

# Service Manual

## Refrigerator

**NR-BW415XS, NR-BW415VN, NR-BW415VW  
NR-BW465XS, NR-BW465VN, NR-BW465VW**



NR-BW415VN, VW



NR-BW415XS



NR-BW465VN, VW



NR-BW465XS

### Product Colour

White (W)

Stainless (S)

Champagne (N)

### Destination

Thailand, Malaysia  
Singapore, Indonesia  
RBD, India, Philippines  
Vietnam, Hong Kong  
GULF, PGF, Australia



CFCs have been used in refrigerant as refrigerator and the insulation materials for many years. But it is now known that these compounds which once seemed so ideal for use as cleaning agents and in refrigeration systems, destroy the earth's ozone layer as a result, an international body decided on a total worldwide ban of harmful CFCs by the end of 1995.

### **WARNING**

The service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt within this service information by anyone else could result in serious injury or death.

### **IMPORTANT SAFETY NOTICE**

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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# CONTENT

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	<b>Page</b>
1. Safety Cautions for Repairing	3
1.1 Warning	3
1.2 Caution	3
2. Specification and Components	4
2.1 NR-BW415VN, BW415VW, BW415XS	4
2.2 NR-BW465VN, BW465VW, BW465XS	5
3. Performance Data	6
3.1 NR-BW415VN, BW415VW, BW415XS (AT 32 ± 1°C)	6
3.2 NR-BW465VN, BW465VW, BW465XS (AT 32 ± 1°C)	6
4. Display Specification	7
5. Self Protecting Function	8
5.1 Protecting for IC	8
5.2 Protection for compressor locked	9
5.3 Protection for power supply droping	10
6. Self Diagnosing Function	11
6.1 Inverter : X Series	11
6.2 Inverter : V Series	12
7. Temperature Control	13
8. Inverter Control Display	14
8.1 How to operate the "Quick Freezing" mode	14
8.2 How to operate the "ECONAVI" mode	14
9. Refrigerator Instruction Guideline	15
10. Troubleshooting Guide	16 - 17
10.1 Not cool at all [ Both PC & FC (compressor does not operate) ]	16
10.2 Cool, not enough [ Both PC & FC (compressor operates) ]	18
10.3 Eco-Navi operation doesn't work (PC/FC/IC cooling condition is normal)	19
11. Schematic Diagram	20
11.1 Wiring Diagram : NR-BW415XS / NR-BW465XS	20
11.2 Wiring Diagram : NR-BW415VN, NR-BW415VW / NR-BW465VN, NR-BW465VW	21
12. Disassembly Instruction	22
12.1 Cover LED Lamp	22
12.2 Cover Control	22
12.3 Cover Control (Sub) As.	23
12.4 Plate Duct PCT	23
12.5 Piece Duct PC	24
13. Technical Information	25 - 28
14. Parts Exploded View and Replacement Parts List	29
14.1 Part Exploded View : Body	29
14.2 Part Exploded View : Door	30
14.3 Part Exploded View : Packing	31
14.4 Replacement Parts List : NR-BW415XS, NR-BW415VN, NR-BW415VW	32 - 35
14.5 Replacement Parts List : NR-BW465XS, NR-BW465VN, NR-BW465VW	36 - 39
Detail Change Notice	40

# 1. SAFETY CAUTIONS FOR REPAIRING

When you repair the refrigerator, please kindly take care for the following cautions.

## 1.1 Warning

	<b>Before repairing unit, unplug supply cord</b> <ul style="list-style-type: none"> <li>• Before you repair the refrigerator, please unplug the supply cord.</li> </ul>
	<b>Use authentic parts when repairing</b> <ul style="list-style-type: none"> <li>• When you replace the parts, please use authentic parts to replace defective parts.</li> </ul>
	<b>Caution during brazing</b> <ul style="list-style-type: none"> <li>• When you use touch for brazing, please ensure ventilation. Otherwise, you will be poisoned by carbon monoxide.</li> </ul>
	<b>Pay attention to using refrigerant</b> <ul style="list-style-type: none"> <li>• If refrigerant touches fire, the gas becomes poisonous gas.</li> </ul>
	<b>Pay attention to getting electricity shock</b> <ul style="list-style-type: none"> <li>• When you check the voltage of terminal, please do not touch the electricity part terminal.</li> <li>• When you replace the parts, please wait for 3 minutes at least for discharging capacitor.</li> </ul>
	<b>Check safety after repairing</b> <ul style="list-style-type: none"> <li>• Check the screws, parts, lead wires to take in place.</li> <li>• Check the repairing portion whether circumferential parts are damaged or not.</li> <li>• Check insulation resistance between supply plug and earth.</li> <li>• When install refrigerator, check condition of supply cord and plug.</li> <li>• Wipe off the dust on plug.</li> <li>• Cutting and seal the electric device carefully.</li> </ul>

## 1.2 Caution

	<b>Watch the hot parts</b> <ul style="list-style-type: none"> <li>• During operation and after operation, compressor and pipes are hot.</li> <li>• Also, under these condition, heater are hot.</li> <li>• Do not burn your fingers when you touch it.</li> </ul>
	<b>Pay attention to refrigerant</b> <ul style="list-style-type: none"> <li>• Do not touch liquid refrigerant. Otherwise your hands may be burnt.</li> </ul>
	<b>Pay attention to edge of parts</b> <ul style="list-style-type: none"> <li>• Otherwise, your fingers may be cut.</li> </ul>
	<b>Pay attention to fins of evaporator and condenser</b> <ul style="list-style-type: none"> <li>• Otherwise, your fingers may be cut.</li> </ul>
	<b>Before transportatin, adjust the bolt</b> <ul style="list-style-type: none"> <li>• Otherwise, the floor may be damaged.</li> </ul>
	<b>Do not touch the pipe after brazing</b> <ul style="list-style-type: none"> <li>• Otherwise, your hands may be burnt.</li> </ul>

## 2. SPECIFICATION AND COMPONENTS

### 2.1 NR-BW415VN, NR-BW415VW, NR-BW415XS

MODEL	BW415VN						BW415VW	BW415XS						
Destination	Thailand	Malaysia	RBD	India	Philippines	Indonesia	Vietnam	Australia	Malaysia	Singapore	Hong Kong	Philippines	India	Australia
Code Attached Model	TH	MY	WA	1N-X3	PH	1D	VN	AU	MY	SG	HK	PH	X3	AU
Material Spec.	PCM						Stainless							
Plug	C3P	S3P	C2P	B3P	A2P	C2P	C2P	K3P	S3P	S3P	S3P	A2P	B3P	K3P
Power Source	220V/50Hz	240V/50Hz	220V/50Hz	230V/50Hz	230V/60Hz	220-240V/50Hz	220V/50Hz	240V/50Hz	240V/50Hz	230V/50Hz	220V/50Hz	230V/60Hz	230V/50Hz	240V/50Hz

#### Specification

Capacity (Total Net Volume)	407L (FC : 123L, PC : 284L)
External Dimension	Width (mm) 675
	Depth (mm) 708
	Height (mm) 1624
Temperature Control	FC Electronic control (PCB)
	PC Baffle damper SPC-D507P
Net Weight (Kg)	64 Kg
Defrosting	Full-automatic heater defrost with PCB control
Exterior Finish (cabinet / door)	PCM colour - (Polyester paint coating / Polyester paint steel) / Stainless steel
Inner Liner	Vacuum Formed ABS resin
Insulation	Polyurethane foam (cabinet and door)

#### Sealed Unit

Compressor	EFI100E13DJH-C1EXS
Condenser	Copper tube Type
Pressure Reducing Device	Type Capillary Tube
	I/D x Length Ø 0.74 mm x 3,120 mm
	2ND Pressure 0.647 MPa
Evaporator	Type Fin and Tube
Refrigerant	Type R600a
	Charge 63 ± 1g
Lubricating Oil	Type Freol S -10
	Charge 215 ± 5ml

#### Electric Part

Door Switch	Type	D3D-121 (S.P. - S.T.)
	Rating	250V / 0.5A
Fan Motor	Type	FBA11J10MD
	Rating	DC 9V / 1.53W
	Applied Fan	Ø 110mm. prop fan (Box Type)
Light Irradiation Device (PC)	Type	LED Lamp PCB
	Rating	12V / 100mA
Heating Device for Defrosting	Type	MM6-8V34
	Rating	230V / 176W
Defrost Thermal Fuse	Type	Micro Temp.
	Rating	250V / 10A / 73°C
Defrost Sensor (DFC)	Type	NTC
	Rating	B = 3819K ± 2%
		R10 = 3.899KΩ ± 3%
FC Sensor (FCC)	Type	NTC
	Rating	B = 3850K ± 2%
		R-20 = 18.9KΩ ± 1.8%
Ambient Temp. Snesor (ATC)	Type	NTC
	Rating	B = 3435 ± 1%
		R25 = 10.0KΩ ± 3%
Control Board	BW415V	PAS - BW465V
	BW415X	PAS - BW465X
Defrosting Control (Electronic PCB Control)		(1) Ambient Temp. over 34°C 8h (2) Ambient Temp. 23°C ~ 33°C 8h (3) Ambient Temp. under 22°C 13h (4) Power on 4h (Rated time)
Overload Protector		MM3-20DCW

## 2.2 NR-BW465VN, NR-BW465VW, NR-BW465XS

MODEL	BW465VN						BW465VW		BW465XS									
Destination	Thailand	RBD	India	Philippines	GULF	PGF	Australia	Thailand	Malaysia	Singapore	Indonesia	RBD	Vietnam	Hong Kong	Philippines	Australia		
Code Attached Model	TH	WA	1N-X3	PH	AE	WG	AU	TH	MY	SG	1D	WA	VN	HK	PH	AU		
Material Spec.	PCM										Stainless							
Plug	C3P	C2P	B3P	A2P	S3P	C2P (SHUKO)	K3P	C3P	S3P	S3P	C2P	C2P	C2P	S3P	A2P	K3P		
Power Source	220V/ 50Hz	220V/ 50Hz	230V/ 50Hz	230V/ 60Hz	220V/ 50Hz	220V/ 50Hz	240V/ 50Hz	220V/ 50Hz	240V/ 50Hz	230V/ 50Hz	220~240V/ 50Hz	220V/ 50Hz	220V/ 50Hz	220V/ 50Hz	230V/ 60Hz	240V/ 50Hz		

### Specification

Capacity (Total Net Volume)	450L (FC : 123L, PC : 327L)																
External Dimension	Width (mm) 675 Depth (mm) 708 Height (mm) 1764																
Temperature Control	FC Electronic control (PCB) PC Baffle damper SPC-D507P																
Net Weight (Kg)	66 Kg																
Defrosting	Full-automatic heater defrost with PCB control																
Exterior Finish (cabinet / door)	PCM colour - (Polyester paint coating / Polyester paint steel) / Stainless steel																
Inner Liner	Vacuum Formed ABS resin																
Insulation	Polyurethane foam (cabinet and door)																

### Sealed Unit

Compressor	EFI100E13DJH-C1EXS																
Condenser	Copper tube Type																
Pressure Reducing Device	Type Capillary Type I/D x Length Ø 0.74 mm x 3,120 mm																
	2ND Pressure 0.647 MPa																
Evaporator	Type Fin and Tube																
Refrigerant	Type R600a Charge 63 ± 1g																
Lubricating Oil	Type Freol S -10 Charge 215 ± 5ml																

### Electric Part

Door Switch	Type	D3D-121 (S.P. - S.T.)															
	Rating	250V / 0.5A															
Fan Motor	Type	FBA11J10MD															
	Rating	DC 9V / 1.53W															
	Applied Fan	Ø 110mm. prop fan (Box Type)															
Light Irradiation Device (PC)	Type	LED Lamp PCB															
	Rating	12V / 100mA															
Heating Device for Defrosting	Type	MM6-8V34															
	Rating	230V / 176W															
Defrost Thermal Fuse	Type	Micro Temp.															
	Rating	250V / 10A / 73°C															
Defrost Sensor (DFC)	Type	NTC															
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FC Sensor (FCC)	Type	NTC															
	Rating	B = 3850K ± 2% R-20 = 18.9KΩ ± 1.8%															
Ambient Temp. Sensor (ATC)	Type	NTC															
	Rating	B = 3435 ± 1% R25 = 10.0KΩ ± 3%															
Control Board	BW465V	PAS - BW465V															
	BW465X	PAS - BW465X															
Defrosting Control (Electronic PCB Control)		(1) Ambient Temp. over 34°C 8h (2) Ambient Temp. 23°C ~ 33°C 8h (3) Ambient Temp. under 22°C 13h (4) Power on 4h (Rated time)															
Overload Protector		MM3-20DCW															

### 3. PERFORMANCE DATA

#### 3.1 NR-BW415VN, NR-BW415VW, NR-BW415XS (AT 32 ± 1°C)

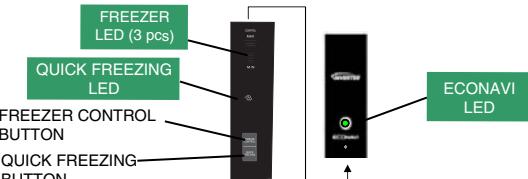
Thermostat Dial Setting		“ 3 ”	“ 2 ”	“ 1 ”
Mean Fresh Food Compartment Temp.	t3 (°C)	1.5 ± 2.5	3.0 ± 2.5	6.0 ± 2.5
Mean Freezer Load Temp.	(°C)	-22.0 ± 2.5	-20.5 ± 2.5	-16.0 ± 2.5
Vegetable Crisper Temp.	(°C)	-	4.0 ± 2.5	-
PC Door Shelf Upper Temp.	(°C)	-	6.0 ± 2.5	-
Egg Tray Temp.	(°C)	-	4.0 ± 2.5	-
PC Door Shelf Bottom Temp.	(°C)	-	6.0 ± 2.5	-
Chilled Case Temp.	(°C)	-	1.0 ± 2.5	-
Running Ratio	(%)	80 ± 15	70 ± 15	60 ± 15
Power Consumption	(KWh/Day)	-	1.6	-

#### 3.2 NR-BW465VN, NR-BW465VW, NR-BW465XS (AT 32 ± 1°C)

Thermostat Dial Setting		“ 3 ”	“ 2 ”	“ 1 ”
Mean Fresh Food Compartment Temp.	t3 (°C)	2.5 ± 2.5	4.0 ± 2.5	7.0 ± 2.5
Mean Freezer Load Temp.	(°C)	-22.0 ± 2.5	-20.5 ± 2.5	-16.0 ± 2.5
Vegetable Crisper Temp.	(°C)	-	5.0 ± 2.5	-
PC Door Shelf Upper Temp.	(°C)	-	7.0 ± 2.5	-
Egg Tray Temp.	(°C)	-	4.0 ± 2.5	-
PC Door Shelf Bottom Temp.	(°C)	-	6.0 ± 2.5	-
Chilled Case Temp.	(°C)	-	1.5 ± 2.5	-
Running Ratio	(%)	80 ± 15	70 ± 15	60 ± 15
Power Consumption	(KWh/Day)	-	1.6	-

## 4. DISPLAY SPECIFICATION

### ■ NR-BW415XS / NR-BW465XS

PROCESS INSPECTION	DISPLAY
	
IN-PROCESS INSPECTION	
START CONDITION	<p>Operate the following controls within 30 sec. after power on, while PC door is open.</p> <p>QUICK FREEZING BUTTON → FREEZER CONTROL BUTTON → QUICK FREEZING BUTTON</p>
END CONDITION	<p>① Power off.</p> <p>② By Manual defrost.</p>
CONTENTS FOR CONTROL	<p>COMP : R 6 (71rps) FC FAN : VF4 (Ultrahigh Speed) HEATER : DEFROST HEATER OFF LED : ECONAVI LED and FREEZER LED [ NORMAL ] BLINKING (ON_1sec/OFF_1sec)</p>
MANUAL DEFROST	Refer to P. 11, 12
DIAGNOSIS	Refer to P. 11
JUDGEMENT	Indicate DIAGNOSIS in which case abnormal condition.
NOISE MODE	For 45 sec., of the start of IN-PROCESS INSPECTION
CONTENTS	COMP : R 7 (80rps)
INSPECTION OF TEMP.	For 30 min., of the start of IN-PROCESS INSPECTION
JUDGEMENT	Normal or abnormality is displayed according to the range of drop of FCC ALL FREEZER LED LIGHTING.....GOOD ALL FREEZER LED BLINKING.....BAD
INSPECTION OF ILLUMINANCE SENSOR	<p>1 During IN-PROCESS INSPECTION</p> <p>JUDGEMENT</p> <p>After 1 min., of the start of IN-PROCESS INSPECTION. Abnormality is judged according to variation width of input voltage of illuminance sensor. ECONAVI LED EXTINCTION.....GOOD ECONAVI LED LIGHTING.....BAD</p>

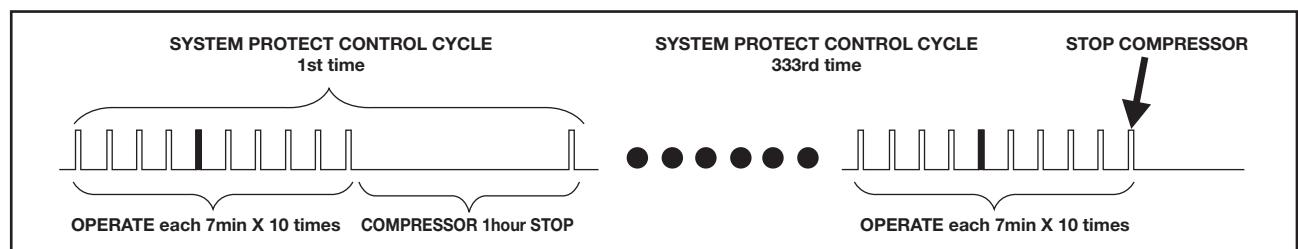
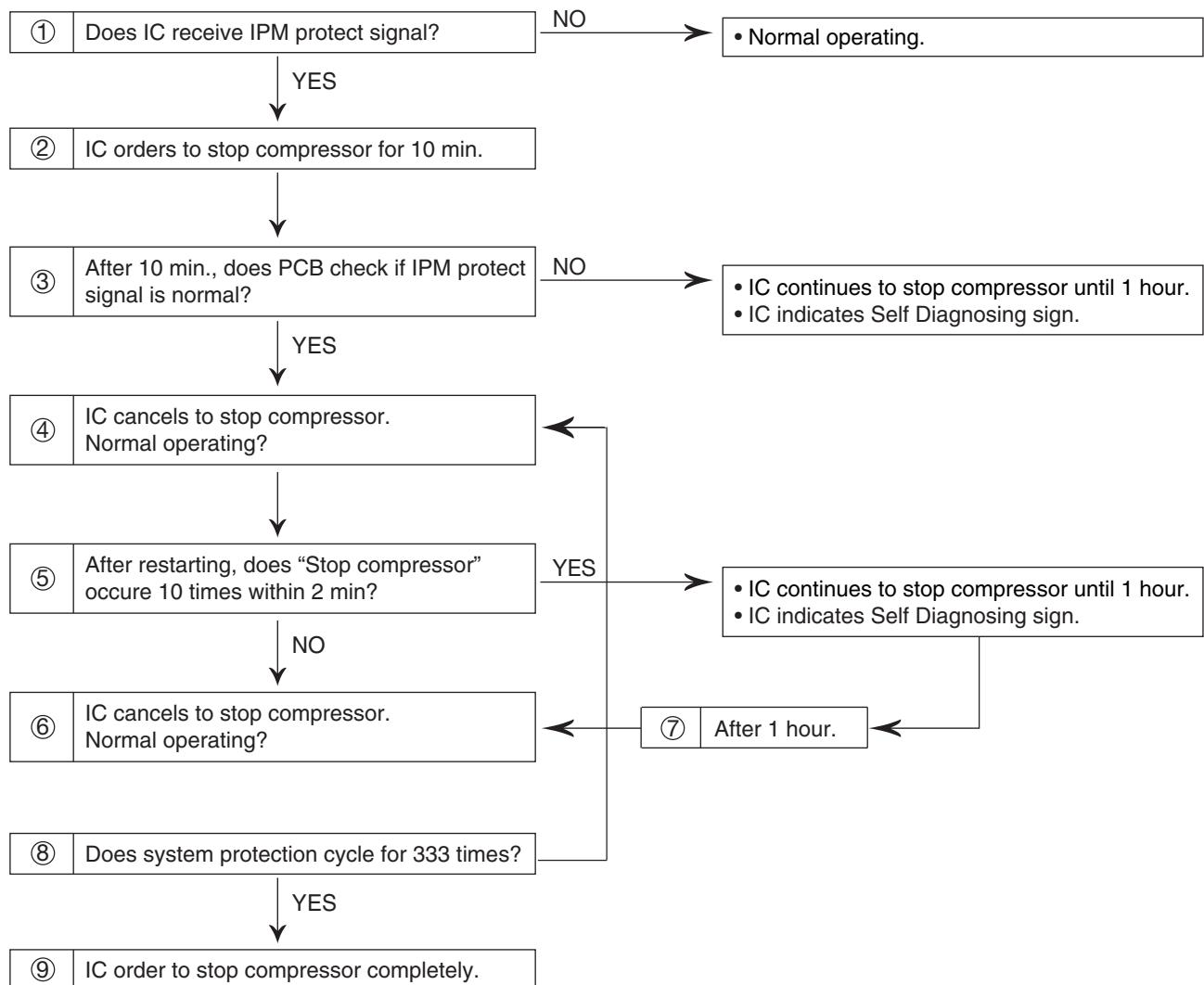
#### Contents of discussion

1 Illuminance sensor will be added. Therefore, an inspection of whether to be able to operate normally is necessary.  
< In-process inspection of illuminance sensor >

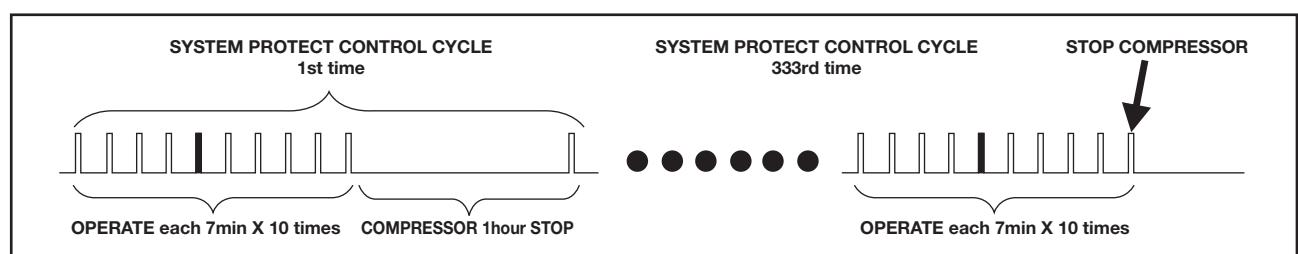
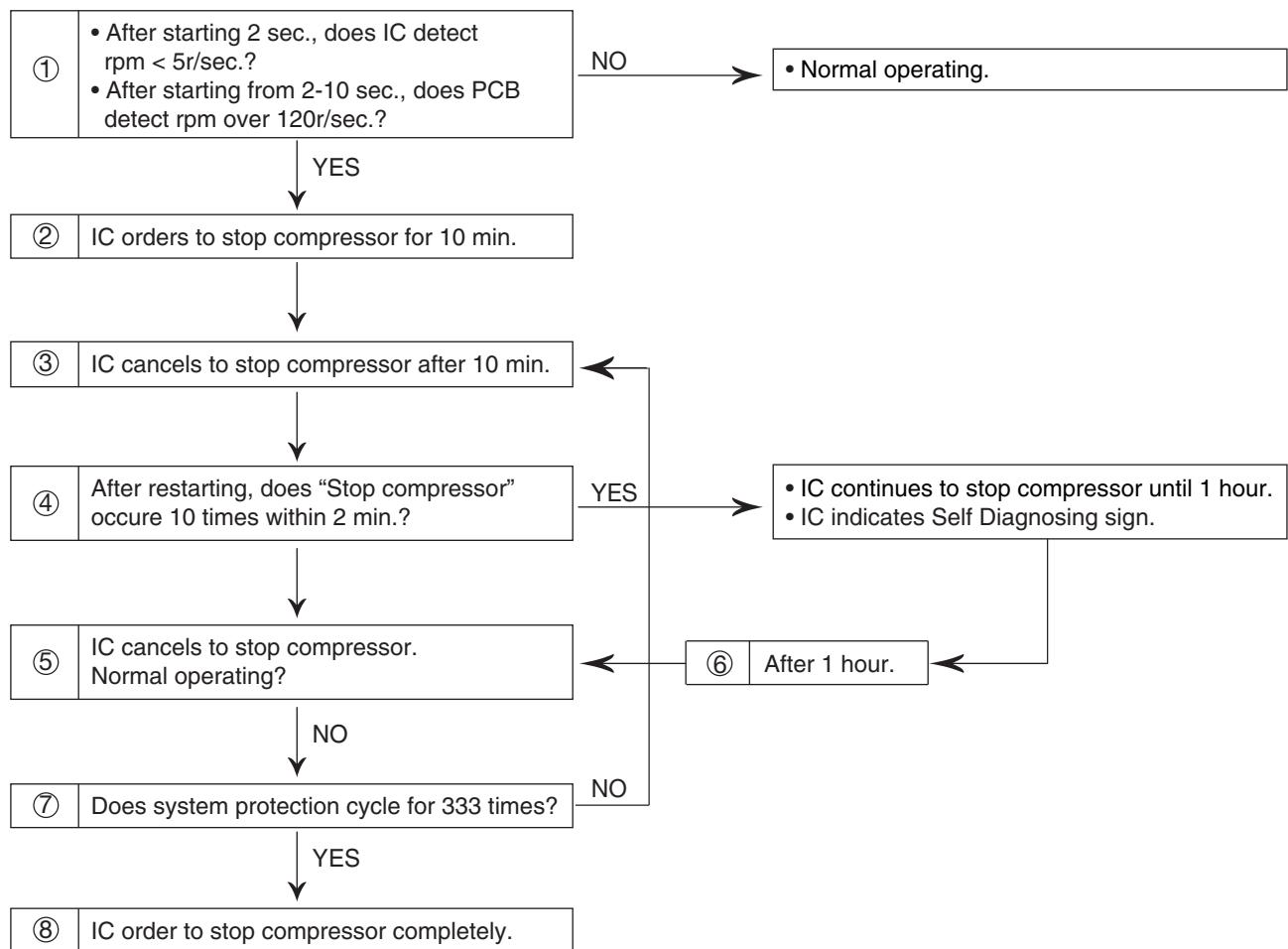
- ① ECONAVI LED blinks at the start of in-process inspection → check whether ECONAVI LED blinks.
- ② ECONAVI LED lights up after 1 min., of the start of in-process inspection (because if there is less input variation, microcomputer judge that as abnormal) → check whether ECONAVI LED lights up.
- ③ Lighting of illuminance sensor shall be varied manually or automatically after the completion of aging. (If there is input variation corresponding to a dark area and a bright area, microcomputer judges that as normal)  
In Japan, a dark area and a bright area have been created in the place for inspection process.
- ④ As long as the illuminance sensor is normal, ECONAVI LED goes out → check whether ECONAVI LED goes out.

## 5. SELF PROTECTING FUNCTION

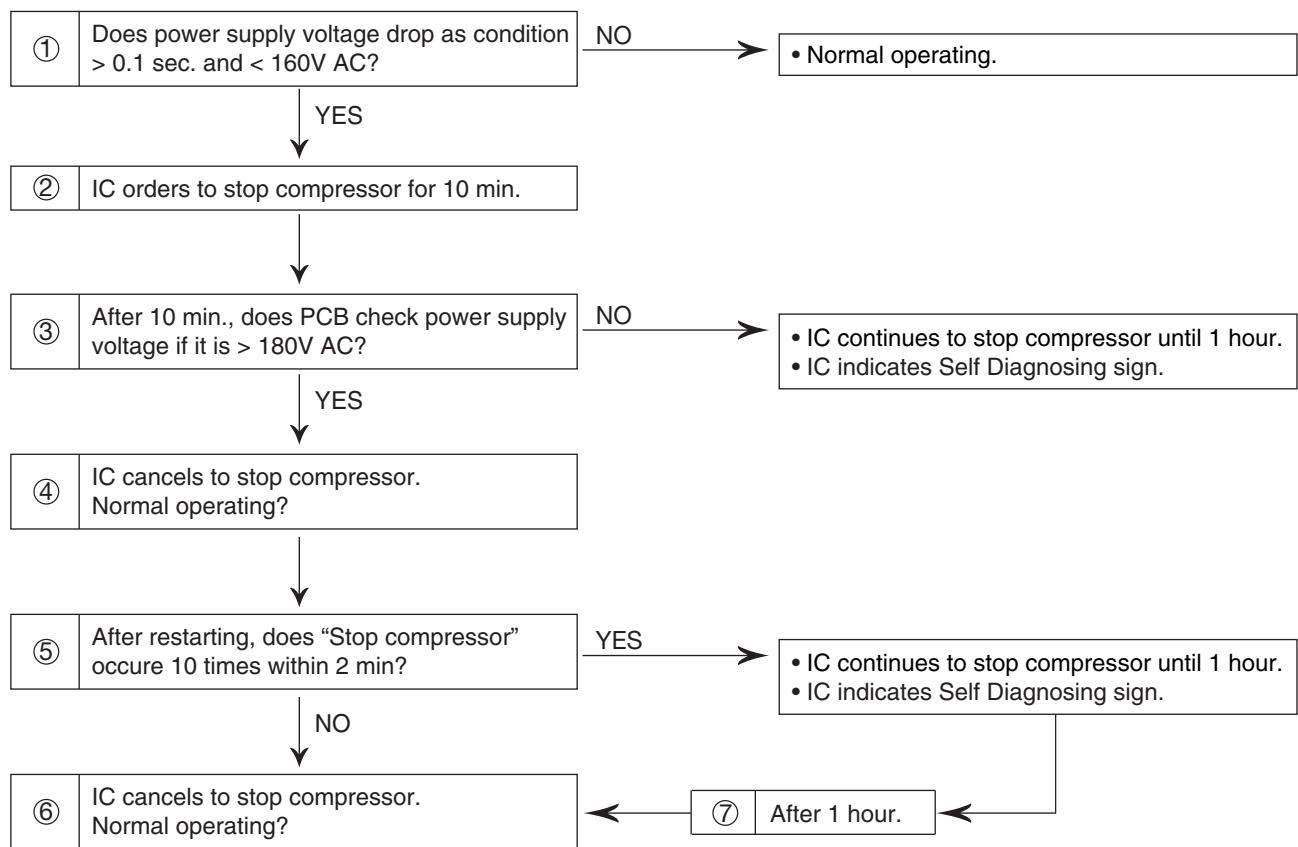
### 5.1 Protection for IC



## 5.2 Protection for compressor locked



### 5.3 Protection for power supply droping

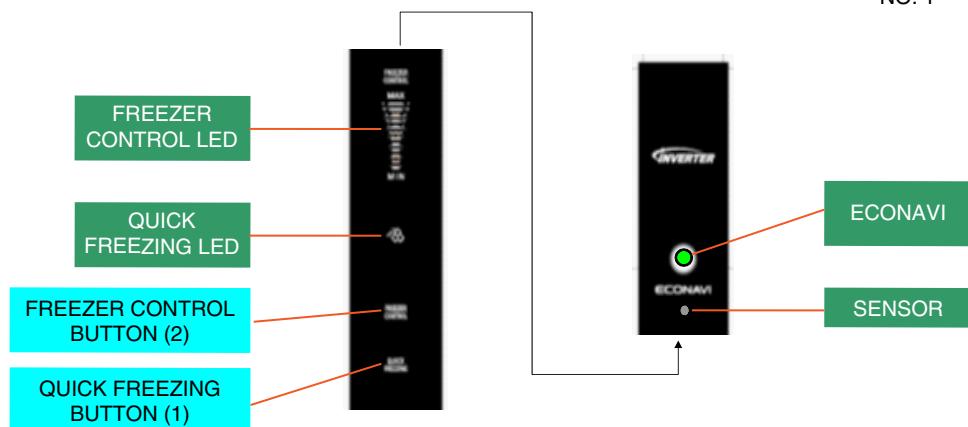


## 6. SELF DIAGNOSING FUNCTION

### 6.1 Inverter : X Series

#### Start mode

1. Plug in.
2. Open PC Door.
3. Push button QUICK (1) → FREEZER (2) → QUICK (1) / process no. 1 ~ 3 must complete within 30 sec.
4. At Freezer level “MIN” and “MED” blinking (No. 1) and “ECONAVI” light on (No. 2).
5. After 1 minute ECONAVI lamp will be blinking and Freezer level off.
6. Check sensor by use finger close at sensor (No. 3).
7. Freezer level and ECONAVI be recovery (Process No. 4).
8. Self diagnosis from items table as below when have some abnormal.



#### ◆ Self diagnosis / new BW series

● Lighting    ○ Blinking    ○ Off

	ECONAVI LED	QUICK LED	FC CONTROL LED		
			MAX	MED	MIN
FCC	○	○	○	○	○
DFC	○	●	○	○	○
ATC	○	●	○	○	○
FC FAN MOTOR	●	●	○	○	○
DEFROST HEATER	●	○	○	○	○
INV COMP	●	○	○	○	○
PCB	○	○	○	○	○
HC LEAK (HIGH PRESSURE)	○	○	○	○	○
HC LEAK (LOW PRESSURE)	○	○	○	○	○
ILLUMINANCE SENSOR	○	○	○	○	○

#### Manual defrost mode

Before check have to clear mode as normal.

1. Open PC Door.
2. Push button FREEZER (2) → QUICK (1) → FREEZER (2) → FREEZER (2) [Hold 1 sec. over].
3. Check Comp. will not operate.
4. Or push QUICK button / QUICK FREEZING LED will blinking.



## 6.2 Inverter : V Series

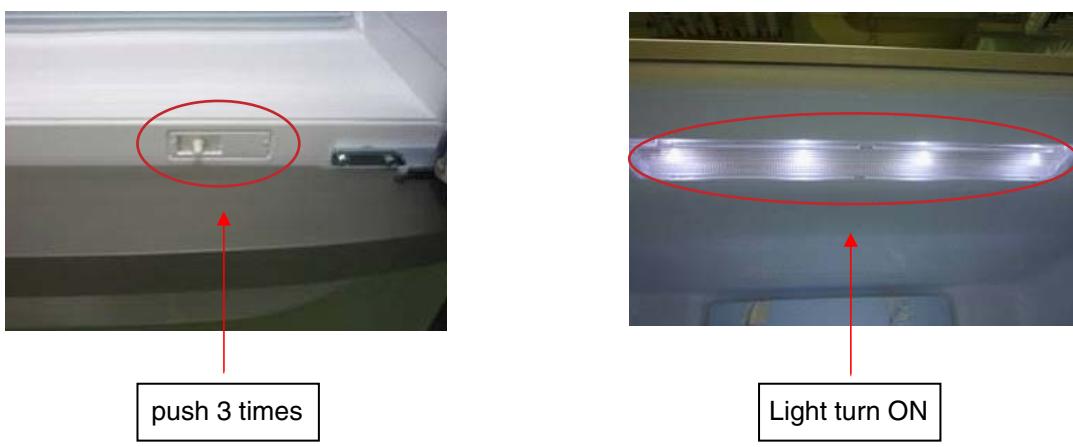
### Start mode

1. Plug in.
2. Open PC Door.
3. Push door switch 3 times / process no. 1 ~ 3 must complete within 30 sec.
4. LED light blinking as normal.



### Manual defrost mode

1. Test continuously from start mode.
2. Open PC Door.
3. Push door switch 3 times / process no. 1 ~ 3 must complete within 30 second.
4. Check Comp. will not operate and LED light change from blinking to turn ON.



## 7. TEMPERATURE CONTROL

This refrigerator is special design for appropriate use, which can adjust the temperature level to details "9 Levels" with the following details.

### How to operate the "9 Levels" mode

1. Set LED display to "MIN" with the "FREEZER CONTROL" button.
2. Press the "FREEZER CONTROL" button (for 10 seconds) until the LED display return to show at "MIN" position.
3. Set "9 Levels" mode following below table by pressing the "FREEZER CONTROL" button.

### To reset the setting "9 Levels" mode

Repeat step 1 & 2, then the refrigerator return to normal operation mode.

Cooling Level	Minimum				
Step	1	2	3	4	5
Freezer Control LED Display					

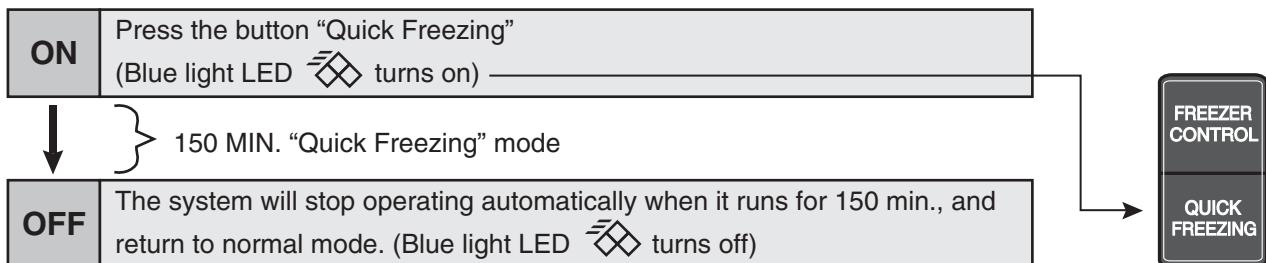
Cooling Level	Maximum			
Step	6	7	8	9
Freezer Control LED Display				



## 8. INVERTER CONTROL DISPLAY

### 8.1 How to operate the “Quick Freezing” mode

#### ■ Quick Freezing



#### Remarks :

- If you want to stop the operation, press the button “Quick Freezing”.
- Blue light LED  flashing means that the defrosting system is now working “Quick Freezing” mode will start right after the defrosting operation is finished.
- Freezer temp. control does not operate during “Quick Freezing” mode.  
(The compressor rotation is at the maximum level for “Quick Freezing” mode)

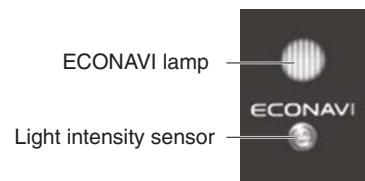
### 8.2 How to operate the “ECONAVI” mode

#### ■ ECONAVI

Detect opening and closing of door and brightness around refrigerator, and automatically controls operation to save energy<sup>1</sup>.

#### ECONAVI lamp is on during ECONAVI operation

- This refrigerator learns the lifestyle patterns of your family from opening and the time periods of infrequent use to perform ECONAVI operation.



#### Remark :

- The refrigerator learns your lifestyle pattern from the previous 3 weeks, and uses what it has learned from the 4<sup>th</sup> week onwards. Therefore, the ECONAVI lamp “ON/OFF” pattern may change from the 4<sup>th</sup> week onwards.
- The refrigerator performs ECONAVI operation when it becomes dark<sup>2</sup> around the refrigerator, such as when you are asleep.
- The brightness of the lamp is lowered approximately 5 minutes after the lamp turns on.

#### Setting for enabling ECONAVI operation

- ECONAVI operation is enabled automatically only when the temperature control of the freezer compartment are set to “MED”.  
(However, ECONAVI does not operate while quick freezing is operating.)
- It is not possible to forcefully start ECONAVI operation.

#### Remark :

<sup>1</sup> Effectiveness differs depending on the ambient temperature, ambient brightness, number of times and when doors are opened and closed, and state in which food is stored.

<sup>2</sup> Darkness is detected by the light intensity sensor at approximately 3 lx to 10 lx or less.

## 9. REFRIGERATOR INSTRUCTION GUIDELINE

1. Do not open the refrigerator frequently or leave it open for a long time. This is to prevent water dripping inside the refrigerator which will cause the waste of coolness and consuming of energy.
2. Do not refrigerate unnecessary items or hard-to-rot foodstuff such as pumpkin, shallot, garlic, potato as it will make the refrigerator to work over load and waste the storage space without necessity.
3. Adjust the temperature according to the actual operating condition for energy saving.
4. Do not refrigerate the bottles bigger than the door shelf or the tray as the door will not close completely, which will cause the leakage of coolness.
5. Frequently check the door opening seal, it must be closed to the refrigerator's body completely. Do not leave the seal dirty or damaged or deteriorated as the coolness will leak and will cause the consumption of the energy without necessity.
6. If you will not be at home for several days or there are nothing refrigerated in the refrigerator, the plug should be disconnected for energy saving. In this case, clean the refrigerator and leave it half-open to prevent bad odor.
7. Clean the drain tray located over the compressor at the back of the refrigerator every 3 months to prevent the odor generated from humidity.
8. Energy saving dryer pipes and heating pipes embedded around the refrigerator cabinet are helping to prevent "Condensation" on the outer surface of the cabinet without consuming energy. This will make the outer wall of the refrigerator get warm and that is not a malfunction.
9. Drinking water bottles, beverage bottles such as soft drinks and fruit juices should be sealed closely to prevent odor gets into the bottles.

### Troubleshooting

#### Before calling for servicing, please check as follows.

##### The refrigerator does not operate.

- \* Check to be sure that the plug and its socket are in good conditions.
- \* Check that there is any problem on main fuse and electricity system in the house or not.

##### The cooling does not function properly.

- \* Check to be sure that the temperature control button is at the proper position.
- \* Check that the refrigerator is overloaded with stuff or there is any hot foodstuff refrigerated in it or not.
- \* Is the refrigerator located exposing directly to sunlight or heat source?
- \* Is the refrigerator door closed completely? Is the refrigerator opened frequently?

##### Vapor generated inside and outside the cabinet.

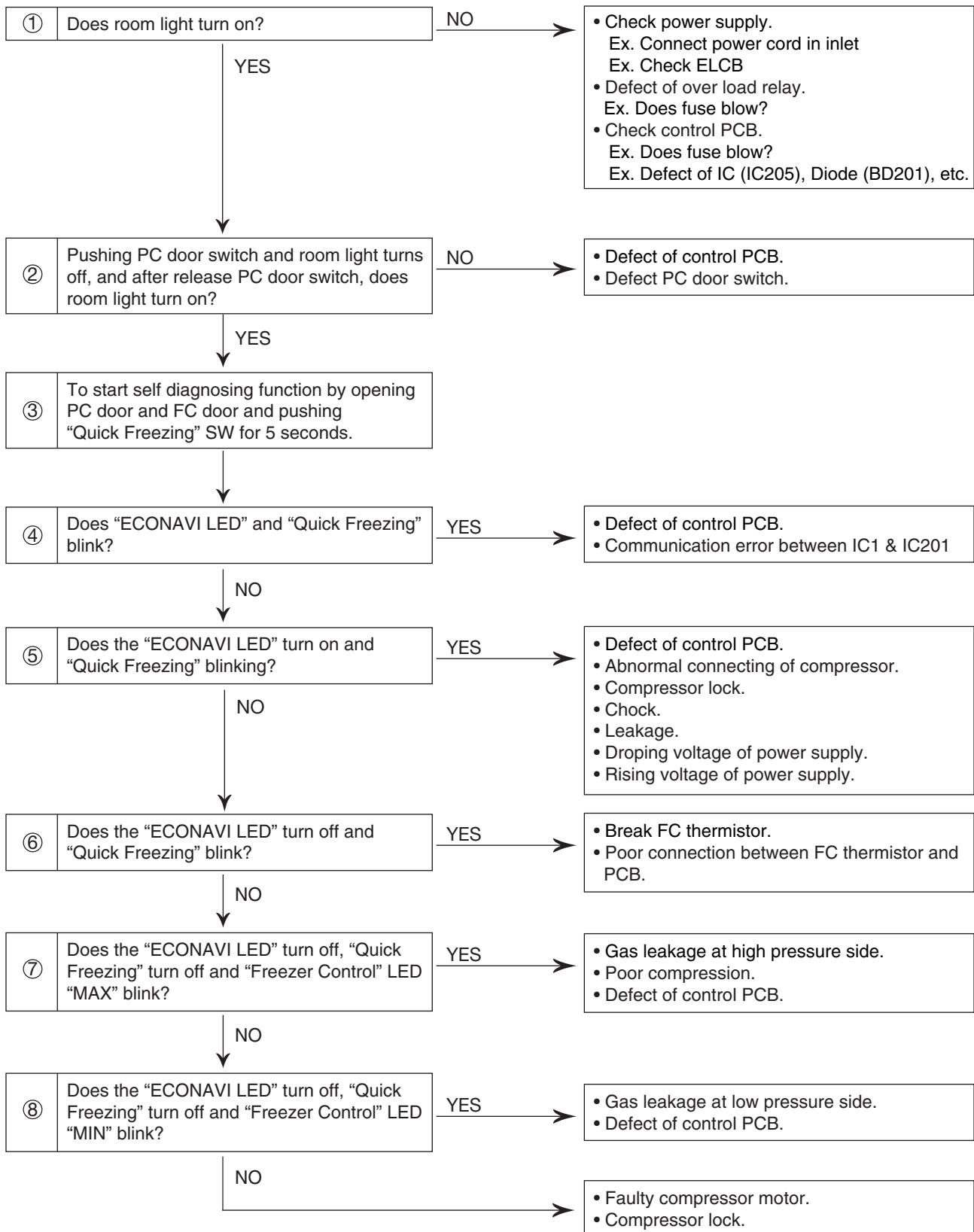
- \* The Vapor will generated outside the cabinet when the humidity is high (e.g. during rainy season) or the air circulation is not good.
- \* If the vapor generated inside the cabinet, check that the door is completely closed or not. Is the refrigerator frequently opened or left opened for a long time? Is there is any hot foodstuff refrigerated in it?

##### The refrigerator generates noise.

- \* Check if the refrigerator is located on a stable floor or is installed properly.
- \* Check if there is any object in contact with the refrigerator.

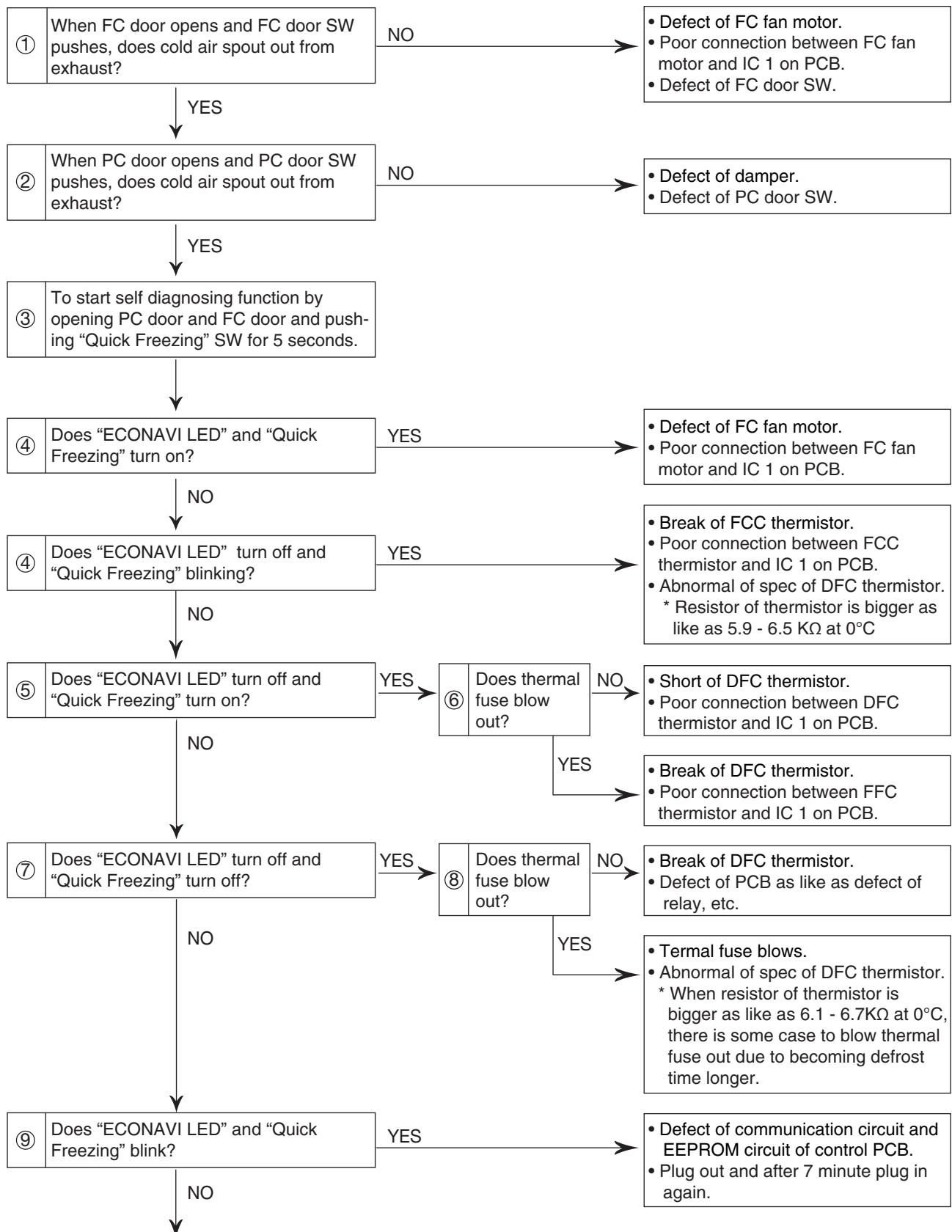
## 10. TROUBLESHOOTING GUIDE

### 10.1 Not cool at all [ Both PC & FC (compressor does not operate) ]

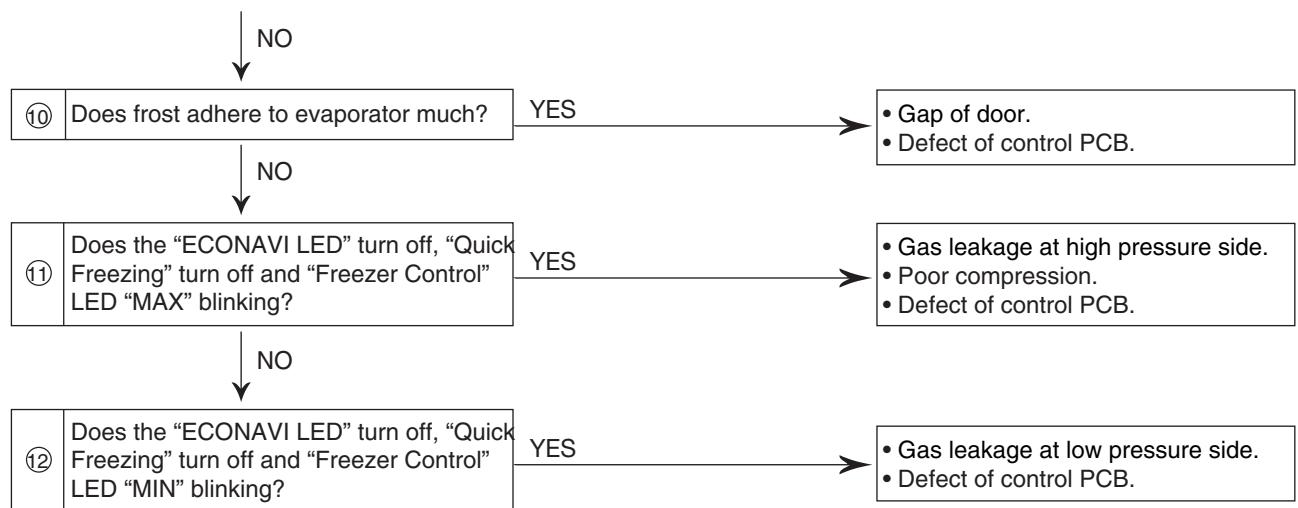


## 10.2 Cool, not enough [ Both PC & FC (compressor operates) ]

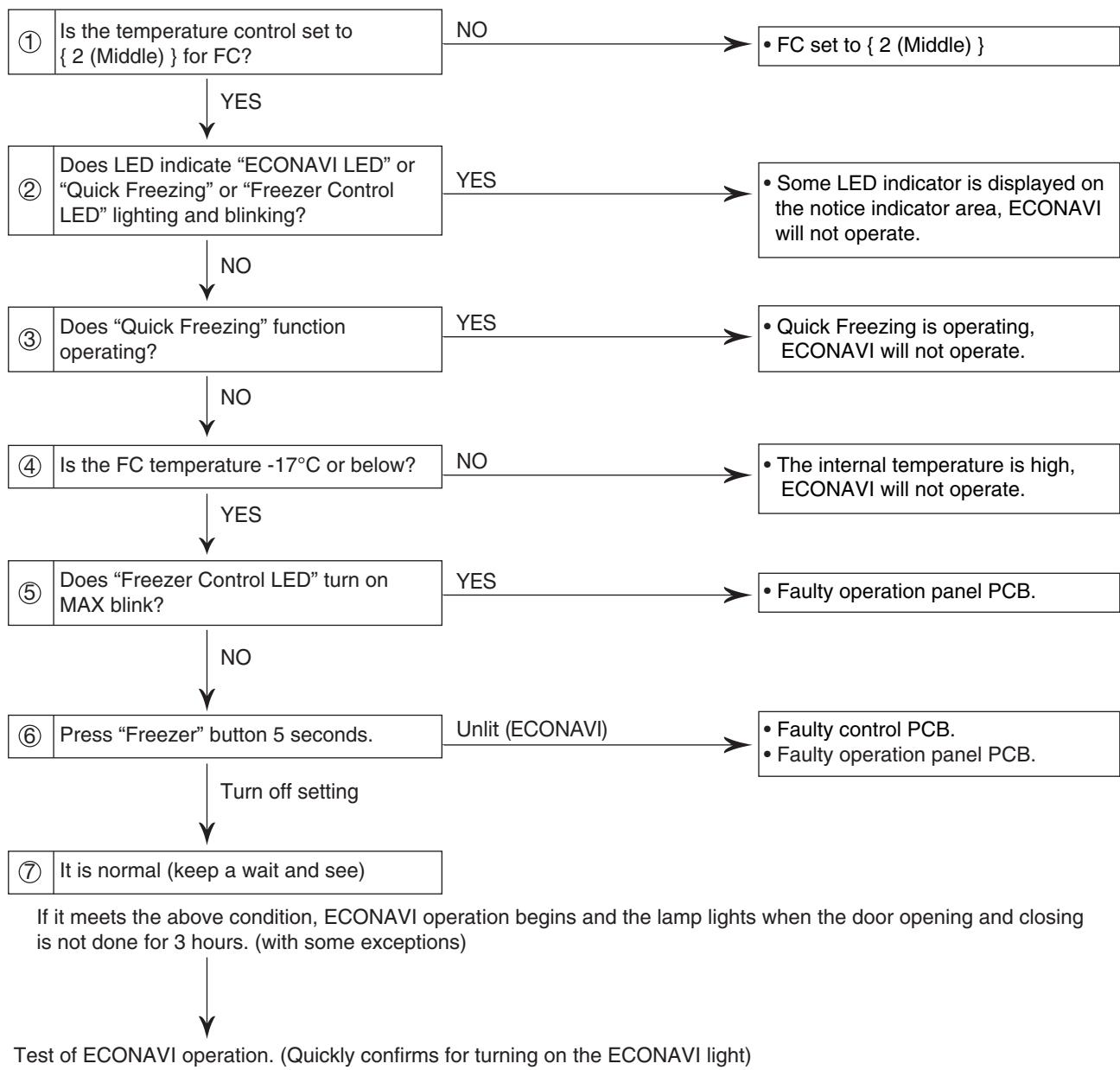
To confirm when compressor is operating.



To confirm when compressor is operating.

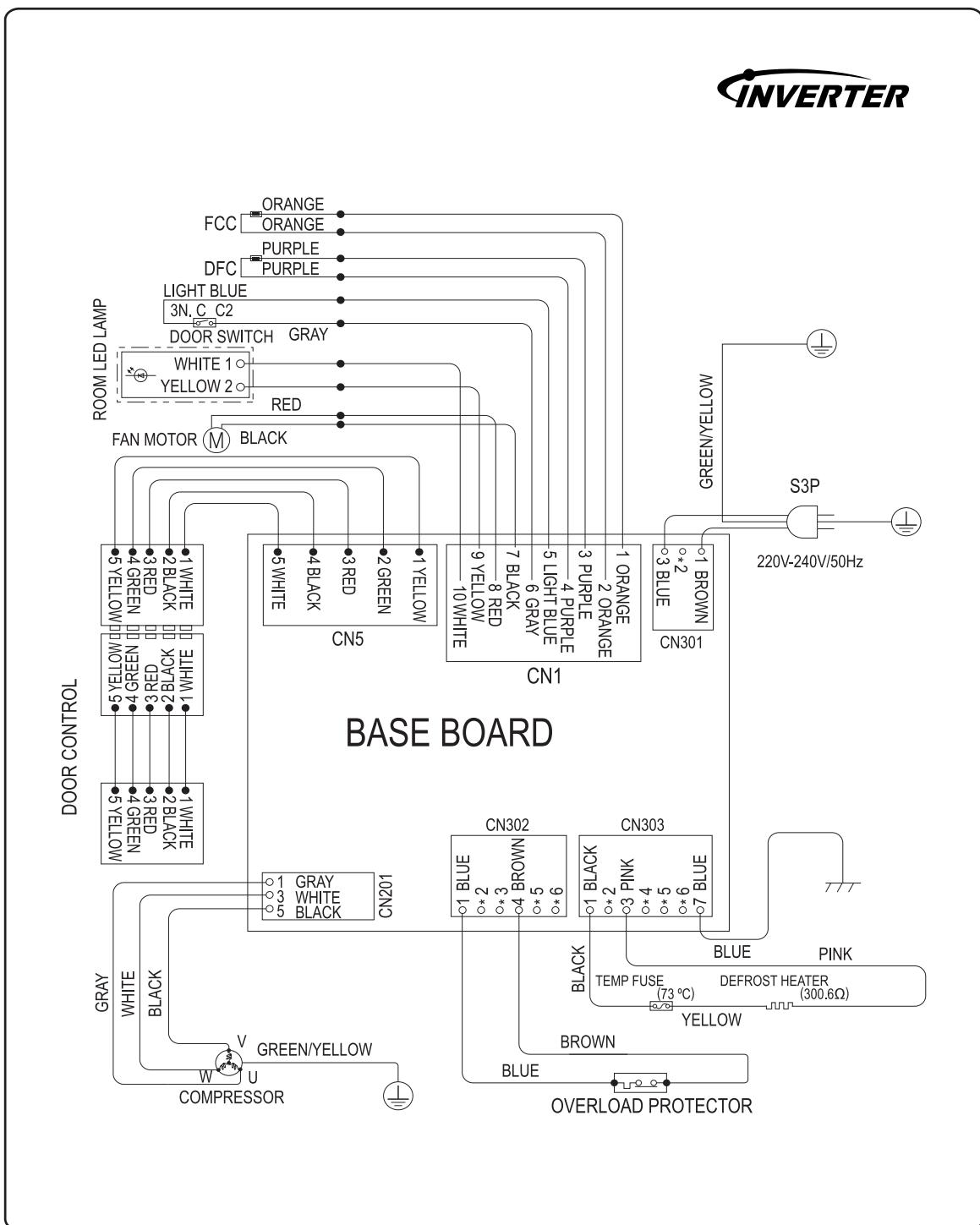


## 10.3 ECONAVI operation doesn't work (PC/FC/IC cooling condition is normal)

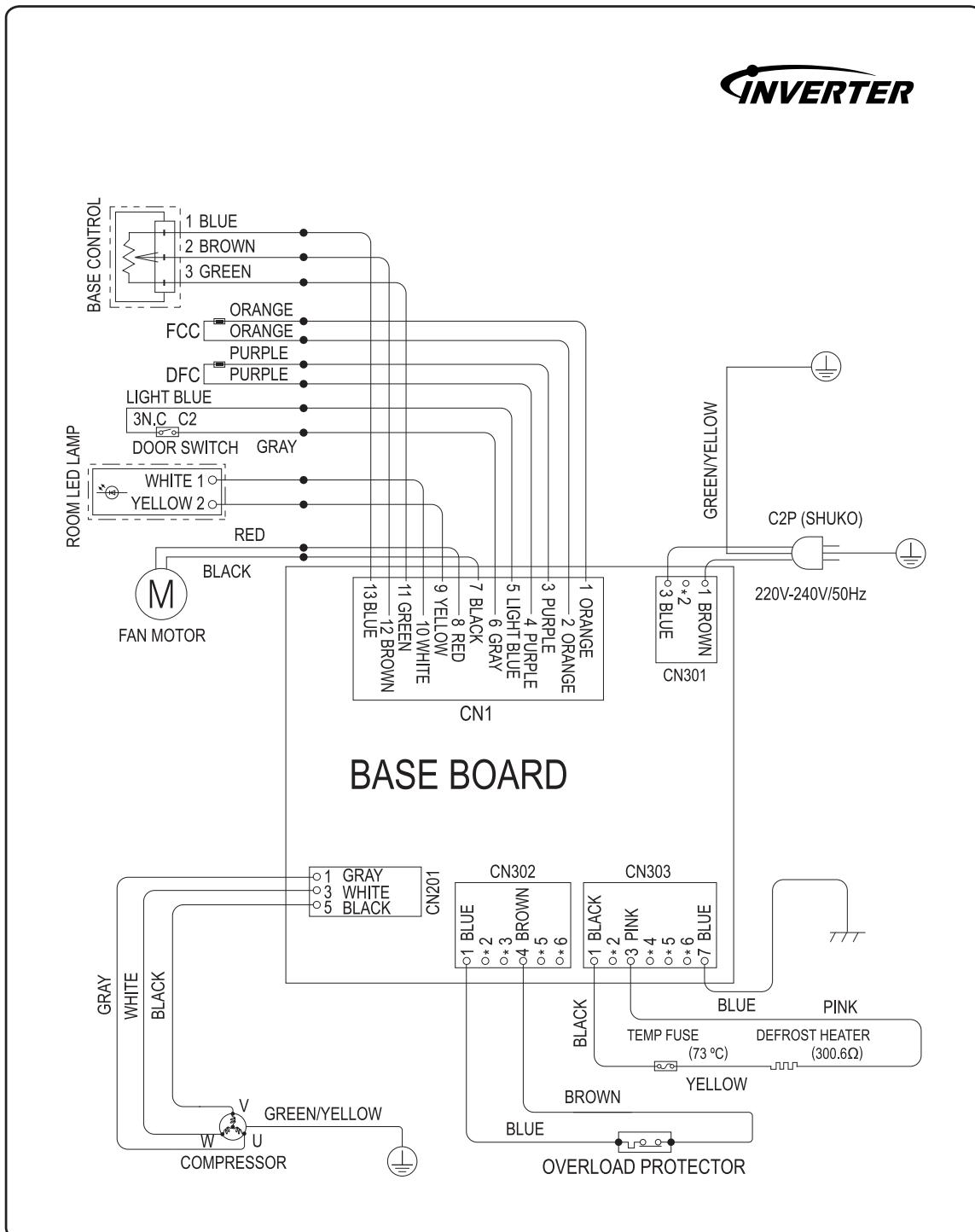


## 11. SCHEMATIC DIAGRAM

## 11.1 Wiring Diagram : NR-BW415XS / NR-BW465XS



## 11.2 Wiring Diagram : NR-BW415VN, NR-BW415VW / NR-BW465VN, NR-BW465VW



## 12. DISASSEMBLY INSTRUCTION

### 12.1 Cover LED Lamp



Fig. 1

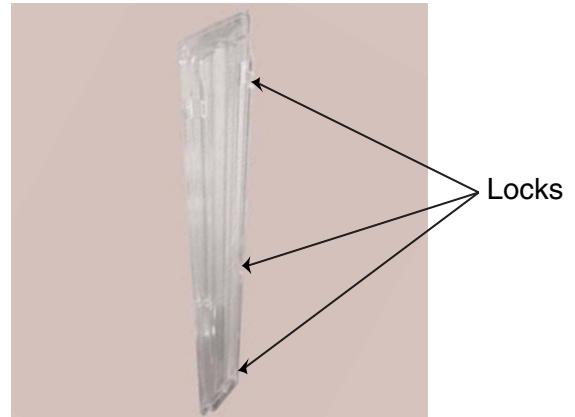


Fig. 2

- Take off Cover LED Lamp by use screwdriver put between gaps of Cover LED Lamp with PC Liner at the lock point as Fig. 1.
- Check the locks point by see at "Arrow Mark" as Fig. 2.



Fig. 3



Fig. 4

- Use screwdriver push up PAS-BW465V (LED) soft and carefully for lock loose as Fig. 3.
- Use hand pull up socket of PAS-BW465V (LED) for change new part as Fig. 4.

## 12.2 Cover Control



Fig. 1



Fig. 2



Fig. 3

- Take off Piece Cap Door at PC Door by use screwdriver as Fig. 1.
- Take off screw at PC Door by use screwdriver as Fig. 2.
- Push Cover Control up and try to push it in front slowly for locks loose as Fig. 3.

## 12.3 Cover Control (Sub) As.



Fig. 1

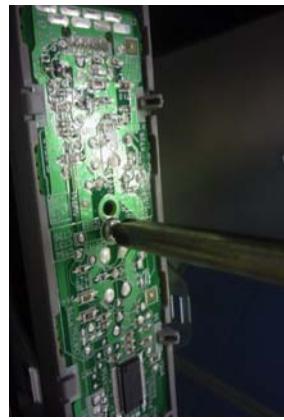


Fig. 2



Fig. 3



Fig. 4

- Take off Lead Wire Socket which contact at PAS-Control as Fig. 1.
- Take off screw by screwdriver at PAS-Control as Fig. 2.
- Use hands pull at lock for left up PAS-Control loose from Cover Control as Fig. 3.
- After change new PAS-Control to place Cover Control As. at slot before fix it as Fig. 4.

## 12.4 Plate Duct PCT



Fig. 1



Fig. 2



Fig. 3



Fig. 4

- Use screwdriver open at piece cover as Fig. 1.
- Take off screws at Plate Duct PCT as Fig. 2.
- Take off screws at Plate Duct PCB as Fig. 3.
- Separate parts as Fig. 4.

## 12.5 Piece Duct PC



Fig. 5



Fig. 6

- Take off screw at Piece Duct PC as Fig. 5.
- Separate parts as Fig. 6.

## 13. TECHNICAL INFORMATION

### NR-BW415VN, VW / NR-BW465VN, VW / NR-BW415XS / NR-BW465XS

#### • Lead wire (Pink color) open

Effective from : Refer to page no. 28

Serial No. start : Refer to page no. 28

Countries : Refer to page no. 28

Type : Countermeasure taken

#### Recommend : At occurrence

##### 1. Symptom of the problem

The defrost function didn't operate caused by Lead wire open.  
So the unit didn't cool.



##### 2. Cause

1. Some conductor of lead wire (Pink color) is breaking of wire by
2. When defrost function would operate, would start sparking between conductors in condition of water condensation in plastic bag.
3. Completely breaking of lead wire. (Pink color)

##### 3. Detail of countermeasure / TI No. : REF 12-07

- 1) Change new lead wire (Pink) with new connector 1 pcs.
- 2) Connect by U-Connector 1 pcs.
- 3) Cover by silicone tape 1 pcs.
- 4) Replace new one plastic bag & cable tie per 1 pcs.
- 5) Refer to detail of KIT as below.

##### 4. Description part addition / compatibility

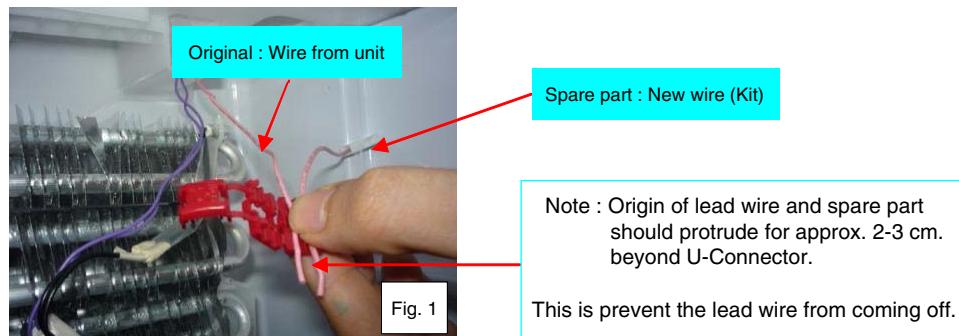
Status	Ref.	Part Name	Description	Q'ty	Photos Content
New		Countermeasure kit	CNRBG17006KT	1 Kit	
	1	Lead wire (Pink color)	N/A	1 Pcs.	
	2	U-Connector	CNR76-316850	1 Pcs.	
	3	Silicone tape	CNR79-314920	1 Pcs.	
	4	Plastic bag	CNRAG-164170	1 Pcs.	
	5	Cable tie	CNR39-220010	1 Pcs.	

Conditions	Parts compatibility
Countermeasure Kit to old unit	OK

## 5. Instruction of the modification in your field

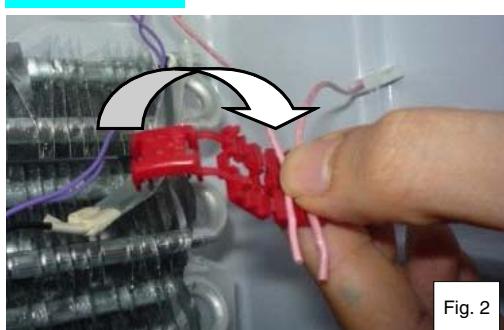
1. Removed FC Door & Accessories part in FC room.
2. Removed coil cover.
3. Removed plastic bag and cut cable tie.
4. Add countermeasure kit to lead wire (Pink color).

a) Used U-Connector ass'y to lead wire from unit & new lead wire kit "Pink color". (Fig. 1)

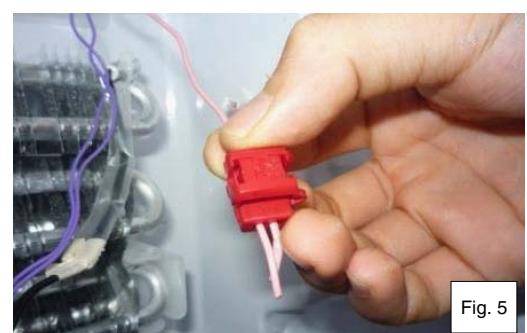


b) Close U-Connector 2 steps. (Fig. 2, 3, 4, 5)

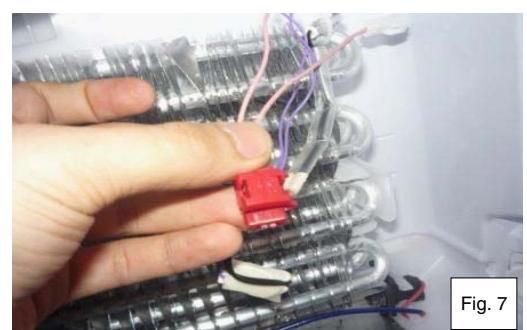
Step 1 : Fold part A



Step 2 : Fold part B



c) After connecting 2 lead wires, cut the edge of 2 lead wire. (Fig. 6, 7)



d) U-Connector should be fixes tightly by pressing with a pliers. (Fig. 8, 9, 10)



Fig. 8

Note : Hook both side (L&R) must to be locked properly.

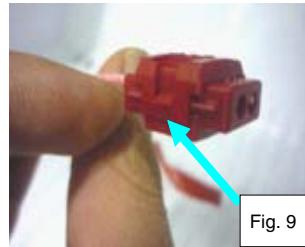


Fig. 9

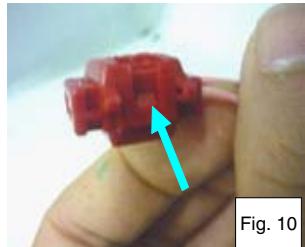


Fig. 10

e) Wrap U-Connector by silicone tape "Brown color". (Fig. 11, 12)



Fig. 11

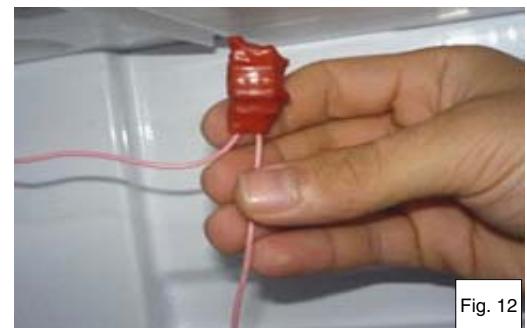
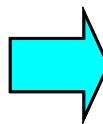


Fig. 12

5. Remove old one connector and Re-assemble new connector of lead wire (Pink color). (Fig. 13)



Fig. 13

6. Re-assemble all lead wire to plastic bag and cable tie locked.

Note : Must to be kept plastic bag to plate FC upper this way. (Fig. 14, 15)

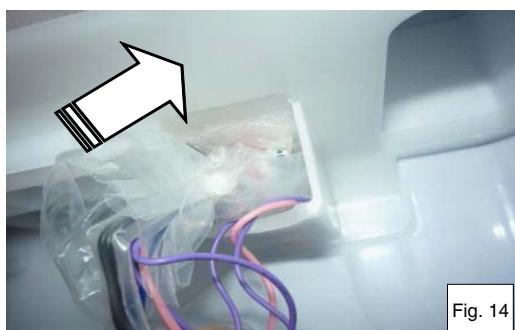


Fig. 14

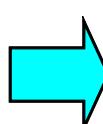


Fig. 15

7. After assemble part to unit completed, please check whether function is OK as follows.

1. Lamp is ON.
2. Compressor is working.

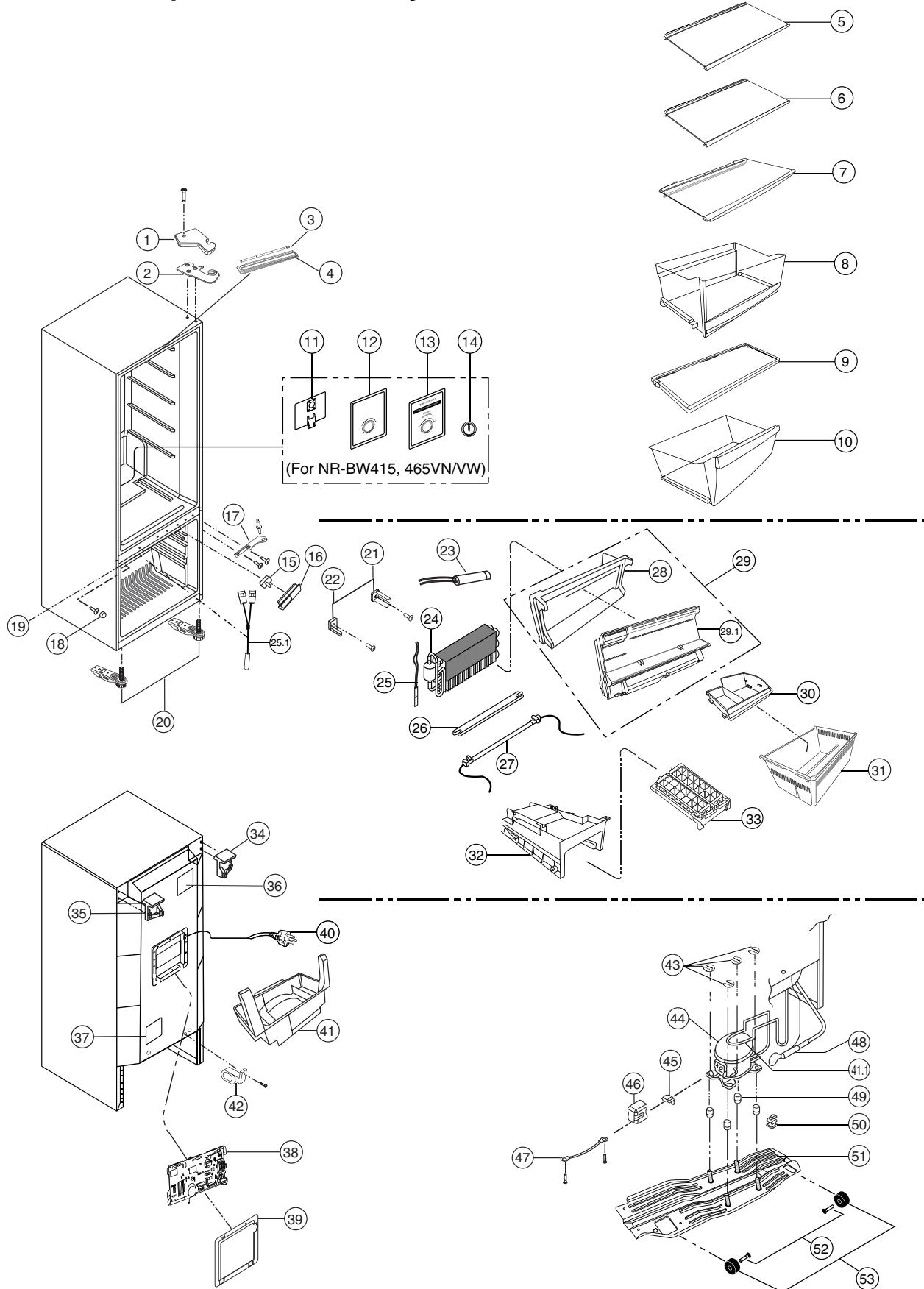
## 8. Ser. No. for reference

**SER. NO. START ON PRODUCTION**

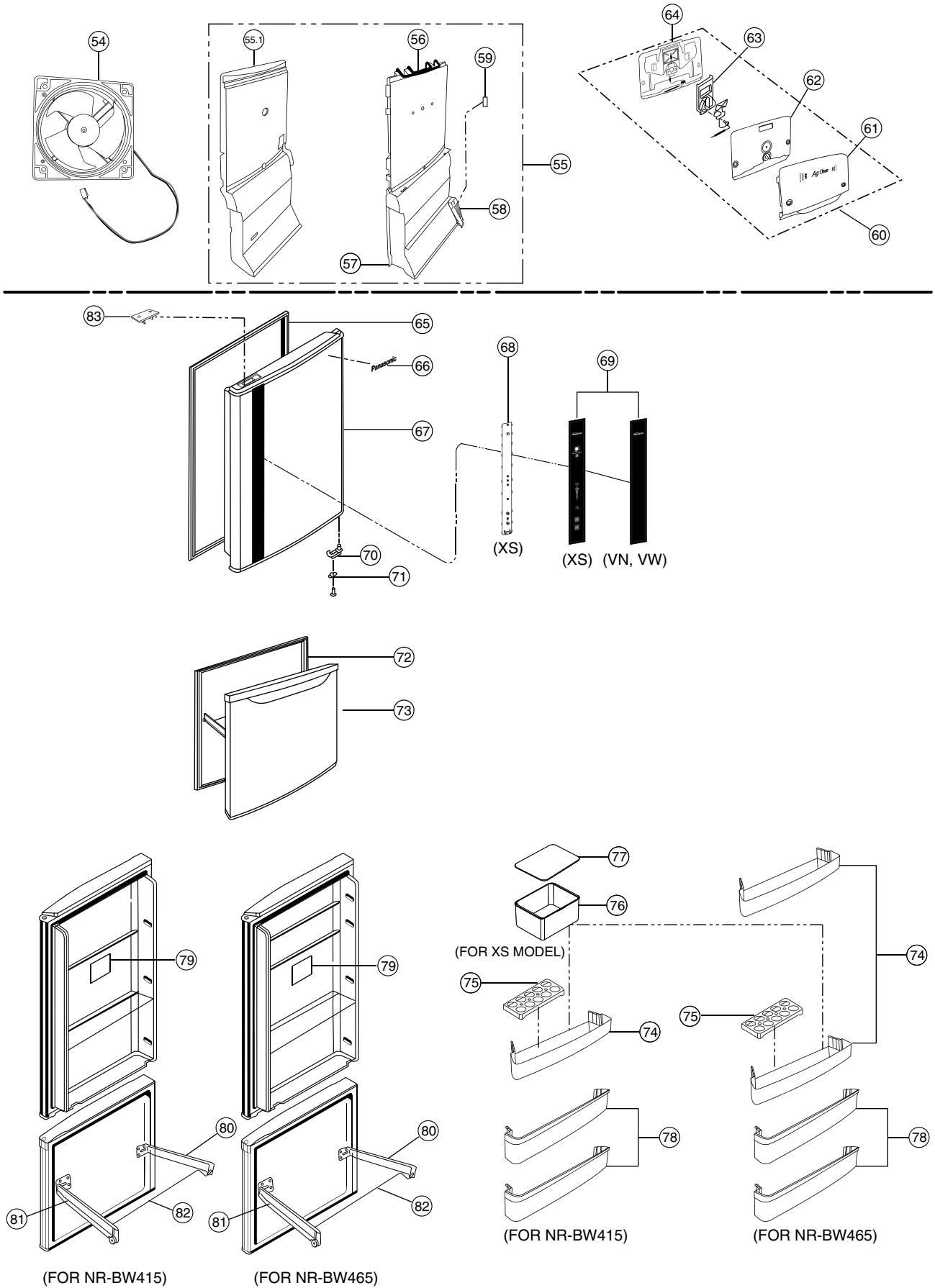
COUNTRIES	MODEL	SER. NO.
INDIA	NR-BW415VN	2VNN00442 ~ ONWARD
	NR-BW415XS	3XS300001 ~ ONWARD
	NR-BW465VN	2VND00001 ~ ONWARD
	NR-BW465XS	2XSN00488 ~ ONWARD
PSP (DBD)	NR-BW415XS	2XSN03707 ~ ONWARD
	NR-BW465XS	2XSN03684 ~ ONWARD
PSP (RBD)	NR-BW415XS	2XSD00001 ~ ONWARD
	NR-BW465XS	2XSD00001 ~ ONWARD
PM	NR-BW415VN	2VNN04792 ~ ONWARD
	NR-BW415XS	2XSN01236 ~ ONWARD
	NR-BW465XS	2XSN05970 ~ ONWARD
PSV	NR-BW415VN	2VNN02111 ~ ONWARD
	NR-BW465XS	2XSN01721 ~ ONWARD
PAU	NR-BW415VW	2VWN03704 ~ ONWARD
	NR-BW415XS	2XSN01835 ~ ONWARD
	NR-BW465VW	2VWN00544 ~ ONWARD
	NR-BW465XS	2XSN00518 ~ ONWARD
PAT	NR-BW415VN	2VND00001 ~ ONWARD
	NR-BW465VN	2VND00001 ~ ONWARD
	NR-BW465XS	2XSD00001 ~ ONWARD
PPH	NR-BW415VN	2VNN03102 ~ ONWARD
	NR-BW465VN	2VNN01936 ~ ONWARD
NEW ZEALAND	NR-BW415VW	2VWD00001 ~ ONWARD
	NR-BW415XS	2XSD00001 ~ ONWARD
	NR-BW465VW	2VWD00001 ~ ONWARD
HONG KONG	NR-BW415XS	2XSN00350 ~ ONWARD
	NR-BW465XS	2XSN00373 ~ ONWARD
INDONESIA	NR-BW415VNX2	2VNN01258 ~ ONWARD

## 14. PARTS EXPLODED VIEW AND REPLACEMENT PARTS LIST

### 14.1 Parts Exploded View : Body



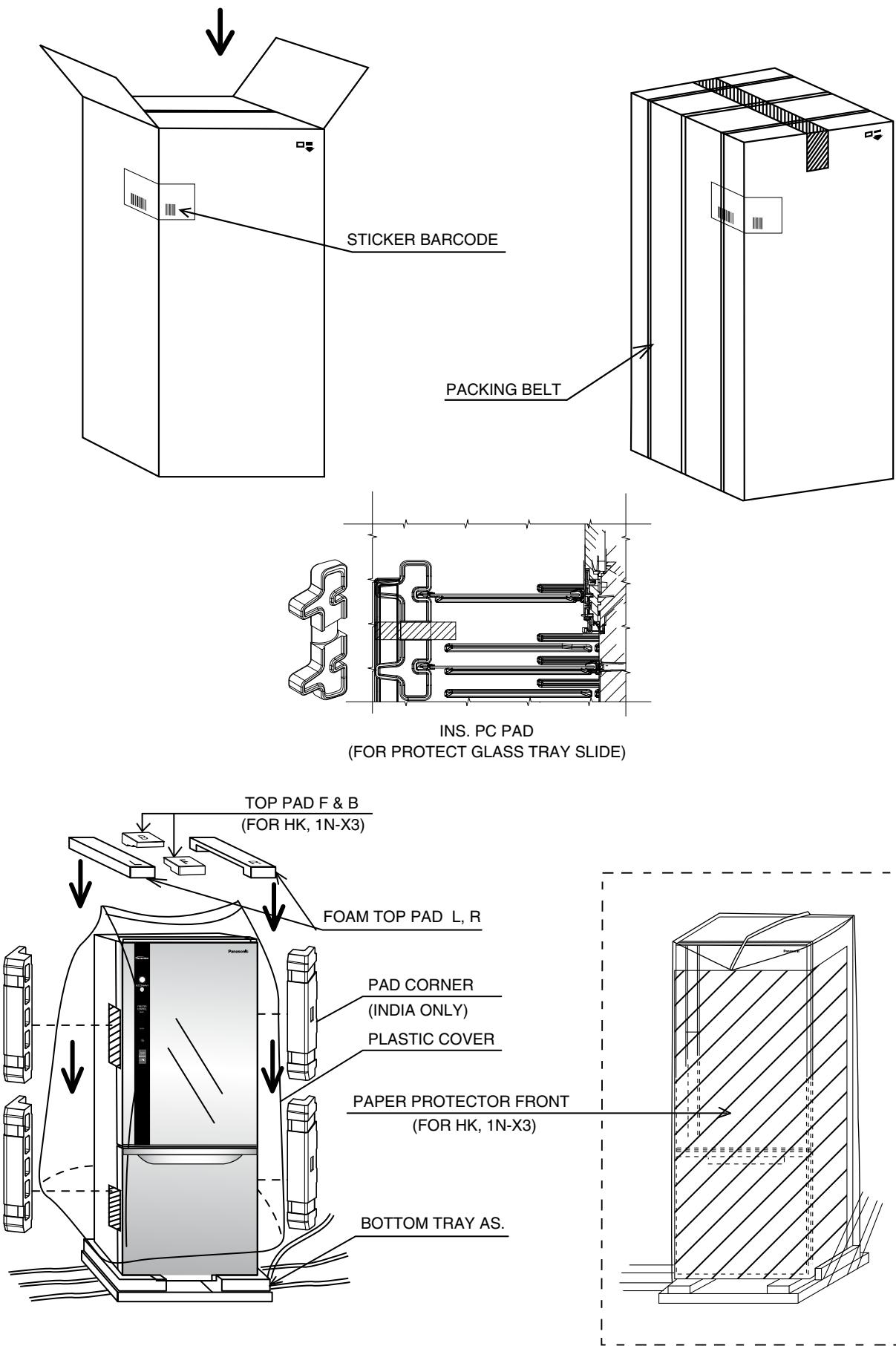
## 14.2 Parts Exploded View : Door



(FOR NR-BW415)

(FOR NR-BW465)

### 14.3 Parts Exploded View : Packing



**Important safety notice :**

Components identified by mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified part.

**14.4 Replacement Part List : NR-BW415XS, NR-BW415VN, NR-BW415VW****Parts List**

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW415	BW415	BW415	
				XS	VN	VW	
1	COVER HINGE TOP - ST	CNRAE-139331		1	1		COLOUR : GRAY
	COVER HINGE TOP - VW	CNRAE-140920				1	COLOUR : KOREA WHITE
2	HINGE TOP	CNRAE-139023	S	1	1	1	
3	PAS - BW/BY (LED PCB)	CNRBG-181511	S	1	1	1	
4	COVER LED LAMP	CNRAH-290283		1	1	1	
5	GLASS TRAY T AS.	CNRBH-144511		1	1	1	
6	GLASS TRAY AS.	CNRBH-144521		1	1	1	
7	GLASS TRAY CRISPER AS.	CNRBH-144533		1	1	1	
8	CRISPER	CNRAH-291311		1	1	1	
9	TRAY CHILL TOP	CNRAH-290422		1	1	1	
10	CHILLED CASE	CNRAH-291331		1	1	1	
11	PAS - BW465 (INSIDE)	CNRBG-182561			1	1	
12	BASE CONTROL	CNRAC-200621			1	1	
13	LABEL BASE CONTROL	CNRAC-200631			1	1	
14	DIAL CONTROL	CNRAH-290912			1	1	
15	DOOR SW.	CNRAG-153290		1	1	1	
16	CASE SW. FC - W	CNRAC-201540		1	1	1	
17	HINGE CENTER	CNRAE-139011	S	1	1	1	
18	CAP PAN H. 4TS (ST)	CNR39-162720		1	1		COLOUR : SILVER SOLID
19	CAP PAN H. 4TS (W)	CNR39-162431		1	1	2	COLOUR : KOREA WHITE
20	CASTER L AS.	CNRBC-365190		1	1	1	
	CASTER R AS.	CNRBC-365200		1	1	1	
21	SUPPORT COIL D	CNRAF-183091		1	1	1	
22	SUPPORT COIL	CNRAF-163503		1	1	1	
23	SENSOR DEF.	CNRAG-168580		1	1	1	
24	COIL AS.	CNRBF-158124		1	1	1	
25	TEMP. FUSE AS.	CNRBG-180841	S	1	1	1	
25.1	HARNESS AS. WIRE BARRIER	CNRBG-183191		1	1	1	SENSOR FCC ASSY TOGETHER
26	COVER RADIANT	CNRAG-161260		1	1	1	
27	HEATER AS. DEFROST	CNRAG-169651	S	1	1	1	
28	INS. COVER COIL F	CNRAF-186820		1	1	1	
29	COVER COIL AS.	CNRBF-158133		1	1	1	
29.1	COVER COIL	CNRAF-186812		1	1	1	
30	CASE FCT	CNRAH-290463		1	1	1	
31	CASE FCB	CNRAH-290470		1	1	1	
32	HOLDER ICE TRAY	CNRAH-290454		1	1	1	
33	ICE CUBE TRAY AS.	CNRBH-135250		1	1	1	
34	HANGER SHELL R	CNRAC-206002		1	1	1	
35	HANGER SHELL L	CNRAC-206012		1	1	1	
36	WIRING DIAGRAM - VNTH	CNRAH-292660			1		
	WIRING DIAGRAM - XSMY	CNRAH-292670		1			
	WIRING DIAGRAM - VNMY	CNRAH-293960			1		
	WIRING DIAGRAM - VNWA	CNRAH-298200			1		
	WIRING DIAGRAM - XSSG	CNRAH-298050		1			
	WIRING DIAGRAM - XSHK	CNRAH-298130		1			
	WIRING DIAGRAM - VN1D	CNRAH-292680			1		

## Parts List

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW415	BW415	BW415	
				XS	VN	VW	
	WIRING DIAGRAM - VNVN	CNRAH-298110			1		
	WIRING DIAGRAM - VNX3	CNRAH-311480			1		
	WIRING DIAGRAM - XSX3	CNRAH-311490		1			
	WIRING DIAGRAM - XSPH	CNRAH-292690		1			
	WIRING DIAGRAM - VNPH	CNRAH-293970			1		
	WIRING DIAGRAM - VN1N	CNRAH-298150			1		
	WIRING DIAGRAM - XSAU	CNRAH-292710		1			
	WIRING DIAGRAM - VWAU	CNRAH-298070				1	
37	LABEL HC BACK - EXPORT	CNRAH-269292		1	1	1	LANGUAGE : ENGLISH
	LABEL HC BACK - TH	CNRAH-269300			1		LANGUAGE : THAI
38	PAS - BW465 (CONTROL) - X	CNRBG-182652		1			TH, MY, 1D, VN, SG, HK, AU
		CNRBG-189830		1			X2, X3, WA, AE, WG, PH
	PAS - BW465 (CONTROL) - V	CNRBG-182552			1	1	TH, MY, 1D, VN, SG, HK, AU
		CNRBG-189400			1		X2, X3, WA, AE, WG, PH
39	COVER CASE BOARD	CNRAC-214821		1	1	1	
40	SUPPLY CORD AS. - C3P	CNRBG-183440	S		1		FOR TH
	SUPPLY CORD AS. - S3P	CNRBG-183450	S	1	1		FOR MY, SG, HK
	SUPPLY CORD AS. - C2P	CNRBG-183470	S		1		FOR VN, WA, 1D
	SUPPLY CORD AS. - A2P	CNRBG-183480	S	1	1		FOR PH
	SUPPLY CORD AS. - B3P	CNRBG-183460	S	1	1		FOR 1N-X3
	SUPPLY CORD AS. - K3P	CNRBG-183431	S	1		1	FOR AU
41	PAN WATER EVA.	CNRAF-190140		1	1	1	
41.1	PIPE WATER EVA.	CNRAF-178940		1	1	1	
42	CLAMP PIPE WATER EVA.	CNRAF-175252		1	1	1	
43	U-RING 7	CNRAJ-163240		2	2	2	
44	COMP. EFI100E13DJH-C1EXS	CNR91-236470		1	1	1	FOR ALL
45	MOTOR PROTECTOR	CNR06-598070	S	1	1	1	
46	PROTECTOR COVER	CNRAG-170460		1	1	1	
47	EARTH WIRE AS. COMP. 150	CNRBG-168610		1	1	1	
48	5 DRYER W	CNR39-340920		1	1	1	
49	RUUBER GROMMET	CNRAJ-163250		4	4	4	
50	CLAMPER DRYER	CNR39-163082		1	1	1	
51	CROSSRAIL REAR AS.	CNRBF-158112		1	1	1	
52	PIN CASTER	CNR02-325701		2	2	2	
53	ROLLER 40	CNRAC-116280		2	2	2	
54	FAN MOTOR FC	CNRAG-171790		1	1	1	
55	PLATE DUCT PC AS.	CNRBH-144575		1	1	1	
55.1	INS. DUCT PC	CNRAH-290323		1	1	1	
56	PLATE DUCT PCT	CNRAH-290291		1	1	1	
57	PLATE DUCT PCB	CNRAH-290312		1	1	1	
58	PIECE DUCT PC	CNRAH-275514		1	1	1	
59	AG BIO FILTER	CNRAH-245521		1	1	1	
60	CONTROL PANEL AS.	CNRBH-144500		1	1	1	
61	CONTROL PANEL	CNRAH-291280		1	1	1	
62	INS. CONTROL PANEL PC F	CNRAH-261283		1	1	1	
63	BAFFLE DAMPER THERMO AS.	CNRBG-183300		1	1	1	
64	INS. CONTROL PANEL PC B	CNRAH-261292		1	1	1	
65	GASKET DOOR PC	CNRAD-353550		1	1	1	
66	EMBLEM	CNRAD-339801		1	1	1	
67	DOOR AS. PC (FOAM) - XS	CNRBD-365530		1			COLOUR : STAINLESS
	DOOR AS. PC (FOAM) - VN	CNRBD-364740			1		COLOUR : CHAMPAGNE

## Parts List

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW415	BW415	BW415	
				XS	VN	VW	
	DOOR AS. PC (FOAM) - VW	CNRBD-365540				1	COLOUR : WHITE
68	PAS-CONTROL (DOOR)	CNRBG-183270		1			FOR XS MODEL
69	COVER CONTROL (SUB) AS.	CNRBD-374691		1			FOR XS MODEL
	COVER CONTROL - VN	CNRAD-353393			1		FOR VN MODEL
	COVER CONTROL - VW	CNRAD-360091				1	FOR VW MODEL
70	LATCH DOOR	CNRAE-136513		1	1	1	
71	STOPPER DOOR	CNRAD-359750		1	1	1	
72	GASKET DOOR FC	CNRAD-353570		1	1	1	
73	DOOR AS. FC (FOAM) - XS	CNRBD-364650		1			COLOUR : STAINLESS
	DOOR AS. FC (FOAM) - VN	CNRBD-364660			1		COLOUR : CHAMPAGNE
	DOOR AS. FC (FOAM) - VW	CNRBD-365230				1	COLOUR : WHITE
74	SHELF EGG	CNRAH-354391		1	1	1	
75	TRAY EGG 10	CNRAD-338111		1	1	1	
76	UTILITY BOX	CNRAD-354432		1			
77	COVER UTILITY BOX	CNRAD-354441		1			
78	SHELF BOTTLE	CNRAD-354411		2	2	2	
79	LABEL NAME - XSMY	CNRAH-292730	S	1			
	LABEL NAME - XSSG	CNRAH-292740	S	1			
	LABEL NAME - XSHK	CNRAH-292750	S	1			
	LABEL NAME - XSPH	CNRAH-292760	S	1			
	LABEL NAME - XSAU	CNRAH-292770	S	1			
	LABEL NAME - XSX3	CNRAH-311460	S	1			
	LABEL NAME - VNTH	CNRAH-292790	S		1		
	LABEL NAME - VNMY	CNRAH-292800	S		1		
	LABEL NAME - VNWA	CNRAH-298190	S		1		
	LABEL NAME - VN1D	CNRAH-292810	S		1		
	LABEL NAME - VNVN	CNRAH-292820	S		1		
	LABEL NAME - VN1N	CNRAH-292830	S		1		
	LABEL NAME - VNX3	CNRAH-311450	S		1		
	LABEL NAME - VNPH	CNRAH-292840	S		1		
	LABEL NAME - VWAU	CNRAH-292870	S			1	
80	FRAME AS. FC R	CNRBD-364682		1	1	1	FIX BY TRUSS 5 TS16 / CNR38-195541
81	FRAME AS. FC L	CNRBD-364672		1	1	1	FIX BY TRUSS 5 TS16 / CNR38-195541
82	SUPPORT REAR	CNRAD-353320		1	1	1	
83	PIECE CAP DOOR PCT - XS	CNRAD-353961		1			COLOUR : GRAY
	PIECE CAP DOOR PCT - VN	CNRAD-355220			1		COLOUR : LINE SILVER SOLID
	PIECE CAP DOOR PCT - VW	CNRAD-354930				1	COLOUR : KOREA WHITE

## Maintenance

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW415	BW415	BW415	
				XS	VN	VW	
	COUNTERMEASURE KIT	CNRBG17006KT		1	1	1	PROTECT LEAD WIRE OPEN

**Packing List**

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW415	BW415	BW415	
				XS	VN	VW	
	PACKING AS. - XSMY	CNRBK-126930		1			
	PACKING AS. - XSSG	CNRBK-126940		1			
	PACKING AS. - XSHK	CNRBK-126950		1			
	PACKING AS. - XSPH	CNRBK-126960		1			
	PACKING AS. - XSAU	CNRBK-126970		1			
	PACKING AS. - XSX3	CNRBK-135110		1			
	PACKING AS. - VNTH	CNRBK-126990			1		
	PACKING AS. - VNMY	CNRBK-127000			1		
	PACKING AS. - VN1D	CNRBK-127010			1		
	PACKING AS. - VNVN	CNRBK-127020			1		
	PACKING AS. - VN1N	CNRBK-127030			1		
	PACKING AS. - VNX3	CNRBK-135100			1		
	PACKING AS. - VNPH	CNRBK-127040			1		
	PACKING AS. - VNWA	CNRBK-129740			1		
	PACKING AS. - VWAU	CNRBK-127070				1	
	BOTTOM TRAY AS.	CNRBK-129811		1	1	1	FOR ALL
	PLASTIC COVER	CNRAJ-162090		1	1	1	
	TOP PAD L	CNRAK-156140		1	1	1	
	TOP PAD R	CNRAK-156150		1	1	1	
	TOP PAD F	CNRAK-156160		1	1		FOR HK, 1N-X3
	TOP PAD B	CNRAK-156170		1	1		FOR HK, 1N-X3
	PAPER PROTECTOR FRONT	CNRAK-133890		1	1		FOR HK, 1N-X3
	PAD CORNER	CNRAK-167250		2	2	2	FOR INDIA ONLY
	INS. PC PAD	CNRAK-160670		2	2	2	
	INSTRUCTION BOOK - TH	CNRAK-156090			1		
	INSTRUCTION BOOK - MY	CNRAK-156460		1	1		
	INSTRUCTION BOOK - SG/PH	CNRAK-156470		1	1		
	INSTRUCTION BOOK - 1D	CNRAK-156480			1		
	INSTRUCTION BOOK - WA	CNRAK-156490			1		
	INSTRUCTION BOOK - VN	CNRAK-156500			1		
	INSTRUCTION BOOK - 1N-X3	CNRAK-157781		1	1		
	INSTRUCTION BOOK - HK	CNRAK-156510		1			
	INSTRUCTION BOOK - AU	CNRAK-156530		1	1	1	

## 14.5 Replacement Part List : NR-BW465XS, NR-BW465VN, NR-BW465VW

### Parts List

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW465	BW465	BW465	
				XS	VN	VW	
1	COVER HINGE TOP - ST	CNRAE-139331		1	1		COLOUR : GRAY
	COVER HINGE TOP - VW	CNRAE-140920				1	COLOUR : KOREA WHITE
2	HINGE TOP	CNRAE-139023	S	1	1	1	
3	PAS - BW/BY (LED PCB)	CNRBG-181511	S	1	1	1	
4	COVER LED LAMP	CNRAH-290283		1	1	1	
5	GLASS TRAY T AS.	CNRBH-144511		1	1	1	
6	GLASS TRAY AS.	CNRBH-144521		1	1	1	
7	GLASS TRAY CRISPER AS.	CNRBH-144533		1	1	1	
8	CRISPER	CNRAH-291311		1	1	1	
9	TRAY CHILL TOP	CNRAH-290422		1	1	1	
10	CHILLED CASE	CNRAH-291331		1	1	1	
11	PAS - BW465 (INSIDE)	CNRBG-182561			1	1	
12	BASE CONTROL	CNRAC-200621			1	1	
13	LABEL BASE CONTROL	CNRAC-200631			1	1	
14	DIAL CONTROL	CNRAH-290912			1	1	
15	DOOR SW.	CNRAG-153290		1	1	1	
16	CASE SW. FC - W	CNRAC-201540		1	1	1	
17	HINGE CENTER	CNRAE-139011	S	1	1	1	
18	CAP PAN H. 4TS (ST)	CNR39-162720		1	1		COLOUR : SILVER SOLID
19	CAP PAN H. 4TS (W)	CNR39-162431		1	1	2	COLOUR : KOREA WHITE
20	CASTER L AS.	CNRBC-365190		1	1	1	
	CASTER R AS.	CNRBC-365200		1	1	1	
21	SUPPORT COIL D	CNRAF-183091		1	1	1	
22	SUPPORT COIL	CNRAF-163503		1	1	1	
23	SENSOR DEF.	CNRAG-168580		1	1	1	
24	COIL AS.	CNRBF-158124		1	1	1	
25	TEMP. FUSE AS.	CNRBG-180841	S	1	1	1	
25.1	HARNESS AS. WIRE BARRIER	CNRBG-183191		1	1	1	SENSOR FCC ASSY TOGETHER
26	COVER RADIANT	CNRAG-161260		1	1	1	
27	HEATER AS. DEFROST	CNRAG-169651	S	1	1	1	
28	INS. COVER COIL F	CNRAF-186820		1	1	1	
29	COVER COIL AS.	CNRBF-158133		1	1	1	
29.1	COVER COIL	CNRAF-186812		1	1	1	
30	CASE FCT	CNRAH-290463		1	1	1	
31	CASE FCB	CNRAH-290470		1	1	1	
32	HOLDER ICE TRAY	CNRAH-290454		1	1	1	
33	ICE CUBE TRAY AS.	CNRBH-135250		1	1	1	
34	HANGER SHELL R	CNRAC-206002		1	1	1	
35	HANGER SHELL L	CNRAC-206012		1	1	1	
36	WIRING DIAGRAM - XSTH	CNRAH-291800		1			
	WIRING DIAGRAM - VNTH	CNRAH-293910			1		
	WIRING DIAGRAM - XSMY	CNRAH-291810		1			
	WIRING DIAGRAM - XSSG	CNRAH-298040		1			
	WIRING DIAGRAM - XSHK	CNRAH-298120		1			
	WIRING DIAGRAM - VNAE	CNRAH-298160			1		
	WIRING DIAGRAM - XS1D	CNRAH-291820		1			
	WIRING DIAGRAM - XSWA	CNRAH-298080		1			
	WIRING DIAGRAM - VNWA	CNRAH-298090			1		
	WIRING DIAGRAM - XSVN	CNRAH-298100		1			

## Parts List

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW465	BW465	BW465	
				XS	VN	VW	
	WIRING DIAGRAM - XSPH	CNRAH-291830		1			
	WIRING DIAGRAM - VNPH	CNRAH-293940			1		
	WIRING DIAGRAM - VN1N	CNRAH-298140			1		
	WIRING DIAGRAM - VNX3	CNRAH-303790			1		
	WIRING DIAGRAM - VNWG	CNRAH-298170			1		
	WIRING DIAGRAM - XSAU	CNRAH-291840		1			
	WIRING DIAGRAM - VWAU	CNRAH-298060				1	
37	LABEL HC BACK - EXPORT	CNRAH-269292		1	1	1	LANGUAGE : ENGLISH
	LABEL HC BACK - TH	CNRAH-269300		1	1		LANGUAGE : THAI
38	PAS - BW465 (CONTROL) - X	CNRBG-182652		1			TH, MY, 1D, VN, SG, HK, AU
		CNRBG-189830		1			X2, X3, WA, AE, WG, PH
	PAS - BW465 (CONTROL) - V	CNRBG-182552			1	1	TH, MY, 1D, VN, SG, HK, AU
		CNRBG-189400			1		X2, X3, WA, AE, WG, PH
39	COVER CASE BOARD	CNRAC-214821		1	1	1	
40	SUPPLY CORD AS. - C3P	CNRBG-183440	S	1	1		FOR TH
	SUPPLY CORD AS. - S3P	CNRBG-183450	S	1	1		FOR MY, SG, HK
	SUPPLY CORD AS. - C2P	CNRBG-183470	S	1	1		FOR VN, WA, 1D
	SUPPLY CORD AS. - A2P	CNRBG-183480	S	1	1		FOR PH
	SUPPLY CORD AS. - B3P	CNRBG-183460	S		1		FOR 1N-X3
	SUPPLY CORD AS. - C2P (SHUKO)	CNRBG-183490	S		1		FOR WG
	SUPPLY CORD AS. - K3P	CNRBG-183431	S	1		1	FOR AU
41	PAN WATER EVA.	CNRAF-190140		1	1	1	
41.1	PIPE WATER EVA.	CNRAF-178940		1	1	1	
42	CLAMP PIPE WATER EVA.	CNRAF-175252		1	1	1	
43	U-RING 7	CNRAJ-163240		2	2	2	
44	COMP. EFI100E13DJH-C1EXS	CNR91-236470		1	1	1	FOR ALL
45	MOTOR PROTECTOR	CNR06-598070	S	1	1	1	
46	PROTECTOR COVER	CNRAG-170460		1	1	1	
47	EARTH WIRE AS. COMP. 150	CNRBG-168610		1	1	1	
48	5 DRYER W	CNR39-340920		1	1	1	
49	RUUBER GROMMET	CNRAJ-163250		4	4	4	
50	CLAMPER DRYER	CNR39-163082		1	1	1	
51	CROSSRAIL REAR AS.	CNRBF-158112		1	1	1	
52	PIN CASTER	CNR02-325701		2	2	2	
53	ROLLER 40	CNRAC-116280		2	2	2	
54	FAN MOTOR FC	CNRAG-171790		1	1	1	
55	PLATE DUCT PC AS.	CNRBH-144495		1	1	1	
55.1	INS. DUCT PC	CNRAH-290333		1	1	1	
56	PLATE DUCT PCT	CNRAH-290301		1	1	1	
57	PLATE DUCT PCB	CNRAH-290312		1	1	1	
58	PIECE DUCT PC	CNRAH-275514		1	1	1	
59	AG BIO FILTER	CNRAH-245521		1	1	1	
60	CONTROL PANEL AS.	CNRBH-144500		1	1	1	
61	CONTROL PANEL	CNRAH-291280		1	1	1	
62	INS. CONTROL PANEL PC F	CNRAH-261283		1	1	1	
63	BAFFLE DAMPER THERMO AS.	CNRBG-183300		1	1	1	
64	INS. CONTROL PANEL PC B	CNRAH-261292		1	1	1	
65	GASKET DOOR PC	CNRAD-353560		1	1	1	
66	EMBLEM	CNRAD-339801		1	1	1	
67	DOOR AS. PC (FOAM) - XS	CNRBD-364600		1			COLOUR : STAINLESS
	DOOR AS. PC (FOAM) - VN	CNRBD-364610			1		COLOUR : CHAMPAGNE

## Parts List

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW465	BW465	BW465	
				XS	VN	VW	
	DOOR AS. PC (FOAM) - VW	CNRBD-365360				1	COLOUR : WHITE
68	PAS-CONTROL (DOOR)	CNRBG-183270		1			FOR XS MODEL
69	COVER CONTROL (SUB) AS.	CNRBD-374691		1			FOR XS MODEL
	COVER CONTROL - VN	CNRAD-353393			1		FOR VN MODEL
	COVER CONTROL - VW	CNRAD-360091				1	FOR VW MODEL
70	LATCH DOOR	CNRAE-136513		1	1	1	
71	STOPPER DOOR	CNRAD-359750		1	1	1	
72	GASKET DOOR FC	CNRAD-353570		1	1	1	
73	DOOR AS. FC (FOAM) - XS	CNRBD-364650		1			COLOUR : STAINLESS
	DOOR AS. FC (FOAM) - VN	CNRBD-364660			1		COLOUR : CHAMPAGNE
	DOOR AS. FC (FOAM) - VW	CNRBD-365230				1	COLOUR : WHITE
74	SHELF EGG	CNRAH-354391		2	2	2	
75	TRAY EGG 10	CNRAD-338111		1	1	1	
76	UTILITY BOX	CNRAD-354432		1			
77	COVER UTILITY BOX	CNRAD-354441		1			
78	SHELF BOTTLE	CNRAD-354411		2	2	2	
79	LABEL NAME - XSTH	CNRAH-291860	S	1			
	LABEL NAME - XSMY	CNRAH-291870	S	1			
	LABEL NAME - XSSG	CNRAH-291880	S	1			
	LABEL NAME - XS1D	CNRAH-291890	S	1			
	LABEL NAME - XSWA	CNRAH-291900	S	1			
	LABEL NAME - XSVN	CNRAH-291910	S	1			
	LABEL NAME - XSHK	CNRAH-291920	S	1			
	LABEL NAME - XSPH	CNRAH-291930	S	1			
	LABEL NAME - XSAU	CNRAH-291940	S	1			
	LABEL NAME - VNTH	CNRAH-291960	S		1		
	LABEL NAME - VNWA	CNRAH-291970	S		1		
	LABEL NAME - VN1N	CNRAH-291980	S		1		
	LABEL NAME - VNX3	CNRAH-303780	S		1		
	LABEL NAME - VNPH	CNRAH-291990	S		1		
	LABEL NAME - VNAE	CNRAH-292000	S		1		
	LABEL NAME - VNWG	CNRAH-292010	S		1		
	LABEL NAME - VWAU	CNRAH-292040	S			1	
80	FRAME AS. FC R	CNRBD-364682		1	1	1	FIX BY TRUSS 5 TS16 / CNR38-195541
81	FRAME AS. FC L	CNRBD-364672		1	1	1	FIX BY TRUSS 5 TS16 / CNR38-195541
82	SUPPORT REAR	CNRAD-353320		1	1	1	
83	PIECE CAP DOOR PCT - XS	CNRAD-353961		1			COLOUR : GRAY
	PIECE CAP DOOR PCT - VN	CNRAD-355220			1		COLOUR : LINE SILVER SOLID
	PIECE CAP DOOR PCT - VW	CNRAD-354930				1	COLOUR : KOREA WHITE

## Maintenance

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW465	BW465	BW465	
				XS	VN	VW	
	COUNTERMEASURE KIT	CNRBG17006KT		1	1	1	PROTECT LEAD WIRE OPEN

**Packing List**

REF. NO.	PART NAME	PART NO.	SAFETY	MODEL / Q'TY			REMARK
				BW465	BW465	BW465	
				XS	VN	VW	
PACKING AS. - XSTH PACKING AS. - XSMY PACKING AS. - XSSG PACKING AS. - XS1D PACKING AS. - XSWA PACKING AS. - XSVN PACKING AS. - XSHK PACKING AS. - XSPH PACKING AS. - XSAU PACKING AS. - VNTH PACKING AS. - VNWA PACKING AS. - VN1N PACKING AS. - VNX3 PACKING AS. - VNPH PACKING AS. - VNAE PACKING AS. - VNWG PACKING AS. - VWAU	CNRBK-126210			1			
	CNRBK-126540			1			
	CNRBK-126550			1			
	CNRBK-126560			1			
	CNRBK-126570			1			
	CNRBK-126580			1			
	CNRBK-126590			1			
	CNRBK-126600			1			
	CNRBK-126610			1			
	CNRBK-126220				1		
	CNRBK-126630				1		
	CNRBK-126640				1		
	CNRBK-135120				1		
	CNRBK-126650				1		
	CNRBK-126660				1		
BOTTOM TRAY AS. PLASTIC COVER TOP PAD L TOP PAD R TOP PAD F TOP PAD B PAPER PROTECTOR FRONT PAD CORNER INS. PC PAD INSTRUCTION BOOK - TH INSTRUCTION BOOK - MY INSTRUCTION BOOK - SG/PH INSTRUCTION BOOK - 1D INSTRUCTION BOOK - WA, AE, WG INSTRUCTION BOOK - VN INSTRUCTION BOOK - 1N-X3 INSTRUCTION BOOK - HK INSTRUCTION BOOK - AU	CNRBK-129811			1	1	1	FOR ALL
	CNRAJ-162090			1	1	1	
	CNRAK-156140			1	1	1	
	CNRAK-156150			1	1	1	
	CNRAK-156160			1	1		FOR KH, 1N-X3
	CNRAK-156170			1	1		FOR KH, 1N-X3
	CNRAK-133900			1	1		FOR KH, 1N-X3
	CNRAK-167250			2	2	2	FOR INDIA ONLY
	CNRAK-159531			2	2	2	
	CNRAK-156090			1			
INSTRUCTION BOOK - TH INSTRUCTION BOOK - MY INSTRUCTION BOOK - SG/PH INSTRUCTION BOOK - 1D INSTRUCTION BOOK - WA, AE, WG INSTRUCTION BOOK - VN INSTRUCTION BOOK - 1N-X3 INSTRUCTION BOOK - HK INSTRUCTION BOOK - AU	CNRAK-156460			1			
	CNRAK-156470			1	1		
	CNRAK-156480			1			
	CNRAK-156490			1	1		
	CNRAK-156500			1			
	CNRAK-157781				1		
	CNRAK-156510			1			
	CNRAK-156530			1	1	1	

## DETAIL CHANGE NOTICE

REVISION	ITEM NO.	PAGE NO.	DETAIL	REMARK
NOV. 2012	1	2	REVISE RUNNING PAGE NO.	REVISE FROM P. 11 ~ 36
	2	11, 12, 14	REVISE, ADD SELF DIAGNOSING FUNCTION AND OPERATE ECONAVI MODE	FOR NEW TEST MODE
DEC. 2012	1	2	REVISE RUNNING PAGE NO.	REVISE FROM P. 25 ~ 40
	2	25 ~ 28	ADD TECHNICAL INFORMATION	FOR COUNTERMEASURE LEAD WIRE OPEN
	3	34, 38	ADD COUNTERMEASURE KIT	FOR MAINTENANCE
MAR. 2013	1	1	REVISE MISTAKE MODELS	CHANGE FROM NR-BW415/465XW TO VW
	2	4 ~ 5	ADD NEW MODEL OF X3	ADD MODEL OF INDIA
	3	29 ~ 31	REVISE REF. NO. AND PICTURE	FOR MANUAL UPDATE
	4	32 ~ 39	ADD AND REVISE PART NAME AND PART NO.	FOR NEW MODEL AND CORRECT PARTS
FEB. 2014	1	29	REIVSE PICTURE OF PIPE WATER EVA.	FOR UPDATE PART
	2	33, 37	ADD PART NO. & NAME OF PIPE WATER EVA.	FOR SALES AS SERVICE PART