors.

#### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

#### Troubleshooting



### 17.4.14 H36 (Outdoor Gas Pipe Sensor Abnormality)

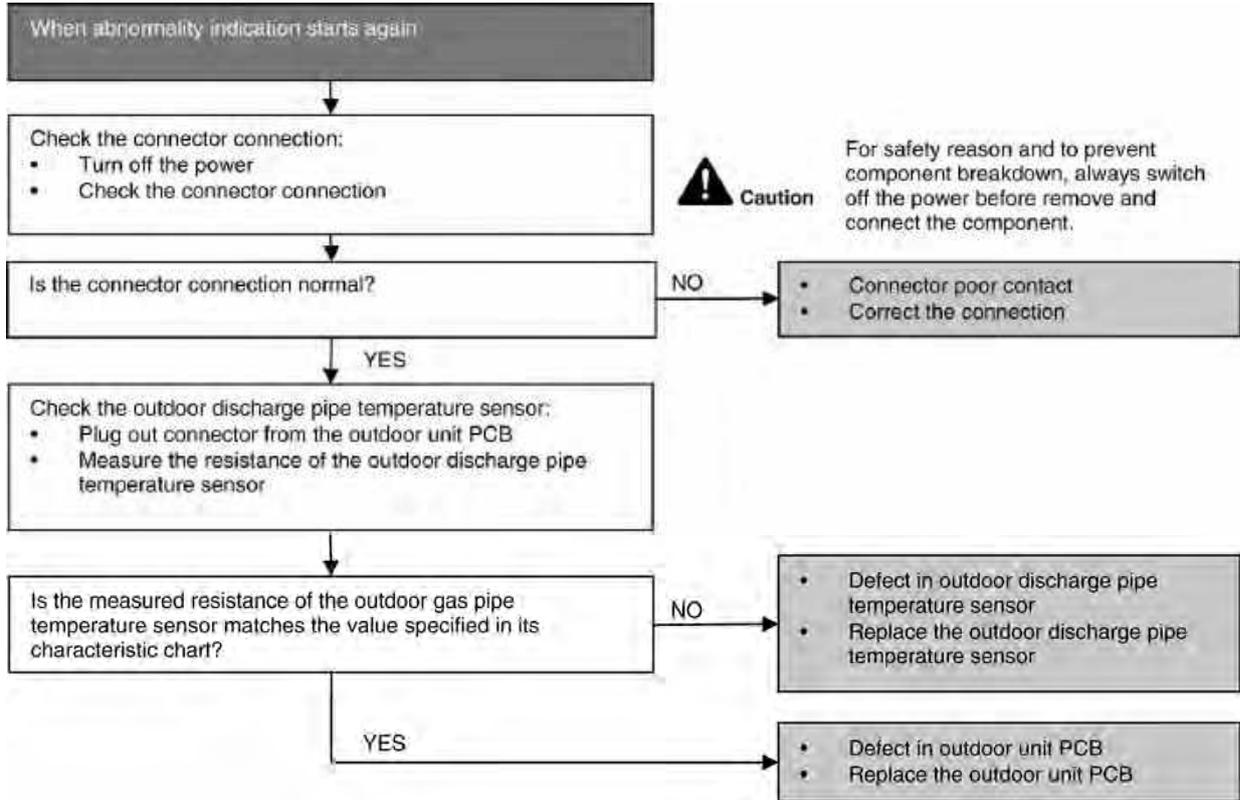
#### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor gas pipe temperature sensor are used to determine sensor errors.

#### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

#### Troubleshooting



## 17.4.15 H37 (Outdoor Liquid Pipe Temperature Sensor Abnormality)

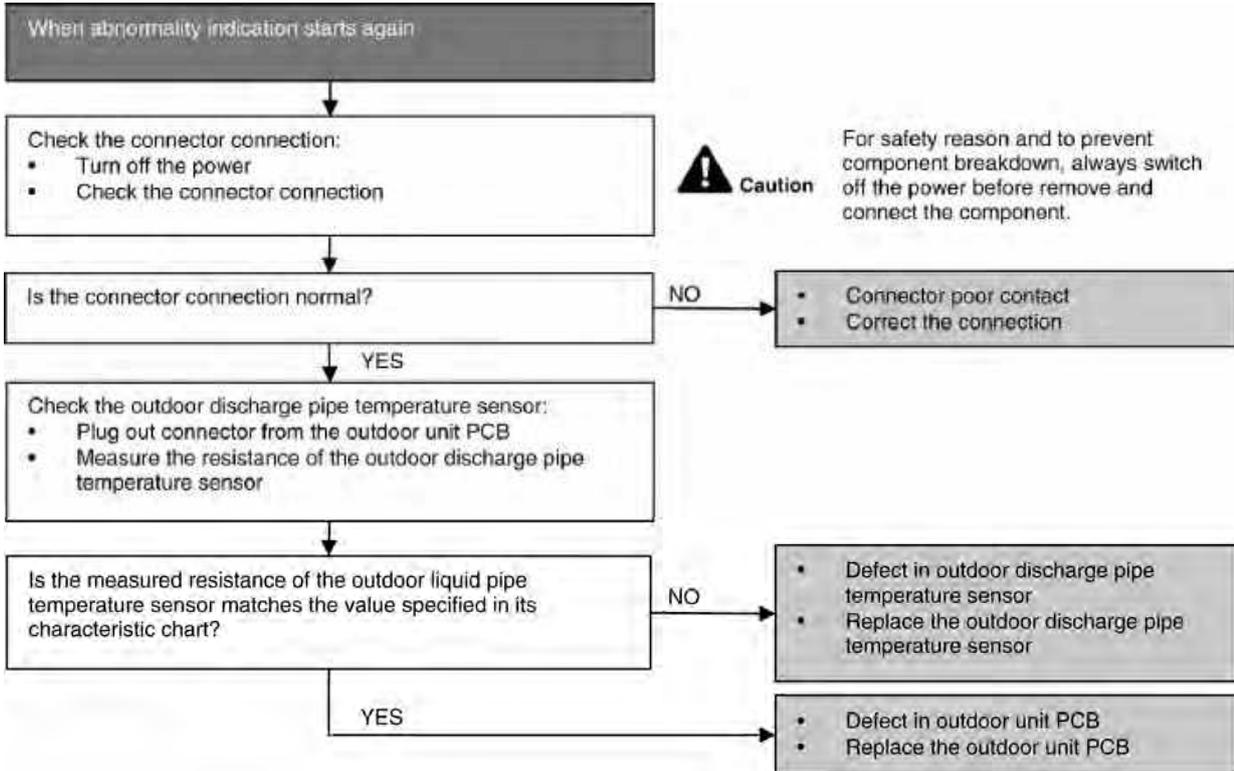
### Malfunction Decision Conditions

- During startup and operation of cooling and heating, the temperatures detected by the outdoor liquid pipe temperature sensor are used to determine sensor errors.

### Malfunction Caused

- Faulty connector connection.
- Faulty sensor.
- Faulty PCB.

### Troubleshooting



## 17.4.16 H97 (Outdoor Fan Motor – DC Motor Mechanism Locked)

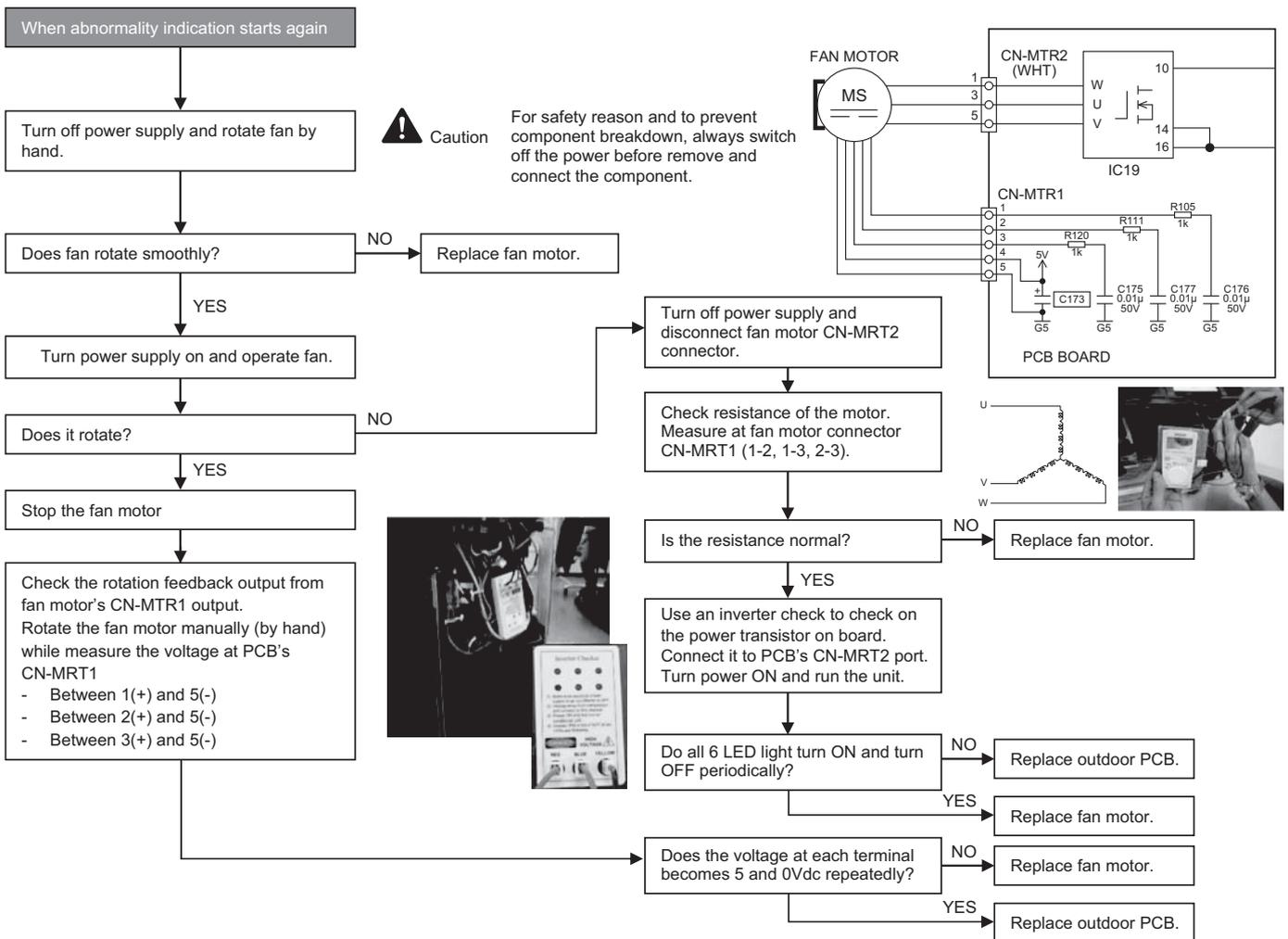
### Malfunction Decision Conditions

- The rotation speed detected by the Hall IC during fan motor operation is used to determine abnormal fan motor.

### Malfunction Caused

- Operation stops due to short circuit inside the fan motor winding.
- Operation stops due to breaking of wire inside the fan motor.
- Operation stops due to breaking of fan motor lead wires.
- Operation stops due to Hall IC malfunction.
- Operation error due to faulty outdoor unit PCB.

### Troubleshooting



## 17.4.17 H98 (Error Code Stored in Memory and no alarm is triggered / no TIMER LED flashing)

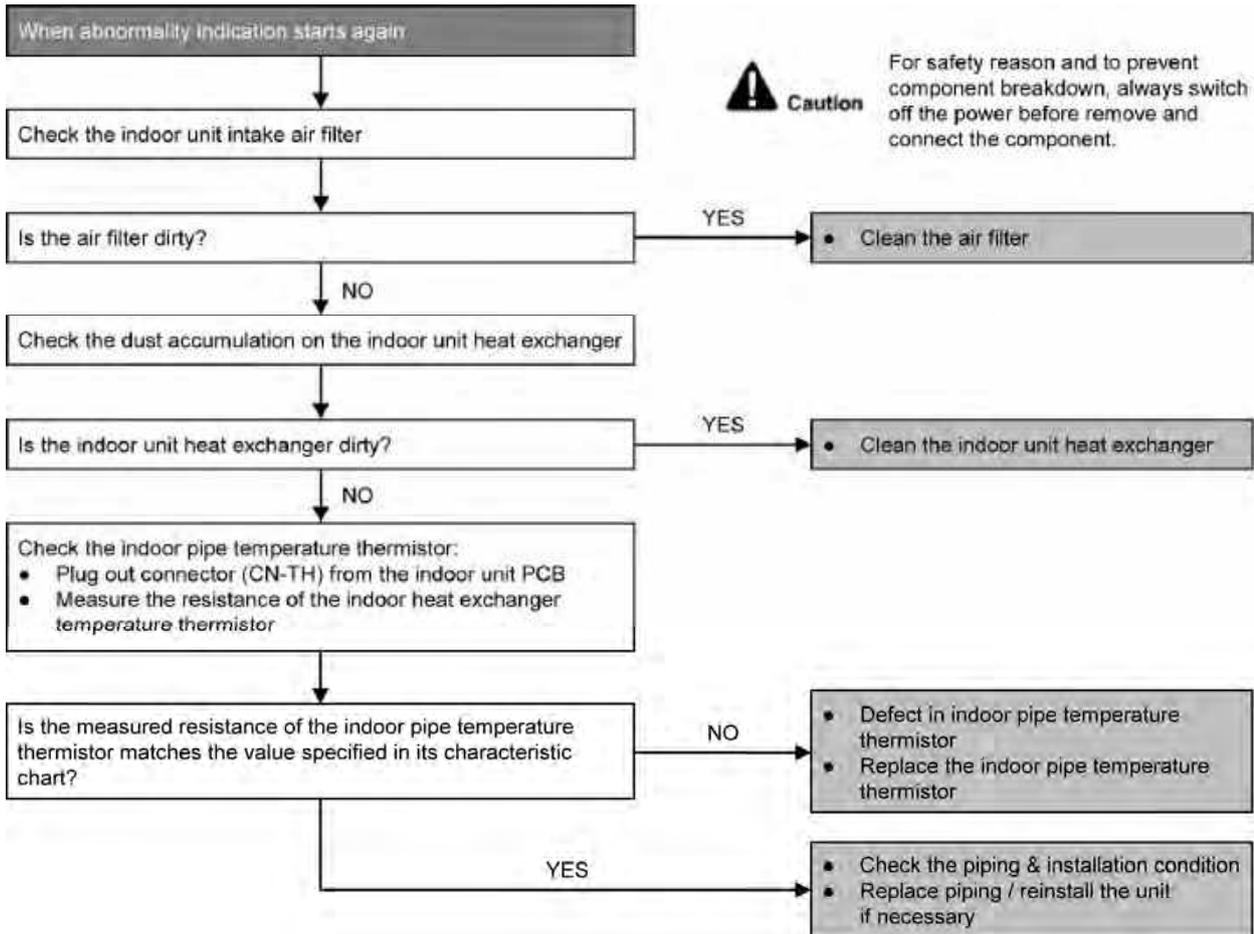
### Malfunction Decision Conditions

- Indoor high pressure is detected when indoor heat exchanger is detecting very high temperature when the unit is operating in heating operation.
- Phenomena: unit is stopping and re-starting very often in heating mode

### Malfunction Caused

- Indoor heat exchanger thermistor
- Clogged air filter or heat exchanger
- Over-bent pipe (liquid side)

### Troubleshooting



## 17.4.18 H99 (Indoor Freeze Prevention Protection: Cooling or Soft Dry)

Error Code will not display (no Timer LED blinking) but store in EEPROM

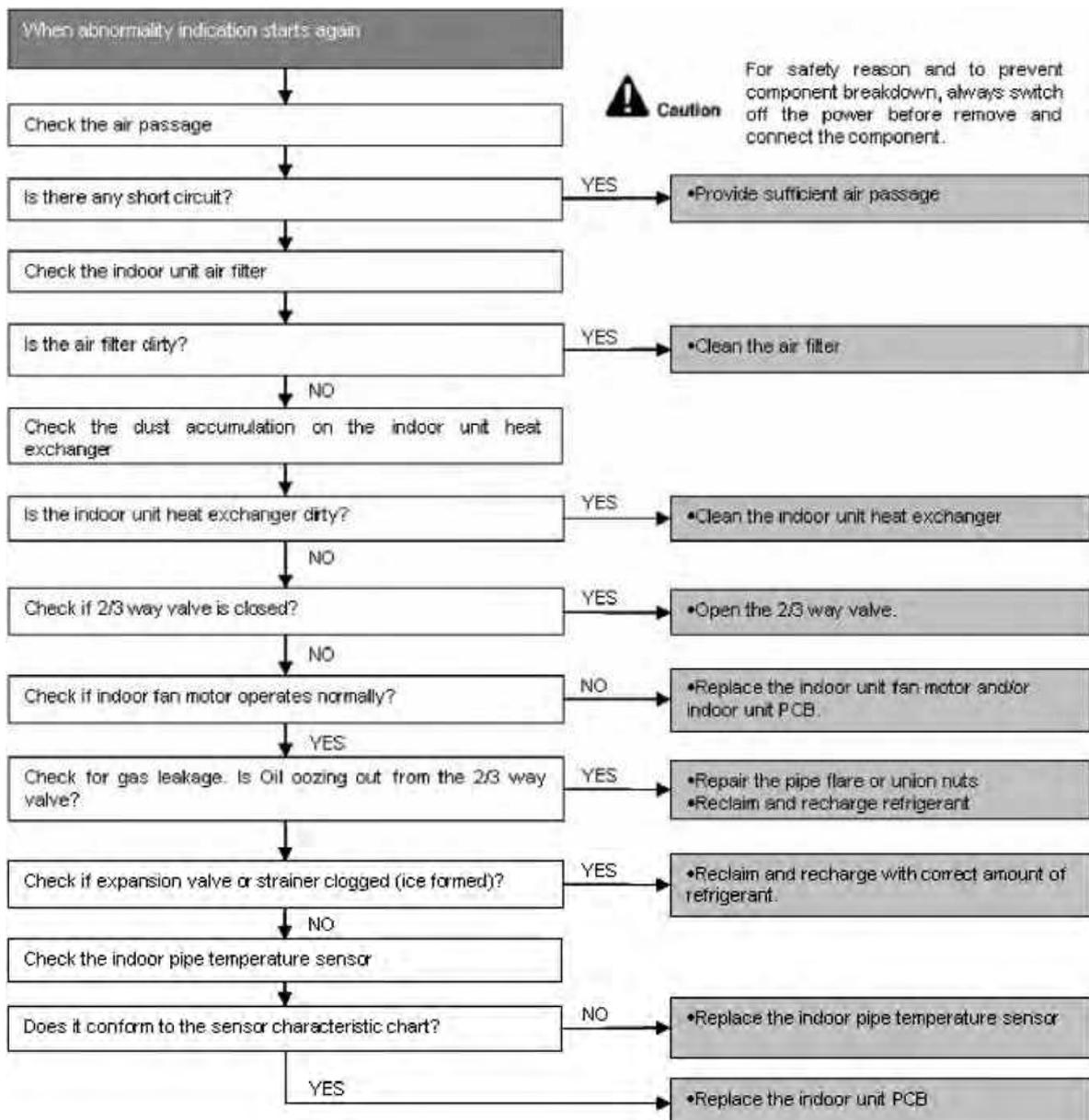
### Malfunction Decision Conditions

- Freeze prevention control takes place (when indoor pipe temperature is lower than 2°C)

### Malfunction Caused

- Air short circuit at indoor unit
- Clogged indoor unit air filter
- Dust accumulation on the indoor unit heat exchanger
- 2/3 way valve closed
- Faulty indoor unit fan motor
- Refrigerant shortage (refrigerant leakage)
- Clogged expansion valve or strainer
- Faulty indoor pipe temperature sensor
- Faulty indoor unit PCB

### Troubleshooting



## 17.4.19 F11 (4-way Valve Switching Failure)

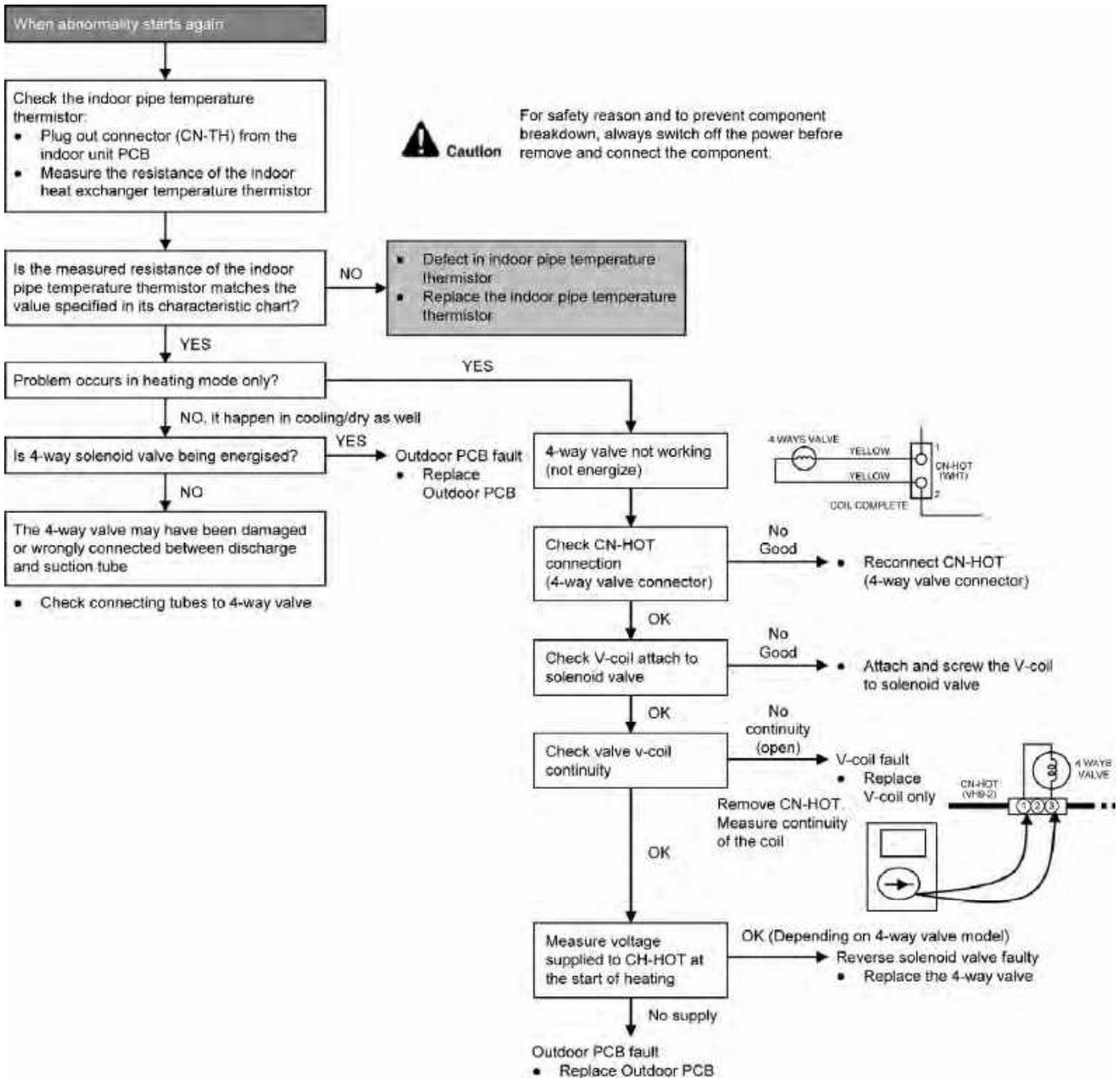
### Malfunction Decision Conditions

- When indoor heat exchanger is cold during heating (except deice) or when indoor heat exchanger is hot during cooling and compressor operating, the 4-way valve is detected as malfunction.

### Malfunction Caused

- Indoor heat exchanger (pipe) thermistor
- 4-way valve malfunction

### Troubleshooting



\* Check gas side pipe – for hot gas flow in cooling mode

## 17.4.20 F17 (Indoor Standby Units Freezing Abnormality)

### Malfunction Decision Conditions

- When the different between indoor intake air temperature and indoor pipe temperature is above 10°C or indoor pipe temperature is below -1.0°C.

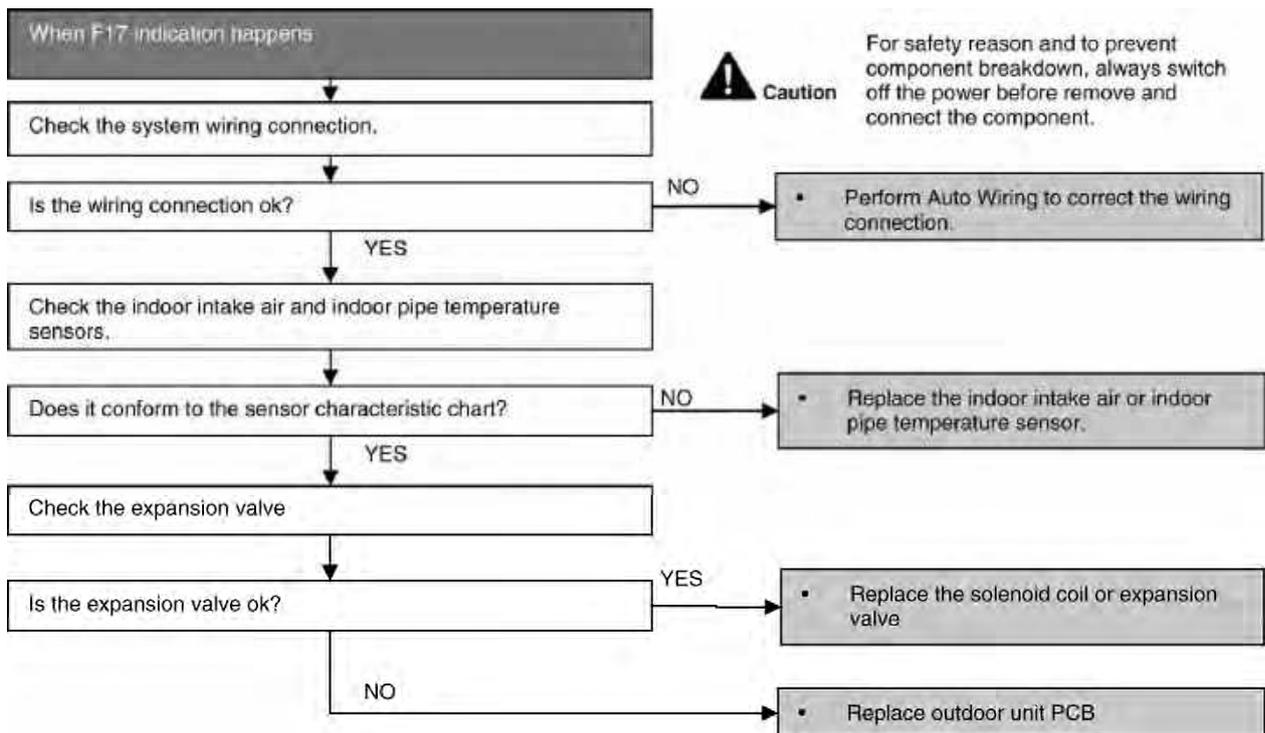
#### Remark:

When the indoor standby unit is freezing, the outdoor unit transfers F17 error code to the corresponding indoor unit and H39 to other indoor unit(s).

### Malfunction Caused

- Wrong wiring connection
- Faulty sensor
- Faulty expansion valve

### Troubleshooting



## 17.4.21 F90 (Power Factor Correction Protection)

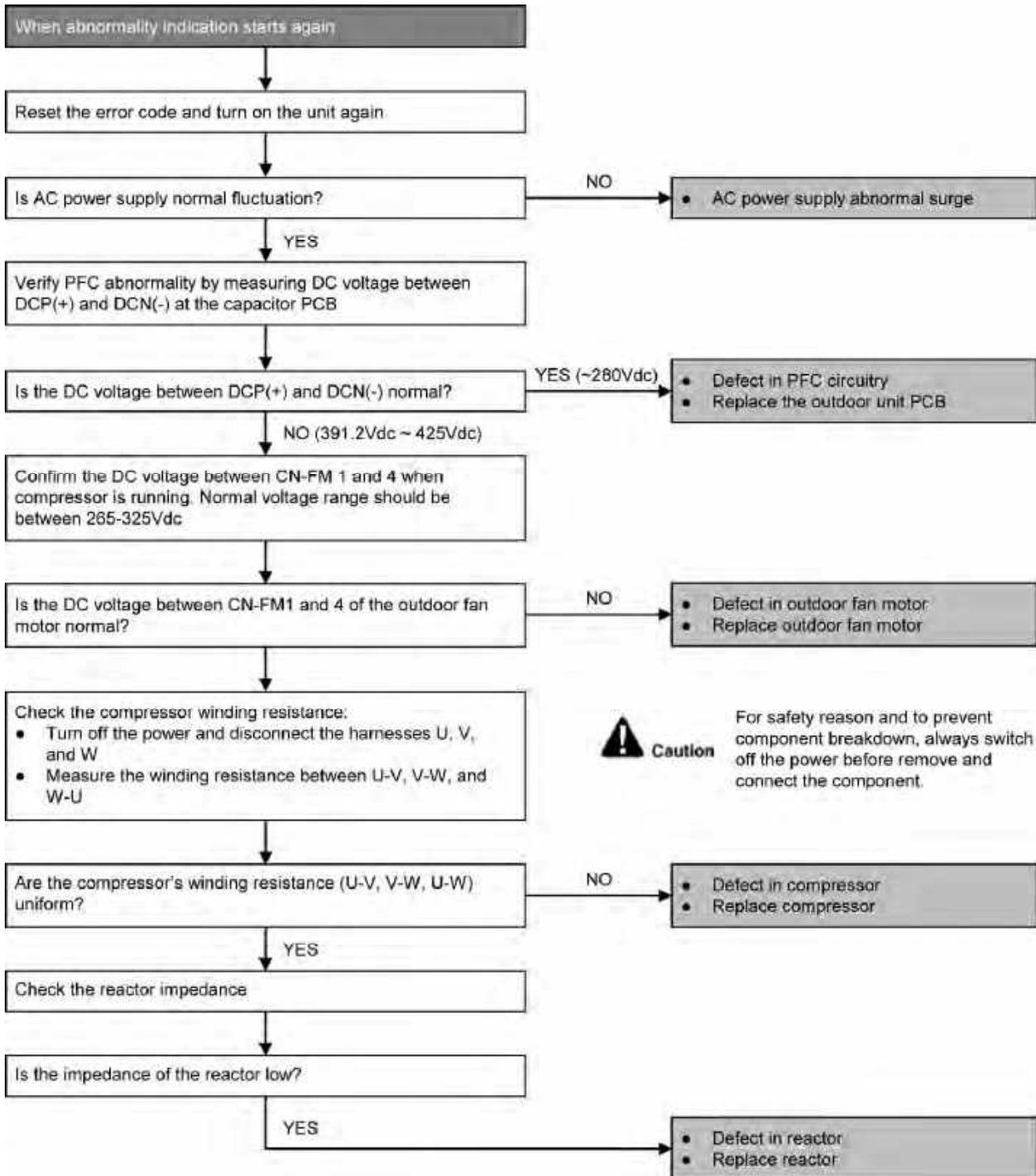
### Malfunction Decision Conditions

- To maintain DC voltage level supply to power transistor.
- To detect high DC voltage level after rectification.

### Malfunction Caused

- During startup and operation of cooling and heating, when Power Factor Correction (PFC) protection circuitry at the outdoor unit main PCB senses abnormal DC voltage level for power transistors.
- When DC voltage detected is LOW, transistor switching will turn ON by controller to push-up the DC level.
- When DC voltage detected is HIGH (391Vdc – 425Vdc), active LOW signal will send by the controller to turn OFF relay RY-C.

### Troubleshooting



## 17.4.22 F91 (Refrigeration Cycle Abnormality)

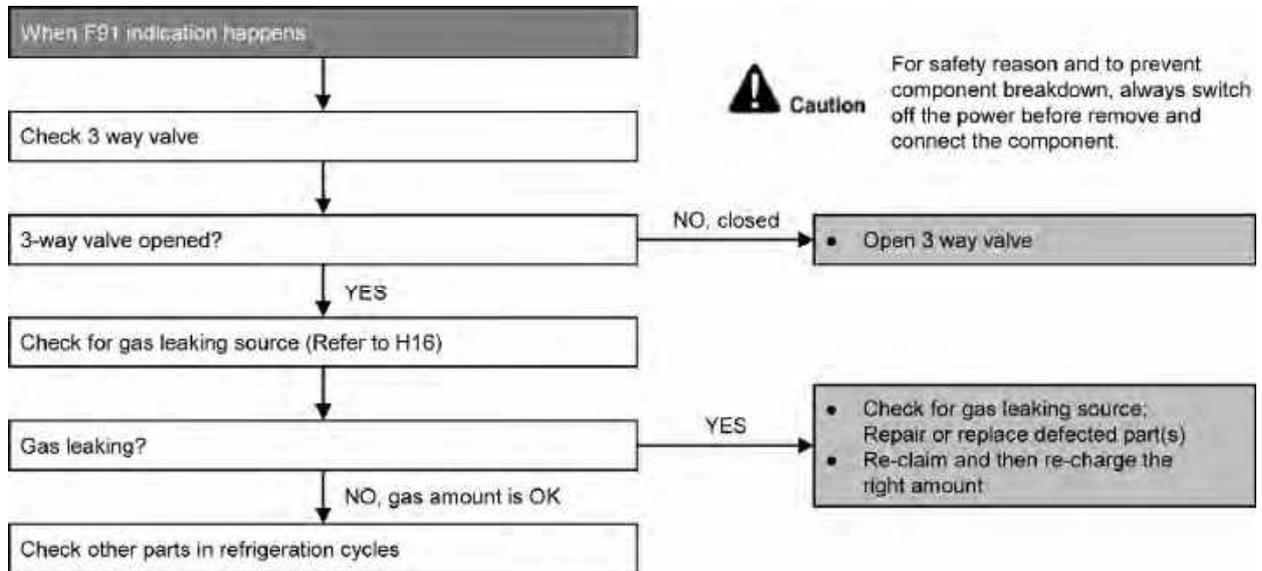
### Malfunction Decision Conditions

- The input current is low while the compressor is running at higher than the setting frequency.

### Malfunction Caused

- Lack of gas.
- 3-way valve close.

### Troubleshooting



### 17.4.23 F93 (Compressor Rotation Failure)

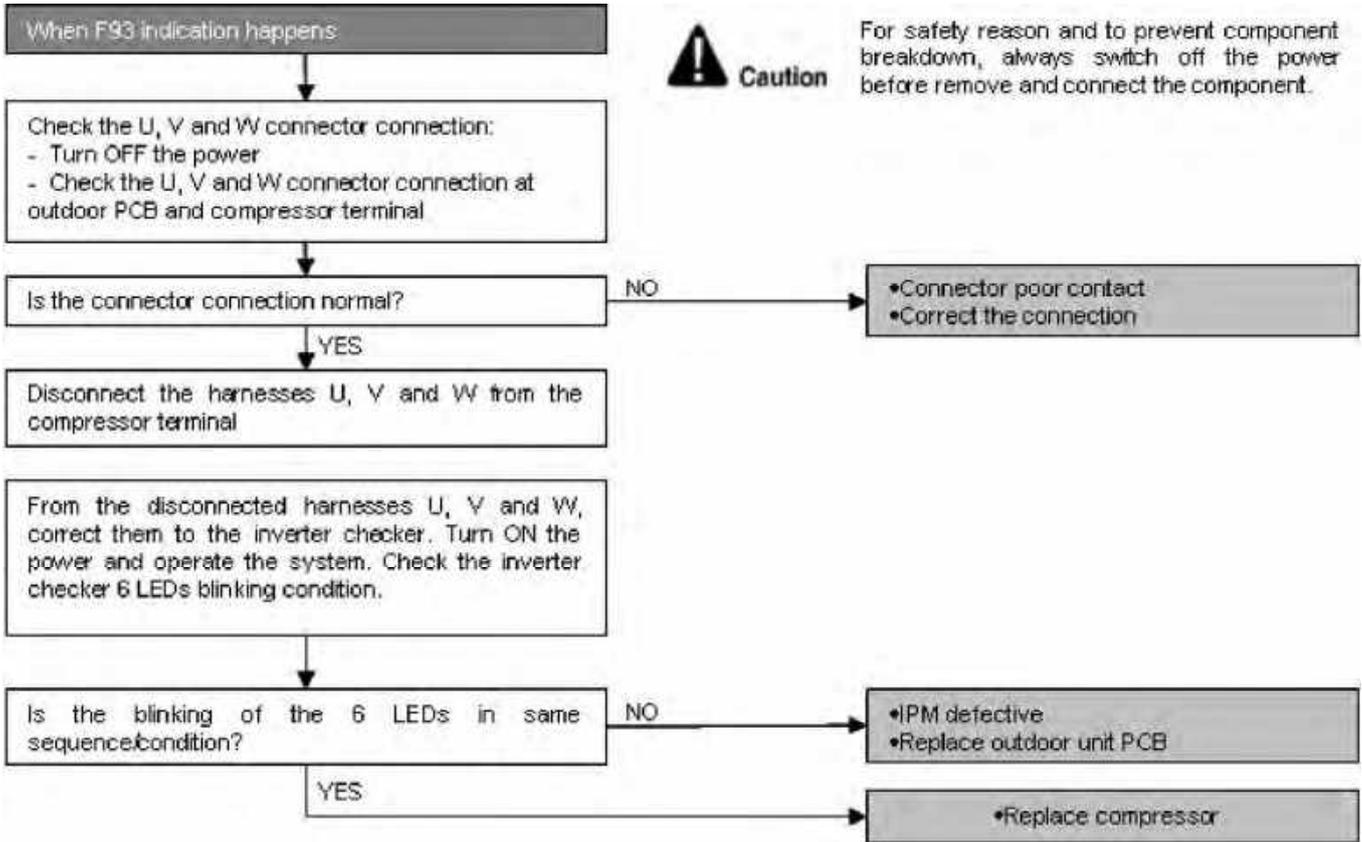
#### Malfunction Decision Conditions

- A compressor rotation failure is detected by checking the compressor running condition through the position detection circuit.

#### Malfunction Caused

- Compressor terminal disconnect
- Faulty Outdoor PCB
- Faulty compressor

#### Troubleshooting



## 17.4.24 F95 (Outdoor High Pressure Protection: Cooling or Soft Dry)

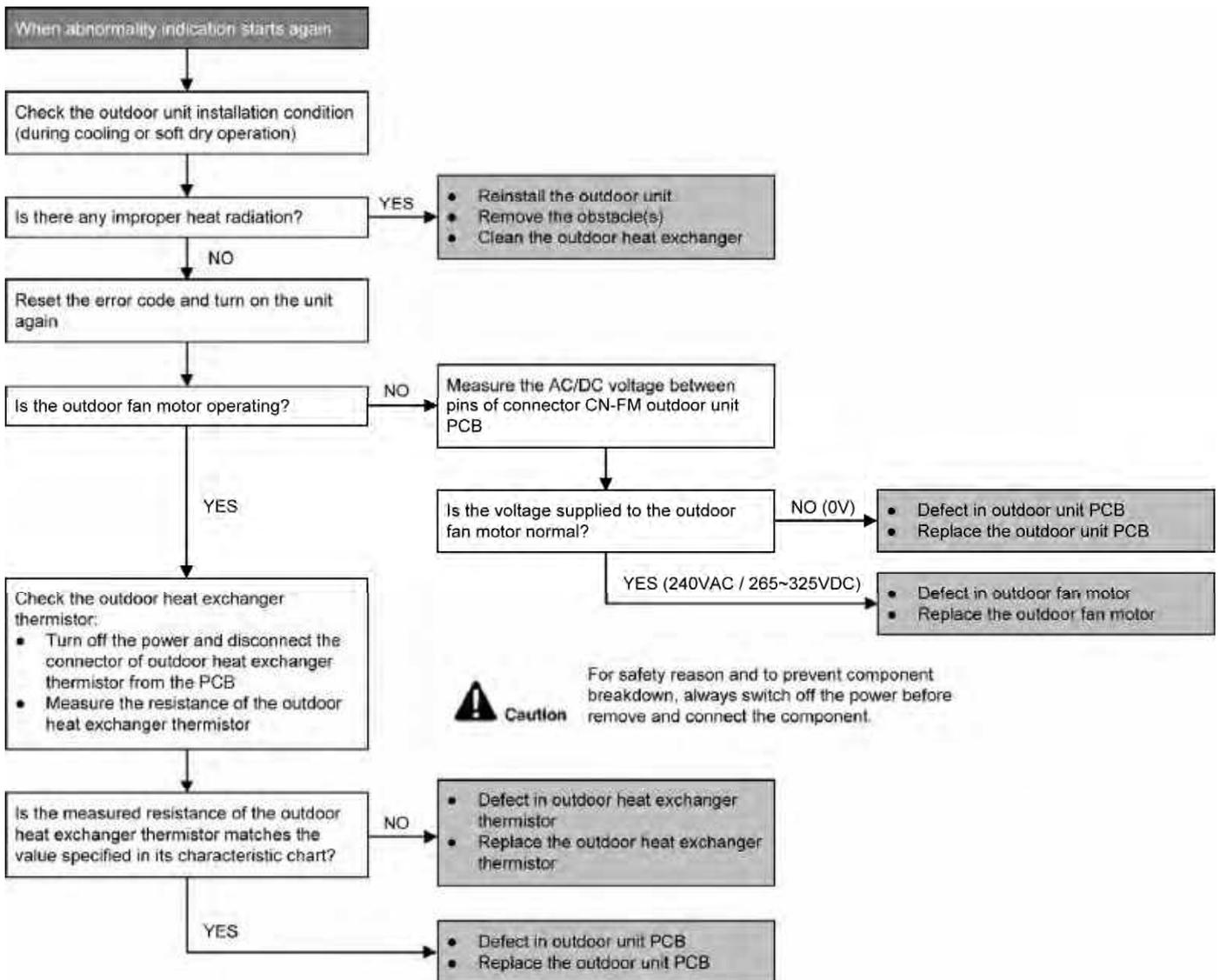
### Malfunction Decision Conditions

- During operation of cooling or soft dry, when outdoor unit heat exchanger high temperature data is detected by the outdoor unit heat exchanger thermistor.

### Malfunction Caused

- Outdoor heat exchanger temperature rise due to short-circuit of hot discharge air flow.
- Outdoor heat exchanger temperature rise due to defective of outdoor fan motor.
- Outdoor heat exchange temperature rise due to defective outdoor heat exchanger thermistor.
- Outdoor heat exchanger temperature rise due to defective of outdoor unit PCB.

### Troubleshooting



## 17.4.25 F96 (IPM Overheating)

### Malfunction Decision Conditions

- During operating of cooling and heating, when IPM temperature data (100°C) is detected by the IPM temperature sensor.

#### *Multi Models only*

- Compressor Overheating: During operation of cooling and heating, when the compressor OL is activated.
- Heat Sink Overheating: During operation of cooling and heating, when heat sink temperature data (90°C) is detected by the heat sink temperature sensor.

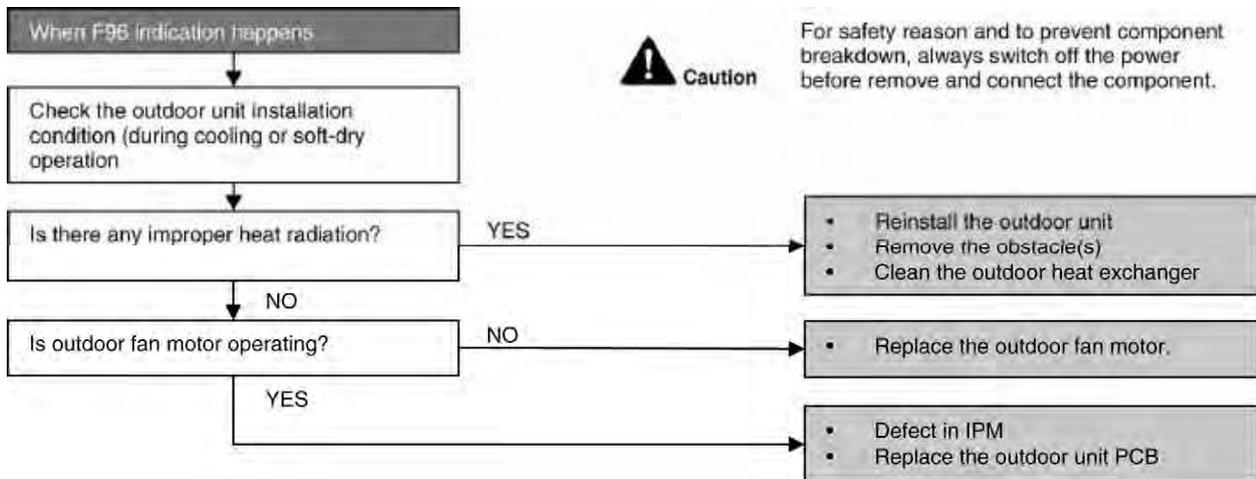
### Malfunction Caused

- IPM overheats due to short circuit of hot discharge air flow.
- IPM overheats due to defective of outdoor fan motor.
- IPM overheats due to defective of internal circuitry of IPM.
- IPM overheats due to defective IPM temperature sensor.

#### *Multi Models Only*

- Compressor OL connector poor contact.
- Compressor OL faulty.

### Troubleshooting



## 17.4.26 F97 (Compressor Overheating)

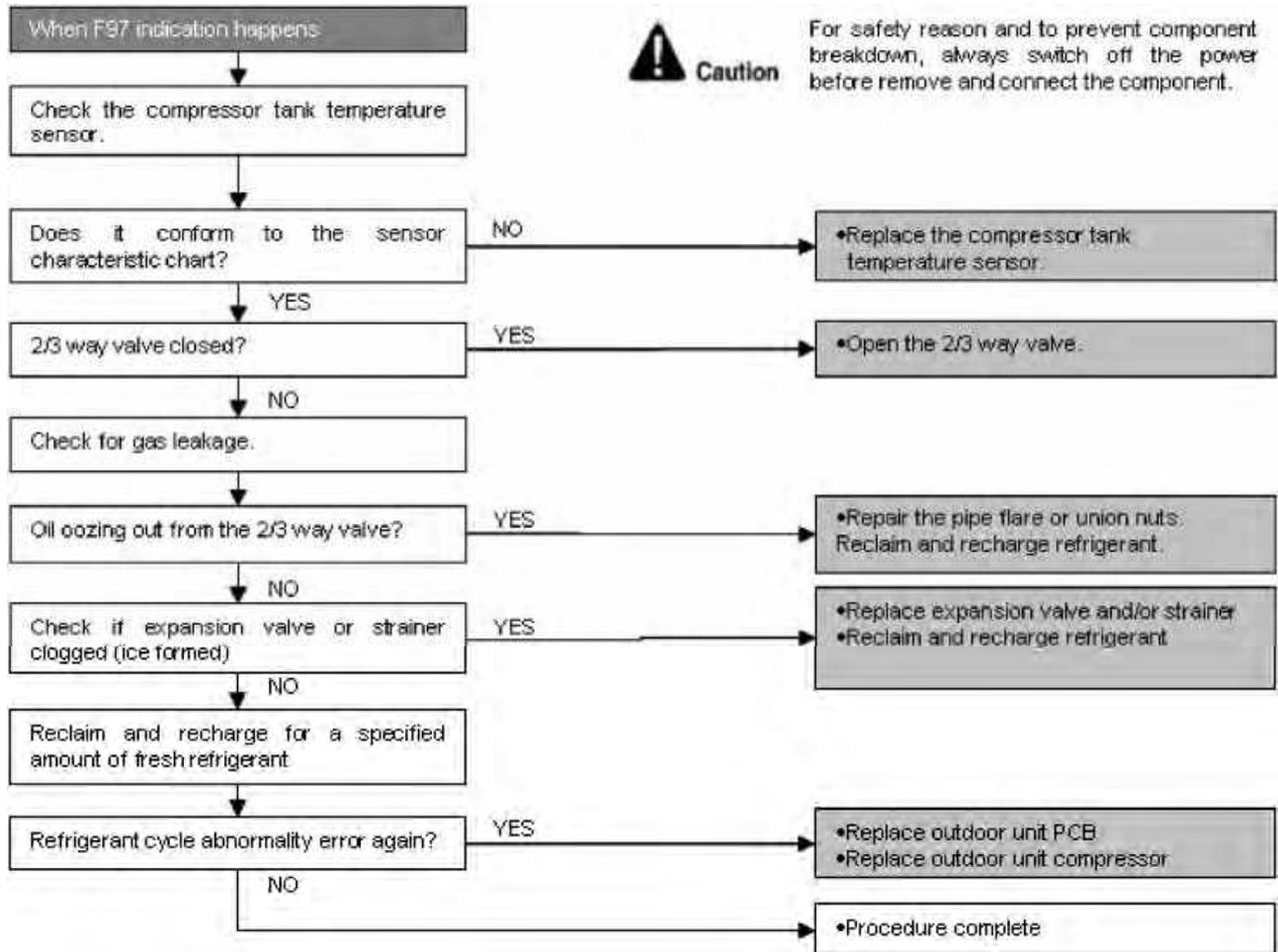
### Malfunction Decision Conditions

- During operation of cooling and heating, when compressor tank temperature data (112°C) is detected by the compressor tank temperature sensor.

### Malfunction Caused

- Faulty compressor tank temperature sensor
- 2/3 way valve closed
- Refrigerant shortage (refrigerant leakage)
- Faulty outdoor unit PCB
- Faulty compressor

### Troubleshooting



## 17.4.27 F98 (Input Over Current Detection)

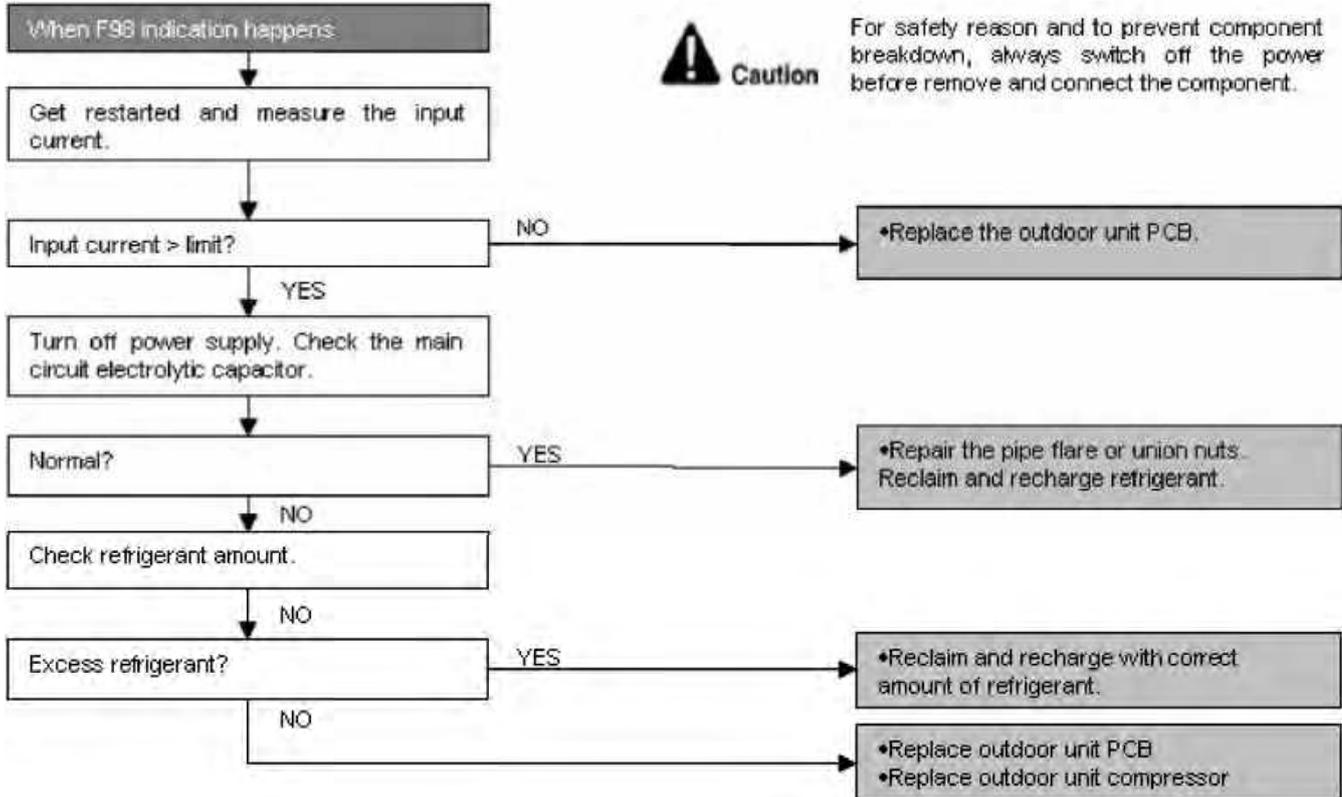
### Malfunction Decision Conditions

- During operation of cooling and heating, when an input over-current (X value in Total Running Current Control) is detected by checking the input current value being detected by current transformer (CT) with the compressor running.

### Malfunction Caused

- Excessive refrigerant.
- Faulty outdoor unit PCB.

### Troubleshooting



## 17.4.28 F99 (DC Peak Detection)

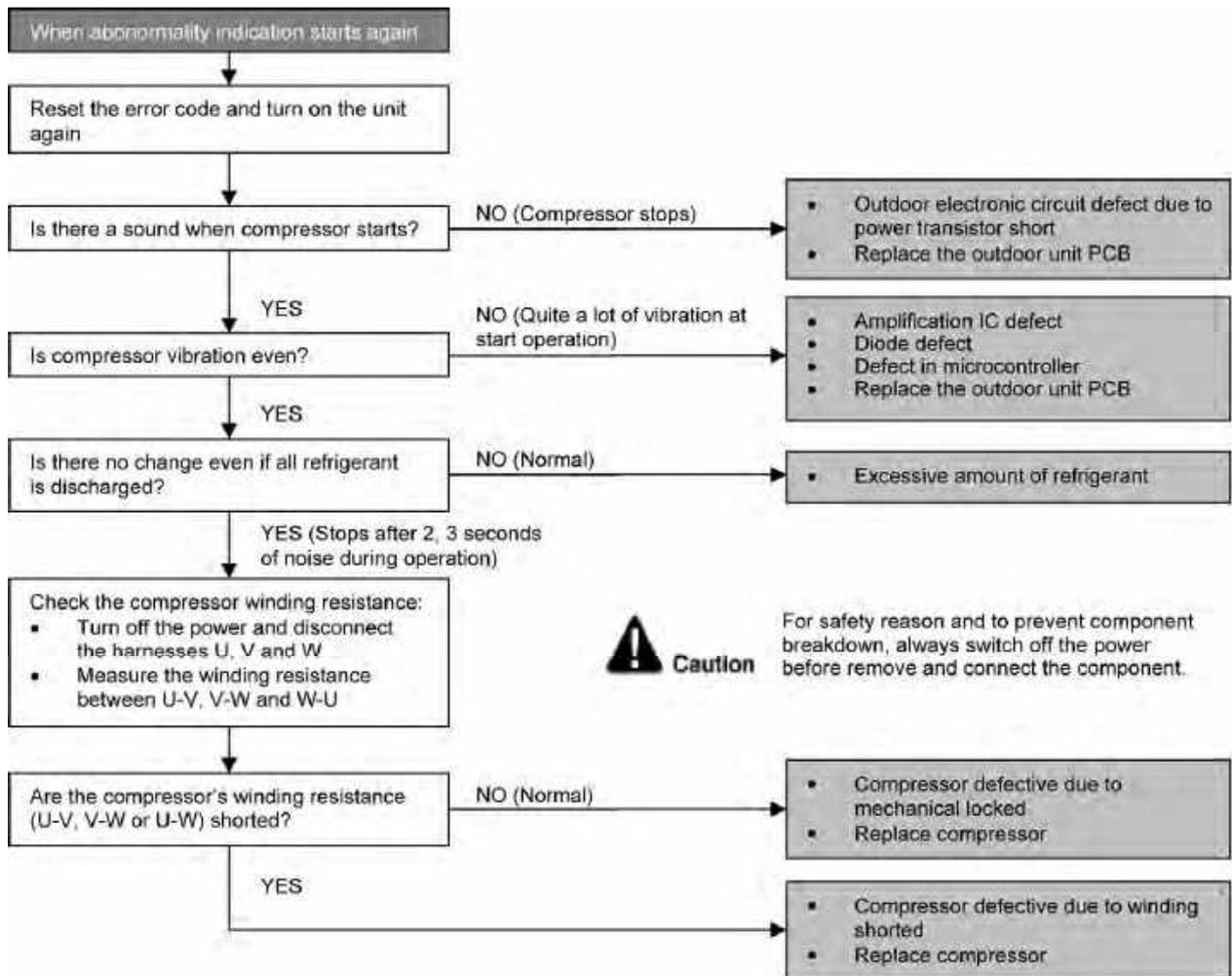
### Malfunction Decision Conditions

During startup and operation of cooling and heating, when inverter DC peak data is received by the outdoor internal DC Peak sensing circuitry.

### Malfunction Caused

- DC current peak due to compressor failure.
- DC current peak due to defective power transistor(s).
- DC current peak due to defective outdoor unit PCB.
- DC current peak due to short circuit.

### Troubleshooting



## 18. Disassembly and Assembly Instructions

### WARNING

High Voltage is generated in the electrical parts area by the capacitor. Ensure that the capacitor has discharged sufficiently before proceeding with repair work. Failure to heed this caution may result in electric shocks.

### 18.1 CS-NZ25VKE CS-NZ35VKE CS-QZ25VKE

#### 18.1.1 Indoor Electronic Controllers, Cross Flow Fan and Indoor Fan Motor Removal Procedures

##### 18.1.1.1 To Remove Front Grille

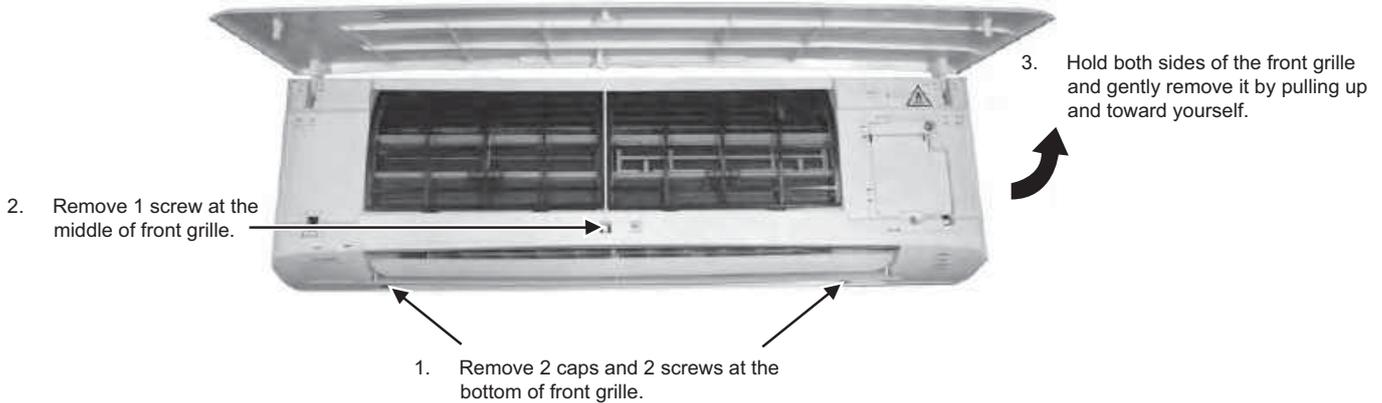
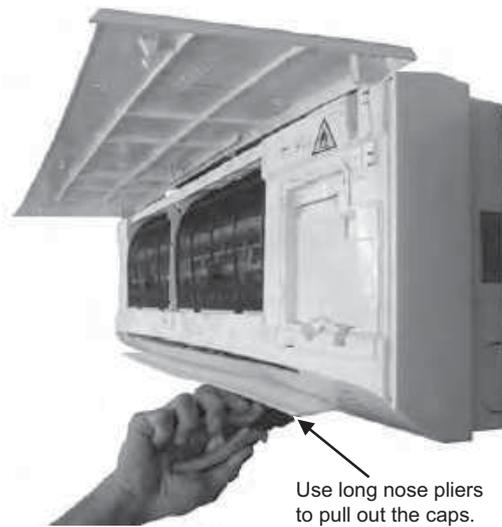


Figure 1

##### 18.1.1.2 Caps Removal



### CAUTION

- Use a manual screw driver with at least 150 mm shaft length. Do not use a hand drill type.
- Slightly tilt the screw driver handle downward so that the shaft does not touch the flap. Be careful not to scratch the flap while undoing the screws.

### 18.1.1.3 To Remove Electronic Controller



Figure 2

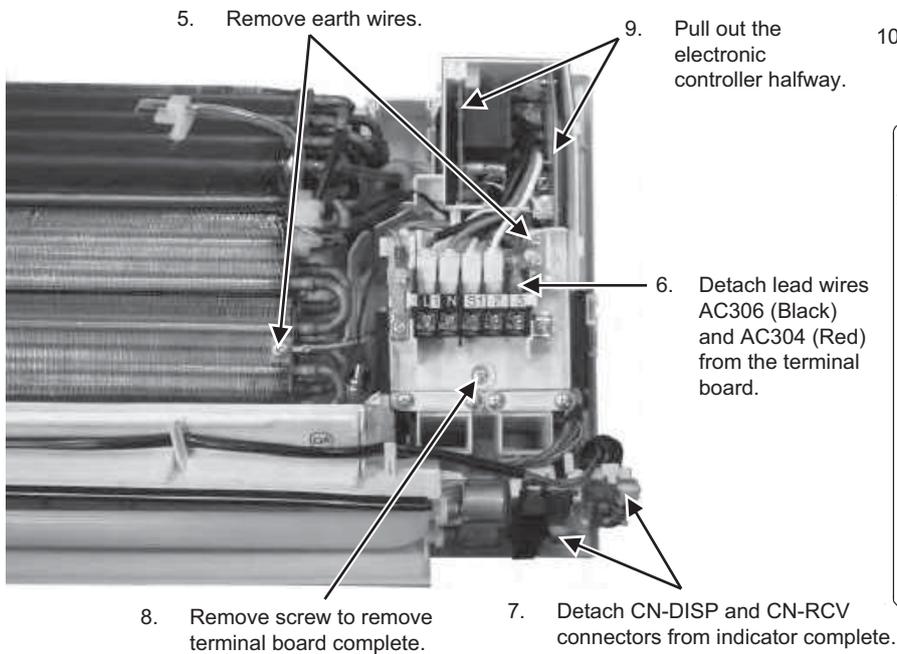


Figure 3

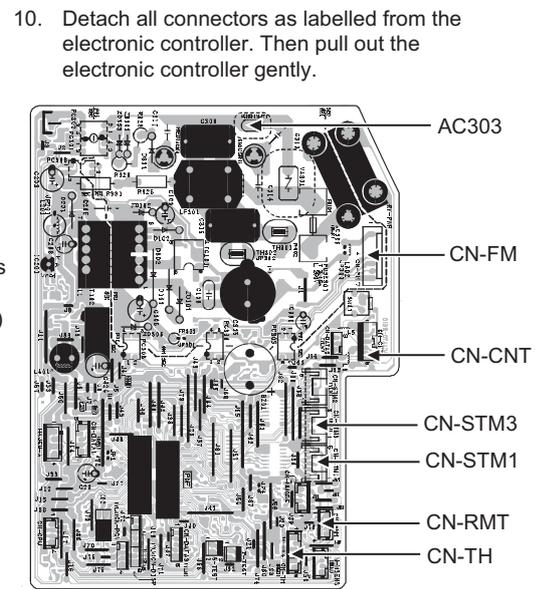


Figure 4

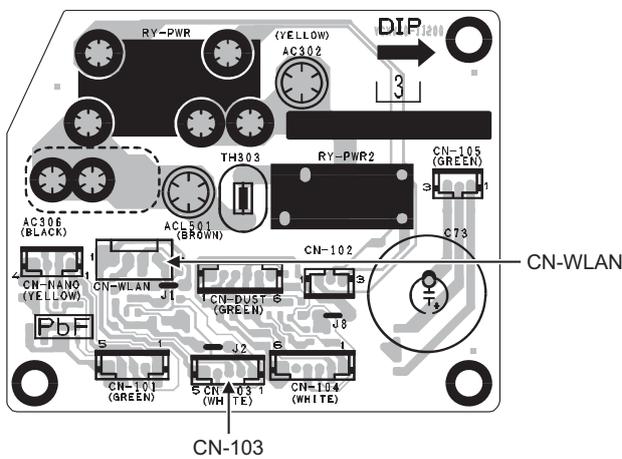
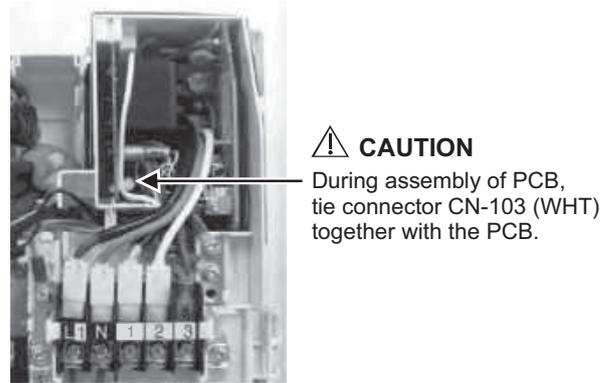


Figure 5



### 18.1.1.4 To Remove Discharge Grille

11. Remove the screw and pull out the WIFI module.

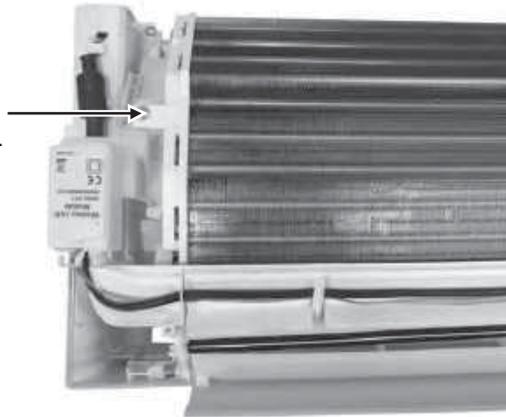
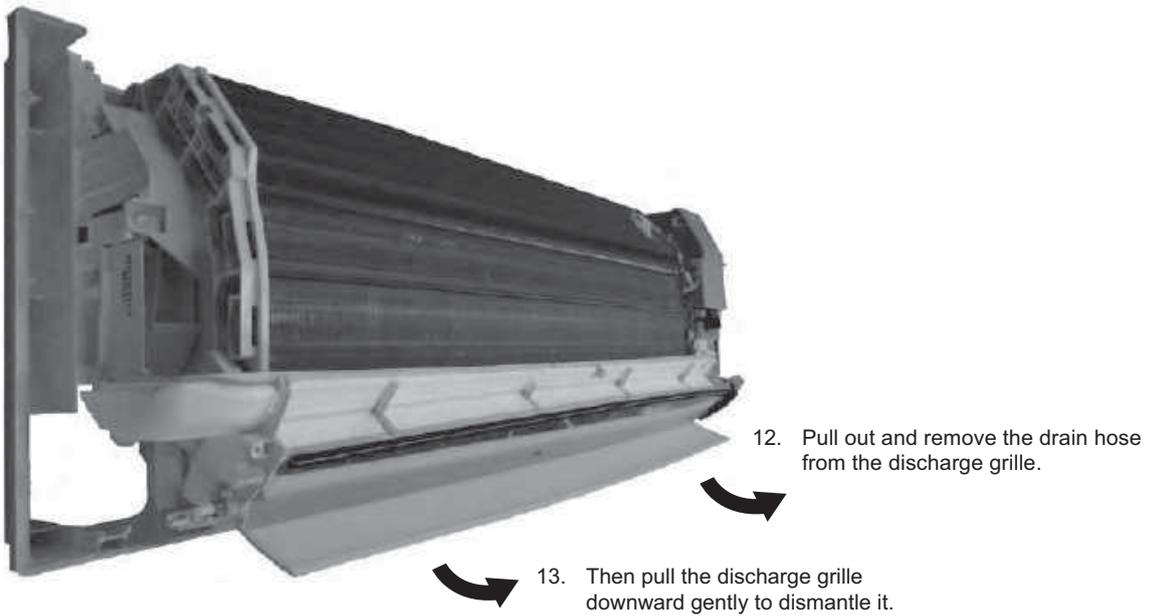


Figure 6

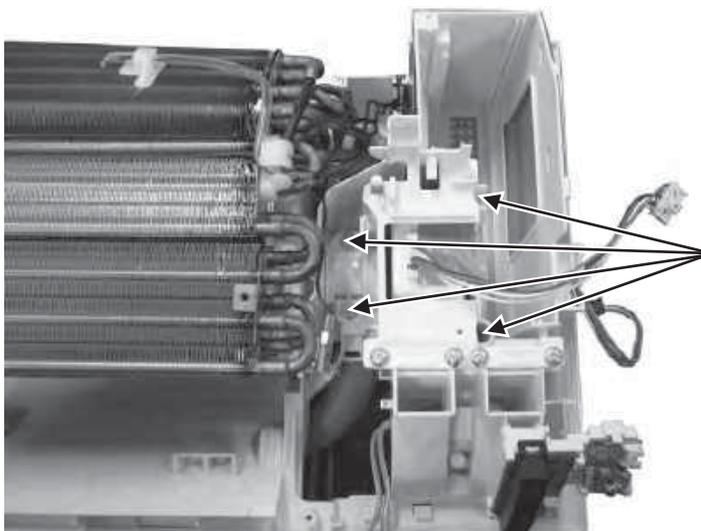


12. Pull out and remove the drain hose from the discharge grille.

13. Then pull the discharge grille downward gently to dismantle it.

Figure 7

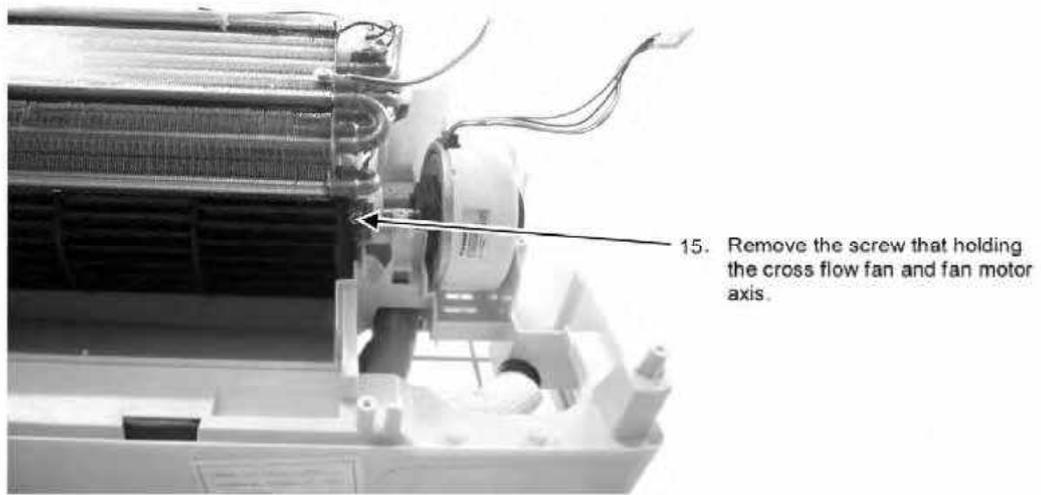
### 18.1.1.5 To Remove Control Board



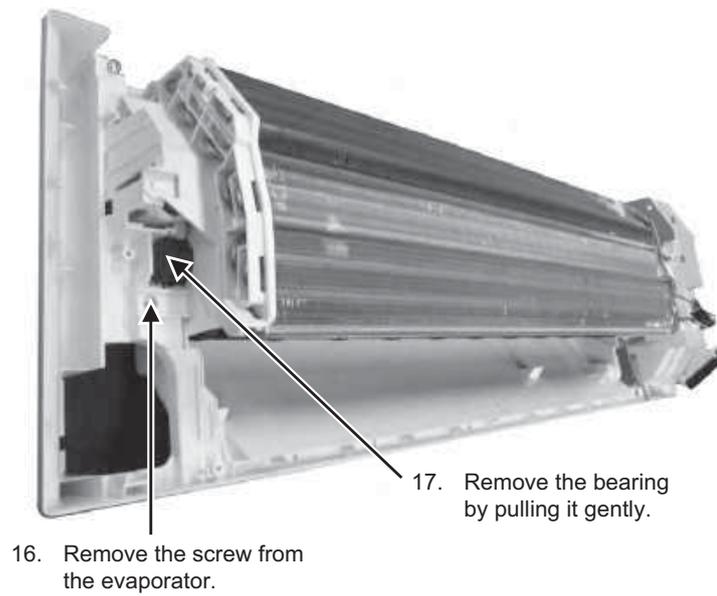
14. Remove the 4 screws holding the control board, then pull out the control board.

Figure 8

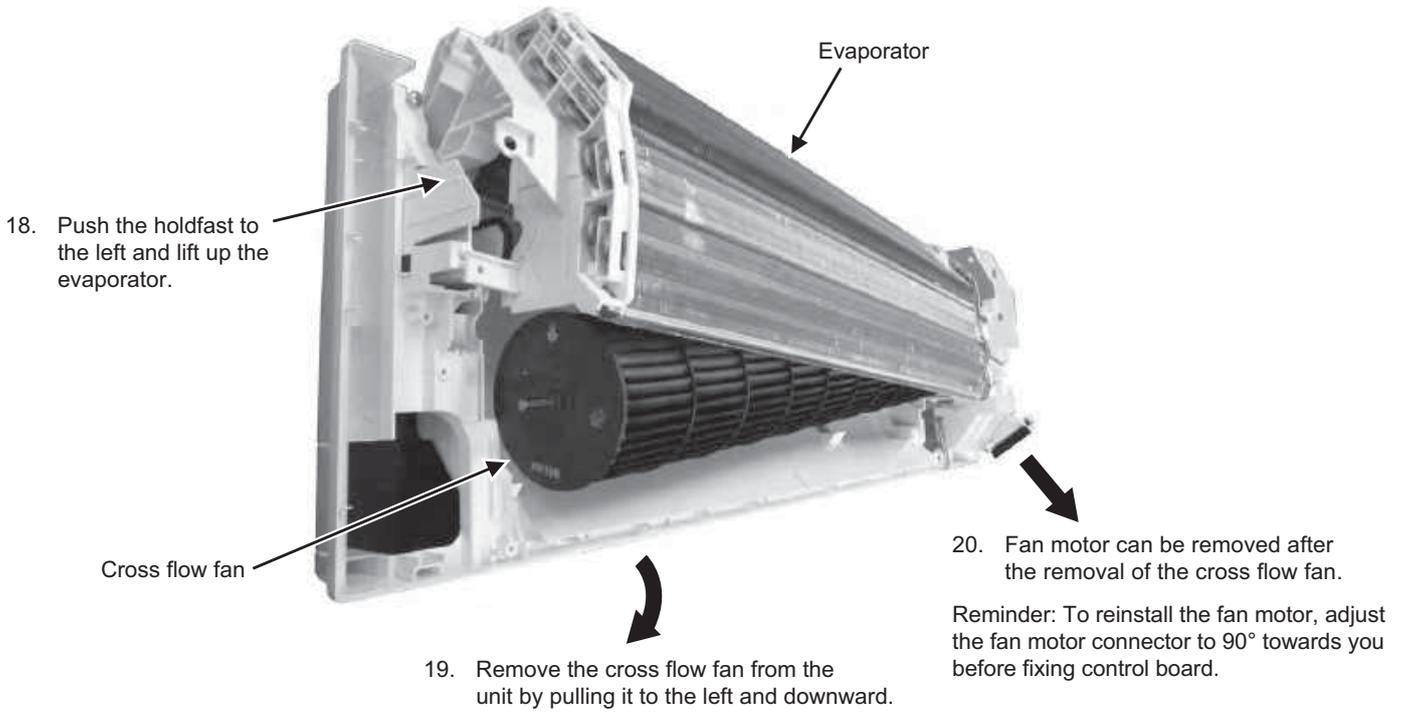
**18.1.1.6 To Remove Cross Flow Fan and Indoor Fan Motor**



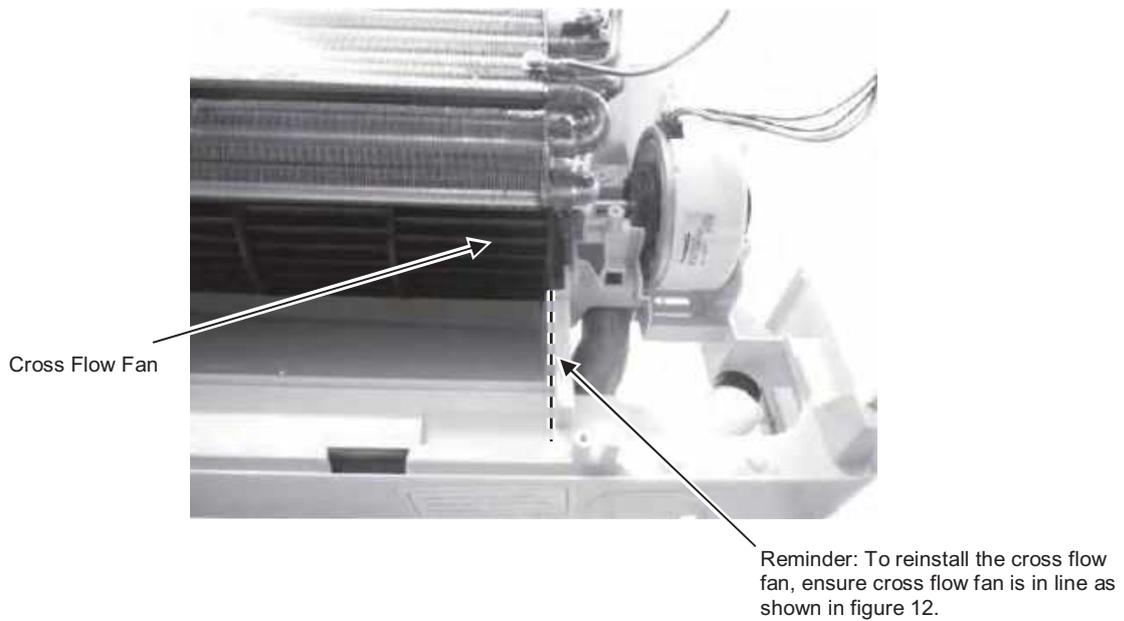
**Figure 9**



**Figure 10**

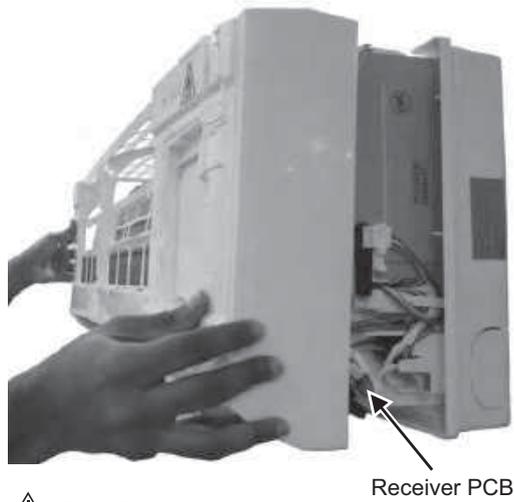


**Figure 11**



**Figure 12**

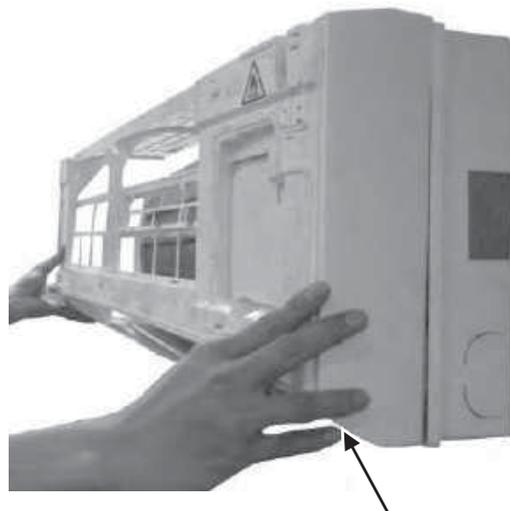
### 18.1.1.7 To Assemble the Front Grille



**⚠ CAUTION**

Do not directly fix the front grille complete, to avoid hitting the Receiver PCB.

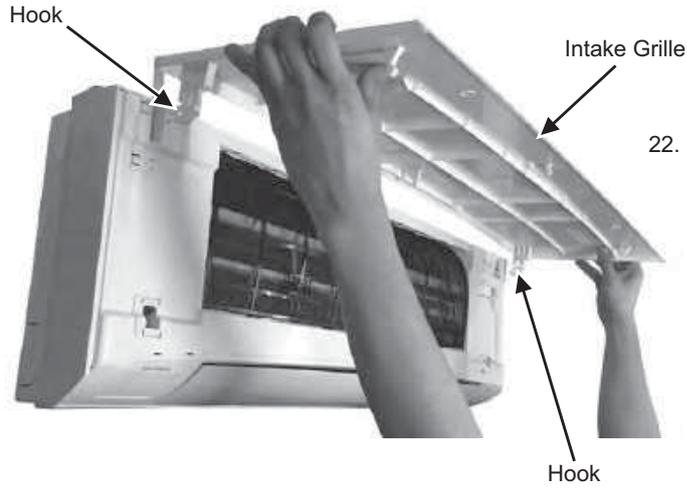
**Figure 13**



21. Gently assemble the right side of the front grille first then fix the left side.

**Figure 14**

### 18.1.1.8 To Assemble the Intake Grille



22. Align the intake grille hooks into the slot.



23. Place in the hook to the slot.



24. Then slightly bend the intake grille and push in the hooks into the slot.

Figure 15

**⚠ WARNING**

High Voltage is generated in the electrical parts area by the capacitor. Ensure that the capacitor has discharged sufficiently before proceeding with repair work. Failure to heed this caution may result in electric shocks.

## 18.2 CS-NZ50VKE

### 18.2.1 Indoor Electronic Controllers, Cross Flow Fan and Indoor Fan Motor Removal Procedures

#### 18.2.1.1 To Remove Front Grille

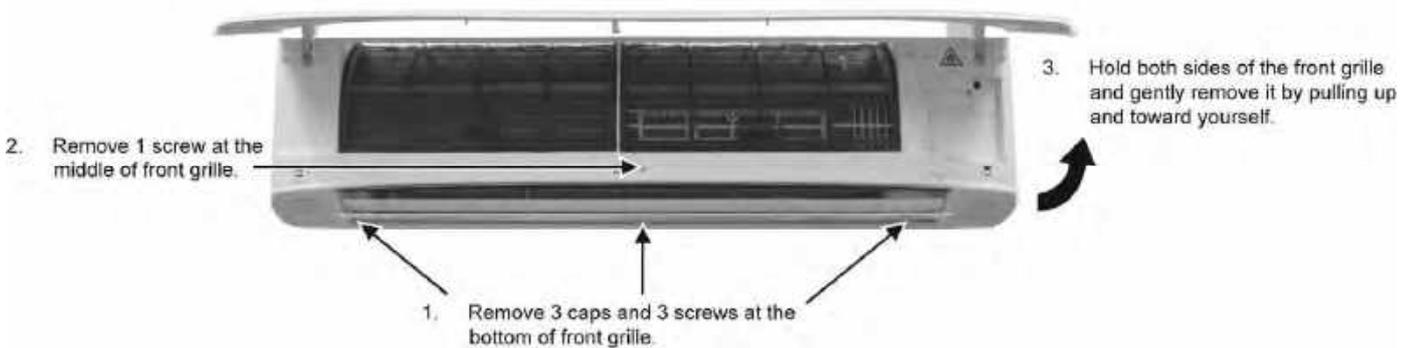
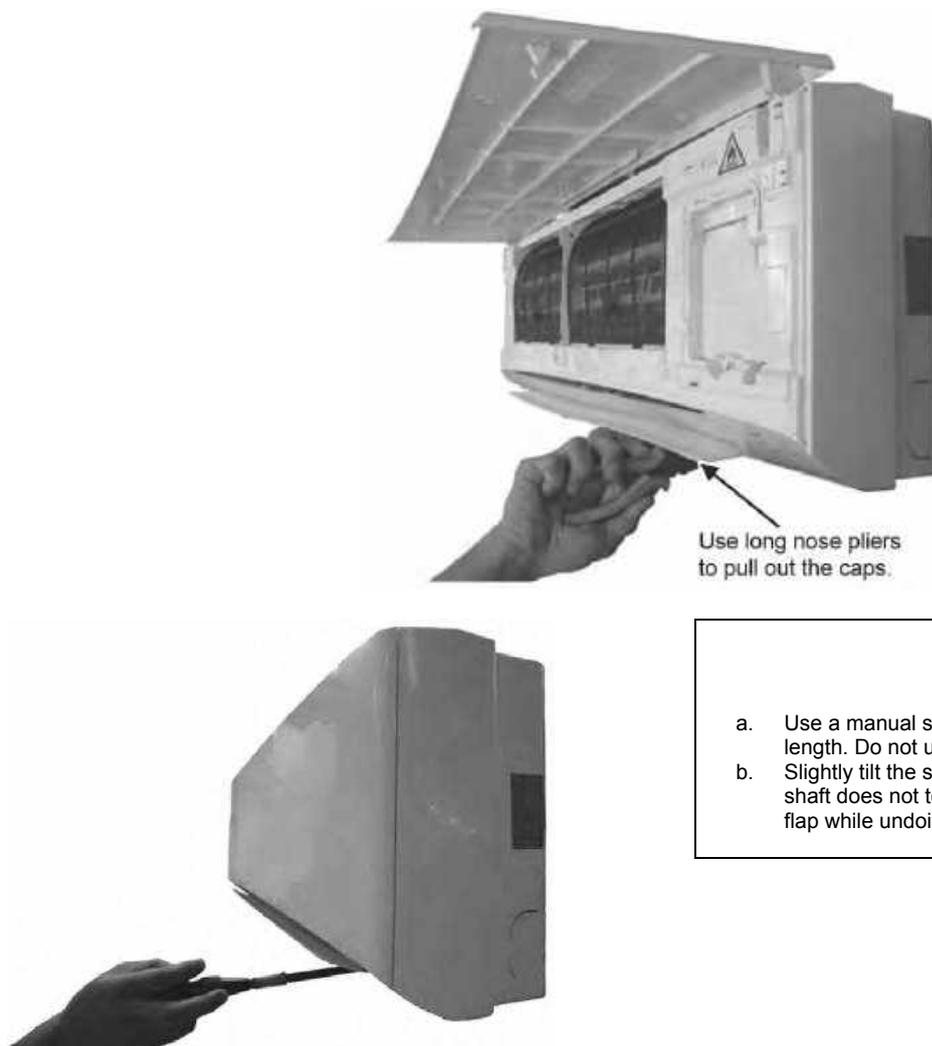


Figure 1

#### 18.2.1.2 Caps Removal



**⚠ CAUTION**

- Use a manual screw driver with at least 150 mm shaft length. Do not use a hand drill type.
- Slightly tilt the screw driver handle downward so that the shaft does not touch the flap. Be careful not to scratch the flap while undoing the screws.

### 18.2.1.3 To Remove Electronic Controller



Figure 2

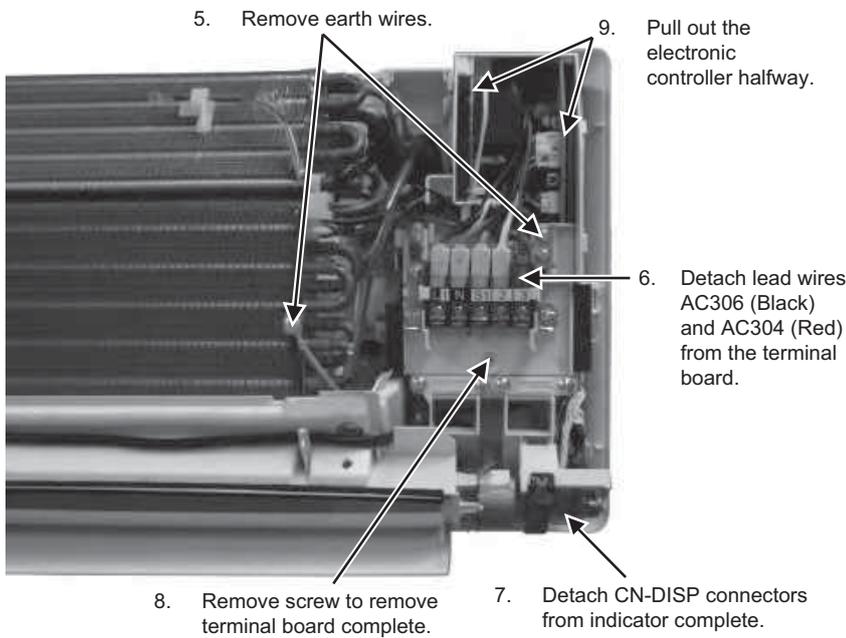


Figure 3

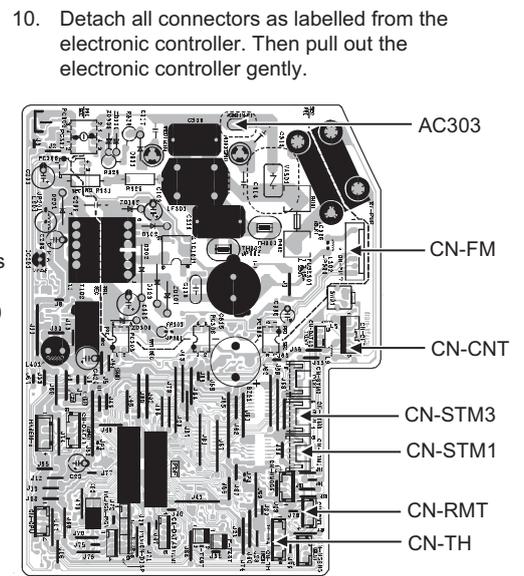


Figure 4

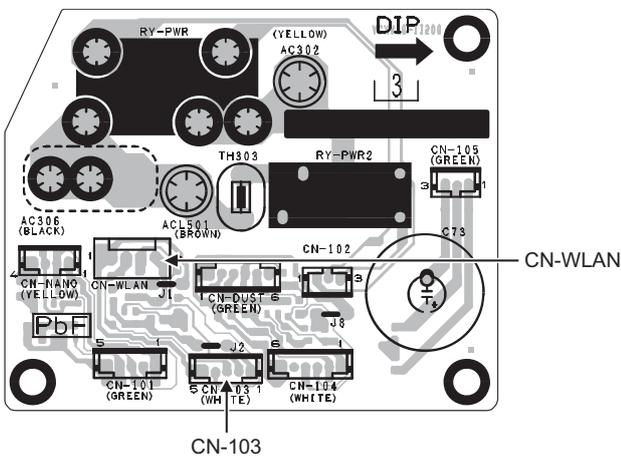
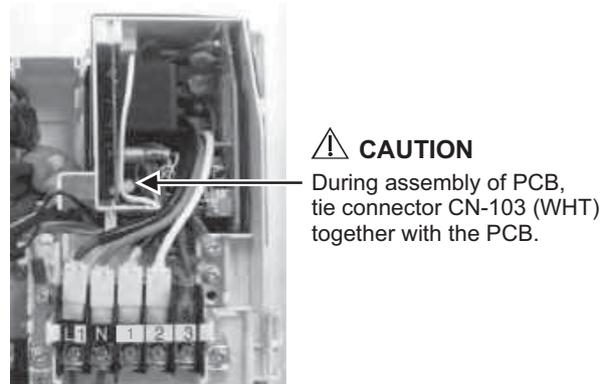


Figure 5



#### 18.2.1.4 To Remove Discharge Grille

11. Remove the screw and pull out the WIFI module.

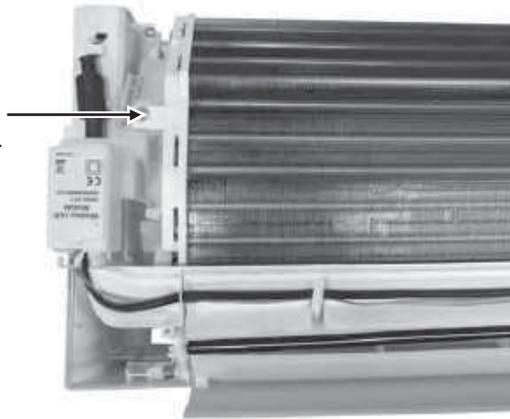
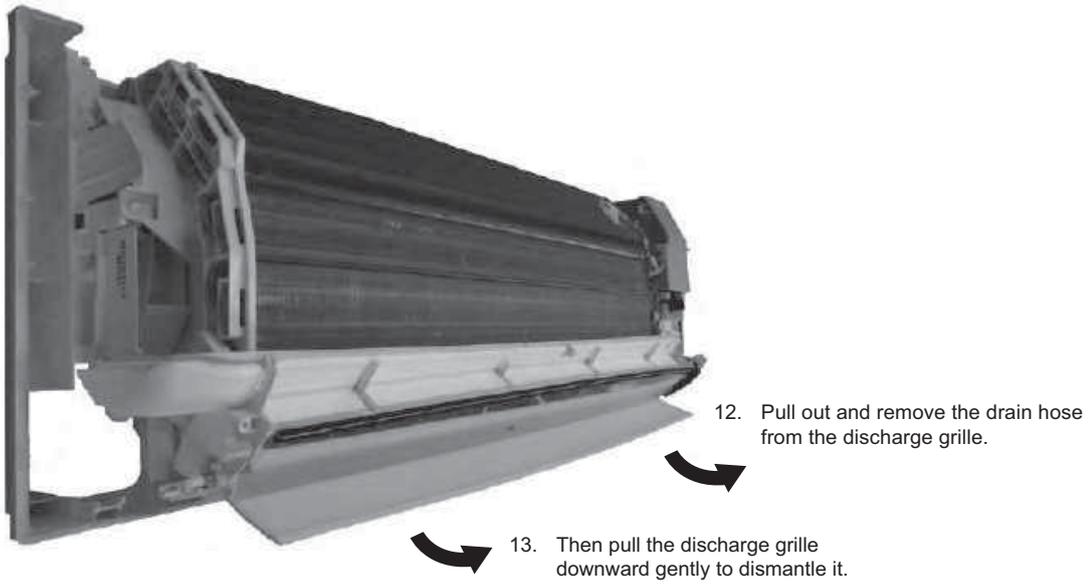


Figure 6

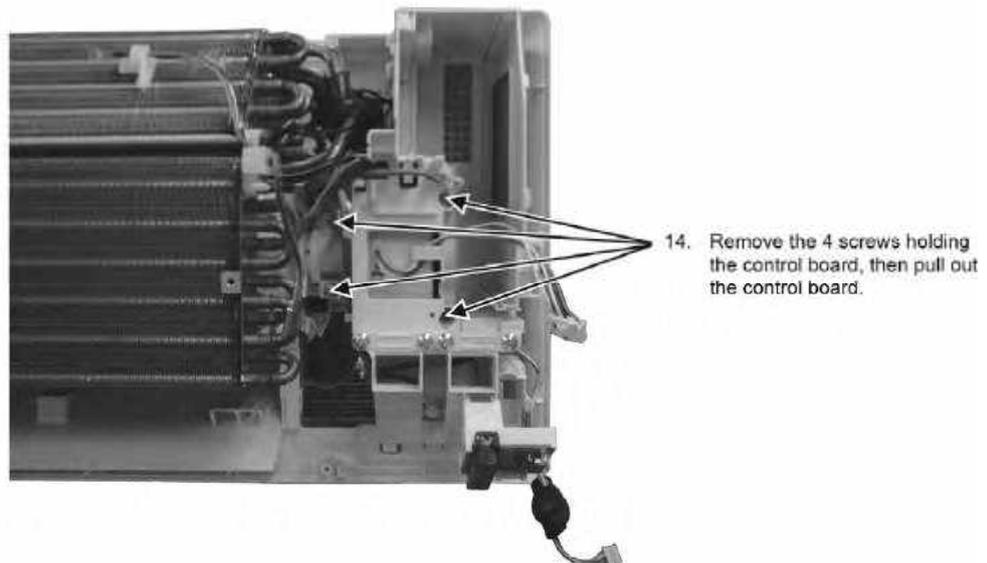


12. Pull out and remove the drain hose from the discharge grille.

13. Then pull the discharge grille downward gently to dismantle it.

Figure 7

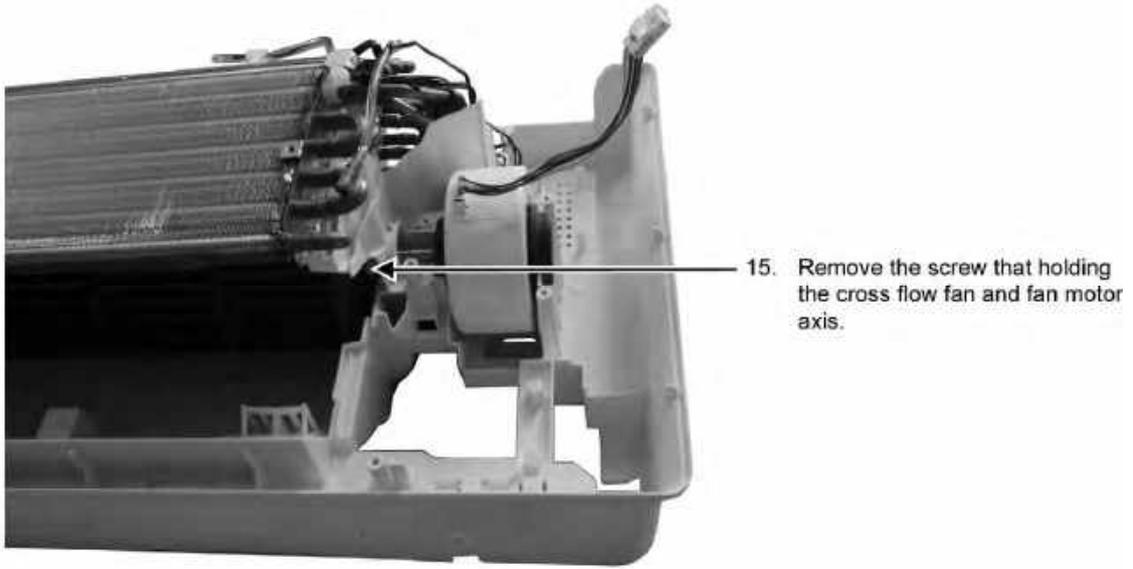
#### 18.2.1.5 To Remove Control Board



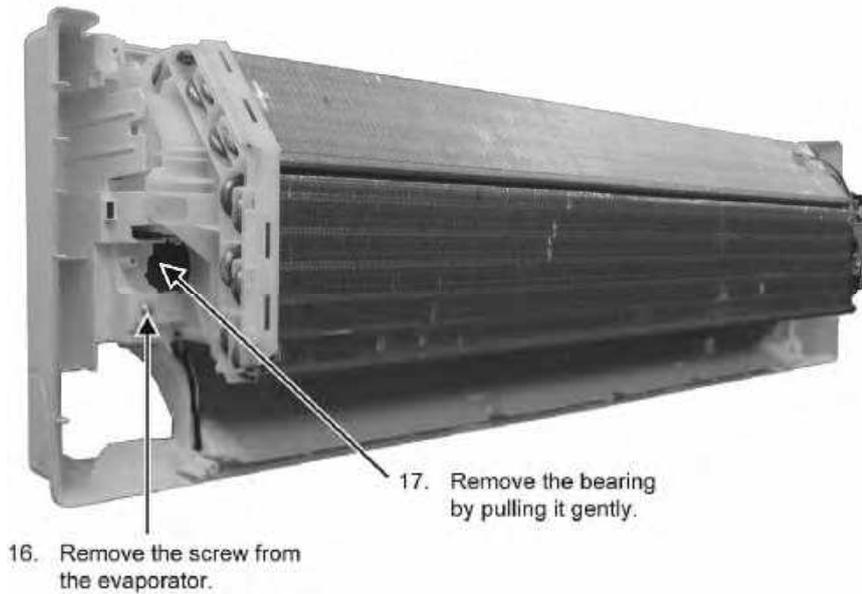
14. Remove the 4 screws holding the control board, then pull out the control board.

Figure 8

**18.2.1.6 To Remove Cross Flow Fan and Indoor Fan Motor**



**Figure 9**



**Figure 10**

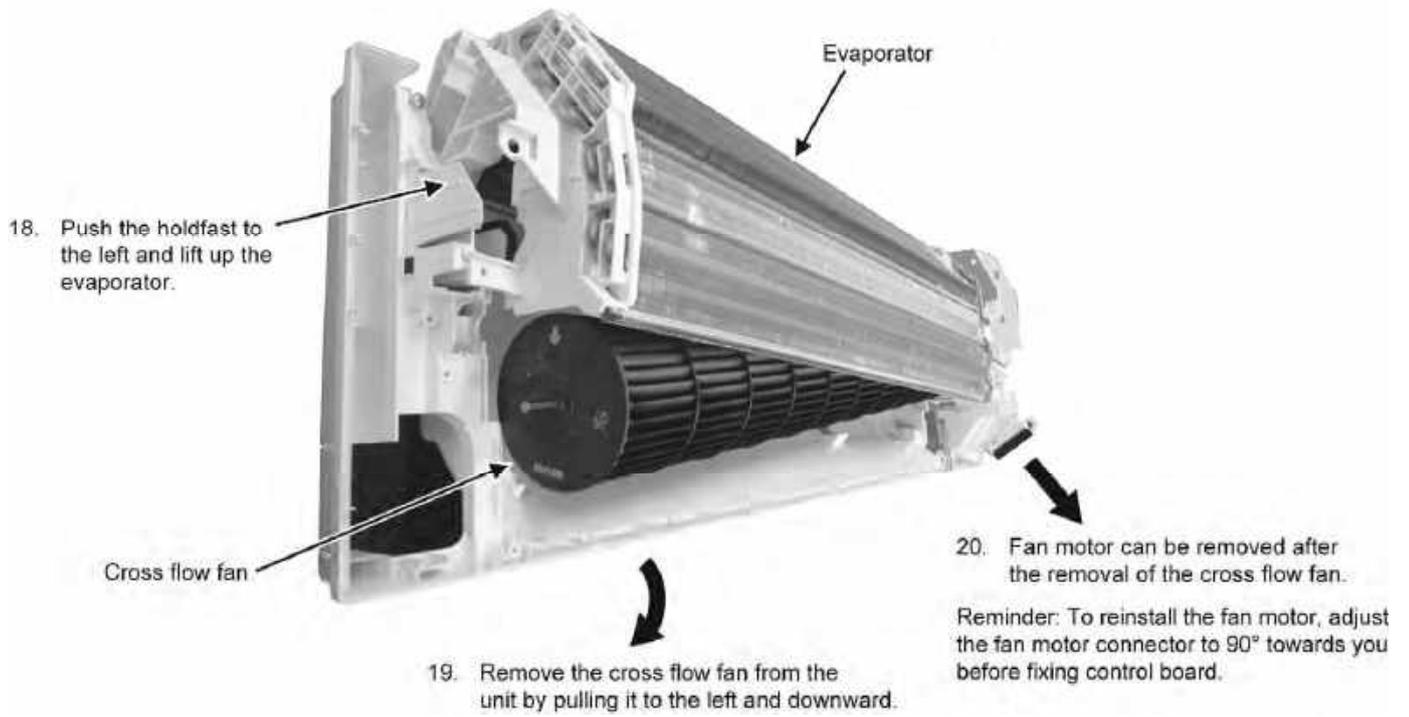


Figure 11

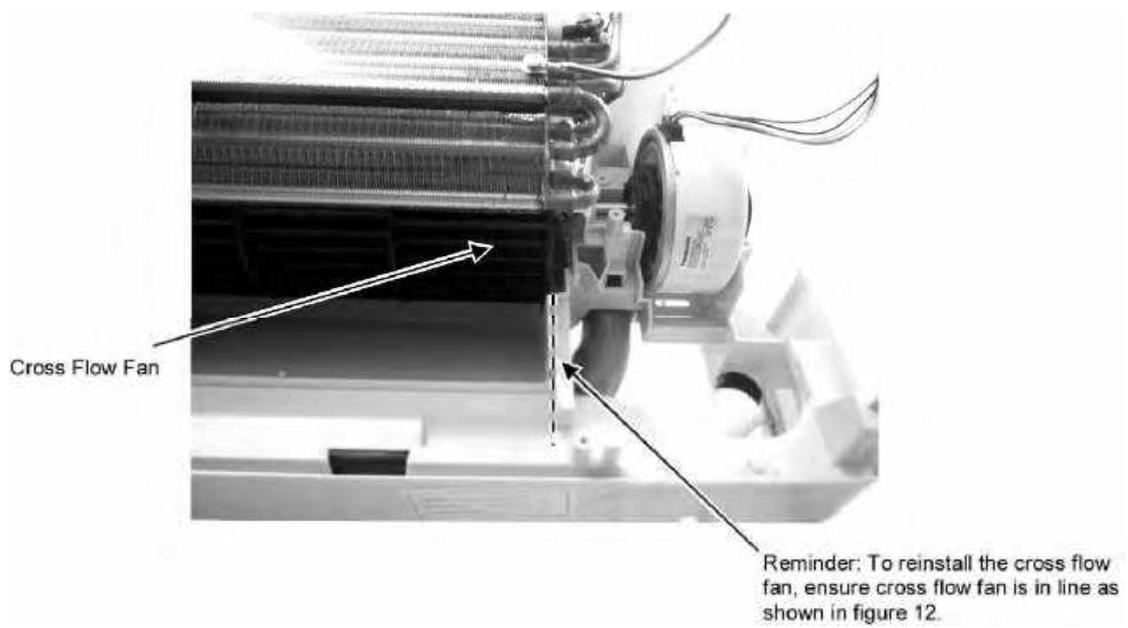


Figure 12

### 18.2.1.7 To Assemble the Front Grille



**CAUTION**  
Do not directly fix the front grille complete, to avoid hitting the Receiver PCB.

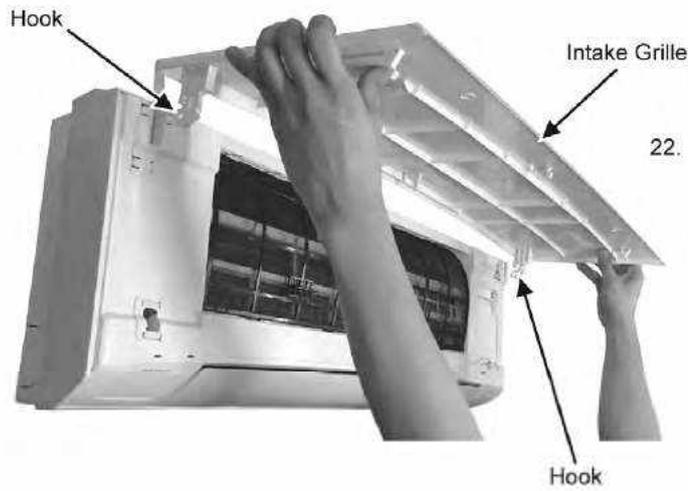
Figure 13



21. Gently assemble the right side of the front grille first then fix the left side.

Figure 14

### 18.2.1.8 To Assemble the Intake Grille



22. Align the intake grille hooks into the slot.



23. Place in the hook to the slot.

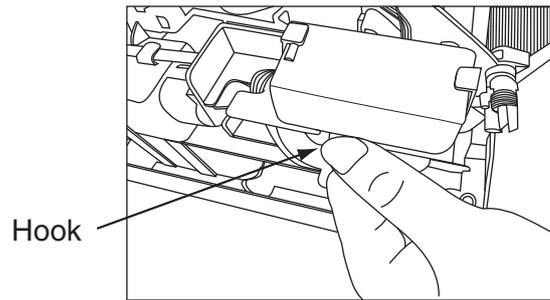


24. Then slightly bend the intake grille and push in the hooks into the slot.

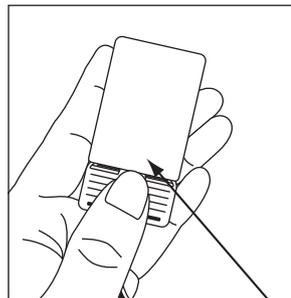
Figure 15

## 18.3 To Replace Wireless LAN Module (Network Adapter)

- 1 Remove the network adapter box by releasing the hook.

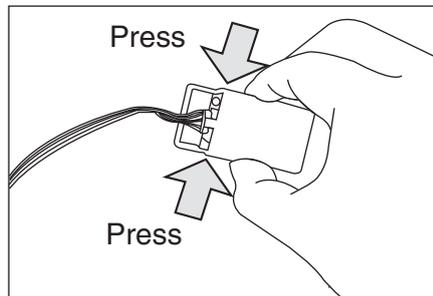


- 2 Remove the cover by unclipping it and pulling it out.

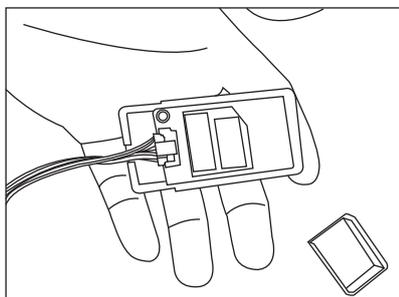


Unclip & pull down

- 3 Remove the top casing by pressing the side of the network adapter box.



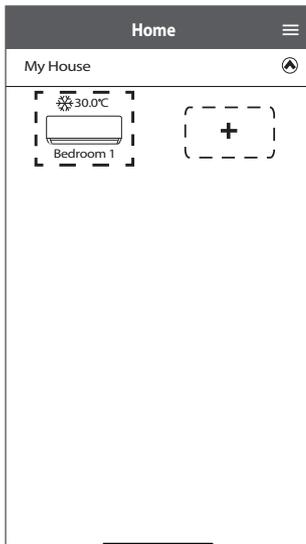
- 4 After that, network adapter can be easily replaced.



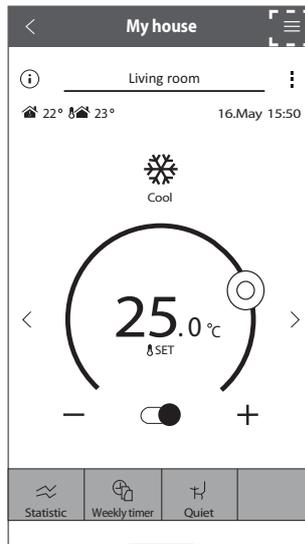
Reminder: Serviceman or owner must setting again Panasonic Comfort Cloud app after replace Wireless LAN Module.

# 18.4 'Panasonic Comfort Cloud' App Setting Procedure [After Replace Main Printed Circuit Board or Change the Indoor Unit]

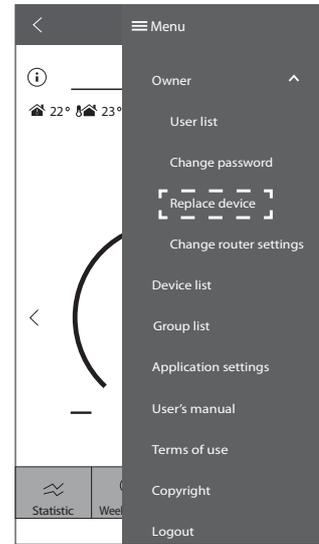
## 18.4.1 Initial Setup (Method 1)



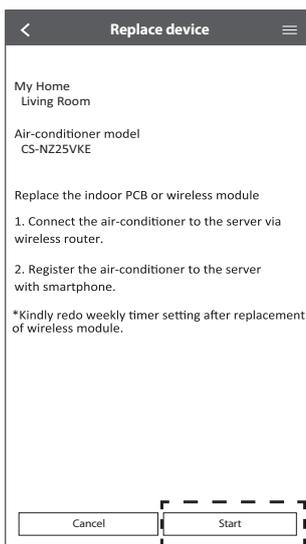
1. Select air-conditioner.



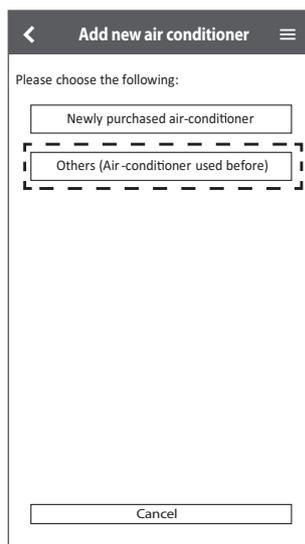
2. Select 'Menu'.



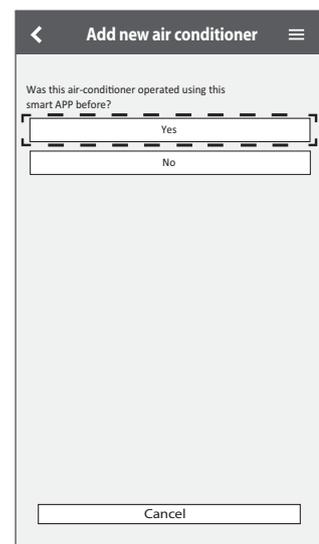
3. Select 'Replace device'.



4. Select start button to proceed for network setting.



5. Select 'Others (Air-Conditioner used before)'

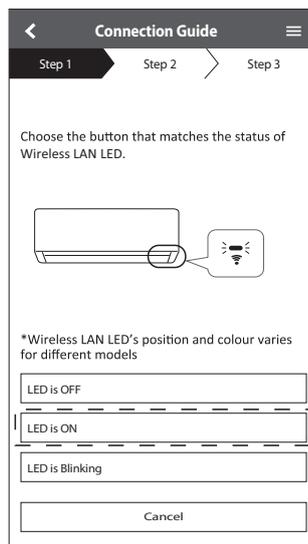


6. Select 'Yes'.

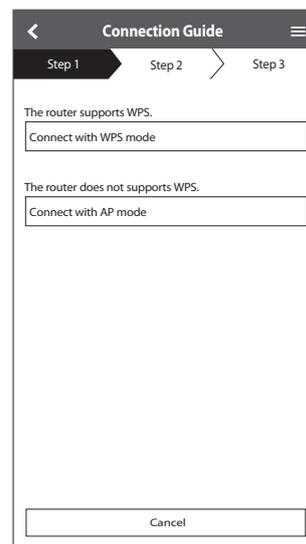
## Setting Connection Network



1. Ensure Wireless LAN LED is ON. point the remote control to air conditioner and press Wireless LAN  button until the Wireless LAN LED changed to blinking.

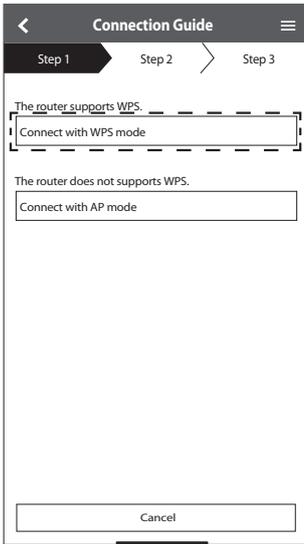


2. When Wireless LAN LED is blinking, select preferred connection setup mode.

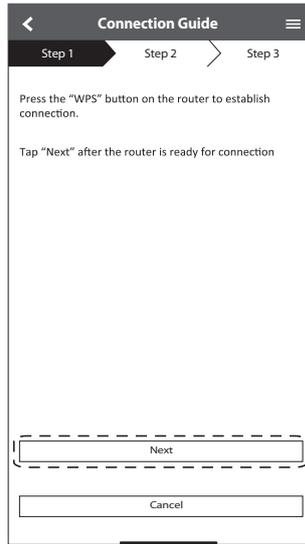


3. Select the preferred router support connectivity mode.

## Connection network using WPS mode (Method 1)

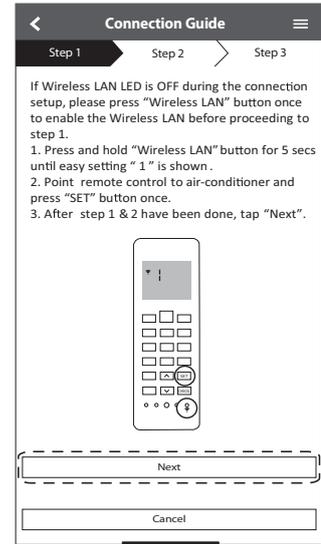


1. Select 'Connect with WPS mode'.

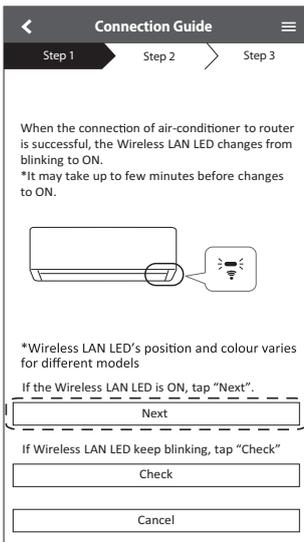


2. Press the "WPS" button from the router that will be connected to an air conditioner

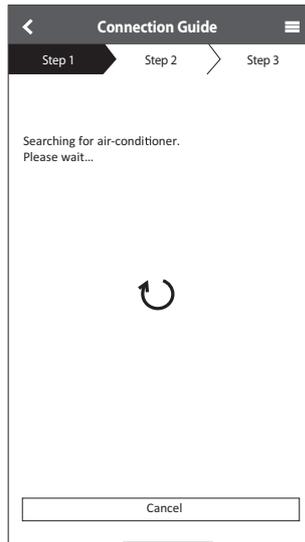
- Check the status of Wireless LAN LED on the remote control. If the Wireless LAN LED is OFF, press the Wireless LAN  button to enable the Wireless LAN connection.



3. Ensure Wireless LAN LED is ON. Press and hold the Wireless LAN  button for 5 seconds until "1" is shown on the remote control and press  pointing to the air conditioner.

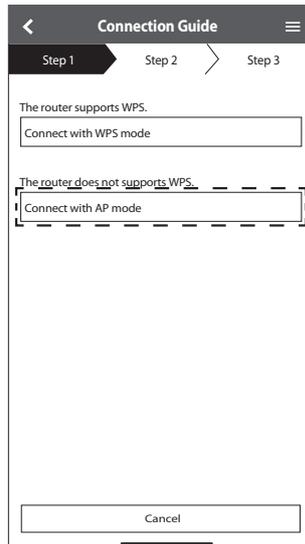


4. When the connection of air conditioner to router is successful, the Wireless LAN LED changed from blinking to ON.

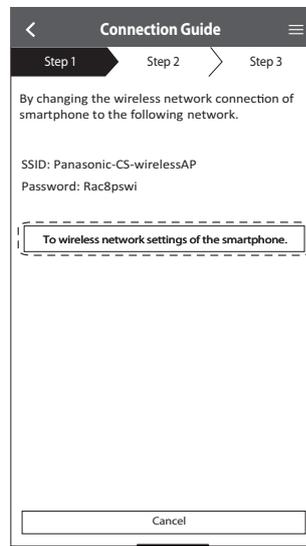
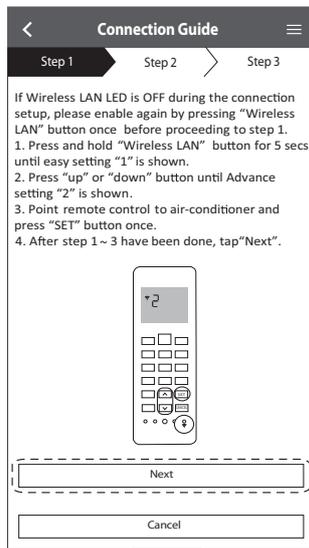


5. If the Wireless LAN LED keep blinking, check the wireless router connection.

## Connection network using AP mode (Method 2)

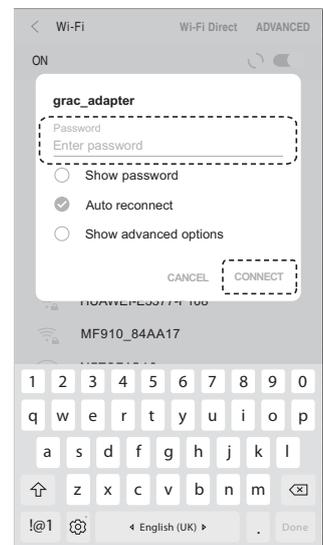
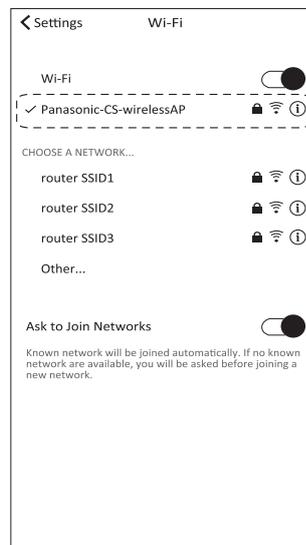
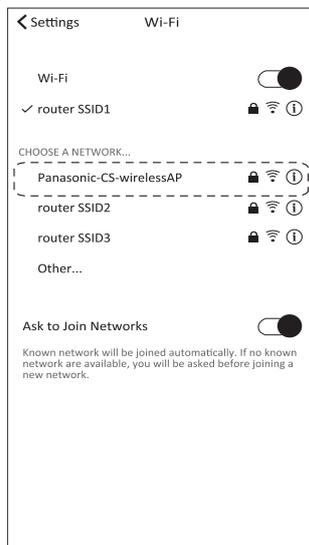
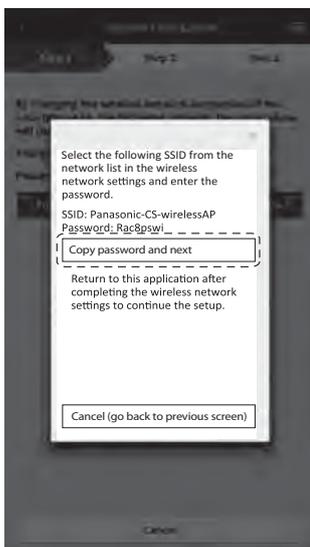


1. Select 'Connect with WPS mode'.

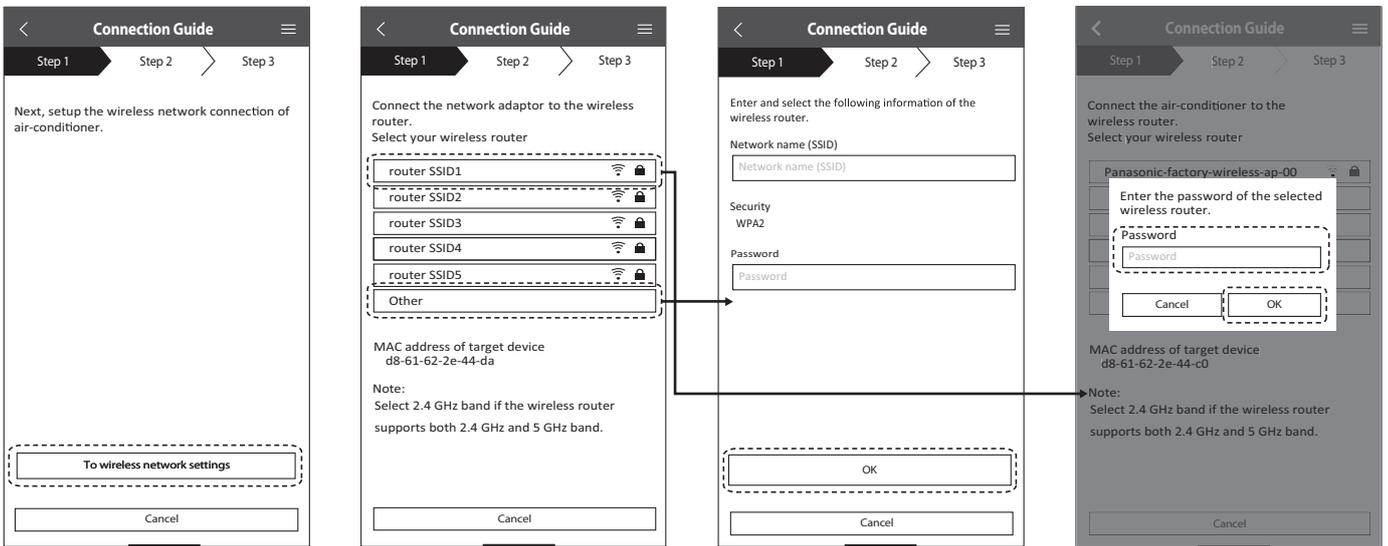


2. Ensure Wireless LAN LED is ON. Press and hold the Wireless LAN  button for 5 seconds until "1" is shown on the remote control.

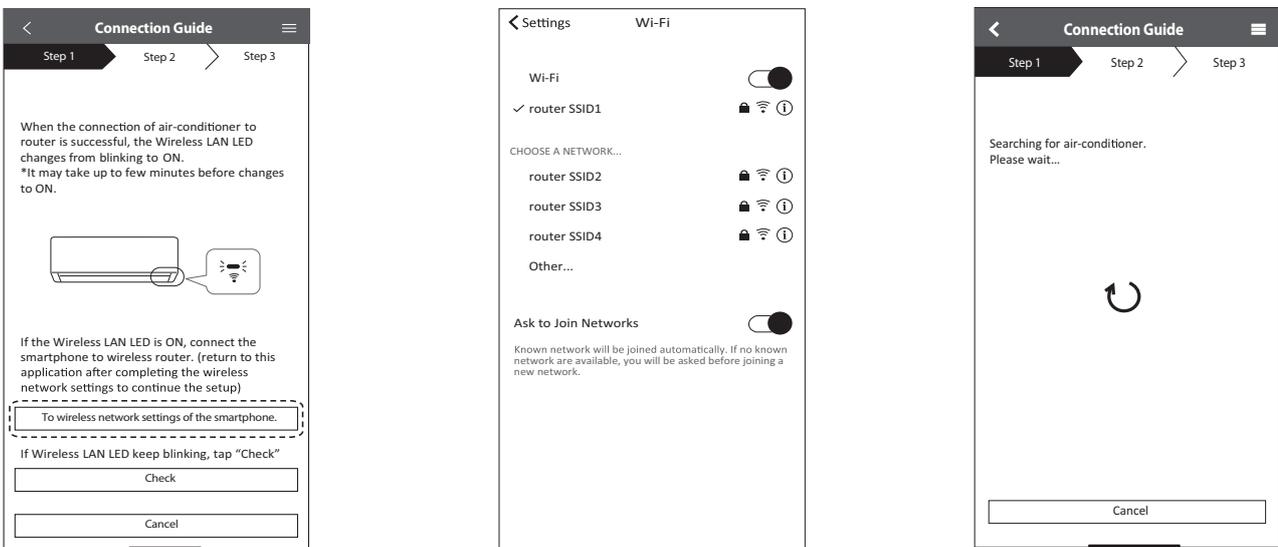
Press  until "2" is shown on the remote control and press  pointing to the air conditioner.



3. Copy the password for later use. Select "Panasonic-CS-wirelessAP" from smartphones Wireless LAN setting and enter the copied password. Return to "Panasonic Comfort Cloud" app.



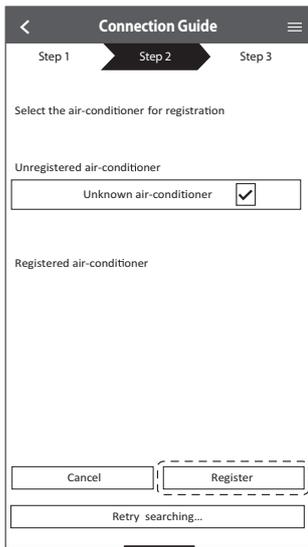
4. Select the SSID of your wireless router. Enter the password to connect the air conditioner to the wireless router.



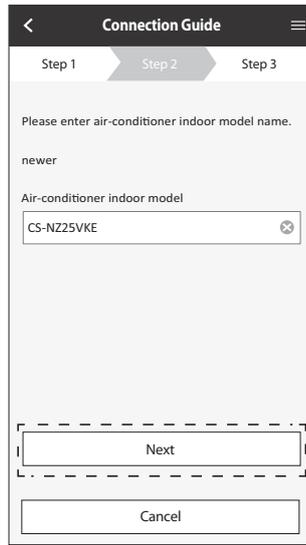
5. When connection of air conditioner to router is successful, the Wireless LAN LED will changed from blinking to ON. If the Wireless LAN LED is ON, connect the smartphone to wireless router. (return to this application after completing the wireless network settings to continue the setup)

- If the Wireless LAN LED keep blinking, check the wireless router connection.

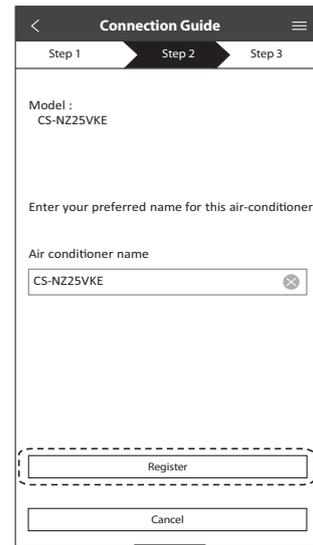
## Select the Air-Conditioner and Set the Password



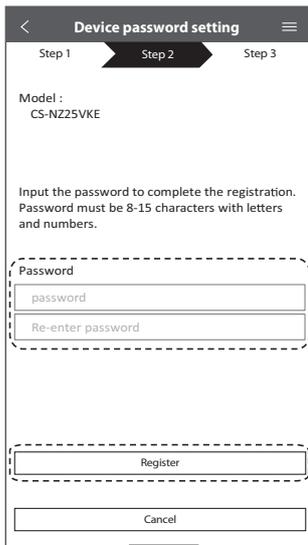
1. Select the air conditioner model to register the device.



2. Select the air-conditioner model to register the device.



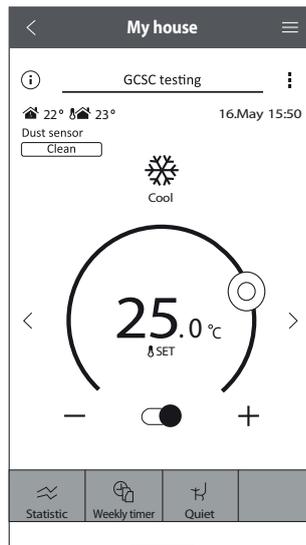
3. Once connection is establish between the app and the new air-conditioner through the registration process, set the preferred name for this air-conditioner to helps identify it.
  - By registered the new name of air-conditioner, the function of "Panasonic Comfort Cloud" app is ready to be used.



3. Password must be 8-15 characters with letters and number.

### Note

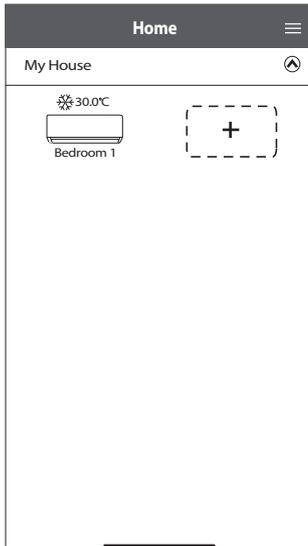
Keep password for future used on additional user registration.



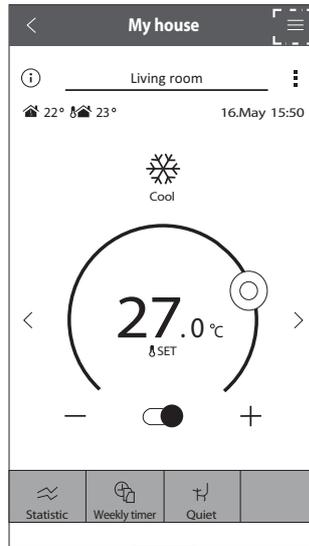
4. Setting completed.

## 18.4.2 'Panasonic Comfort Cloud' App Setting Procedure [After Replace Wireless LAN Module]

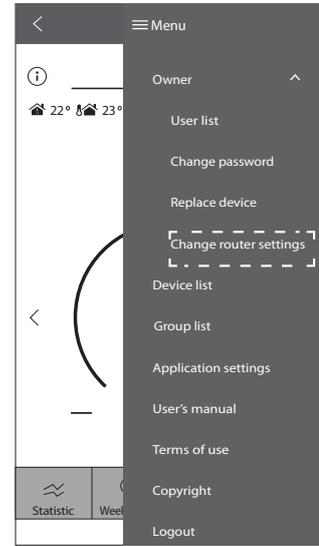
### 18.4.2.1 Initial Setup (Method 1)



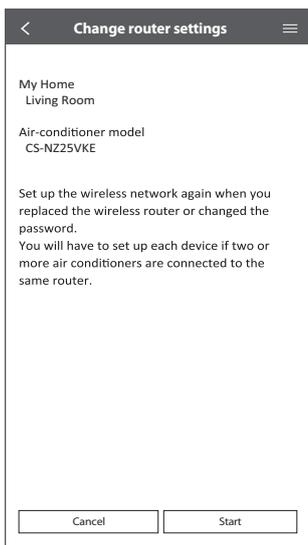
1. Select model.



2. Select 'Menu'.

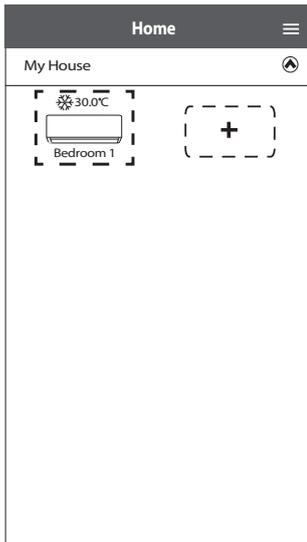


3. Select 'Change router setting'.

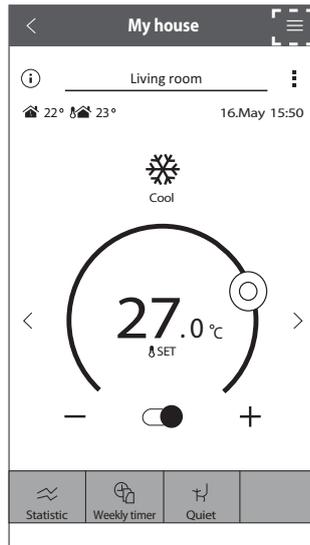


4. Select start button to proceed for network setting.

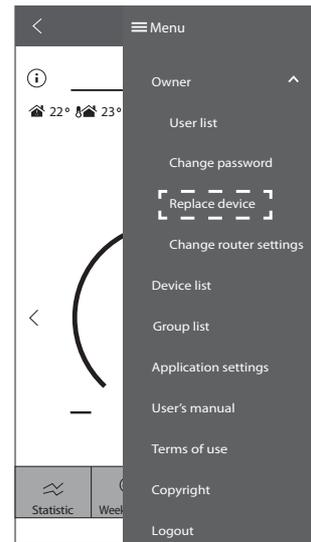
## 18.4.2.2 Initial Setup (Method 2)



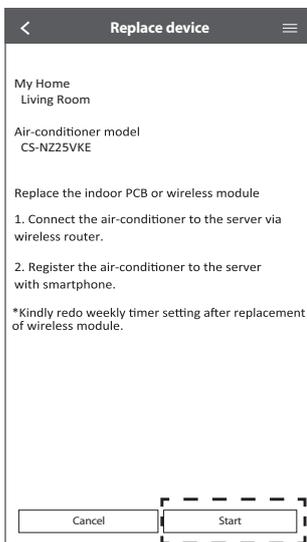
1. Select air-conditioner.



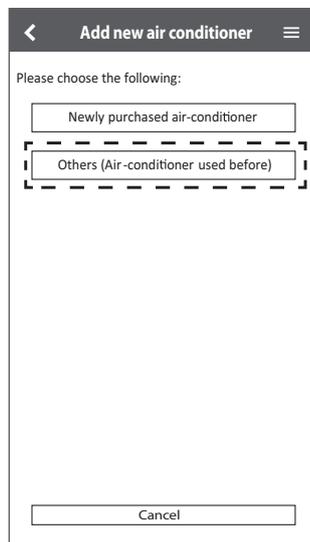
2. Select 'Menu'.



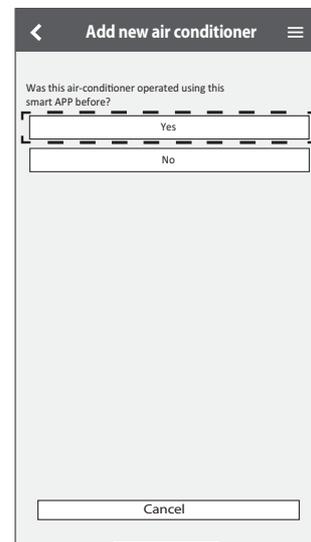
3. Select 'Replace device'.



4. Select start button to proceed for network setting.

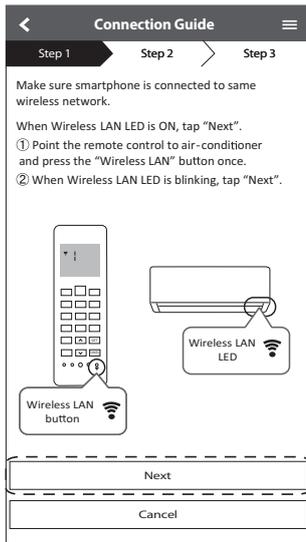


5. Select 'Others (Air-Conditioner used before)'

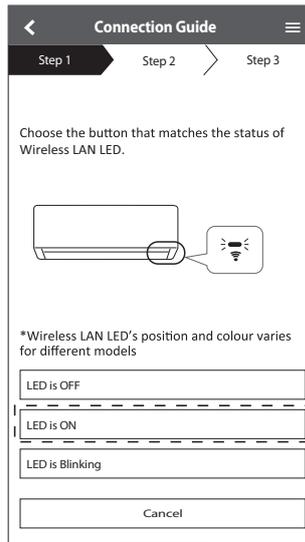


6. Select 'Yes'.

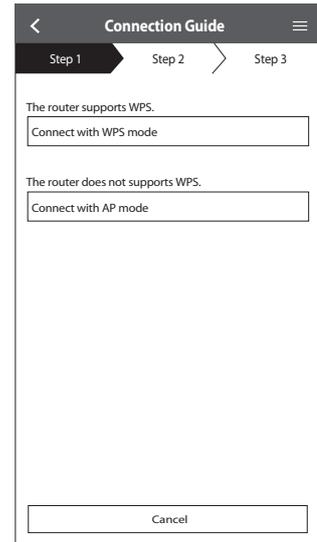
### 18.4.2.3 Setting Connection Network



1. Ensure Wireless LAN LED is ON. point the remote control to air conditioner and press Wireless LAN button until the Wireless LAN LED changed to blinking.

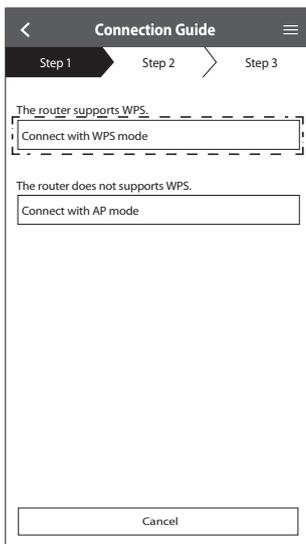


2. When Wireless LAN LED is blinking, select preferred connection setup mode.

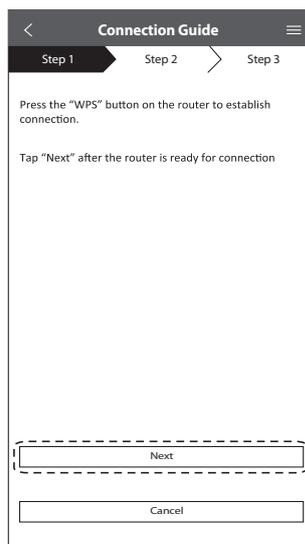


3. Select the preferred router support connectivity mode.

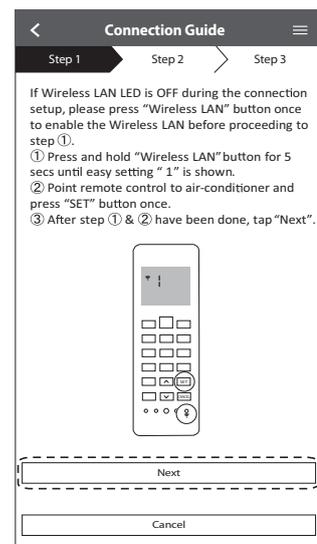
### 18.4.2.4 Connection Network Using WPS Mode (Method 1)



1. Select 'Connect with WPS mode'.



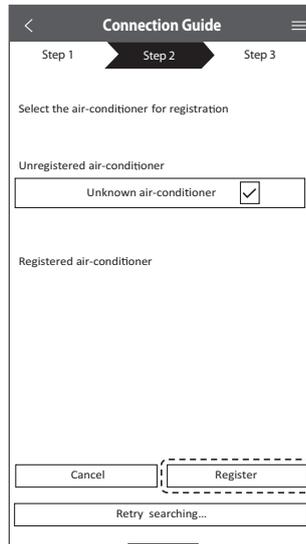
2. Press the "WPS" button from the router that will be connected to an air conditioner.
  - Check the status of Wireless LAN LED on the remote control. If the Wireless LAN LED is OFF, press the Wireless LAN button to enable the Wireless LAN connection.



3. Ensure Wireless LAN LED is ON. Press and hold the Wireless LAN button for 5 seconds until "1" is shown on the remote control and press pointing to the air conditioner.

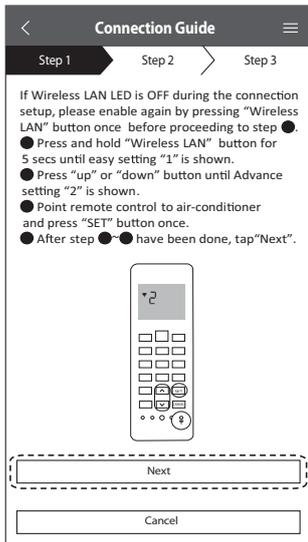


4. If the Wireless LAN LED keep blinking, check the wireless router connection.



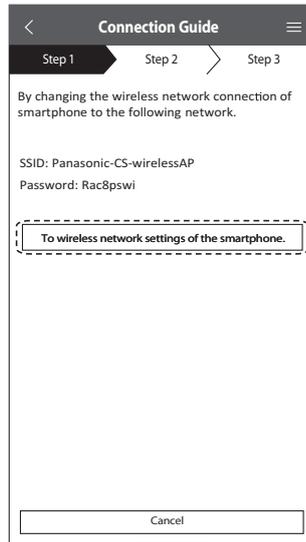
5. Select the air conditioner model to register the device.

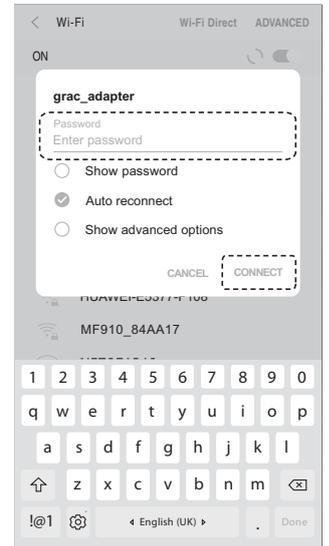
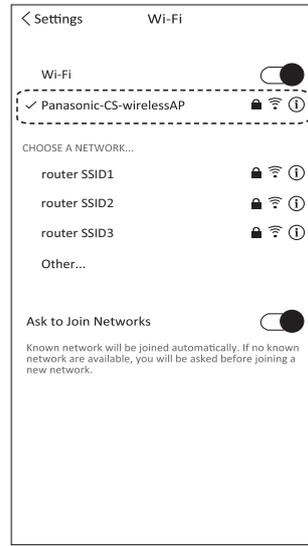
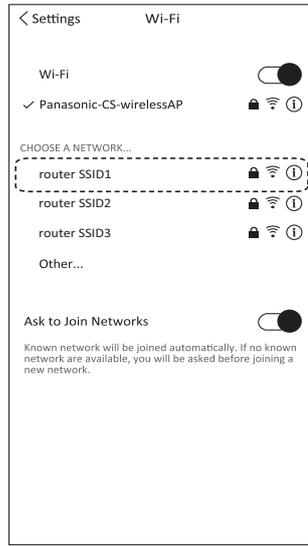
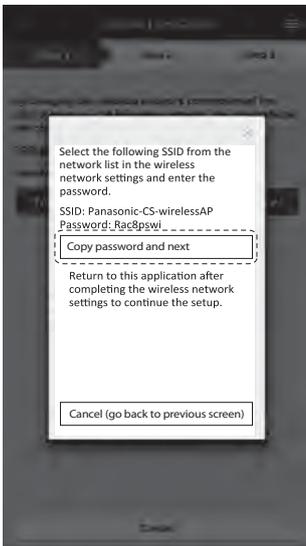
### 18.4.2.5 Connection Network Using AP Mode (Method 2)



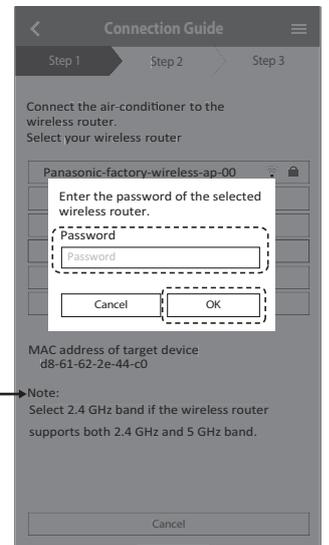
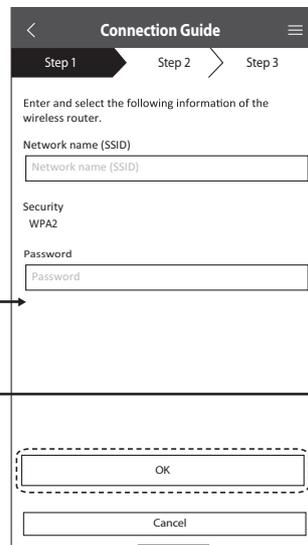
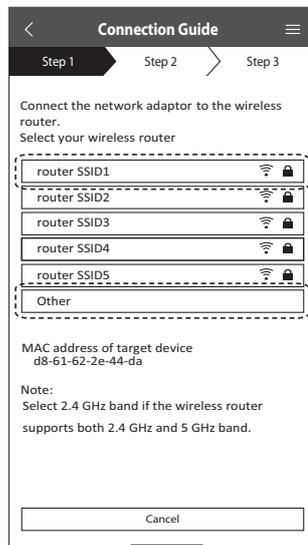
1. Ensure Wireless LAN LED is ON. Press and hold the Wireless LAN  button for 5 seconds until "1" is shown on the remote control.

Press  until "2" is shown on the remote control and press  pointing to the air conditioner.

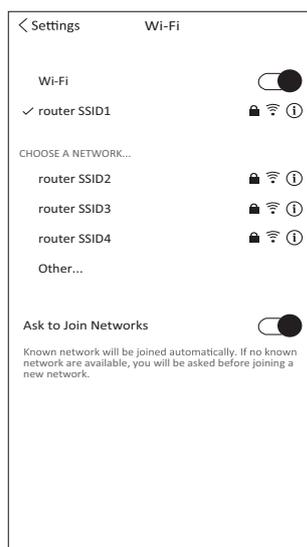
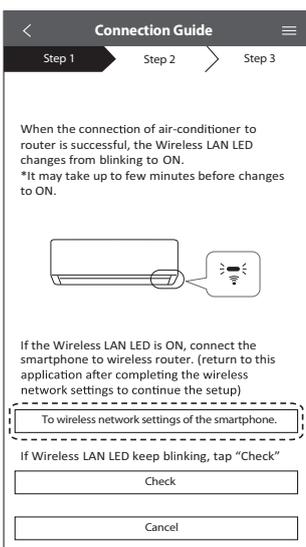




2. Copy the password for later use. Select “Panasonic-CS-wirelessAP” from smartphones Wireless LAN setting and enter the copied password. Return to “Panasonic Comfort Cloud” app.



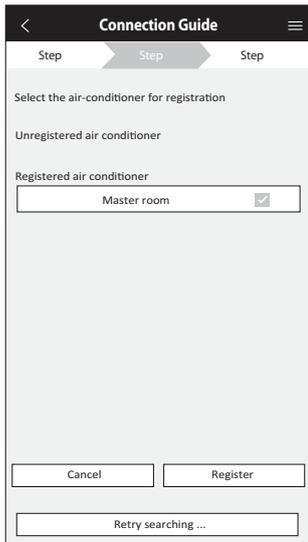
3. Select the SSID of your wireless router. Enter the password to connect the air conditioner to the wireless router.



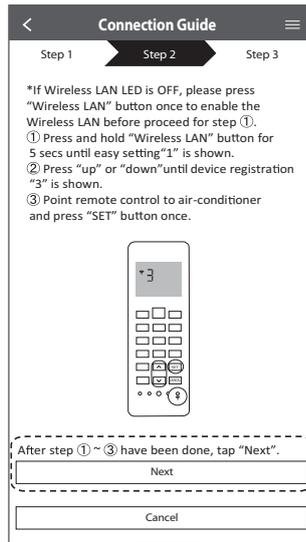
4. When connection of air conditioner to router is successful, the Wireless LAN LED will be changed from blinking to ON. If the Wireless LAN LED is ON, connect the smartphone to wireless router. (return to this application after completing the wireless network settings to continue the setup)

- If the Wireless LAN LED keep blinking, check the wireless router connection.

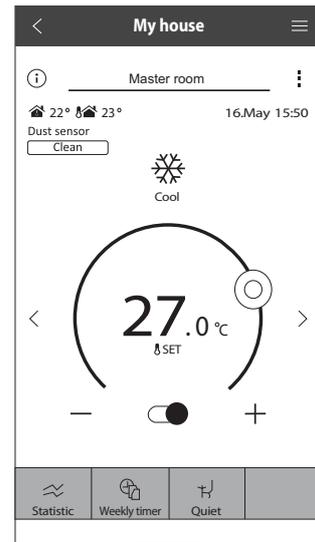
## 18.4.2.6 Select the Air Conditioner and Set the Password



1. Select the air conditioner model to register the device.



2. Set a password for new air conditioner model to complete the registration.



3. Setting completed.

## 18.5 Outdoor Electronic Controller Removal Procedure

### 18.5.1 CU-NZ25VKE CU-NZ35VKE CU-QZ25VKE

⚠ Caution! When handling electronic controller, be careful of electrostatic discharge.

- 1 Remove the 5 screws of the Top Panel.

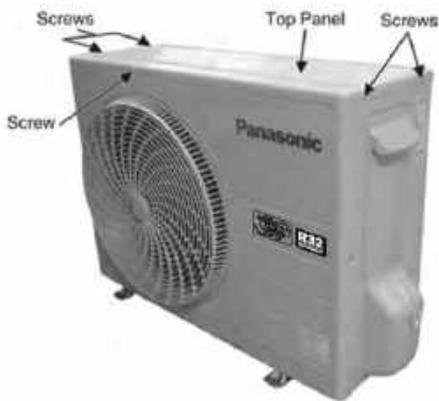


Fig. 1

- 2 Remove the 8 screws of the Front Panel.

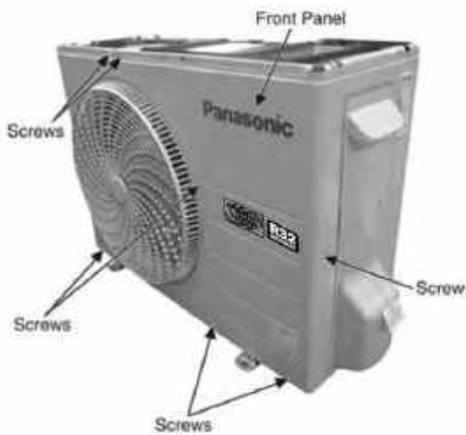


Fig. 2

- 3 Remove the screw of the Terminal Board Cover.
- 4 Remove the Top Cover of the Control Board by 4 hooks.



Fig. 3

- 5 Remove the Control Board as follows:

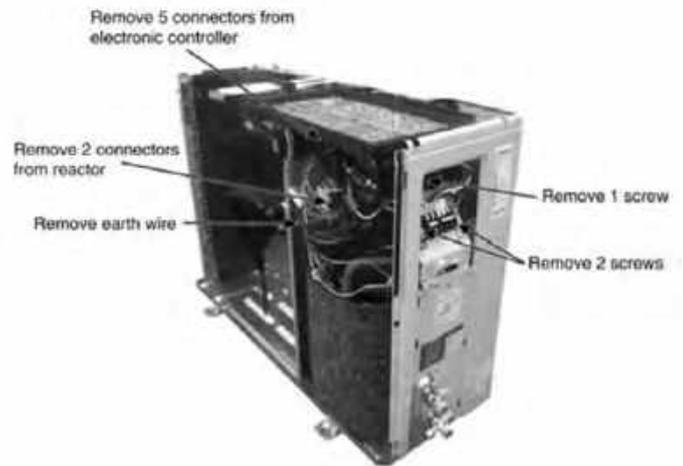


Fig. 4

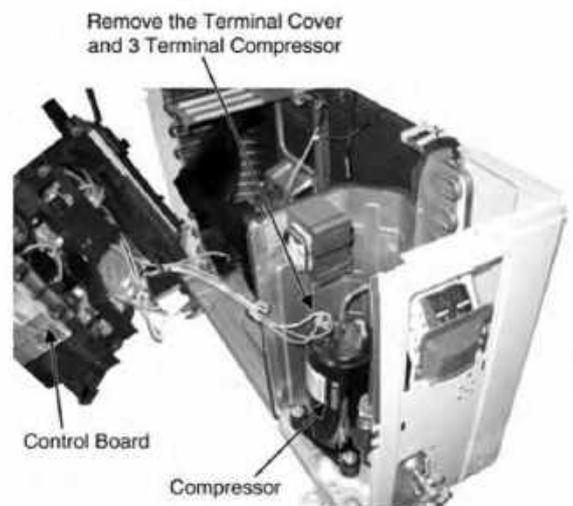


Fig. 5

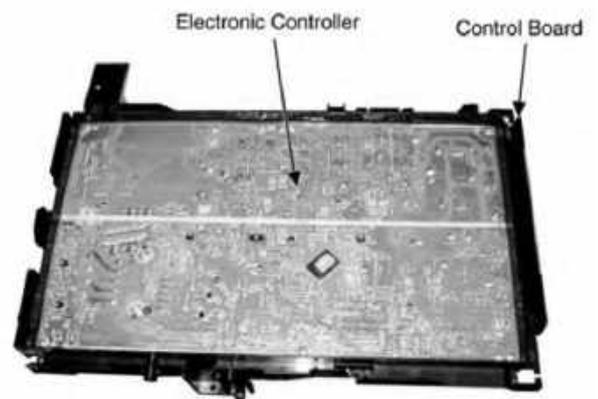


Fig. 6

## 18.5.2 CU-NZ50VKE

⚠ Caution! When handling electronic controller, be careful of electrostatic discharge.

- 1 Remove the 5 screws of the Top Panel.

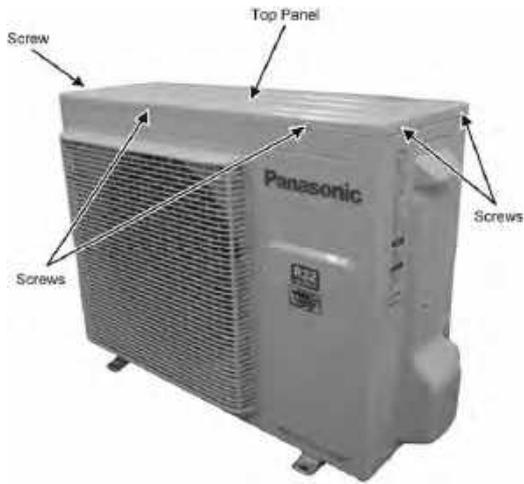


Fig. 1

- 2 Remove the 8 screws of the Front Panel.



Fig. 2

- 3 Remove the screw of the Terminal Board Cover.  
4 Remove the Top Cover of the Electronic Controller by 4 hooks.

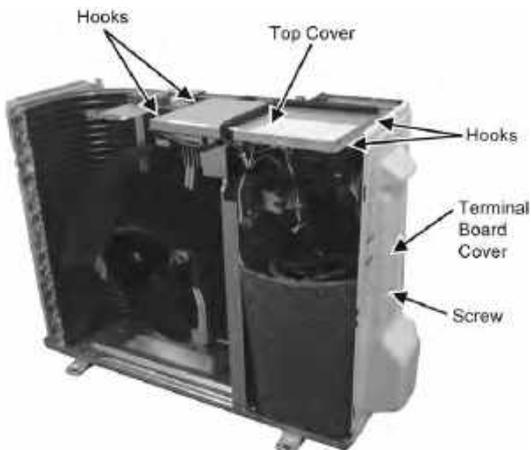


Fig. 3

- 5 Remove 2 screws for the plate of Terminal Board Cover.



Fig. 4

- 6 Remove the Control Board.

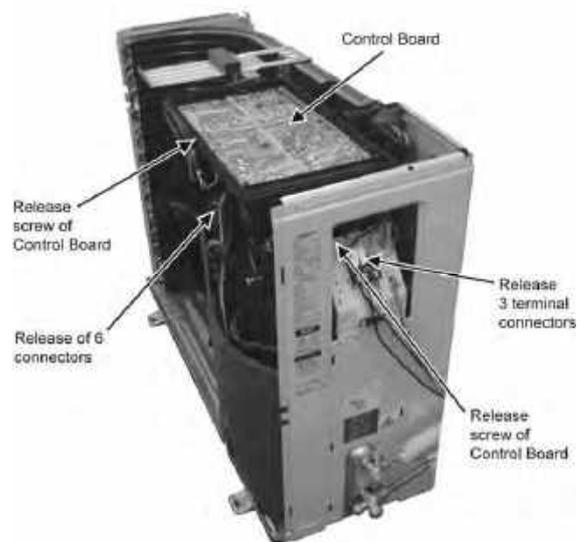


Fig. 5

7. Remove the 4 screws of the Electronic Controller.

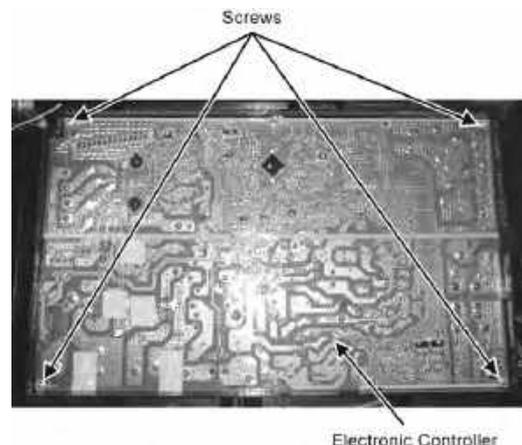


Fig. 6

## 19. Technical Data

Technical data provided are based on the air conditioner running under free frequency.

### 19.1 Cool Mode Performance Data

Unit setting: Standard piping length, Hi Fan, Cool mode at 16°C  
Voltage: 230V

#### 19.1.1 CS-NZ25VKE/CU-NZ25VKE CS-QZ25VKE/CU-QZ25VKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-15			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19	2573	2547	443	2965	2744	284	2818	2501	287	2893	1967	338	2841	2352	284	2669	2237	387	2500	2123	510
	22	2891	1943	327	3229	2104	235	3200	2092	289	3154	1716	335	3170	1780	269	2940	1695	378	2583	1554	504
23	15.7	2344	2249	397	1940	1902	171	2654	2576	320	2726	2039	326	2698	2285	298	2497	2202	394	2226	2096	509
	18.4	2513	1756	334	1450	1015	172	2814	1866	319	2822	1650	338	2921	1814	289	2660	1683	389	2389	1574	509
20	13.3	2167	2059	295	1771	1683	168	2353	2284	381	2459	1962	336	1698	1615	128	1834	1876	285	1743	1691	447
	15.8	2591	1864	358	1816	1637	168	2530	1974	359	2578	1597	347	1709	1358	121	2398	1631	391	2139	1525	506

(Dry bulb value based on 46% humidity)

#### 19.1.2 CS-NZ35VKE/CU-NZ35VKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-15			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19	3602	3109	747	4151	3349	479	3946	3052	484	4050	2401	570	3977	2871	479	3737	2731	653	3500	2592	860
	22	4047	2371	551	4521	2568	396	4480	2554	487	4416	2095	566	4439	2173	454	4116	2069	638	3616	1896	851
23	15.7	3281	2745	670	2716	2509	288	3715	3317	540	3817	2489	549	3777	2790	503	3496	2687	664	3116	2558	858
	18.4	3519	2143	562	2030	1239	290	3940	2278	538	3950	2014	569	4090	2214	488	3723	2054	656	3344	1921	858
20	13.3	3034	2674	498	2480	2400	284	3294	3061	643	3443	2395	567	2378	1972	217	2567	2290	480	2440	2214	754
	15.8	3627	2275	604	2543	1998	284	3543	2409	605	3610	1949	585	2393	1657	204	3357	1991	659	2995	1862	854

(Dry bulb value based on 46% humidity)

#### 19.1.3 CS-NZ50VKE/CU-NZ50VKE

Indoor (°C)		Outdoor DB (°C)																				
DB	WB	-15			-7			0			5			16			25			35		
		TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP	TC	SHC	IP
27	19	5453	4635	1150	5762	4648	888	5808	4700	903	5729	4688	878	5859	4715	828	5439	4494	1048	5000	4349	1340
	22	6335	3800	964	6429	3785	812	6289	3753	934	6210	3669	926	6442	3758	792	5970	3551	1062	5501	3400	1357
23	15.7	5258	4616	1010	5294	4656	824	5140	4558	926	5292	4666	853	5097	4476	856	4876	4306	1058	4542	4326	1340
	18.4	5701	3779	784	5728	3765	878	5536	3668	980	5739	3754	884	5600	3584	833	5328	3536	1077	4949	3387	1353
20	13.3	4164	4000	656	4056	4036	783	3860	3840	614	3489	3472	498	4966	4941	875	4491	4200	1062	4219	4126	1337
	15.8	6466	4335	1301	4345	3191	767	4513	3233	738	4020	3048	526	5212	3563	853	4852	3427	1084	4498	3290	1352

(Dry bulb value based on 46% humidity)

TC - Total Cooling Capacity (W)  
SHC - Sensible Heat Capacity (W)  
IP - Input Power (W)

## 19.2 Heat Mode Performance Data

Unit setting: Standard piping length, Hi Fan, Heat mode at 30°C

Voltage: 230V

### 19.2.1 CS-NZ25VKE/CU-NZ25VKE CS-QZ25VKE/CU-QZ25VKE

Indoor (°C)	Outdoor WB (°C)									
	-25/-26		-20/-21		-15/-16		-7/-8		2/1	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	2013	1462	2562	1572	3209	1708	3587	1649	3992	1488
20	2090	1357	2660	1459	3332	1581	3800	1588	4113	1454
16	2147	1261	2732	1356	3430	1470	3604	1401	4248	1424

Indoor (°C)	Outdoor WB (°C)			
	7/6		12/11	
	TC	IP	TC	IP
24	4992	1692	5170	1685
20	5355	1695	5680	1684
16	5640	1694	6042	1686

### 19.2.2 CS-NZ35VKE/CU-NZ35VKE

Indoor (°C)	Outdoor WB (°C)									
	-25/-26		-20/-21		-15/-16		-7/-8		2/1	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	2745	1791	3294	1978	3965	2193	4125	2209	4621	1993
20	2850	1662.6	3420	1836	4116	2030	4370	2127	4761	1948
16	2927	1546	3513	1707	4236	1887	4144	1877	4918	1909

Indoor (°C)	Outdoor WB (°C)			
	7/6		12/11	
	TC	IP	TC	IP
24	5785	2200	5991	2190
20	6205	2204	6581	2189
16	6536	2202	7001	2192

### 19.2.3 CS-NZ50VKE/CU-NZ50VKE

Indoor (°C)	Outdoor WB (°C)									
	-25		-20		-15		-7		2	
	TC	IP	TC	IP	TC	IP	TC	IP	TC	IP
24	3493	1999	4057	2030	4646	2169	4620	2184	5604	2150
20	3515	1860	3943	1910	4802	2090	5096	2180	5821	2140
16	3752	1611	4443	1741	5188	1979	5270	2176	6249	1817

Indoor (°C)	Outdoor WB (°C)			
	7		12	
	TC	IP	TC	IP
24	6539	2371	6726	2360
20	6970	2372	7276	2360
16	6865	2359	7781	2370

TC - Total Cooling Capacity (W)

SHC - Sensible Heat Capacity (W)

IP - Input Power (W)

## 20. Service Data

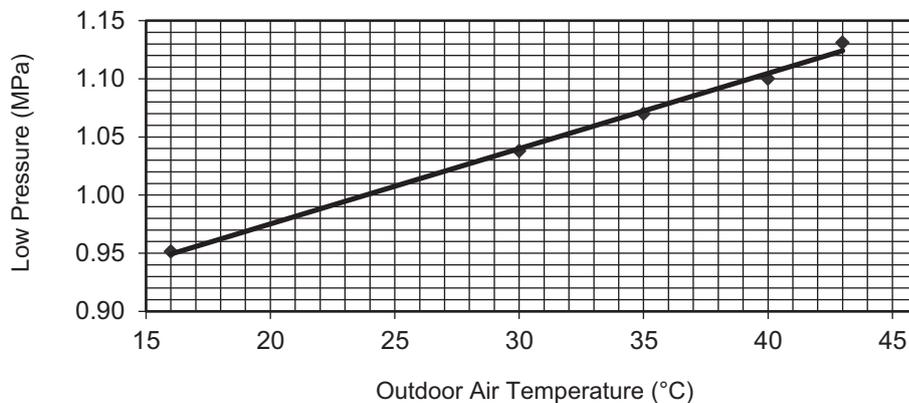
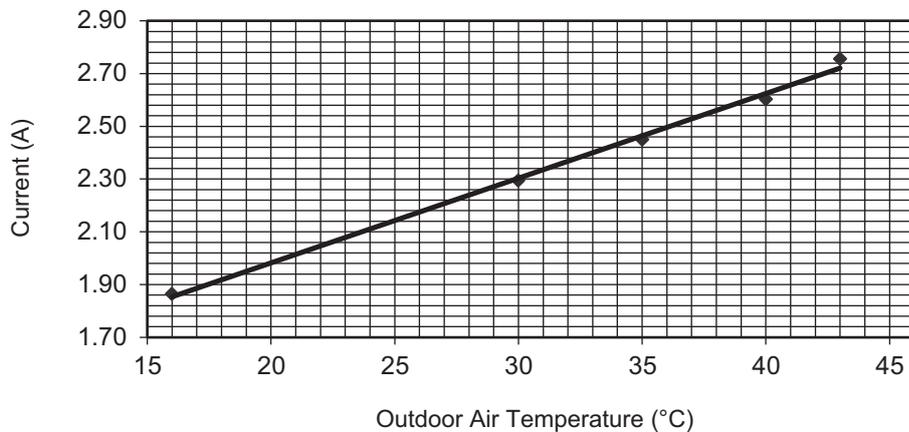
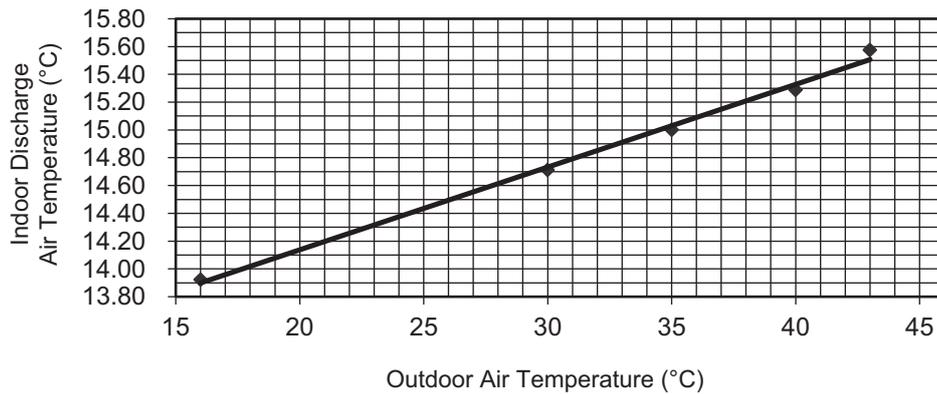
Service data provided are based on the air conditioner running under rated frequency during forced cooling / forced heating mode.

### 20.1 Cool Mode Outdoor Air Temperature Characteristic

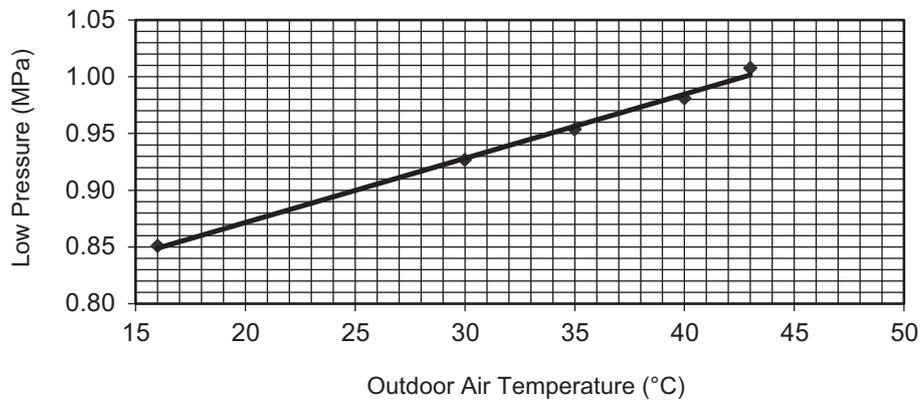
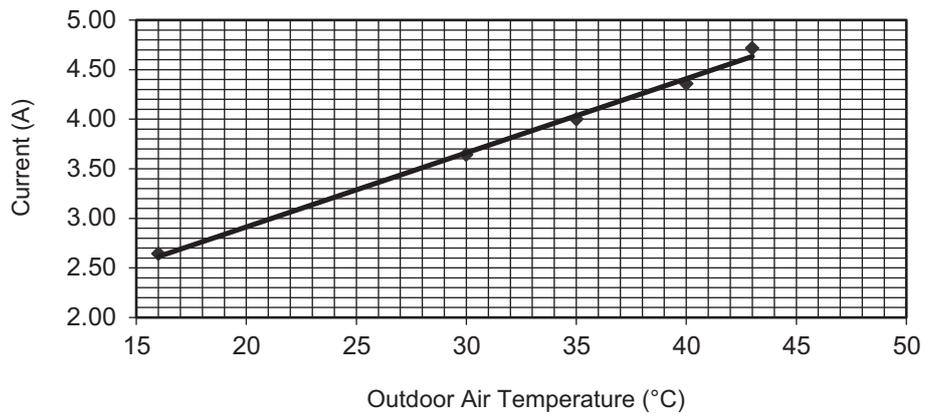
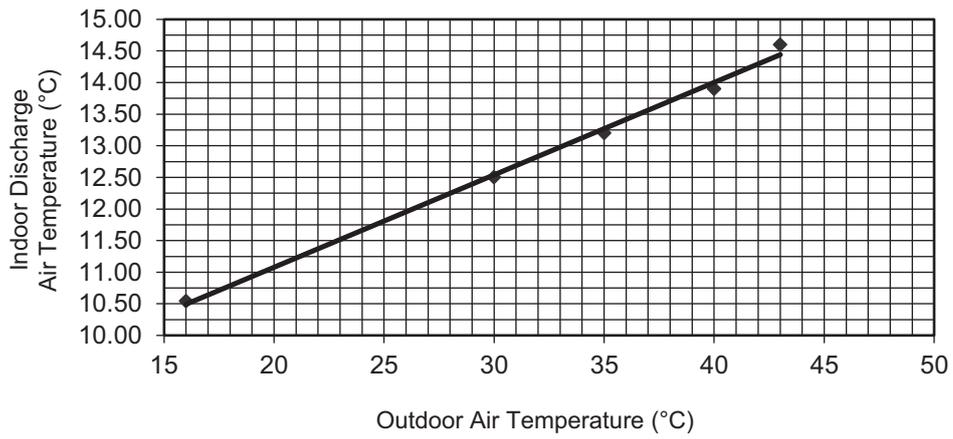
Condition

- Indoor room temperature: 27°C Dry Bulb/19°C Wet Bulb
- Unit setting: Standard piping length, forced cooling at 16°C, Hi fan
- Compressor frequency: Rated for cooling operation
- Piping length: 5m
- Voltage: 230V

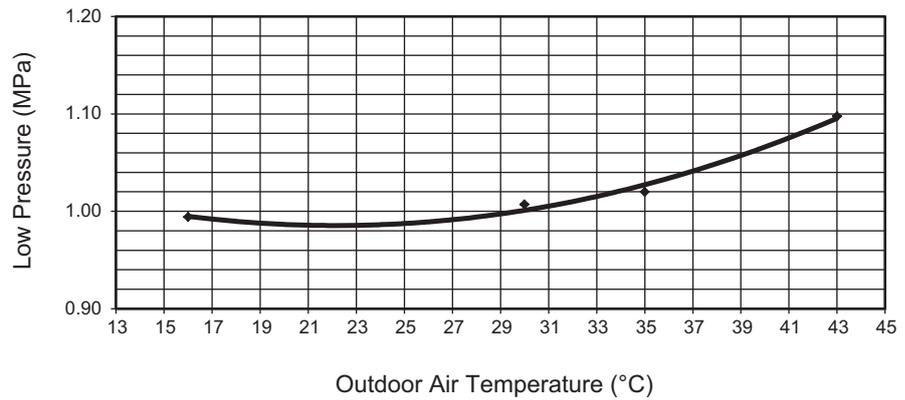
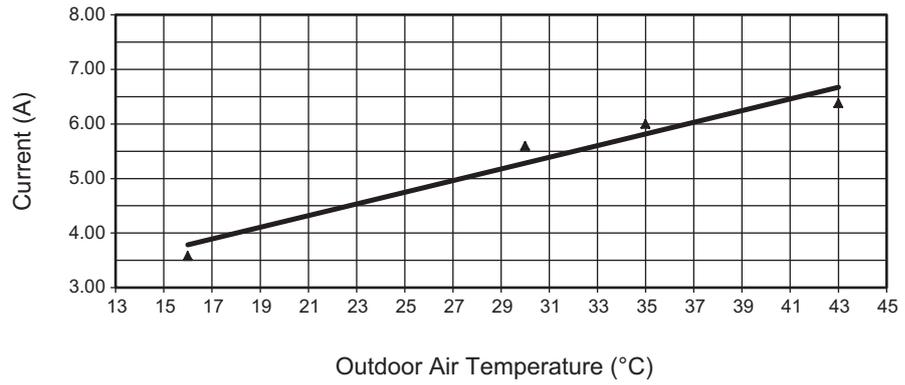
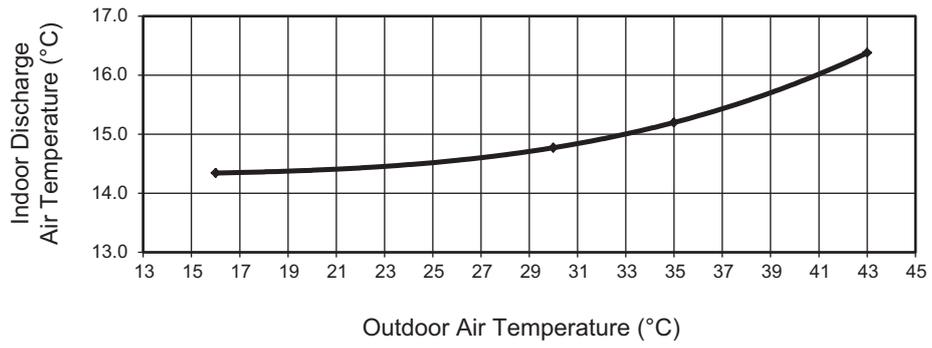
#### 20.1.1 CS-NZ25VKE CU-NZ25VKE CS-QZ25VKE CU-QZ25VKE



## 20.1.2 CS-NZ35VKE CU-NZ35VKE



### 20.1.3 CS-NZ50VKE CU-NZ50VKE

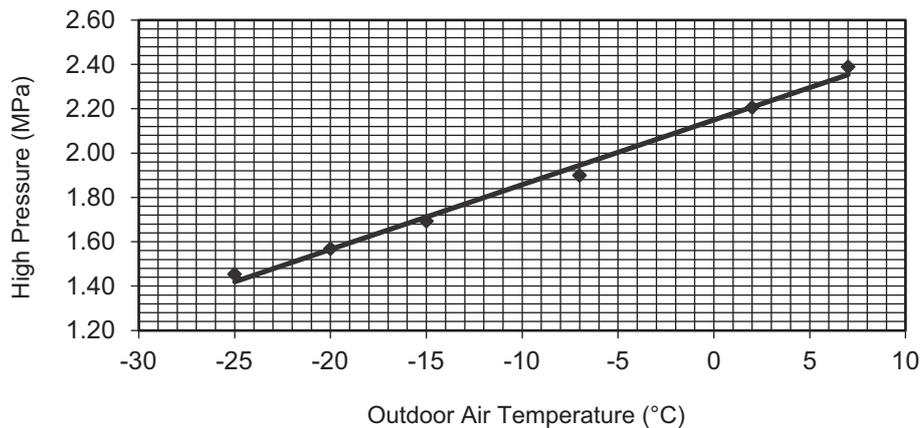
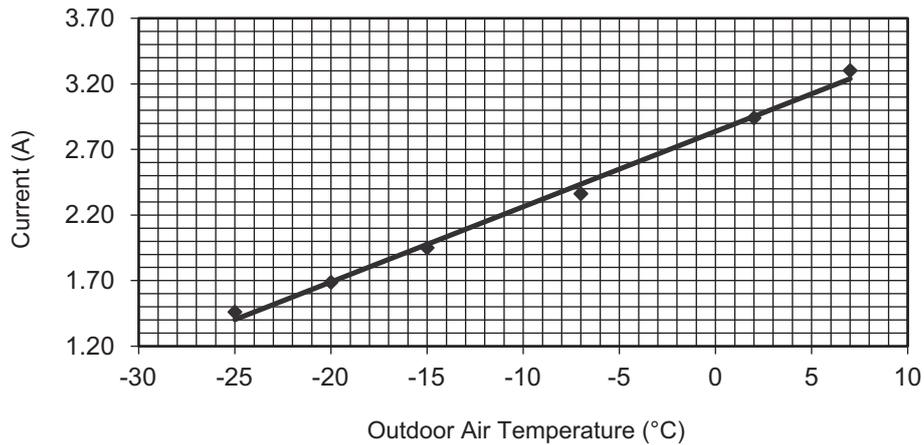
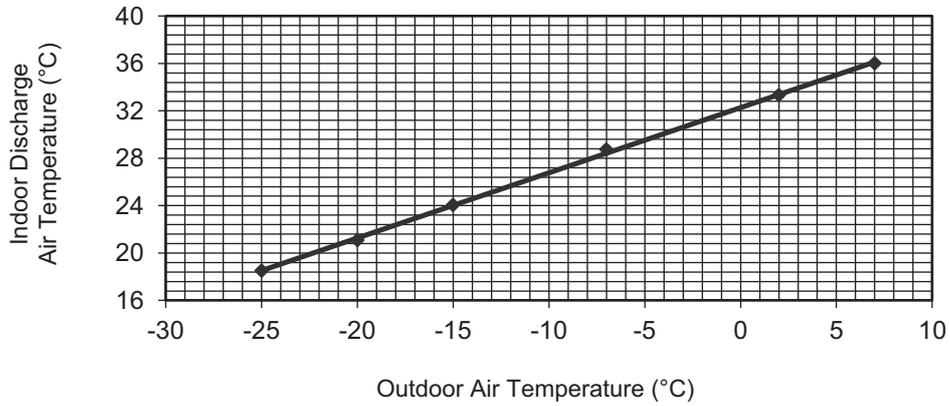


## 20.2 Heat Mode Outdoor Air Temperature Characteristic

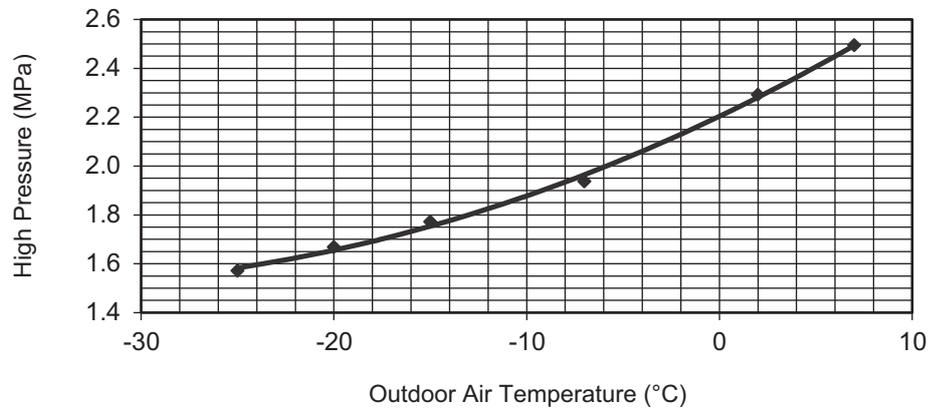
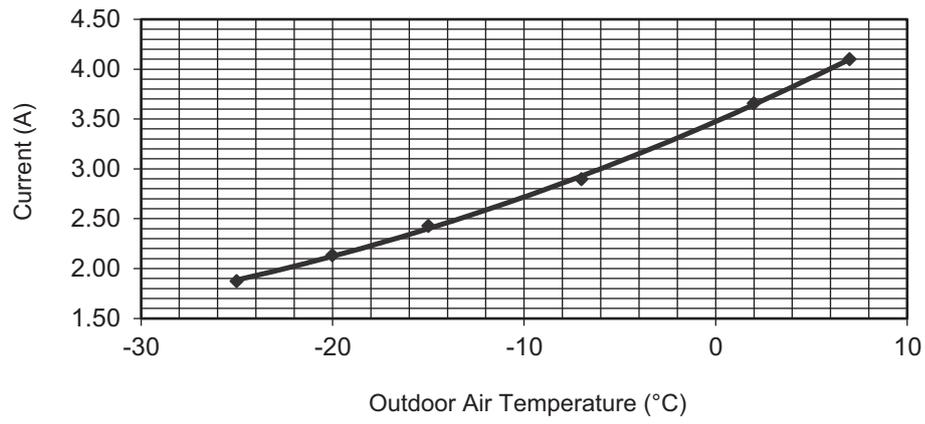
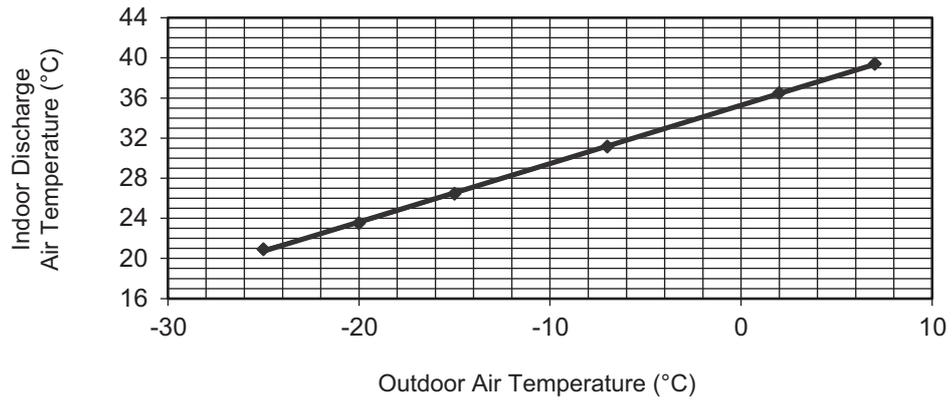
### Condition

- Indoor room temperature: 20°C Dry Bulb/ -°C Wet Bulb
- Unit setting: Standard piping length, forced heating at 30°C, Hi fan
- Compressor frequency: Rated for Heating operation
- Piping length: 5m
- Voltage: 230V

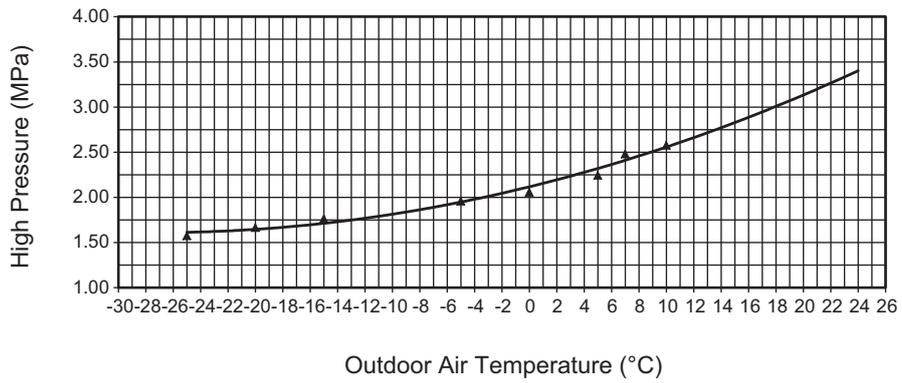
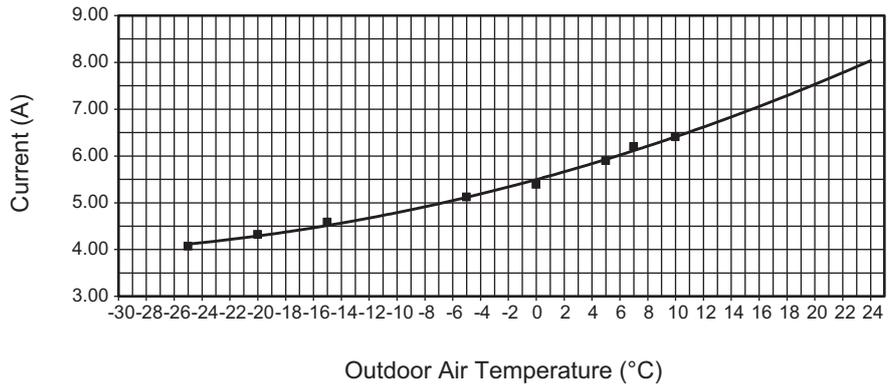
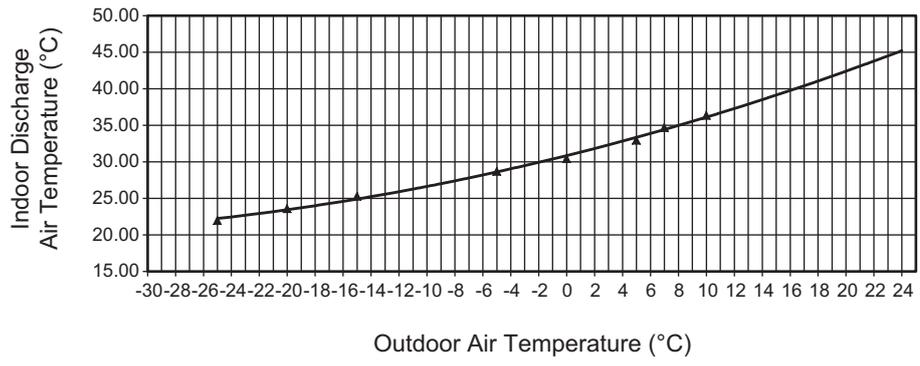
### 20.2.1 CS-NZ25VKE CU-NZ25VKE CS-QZ25VKE CU-QZ25VKE



## 20.2.2 CS-NZ35VKE CU-NZ35VKE



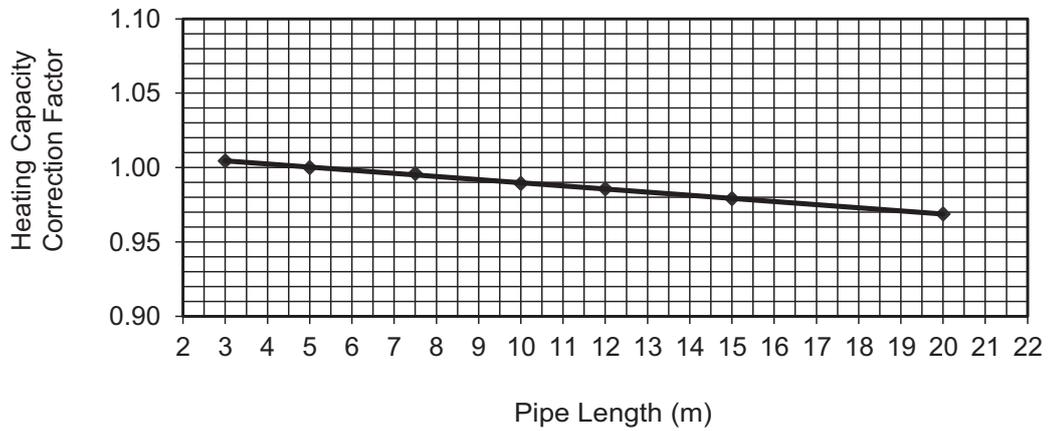
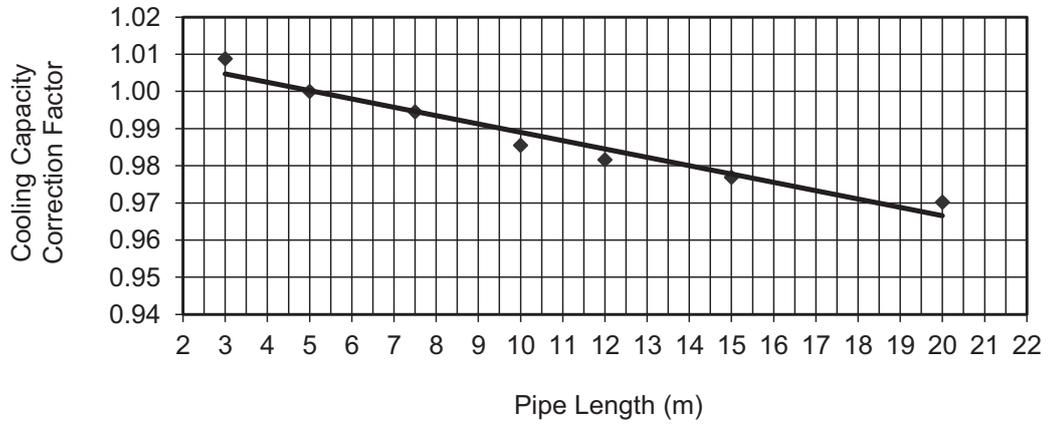
### 20.2.3 CS-NZ50VKE CU-NZ50VKE



### 20.3 Piping Length Correction Factor

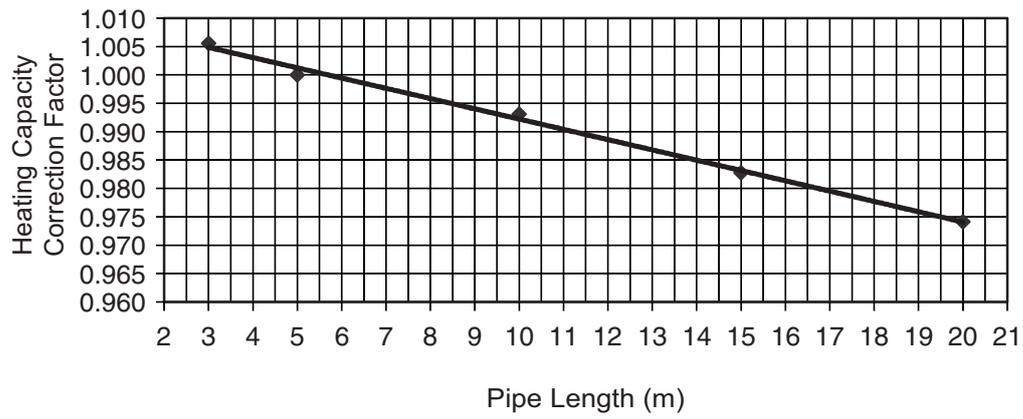
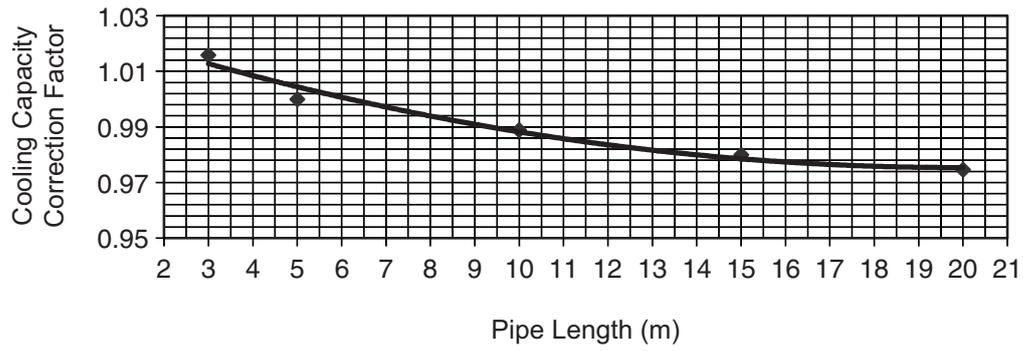
The characteristic of the unit has to be corrected in accordance with the piping length.

#### 20.3.1 CS-NZ25VKE CU-NZ25VKE CS-NZ35VKE CU-NZ35VKE CS-QZ25VKE CU-QZ25VKE



Note: The graphs show the factor after added right amount of additional refrigerant.

### 20.3.2 CS-NZ50VKE CU-NZ50VKE

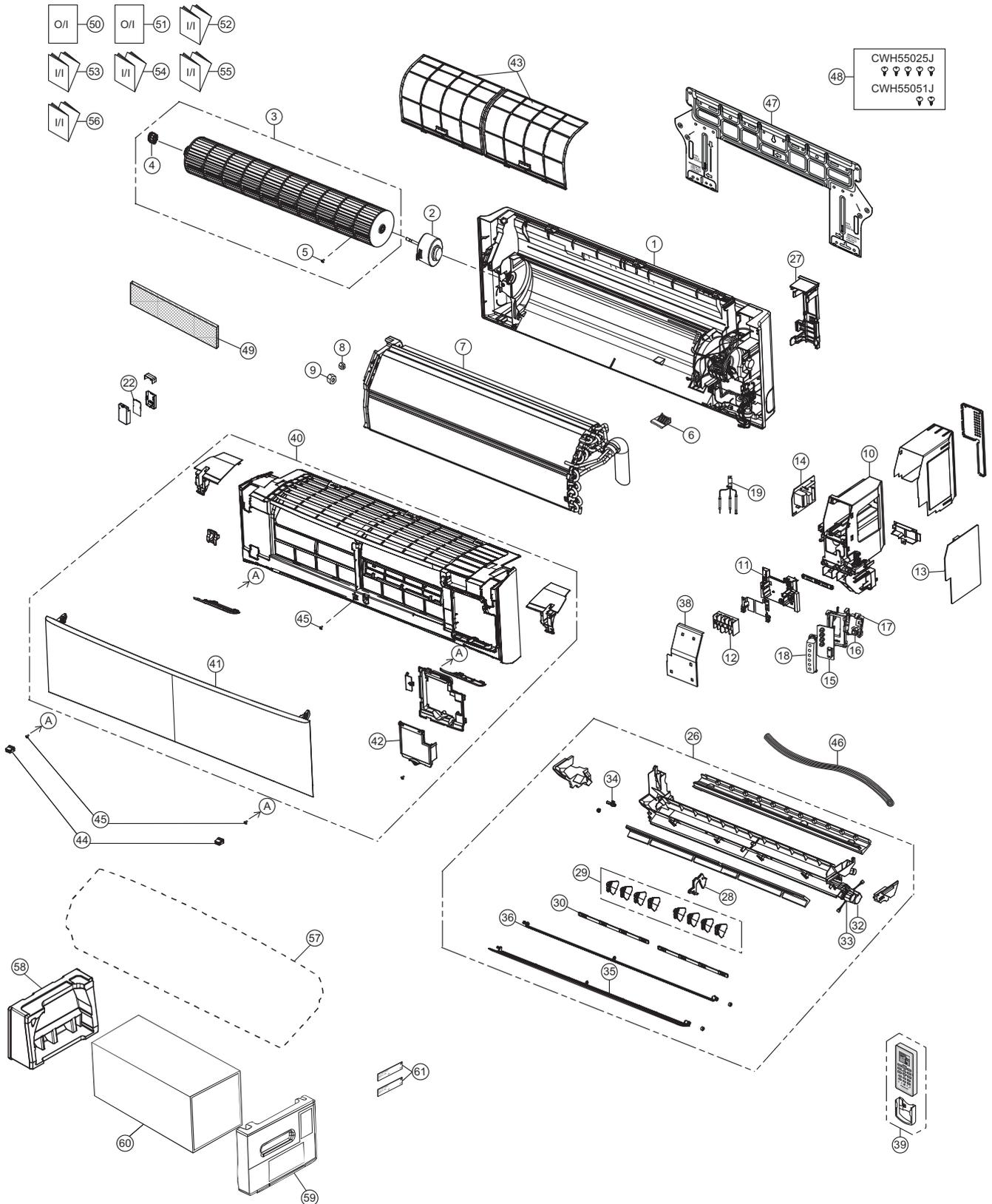


Note: The graphs show the factor after added right amount of additional refrigerant.

# 21. Exploded View and Replacement Parts List

## 21.1 Indoor Unit

### 21.1.1 CS-NZ25VKE CS-NZ35VKE CS-QZ25VKE



**Note**  
 The above exploded view is for the purpose of parts disassembly and replacement.  
 The non-numbered parts are not kept as standard service parts.

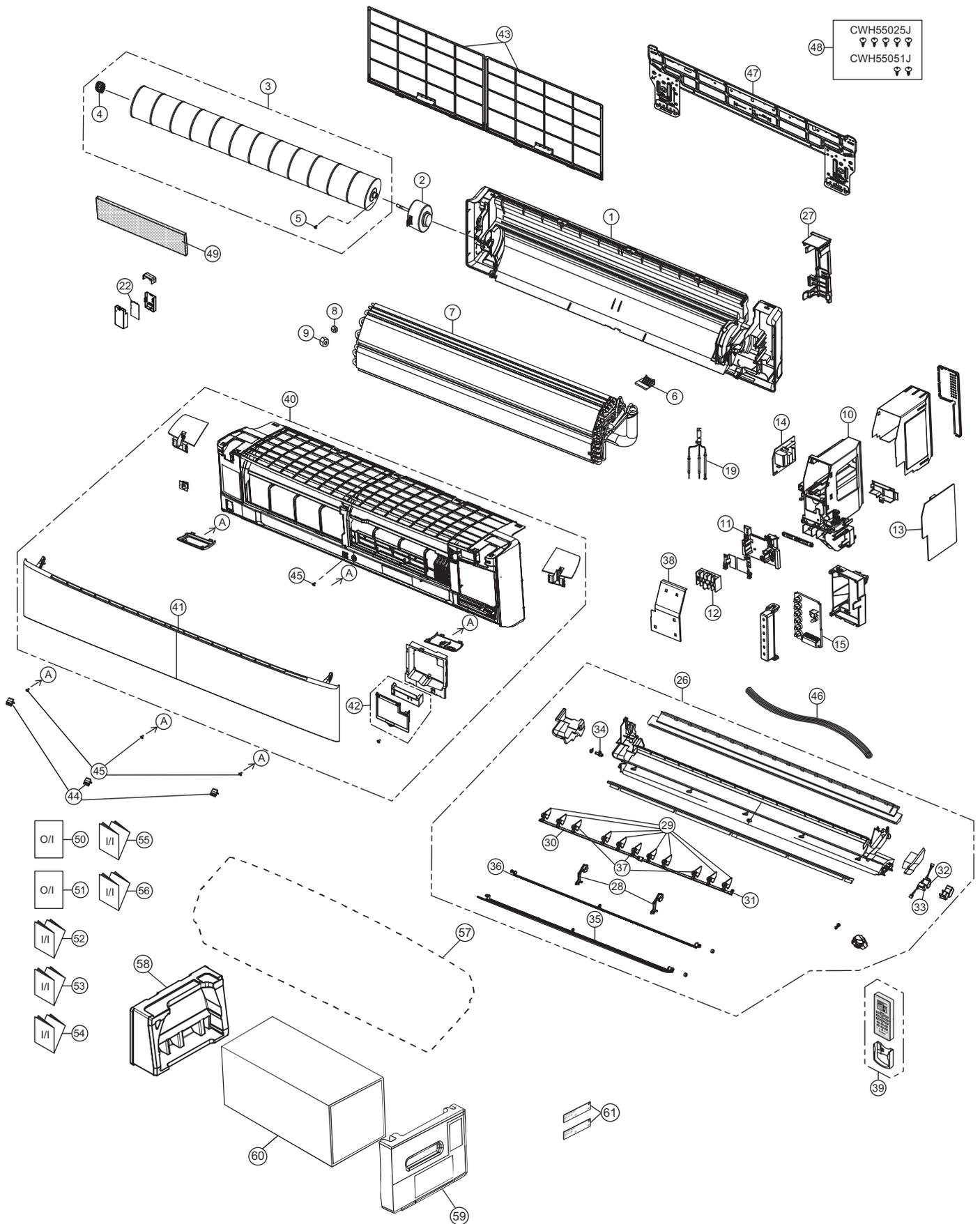
SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CS-NZ25VKE	CS-NZ35VKE	CS-QZ25VKE	REMARK
	1	CHASSIS COMPLETE	1	ACXD50C00200	←	←	
⚠	2	FAN MOTOR	1	ARW7628ACCB	←	←	O
	3	CROSS-FLOW FAN COMPLETE	1	CWH02C1076	←	←	
	4	BEARING ASSY	1	CWH64K1006	←	←	O
	5	SCREW - CROSS-FLOW FAN	1	CWH551146	←	←	
	6	PARTICULAR PIECE	1	CWD933067B	←	←	
	7	EVAPORATOR	1	ACXB30C01970	ACXB30C02100	ACXB30C01970	
	8	FLARE NUT (LIQUID)	1	CWT251048	←	←	
	9	FLARE NUT (GAS)	1	CWT251049	←	←	
	10	CONTROL BOARD CASING	1	ACXH10-00200	←	←	
	11	PARTICULAR PIECE	1	CWD933138	←	←	
⚠	12	TERMINAL BOARD COMPLETE	1	ACXA28C05690	←	←	O
⚠	13	ELECTRONIC CONTROLLER - MAIN	1	ACXA73C57010	ACXA73C57020	ACXA73C57010	O
⚠	14	ELECTRONIC CONTROLLER - SUB	1	ACXA73-31860	←	←	O
⚠	15	ELECTRONIC CONTROLLER - INDICATOR	1	ACXA73-31870	←	←	O
⚠	16	ELECTRONIC CONTROLLER - RECEIVER	1	ACXA73-07240	←	←	O
	17	HOLDER - RECEIVER	1	ACXD93-00700	←	←	
	18	INDICATOR HOLDER	1	ACXD93-00930	←	←	
	19	SENSOR COMPLETE	1	CWA50C2664	←	←	
⚠	22	ELECTRONIC CONTROLLER - WIFI	1	N5HBZ0000122	←	←	
	26	DISCHARGE GRILLE COMPLETE	1	ACXE20C05370	←	←	
	27	BACK COVER CHASSIS	1	CWD933233C	←	←	
	28	FULCRUM	1	ACXH62-00040	←	←	
	29	VERTICAL VANE	8	CWE241457	←	←	
	30	CONNECTING BAR	2	CWE261320	←	←	
⚠	32	AIR SWING MOTOR (BIG)	1	ACXA98-01960	←	←	O
⚠	33	AIR SWING MOTOR (SMALL)	1	ACXA98-01990	←	←	O
	34	CAP - DRAIN TRAY	1	CWH521259	←	←	
	35	HORIZONTAL VANE COMPLETE (BIG)	1	ACXE24C00241	←	←	
	36	HORIZONTAL VANE COMPLETE (SMALL)	1	ACXE24C03830	←	←	
	38	CONTROL BOARD COVER - COMPLETE	1	ACXH13C00150	←	←	
⚠	39	REMOTE CONTROL COMPLETE	1	ACXA75C17400	←	←	O
	40	FRONT GRILLE COMPLETE	1	ACXE10C10810	ACXE10C10820	ACXE10C11180	O
	41	INTAKE GRILLE COMPLETE	1	ACXE22K01110	←	ACXE22K00090	
	42	GRILLE DOOR COMPLETE	1	CWE14C1090	←	←	
	43	AIR FILTER	2	CWD001279	←	←	O
	44	CAP - FRONT GRILLE	2	ACXH52-00020	←	←	
	45	SCREW - FRONT GRILLE	3	XTT4+16CFJ	←	←	
	46	DRAIN HOSE	1	ACXH85-00210	←	←	
	47	INSTALLATION PLATE	1	CWH361147	←	←	
	48	BAG COMPLETE - INSTALLATION SCREW	1	CWH82C1705	←	←	
	49	AIR PURIFYING FILTER	1	CWD00C1291	←	←	
	50	OPERATING INSTRUCTION	1	ACXF55-24700	←	←	
	51	OPERATING INSTRUCTION	1	ACXF55-26520	←	←	
	52	INSTALLATION INSTRUCTION	1	ACXF60-36900	←	←	
	53	INSTALLATION INSTRUCTION	1	ACXF60-36910	←	←	
	54	INSTALLATION INSTRUCTION	1	ACXF60-36920	←	←	

SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CS-NZ25VKE	CS-NZ35VKE	CS-QZ25VKE	REMARK
	55	INSTALLATION INSTRUCTION	1	ACXF60-36930	←	←	
	56	INSTALLATION INSTRUCTION	1	ACXF60-36940	←	←	
	57	BAG	1	CWG861497	←	←	
	58	SHOCK ABSORBER (L)	1	ACXG70-00380	←	←	
	59	SHOCK ABSORBER (R)	1	ACXG70-00390	←	←	
	60	C. C. CASE	1	ACXG50-48620	←	←	
	61	MODEL LABEL	2	ACXF85-21290	ACXF85-21300	ACXF85-23060	

(NOTE)

- All parts are supplied from PAPAMY, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.

## 21.1.2 CS-NZ50VKE



**Note**  
 The above exploded view is for the purpose of parts disassembly and replacement.  
 The non-numbered parts are not kept as standard service parts.

SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CS-NZ50VKE	REMARK
	1	CHASSIS COMPLETE	1	ACXD50C01591	
⚠	2	FAN MOTOR	1	L6CBYYL0219	O
	3	CROSS-FLOW FAN COMPLETE	1	CWH02C1136	
	4	BEARING ASSY	1	CWH64K1010	O
	5	SCREW - CROSS-FLOW FAN	1	CWH551146	
	6	PARTICULAR PIECE	1	CWD933067B	
	7	EVAPORATOR	1	ACXB30C03600	
	8	FLARE NUT (LIQUID)	1	CWT251030	
	9	FLARE NUT (GAS)	1	CWT251032	
	10	CONTROL BOARD CASING	1	ACXH10-00720	
	11	PARTICULAR PIECE	1	CWD933138	
⚠	12	TERMINAL BOARD COMPLETE	1	ACXA28C05690	O
⚠	13	ELECTRONIC CONTROLLER - MAIN	1	ACXA73C57030	O
⚠	14	ELECTRONIC CONTROLLER - SUB	1	ACXA73-31860	O
⚠	15	ELECTRONIC CONTROLLER - INDICATOR	1	ACXA73-31880	O
⚠	19	SENSOR COMPLETE	1	CWA50C3226	
⚠	22	ELECTRONIC CONTROLLER - WIFI	1	N5HBZ0000122	
	26	DISCHARGE GRILLE COMPLETE	1	ACXE20C00990	
	27	BACK COVER CHASSIS	1	ACXD93-10180	
	28	FULCRUM	2	ACXH62-00080	
	29	VERTICAL VANE	8	ACXE24-00400	
	30	CONNECTING BAR	1	ACXE26-00190	
	31	CONNECTING BAR	1	ACXE26-00200	
⚠	32	AIR SWING MOTOR (BIG)	1	ACXA98-02000	O
⚠	33	AIR SWING MOTOR (SMALL)	1	ACXA98-01990	O
	34	CAP - DRAIN TRAY	1	CWH521259	
	35	HORIZONTAL VANE COMPLETE (BIG)	1	ACXE24C01031	
	36	HORIZONTAL VANE COMPLETE (SMALL)	1	ACXE24C00540	
	37	VERTICAL VANE	3	ACXE24-00630	
	38	CONTROL BOARD COVER - COMPLETE	1	ACXH13C00150	
⚠	39	REMOTE CONTROL COMPLETE	1	ACXA75C17400	O
	40	FRONT GRILLE COMPLETE	1	ACXE10C10830	O
	41	INTAKE GRILLE COMPLETE	1	ACXE22K00160	
	42	GRILLE DOOR COMPLETE	1	ACXE14C00050	
	43	AIR FILTER	2	ACXD00-00250	O
	44	CAP - FRONT GRILLE	3	ACXH52-00100	
	45	SCREW - FRONT GRILLE	4	XTT4+16CFJ	
	46	DRAIN HOSE	1	ACXH85-00210	
	47	INSTALLATION PLATE	1	CWH361098	
	48	BAG COMPLETE - INSTALLATION SCREW	1	CWH82C1705	
	49	AIR PURIFYING FILTER	1	CWD00C1291	
	50	OPERATING INSTRUCTION	1	ACXF55-24700	
	51	OPERATING INSTRUCTION	1	ACXF55-26520	
	52	INSTALLATION INSTRUCTION	1	ACXF60-36900	
	53	INSTALLATION INSTRUCTION	1	ACXF60-36910	
	54	INSTALLATION INSTRUCTION	1	ACXF60-36920	
	55	INSTALLATION INSTRUCTION	1	ACXF60-36930	
	56	INSTALLATION INSTRUCTION	1	ACXF60-36940	
	57	BAG	1	ACXG86-00130	

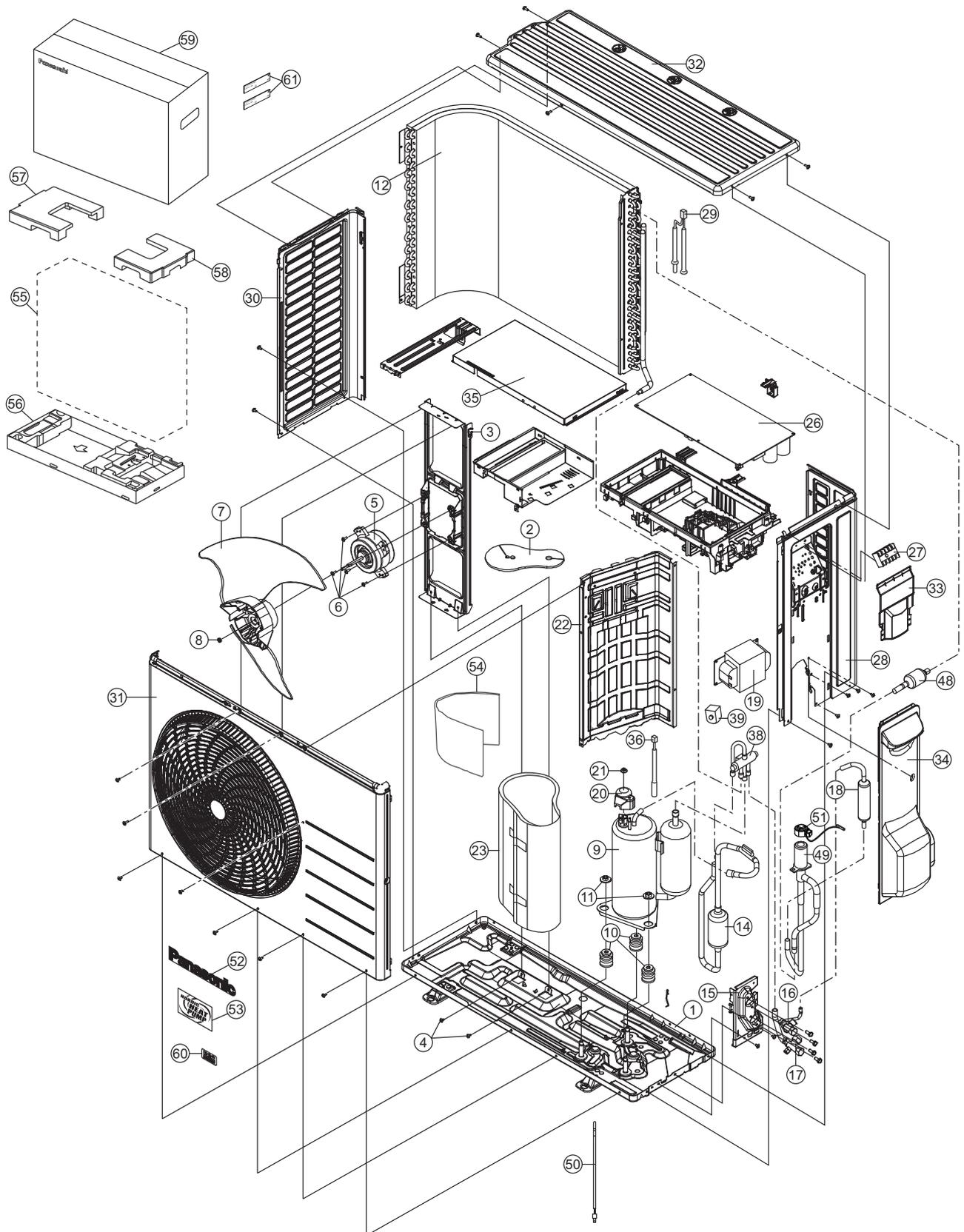
SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CS-NZ50VKE	REMARK
	58	SHOCK ABSORBER (L)	1	ACXG70-00850	
	59	SHOCK ABSORBER (R)	1	ACXG70-00840	
	60	C. C. CASE	1	ACXG50-48640	
	61	MODEL LABEL	2	ACXF85-21310	

(NOTE)

- All parts are supplied from PAPAMY, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.

## 21.2 Outdoor Unit

### 21.2.1 CU-NZ25VKE CU-NZ35VKE CU-QZ25VKE



#### Note

The above exploded view is for the purpose of parts disassembly and replacement. The non-numbered parts are not kept as standard service parts.

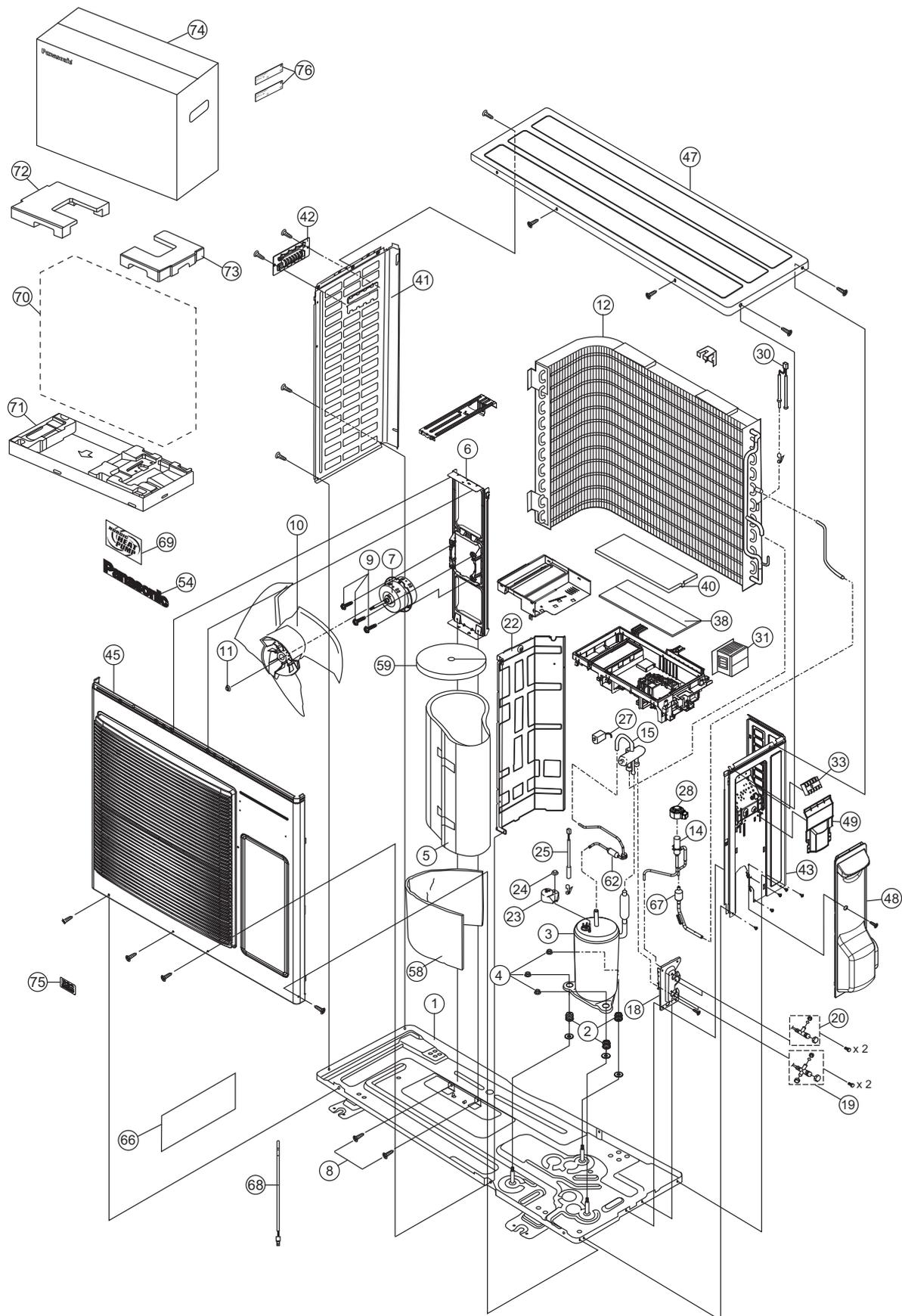
SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-NZ25VKE	CU-NZ35VKE	CU-QZ25VKE	REMARK
	1	CHASSIS COMPLETE	1	CWD52K1310	CWD52K1359	CWD52K1310	
	2	SOUND PROOF MATERIAL (TOP)	1	CWG302630	←	←	
	3	FAN MOTOR BRACKET	1	CWD541167	←	←	
	4	SCREW - FAN MOTOR BRACKET	2	CWH551217	←	←	
⚠	5	FAN MOTOR	1	L6CAYYYL0064	←	←	O
	6	SCREW - FAN MOTOR MOUNT	4	CWH55252J	←	←	
	7	PROPELLER FAN ASSY	1	CWH03K1066	←	←	
	8	NUT - PROPELLER FAN	1	CWH56053J	←	←	
⚠	9	COMPRESSOR	1	9RD132XAB21	←	←	O
	10	ANTI - VIBRATION BUSHING	3	CWH50077	←	←	
	11	NUT - COMPRESSOR MOUNT	3	CWH561096	←	←	
	12	CONDENSER	1	ACXB32C01690	ACXB32C12500	ACXB32C01690	
	14	DISCHARGE MUFFLER (4 W. VALVE)	1	CWB121010	←	←	
	15	HOLDER COUPLING	1	CWH351233	←	←	
	16	2-WAYS VALVE (LIQUID)	1	CWB021590	CWB021589	CWB021590	O
	17	3-WAY VALVE (GAS)	1	CWB011374	←	←	O
	18	DISCHARGE MUFFLER	1	CWB121058	←	←	
⚠	19	REACTOR	1	G0C392J00039	←	←	O
	20	TERMINAL COVER	1	CWH171039A	←	←	
	21	NUT - TERMINAL COVER	1	CWH7080300J	←	←	
	22	SOUND PROOF BOARD	1	CWH151364	CWH151273	CWH151364	
	23	SOUND PROOF MATERIAL	1	CWG302952	←	←	
⚠	26	ELECTRONIC CONTROLLER - MAIN	1	ACXA73C57040R	ACXA73C57050R	ACXA73C57040R	O
⚠	27	TERMINAL BOARD ASSY	1	CWA28K1110J	←	←	O
	28	CABINET SIDE PLATE CO.	1	ACXE04C05290	ACXE04C05240	ACXE04C05290	
⚠	29	SENSOR CO - AIR TEMP AND PIPE TEMP	1	CWA50C3079	←	←	O
	30	CABINET SIDE PLATE	1	ACXE04-10020	←	←	
	31	CABINET FRONT PLATE CO.	1	ACXE06C02910	←	←	
	32	CABINET TOP PLATE	1	ACXE03-02880	←	←	
	33	CONTROL BOARD COVER	1	CWH131470	←	←	
	34	CONTROL BOARD COVER - COMPLETE	1	CWH13C1253	←	←	
	35	CONTROL BOARD COVER - TOP	1	CWH131473	←	←	
⚠	36	SENSOR CO - COMP TEMP	1	CWA50C2894	←	←	O
	38	4-WAYS VALVE	1	ACXB00-01290	←	←	O
⚠	39	V-COIL COMPLETE - 4 WAY VALVE	1	ACXA43C00250	←	←	O
	48	STRAINER	1	CWB11094	←	←	
	49	EXPANSION VALVE	1	ACXB05-00400	←	←	
⚠	50	HEATER	1	CWA341072	←	←	
⚠	51	V-COIL COMPLETE - EXP. VALVE	1	ACXA43C01520	←	←	O
	52	PANASONIC BADGE	1	CWE373439	←	←	
	53	NORDIC HEATPUMP BADGE	1	CWE373985	←	←	
	54	SOUND PROOF MATERIAL	1	CWG302745	←	←	
	55	BAG	1	ACXG86-03760	←	←	

SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-NZ25VKE	CU-NZ35VKE	CU-QZ25VKE	REMARK
	56	BASE - BOARD COMPLETE	1	CWG62C1162	←	←	
	57	SHOCK ABSORBER (L)	1	CWG713416	←	←	
	58	SHOCK ABSORBER (R)	1	CWG713415	←	←	
	59	C. C. CASE	1	ACXG50-48900	←	←	
	60	INDICATION LABEL	1	CWF746074	←	←	
	61	MODEL LABEL	2	ACXF85-20720	ACXF85-20730	ACXF85-22010	

(NOTE)

- All parts are supplied from PAPAMY, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.

## 21.2.2 CU-NZ50VKE



**Note**  
 The above exploded view is for the purpose of parts disassembly and replacement.  
 The non-numbered parts are not kept as standard service parts.

SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-NZ50VKE	REMARK
	1	CHASSIS COMPLETE	1	CWD52K1378	
	2	ANTI - VIBRATION BUSHING	3	CWH50077	
⚠	3	COMPRESSOR	1	9RD132XAA21	O
	4	NUT - COMPRESSOR MOUNT	3	CWH561096	
	5	SOUND PROOF MATERIAL	1	CWG302950	
	6	FAN MOTOR BRACKET	1	ACXD54-00140	
⚠	7	FAN MOTOR	1	L6CAYYYL0076	O
	8	SCREW - FAN MOTOR BRACKET	2	CWH551217	
	9	SCREW - FAN MOTOR MOUNT	4	CWH551106J	
	10	PROPELLER FAN ASSY	1	ACXH03K00070	
	11	NUT - PROPELLER FAN	1	CWH56053J	
	12	CONDENSER	1	ACXB32C19270	
	14	EXPANSION VALVE	1	ACXB05-00400	
	15	4-WAYS VALVE	1	ACXB00-00140	O
	18	HOLDER COUPLING	1	ACXH35-00080	
	19	3-WAY VALVE (GAS)	1	ACXB01-00580	O
	20	2-WAYS VALVE (LIQUID)	1	ACXB02-00210	O
	22	SOUND PROOF BOARD	1	ACXH15-00200	
	23	TERMINAL COVER	1	CWH171039A	
	24	NUT - TERMINAL COVER	1	CWH7080300J	
⚠	25	SENSOR CO - COMP TEMP	1	CWA50C2185	O
⚠	27	V-COIL COMPLETE - 4 WAY VALVE	1	ACXA43C00250	O
⚠	28	V-COIL COMPLETE - EXP. VALVE	1	ACXA43C01520	O
⚠	30	SENSOR CO - AIR TEMP AND PIPE TEMP	1	CWA50C3079	O
⚠	31	REACTOR	1	G0C392J00027	O
⚠	33	TERMINAL BOARD ASSY	1	CWA28K1110J	O
⚠	38	ELECTRONIC CONTROLLER - MAIN	1	ACXA73C57060R	O
	40	CONTROL BOARD COVER - TOP	1	ACXH13-00490	
	41	CABINET SIDE PLATE (LEFT)	1	ACXE04-00670	
	42	HANDLE	1	CWE161010	
	43	CABINET SIDE PLATE CO.	1	ACXE04C04740	
	45	CABINET FRONT PLATE CO.	1	ACXE06K00080	
	47	CABINET TOP PLATE	1	ACXE03-00200	
	48	CONTROL BOARD COVER - COMPLETE	1	ACXH13C00170	
	49	CONTROL BOARD COVER	1	CWH131470	
	54	PANASONIC BADGE	1	CWE373439	
	58	SOUND PROOF MATERIAL	1	CWG302636	
	59	SOUND PROOF MATERIAL	1	CWG302630	
	62	RECEIVER	1	CWB14011	
	66	SOUND PROOF MATERIAL	1	ACXG30-07630	
	67	STRAINER	1	CWB11094	
⚠	68	HEATER	1	CWA341072	
	69	NORDIC HEATPUMP BADGE	1	CWE373985	
	70	BAG	1	CWG861461	
	71	BASE BOARD - COMPLETE	1	CWG62C1197	

SAFETY	REF. NO.	PART NAME & DESCRIPTION	QTY.	CU-NZ50VKE	REMARK
	72	SHOCK ABSORBER (L)	1	CWG713217	
	73	SHOCK ABSORBER (R)	1	CWG713218	
	74	C. C. CASE	1	ACXG50-52140	
	75	INDICATION LABEL	1	CWF746074	
	76	MODEL LABEL	2	ACXF85-20740	

(NOTE)

- All parts are supplied from PAPAMY, Malaysia (Vendor Code: 00029488).
- "O" marked parts are recommended to be kept in stock.