REFRIGERATOR SERVICE MANUAL

CAUTION
BEFORE SERVICING THE UNIT,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

TYPE	MODEL	FACTORY MODEL	Color
3 DR Better	111.73315020	RFP86KETJ4E00-UEBB	STAINLESS
	111.73312020	RFP86KEWC4E00-UEBB	WHITE
	111.73319020	RFP86KEBC4E00-UEBB	BLACK

√ Caution

In this manual, some parts can be changed for improving their performance without notice. So, If you need the latest parts information, please visit and refer to PPL (Parts Price List) in Service Information Center.(http://webportal.winiadaewoo.com/sic)

March .2020

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Content

※ Refer to user manual for installation

Document History

Version (S/M No.)	Date	Author	Description
RFP86*	20.02.19	Song IlKeun	Register a document.

1. Warnings and Precautions for Safety

Please observe the following safety precautions in order to use safely and correctly the refrigerator and to prevent accident and danger during repair.

1. Be care of an electric shock. Disconnect power cord from wall outlet and wait for more than three minutes before replacing PCB parts.
   Shut off the power whenever replacing and repairing electric components.

2. When connecting power cord, please wait for more than five minutes after power cord was disconnected from the wall outlet.

3. Please check if the power plug is pressed down by the refrigerator against the wall.
   If the power plug was damaged, it may cause fire or electric shock.

4. If the wall outlet is over loaded, it may cause fire.
   Please use its own individual electrical outlet for the refrigerator.

5. Please make sure the outlet is properly earthed, particularly in wet or damp area.

6. Use standard electrical components when replacing them.

7. Make sure the hook is correctly engaged.
   Remove dust and foreign materials from the housing and connecting parts.

8. Do not fray, damage, machine, heavily bend, pull out or twist the power cord.

9. Please check the evidence of moisture intrusion in the electrical components.
   Replace the parts or mask it with insulation tapes if moisture intrusion was confirmed.

10. Do not touch the icemaker with hands or tools to confirm the operation of geared motor.

11. Do not let the customers repair, disassemble and reconstruct the refrigerator for themselves.
    It may cause accident, electric shock, or fire.

12. Do not store flammable materials such as ether, benzene, alcohol, chemicals, gas, or medicine in the refrigerator.

13. Do not put flower vase, cup, cosmetics, chemicals, etc., or container with full of water on the top of the refrigerator.

14. Do not put glass bottles with full of water into the freezer.
    The contents shall freeze and break the glass bottles.

15. When you scrap the refrigerator, please disconnect the door gasket first and scrap it where children are not accessible.

2. Specifications

Model Name			111.7331****
Factory Model Name			RFP86KE*****
Volume AHAM 2008 (Cu ft.)		Total	30.59
		Freezer	9.0
		Refrigerator	21.6
External Dimension (Width * Depth * Height)			35.86” x 70.11” x 38.26” (w/o Handle)
Rated Voltage			115~120V (60Hz)
Weight (Kg)		Net	156.1
		Gross (w/ Package)	169
COOLING	Comp	Model	BMK140NAMV (LG)
		Motor Type	Inverter Driver
		Motor Protection	-
		Running Capacitor	-
		Starting Device Type	Inverter Driver
		Starting Device	-
		Controller Unit (Inverter)	-
	Refrigerant		R600a
	Quantity		68g
	Evaporator		Fin Type
	Condenser		Fan Cooling System
	Dryer		Molecular Sieve XH-9
Door Switch		Freezer	On Right Front Side of Freezer Wall
		Refrigerator	In Top Cover Hinge
Lamp		Freezer	5-LED
		Refrigerator	18-LED

2. Specifications

(continued)

Model Name		111.7331****
Factory Model Name		RFP86KE*****
Sensor	Defrost	In Evaporator Assembly, In Icemaker Evaporator Assembly
	Freezer	In Louver Assembly
	Refrigerator	In Multi Flow Duct Assembly
	RT	Between Top Cabinet and Top Cover Hinge
	Icemaker Room Temp.	In Fixture Geared Motor Assembly
	Pantry Drawer Temp.	In Cover Damper Assembly
	Water Flow	In Valve Water Assembly
Heater	Freezer Eva.	AC120V / 250W / 57.6Ω ±5% / Sheath
	Refrigerator Eva.	AC120V / 120W / 120Ω ±5% / Sheath
	Icemaker Eva. (1EA)	AC120V / 40W / 360Ω ±5% / Sheath
	Division	DC11.5V / 8W / 16.5Ω ±7% (Always On)
	Heater Cord I/M Eva Case AS	DC 12V / 5W / 28.8Ω ±8% (No Service Part)
	Heater Dispenser	DC12V / 2.0W / 66.24~77.76Ω (Cycles based on temps)
	Icemaker Water Hose	DC12 / 1W / 144Ω ±8% (No Service Part)
	Icemaker Room Heater	DC12 / 2W / 72Ω ±8% (No Service Part) (5 min on, 35 min off)
Fuse Temp (Defrost)		AC250V , 10A , 77℃
Motor	Freezer Fan	DC12V / 12038GE-12M-YU-D2
	Refrigerator Fan	DC12V / 12038GE-12L-YU-D1
	Condenser Fan	DC12V / ODM-001F-D2
	Dispenser Ice Shut	DC 12V / STAA125A01
	Ice Crusher	120V / 60Hz / ISG-3240DED
	Ice Type Selector	DC12V / STAB04D01
	Ice Maker Fan	DC12V / ODM-016F-57A
Damper		DC12V / DU24-113 / 1pcs

3. Sensor / Voltage

(Table of sensor resistance and measured voltage)

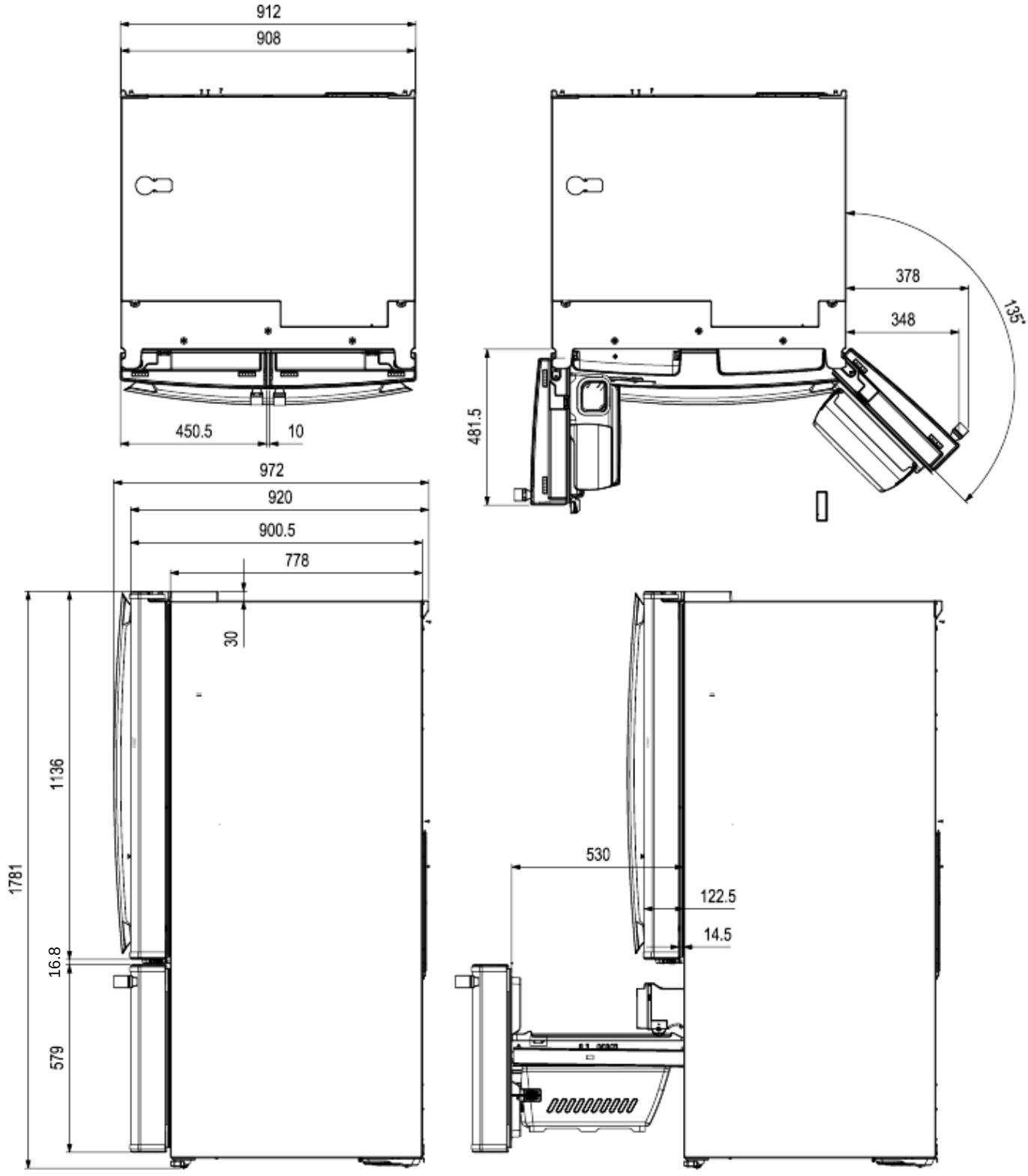
R, Pantry, Ice Maker, F Defrost, R Defrost, I Defrost, RT SENSOR							
Temp(℉)	Temp(℃)	Resistance(kΩ)	DC Volts	Temp(℉)	Temp(℃)	Resistance(kΩ)	DC Volts
-22.0	-30.0	129.30	4.02	32.9	0.5	29.34	2.42
-21.1	-29.5	125.90	4.00	33.8	1.0	28.71	2.39
-20.2	-29.0	122.50	3.98	34.7	1.5	28.08	2.36
-19.3	-28.5	119.30	3.96	35.6	2.0	27.47	2.33
-18.4	-28.0	116.20	3.94	36.5	2.5	26.88	2.31
-17.5	-27.5	113.20	3.91	37.4	3.0	26.30	2.28
-16.6	-27.0	110.20	3.89	38.3	3.5	25.74	2.25
-15.7	-26.5	107.40	3.87	39.2	4.0	25.19	2.23
-14.8	-26.0	101.60	3.82	40.1	4.5	24.65	2.20
-13.9	-25.5	101.90	3.82	41.0	5.0	24.13	2.17
-13.0	-25.0	99.30	3.80	41.9	5.5	23.62	2.15
-12.1	-24.5	96.70	3.77	42.8	6.0	23.12	2.12
-11.2	-24.0	94.30	3.75	43.7	6.5	22.63	2.09
-10.3	-23.5	91.90	3.73	44.6	7.0	22.15	2.07
-9.4	-23.0	89.60	3.70	45.5	7.5	21.69	2.04
-8.5	-22.5	87.30	3.68	46.4	8.0	21.24	2.02
-7.6	-22.0	85.10	3.65	47.3	8.5	20.80	1.99
-6.7	-21.5	83.00	3.63	48.2	9.0	20.36	1.97
-5.8	-21.0	80.90	3.60	49.1	9.5	19.94	1.94
-4.9	-20.5	78.90	3.58	50.0	10.0	19.53	1.92
-4.0	-20.0	76.90	3.55	50.9	10.5	19.13	1.89
-3.1	-19.5	75.00	3.52	51.8	11.0	18.74	1.87
-2.2	-19.0	78.20	3.57	52.7	11.5	18.35	1.84
-1.3	-18.5	71.40	3.47	53.6	12.0	17.98	1.82
-0.4	-18.0	69.60	3.45	54.5	12.5	17.61	1.80
0.5	-17.5	67.90	3.42	55.4	13.0	17.26	1.77
1.4	-17.0	66.30	3.39	56.3	13.5	16.91	1.75
2.3	-16.5	64.70	3.37	57.2	14.0	16.37	1.71
3.2	-16.0	63.10	3.34	58.1	14.5	16.26	1.71
4.1	-15.5	61.60	3.31	59.0	15.0	15.91	1.68
5.0	-15.0	60.10	3.28	59.9	15.5	15.59	1.66
5.9	-14.5	58.60	3.26	60.8	16.0	15.28	1.64
6.8	-14.0	57.20	3.23	61.7	16.5	14.98	1.61
7.7	-13.5	55.90	3.20	62.6	17.0	14.66	1.59
8.6	-13.0	54.60	3.17	63.5	17.5	14.39	1.57
9.5	-12.5	53.30	3.15	64.4	18.0	14.10	1.55
10.4	-12.0	52.00	3.12	65.3	18.5	13.83	1.53
11.3	-11.5	50.80	3.09	66.2	19.0	13.56	1.51
12.2	-11.0	49.60	3.06	67.1	19.5	13.29	1.49
13.1	-10.5	48.70	3.04	68.0	20.0	13.03	1.47
14.0	-10.0	47.30	3.01	68.9	20.5	12.78	1.45
14.9	-9.5	46.20	2.98	69.8	21.0	12.53	1.43
15.8	-9.0	45.10	2.95	70.7	21.5	12.29	1.41
16.7	-8.5	44.10	2.92	71.6	22.0	12.05	1.39
17.6	-8.0	43.10	2.89	72.5	22.5	11.82	1.37
18.5	-7.5	42.10	2.86	73.4	23.0	11.60	1.35
19.4	-7.0	41.10	2.83	74.3	23.5	11.37	1.33
20.3	-6.5	40.30	2.81	75.2	24.0	11.16	1.31
21.2	-6.0	39.30	2.78	76.1	24.5	10.95	1.29
22.1	-5.5	37.90	2.73	77.0	25.0	10.74	1.27
23.0	-5.0	37.50	2.72	77.9	25.5	10.54	1.26
23.9	-4.5	36.70	2.69	78.8	26.0	10.34	1.24
24.8	-4.0	35.80	2.66	79.7	26.5	10.14	1.22
25.7	-3.5	35.00	2.64	80.6	27.0	9.945	1.20
26.6	-3.0	34.30	2.61	81.5	27.5	9.768	1.19
27.5	-2.5	33.50	2.58	82.4	28.0	9.586	1.17
28.4	-2.0	32.70	2.55	83.3	28.5	9.408	1.15
29.3	-1.5	32.00	2.52	84.2	29.0	9.234	1.14
30.2	-1.0	31.30	2.50	85.1	29.5	9.063	1.12
31.1	-0.5	30.60	2.47	86.0	30.0	8.896	1.10
32.0	0.0	30.00	2.44				

3. Sensor / Voltage

(Table of sensor resistance and measured voltage)

F, Icemaker Room Sensor							
Temp(℉)	Temp(℃)	Resistance(kΩ)	DC Volts	Temp(℉)	Temp(℃)	Resistance(kΩ)	DC Volts
-22.0	-30.0	39.652	3.04	32.9	0.5	7.692	1.16
-21.1	-29.5	38.495	3.01	33.8	1.0	7.508	1.14
-20.2	-29.0	37.375	2.97	34.7	1.5	7.328	1.12
-19.3	-28.5	36.291	2.94	35.6	2.0	7.153	1.10
-18.4	-28.0	35.242	2.90	36.5	2.5	6.983	1.07
-17.5	-27.5	34.227	2.87	37.4	3.0	6.818	1.05
-16.6	-27.0	33.240	2.83	38.3	3.5	6.656	1.03
-15.7	-26.5	31.372	2.76	39.2	4.0	6.500	1.02
-14.8	-26.0	30.926	2.74	40.1	4.5	6.347	1.00
-13.9	-25.5	30.480	2.72	41.0	5.0	6.198	0.98
-13.0	-25.0	29.616	2.69	41.9	5.5	6.054	0.96
-12.1	-24.5	28.780	2.65	42.8	6.0	5.913	0.94
-11.2	-24.0	27.970	2.62	43.7	6.5	5.776	0.92
-10.3	-23.5	27.185	2.58	44.6	7.0	5.642	0.91
-9.4	-23.0	26.425	2.54	45.5	7.5	5.512	0.89
-8.5	-22.5	25.686	2.51	46.4	8.0	5.386	0.87
-7.6	-22.0	24.974	2.47	47.3	8.5	5.262	0.86
-6.7	-21.5	24.283	2.44	48.2	9.0	5.142	0.84
-5.8	-21.0	23.612	2.40	49.1	9.5	5.025	0.82
-4.9	-20.5	22.963	2.37	50.0	10.0	4.911	0.81
-4.0	-20.0	22.333	2.33	50.9	10.5	4.800	0.79
-3.1	-19.5	21.722	2.30	51.8	11.0	4.691	0.78
-2.2	-19.0	21.130	2.27	52.7	11.5	4.586	0.76
-1.3	-18.5	20.557	2.23	53.6	12.0	4.483	0.75
-0.4	-18.0	20.000	2.20	54.5	12.5	4.383	0.73
0.5	-17.5	19.460	2.16	55.4	13.0	4.285	0.72
1.4	-17.0	18.937	2.13	56.3	13.5	4.190	0.71
2.3	-16.5	18.429	2.10	57.2	14.0	4.097	0.69
3.2	-16.0	17.937	2.06	58.1	14.5	4.007	0.68
4.1	-15.5	17.459	2.03	59.0	15.0	3.918	0.67
5.0	-15.0	16.995	2.00	59.9	15.5	3.832	0.65
5.9	-14.5	16.545	1.97	60.8	16.0	3.749	0.64
6.8	-14.0	16.109	1.94	61.7	16.5	3.668	0.63
7.7	-13.5	15.635	1.90	62.6	17.0	3.587	0.62
8.6	-13.0	15.274	1.87	63.5	17.5	3.509	0.60
9.5	-12.5	14.875	1.84	64.4	18.0	3.433	0.59
10.4	-12.0	14.487	1.81	65.3	18.5	3.350	0.58
11.3	-11.5	14.111	1.78	66.2	19.0	3.287	0.57
12.2	-11.0	13.746	1.75	67.1	19.5	3.217	0.56
13.1	-10.5	13.391	1.72	68.0	20.0	3.148	0.55
14.0	-10.0	13.047	1.69	68.9	20.5	3.081	0.54
14.9	-9.5	14.712	1.83	69.8	21.0	3.015	0.53
15.8	-9.0	12.387	1.63	70.7	21.5	2.927	0.51
16.7	-8.5	12.072	1.61	71.6	22.0	2.839	0.50
17.6	-8.0	11.765	1.58	72.5	22.5	2.829	0.50
18.5	-7.5	11.467	1.55	73.4	23.0	2.769	0.49
19.4	-7.0	11.176	1.52	74.3	23.5	2.711	0.48
20.3	-6.5	10.897	1.50	75.2	24.0	2.655	0.47
21.2	-6.0	10.624	1.47	76.1	24.5	2.600	0.46
22.1	-5.5	10.358	1.44	77.0	25.0	2.546	0.45
23.0	-5.0	10.109	1.42	77.9	25.5	2.493	0.45
23.9	-4.5	9.849	1.39	78.8	26.0	2.442	0.44
24.8	-4.0	9.605	1.37	79.7	26.5	2.392	0.43
25.7	-3.5	9.368	1.34	80.6	27.0	2.343	0.42
26.6	-3.0	9.138	1.32	81.5	27.5	2.295	0.41
27.5	-2.5	8.913	1.30	82.4	28.0	2.246	0.40
28.4	-2.0	8.696	1.27	83.3	28.5	2.202	0.40
29.3	-1.5	8.484	1.25	84.2	29.0	2.158	0.39
30.2	-1.0	8.277	1.23	85.1	29.5	2.114	0.38
31.1	-0.5	8.077	1.20	86.0	30.0	2.072	0.38
32.0	0.0	7.882	1.18				

4. External Dimensions



5. Features

5-1. Exterior

Front Control Panel

LED, Touch

Water and Ice Dispenser

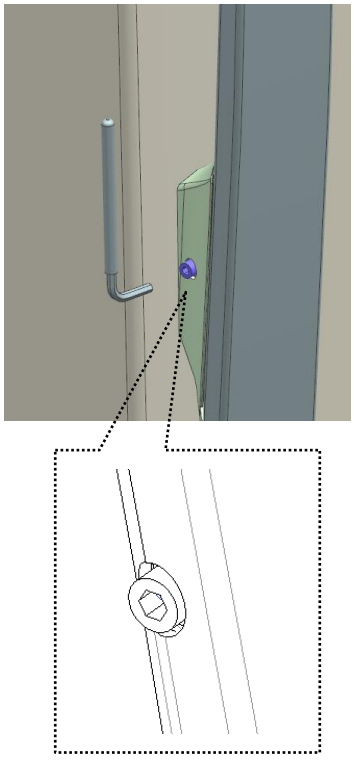
1 Levers

Freezer Handle

Sticker written “F” inside handle for correct assembly

Refrigerator Handle

Sticker written “R” inside handles for correct assembly



Included Parts

Hex Wrench(2.5mm) in User Manual Bag,

5-2. Interior

Foldable Shelf

Filter Cover

Water Filter

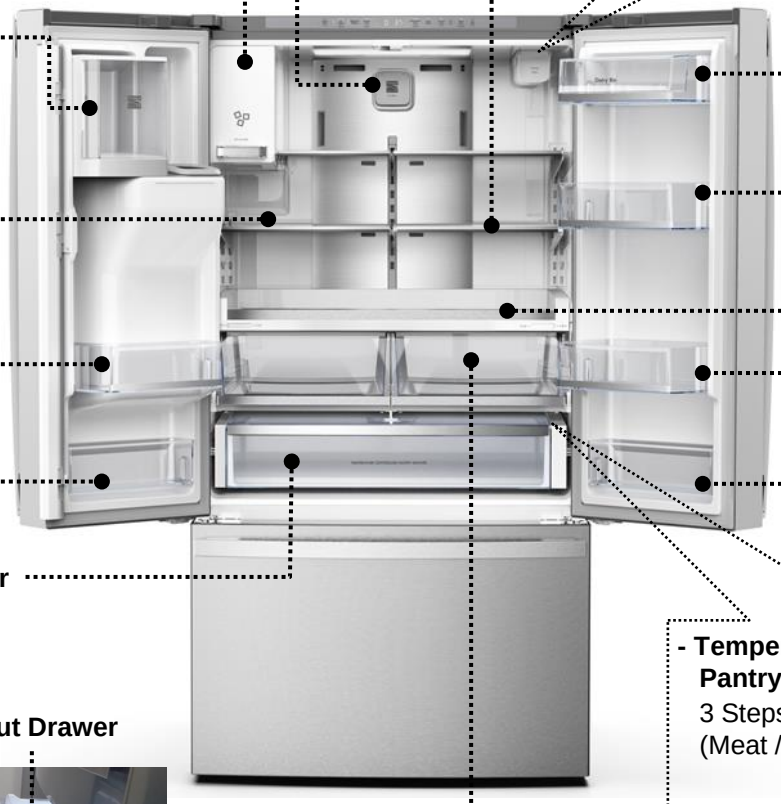
Air Filter Cover

Slid Away Split Shelf

Icemaker Compartment

Icemaker and Ice Bin

IOT Bin
Fixed



Dairy Bin
Fixed

Shelves
Adjustable,
Spill proof

Gallon Bin
Fixed

Wide Slide Shelf

Small Bin
Fixed

Gallon Bin
Fixed

Mini Bin
Fixed

Mini Bin
Fixed

Pantry Drawer

- Temperature Controlled Pantry Drawer
3 Steps Select
(Meat / Cold / Deli)

Auto Pull Out Drawer

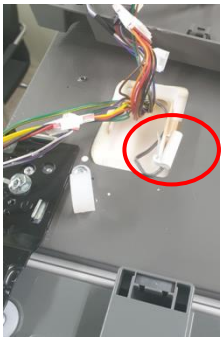
Humidity Controlled Crisper
Vegetable & Fruit

Freezer Base Drawer

Button Door Switch

5-3. Others

RT Sensor

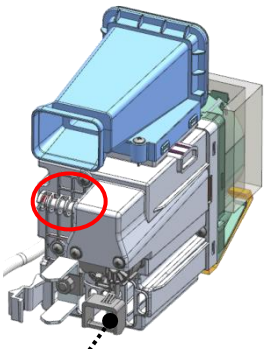


Refrigerator Sensor

Refrigerator Door Switches

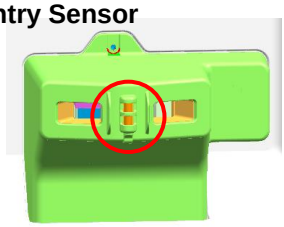
Refrigerator Fan Motor

Icemaker
Room Sensor



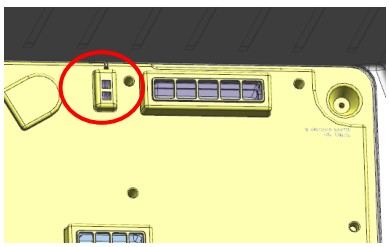
Ice Type
(Cubed/Crushed)
Selector

Pantry Sensor



Pantry Door Switch

Freezer Sensor

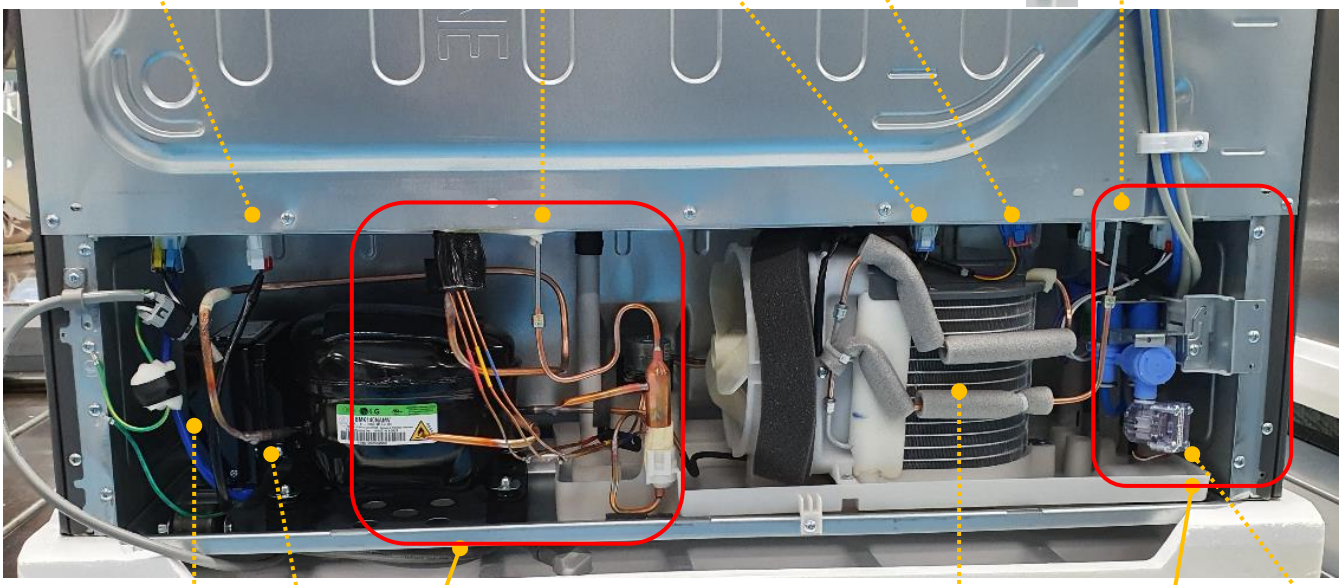


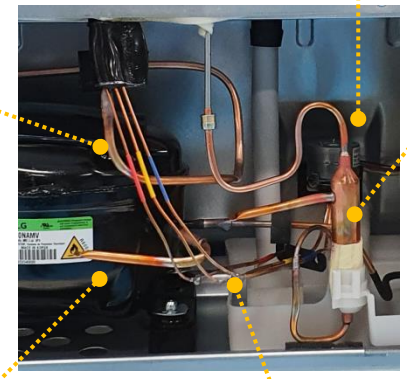
Water Tank
Assembly

Freezer
Fan Motor

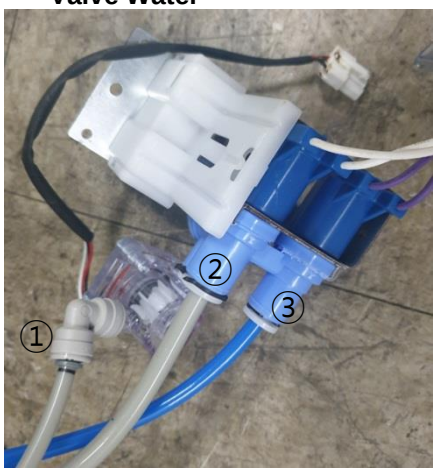
Freezer Door Switch

5-4. Machine Room





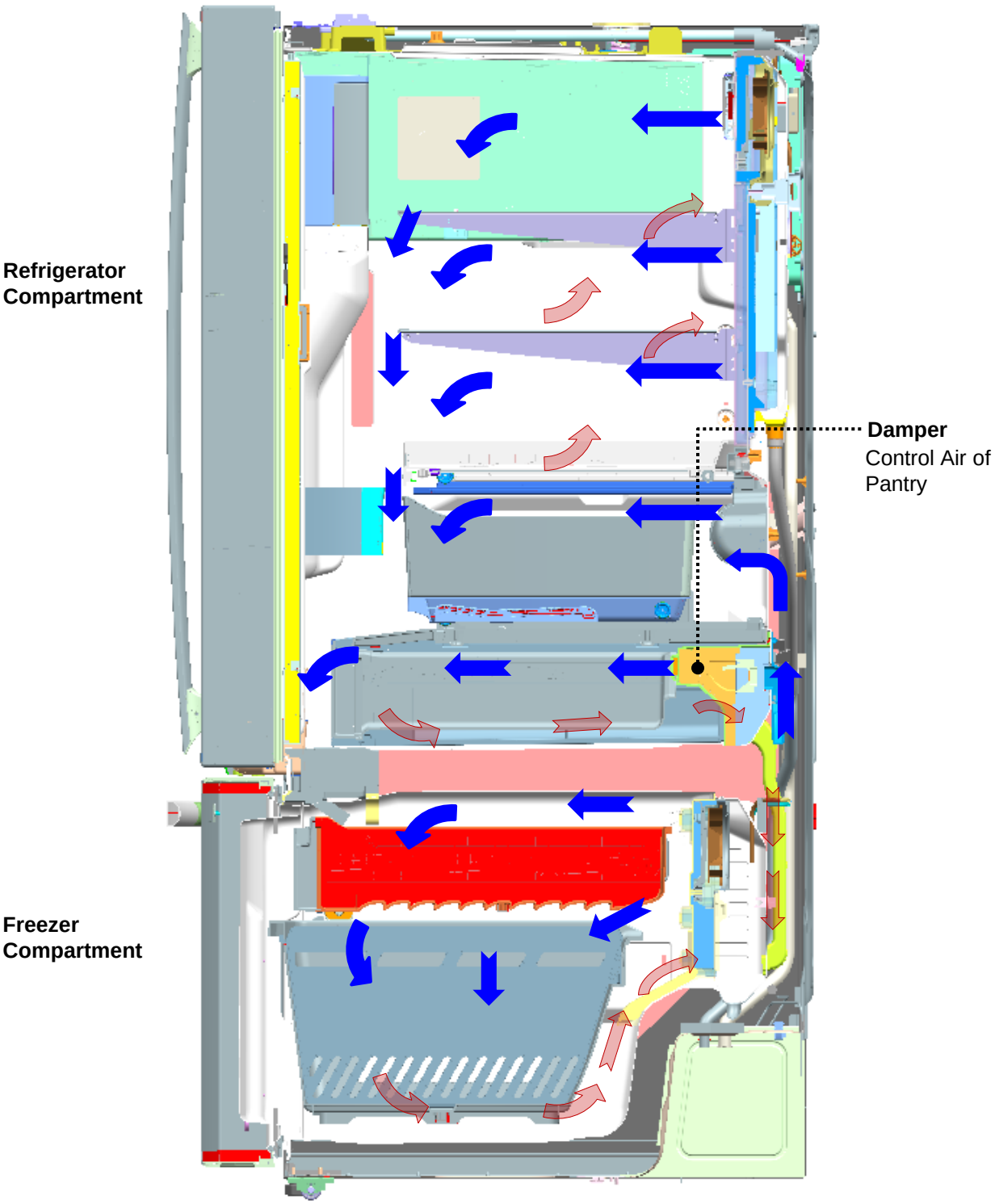
Valve Water



① Gray (1/4") – Water Filter Outlet
② Gray (5/16") – Water Tank Inlet
③ Blue (1/4") – Ice Maker Tube

6. Flow Diagram

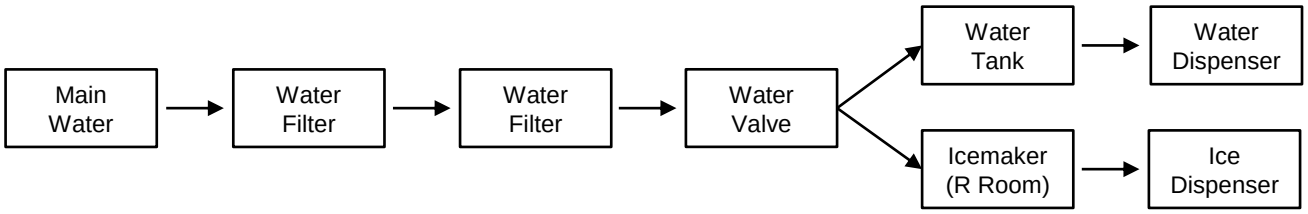
6-1. Cold Air Flow



6. Flow Diagram

6-2. Water Flow

RFP86*



☐ Water Supply Pressure must be :

Min 30psi (207kPa, 2.1kgf/㎠)

Max 125psi (862Kpa, 8.8kgf/㎠)

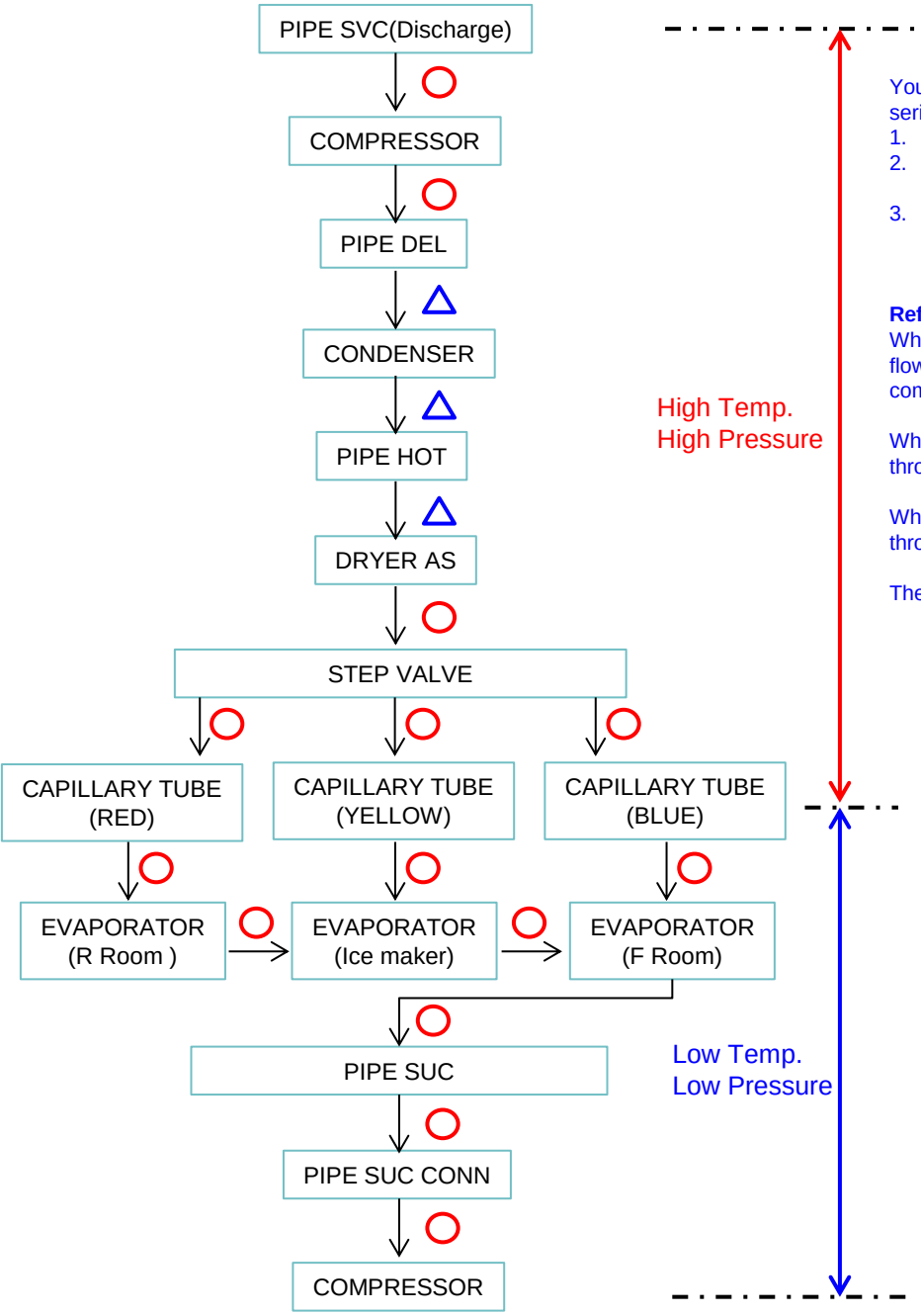
※ If the water pressure exceeds 125psi, a pressure reducing valve must be installed.

※ If the water pressure is under 30psi, a booster pump must be installed.

6. Flow Diagram

6-3. Refrigerant Flow and Welding Point

SYMBOL	METHOD	POINTS
○	Copper Welding (Ag 3%)	14
△	Lockring	3



You can force open the step valve for 3 evaporators in series by following the next steps :

1. Lock Inner PCB
2. While pressing the water filter and the icemaker button, press the door alarm button 5 times.
3. Lastly, press the water filter and the icemaker button again simultaneously for 5 more seconds.

Refrigerant flow system,
When the refrigerator valve is open, the refrigerant flows through the refrigerator, Icemaker, and freezer compartment

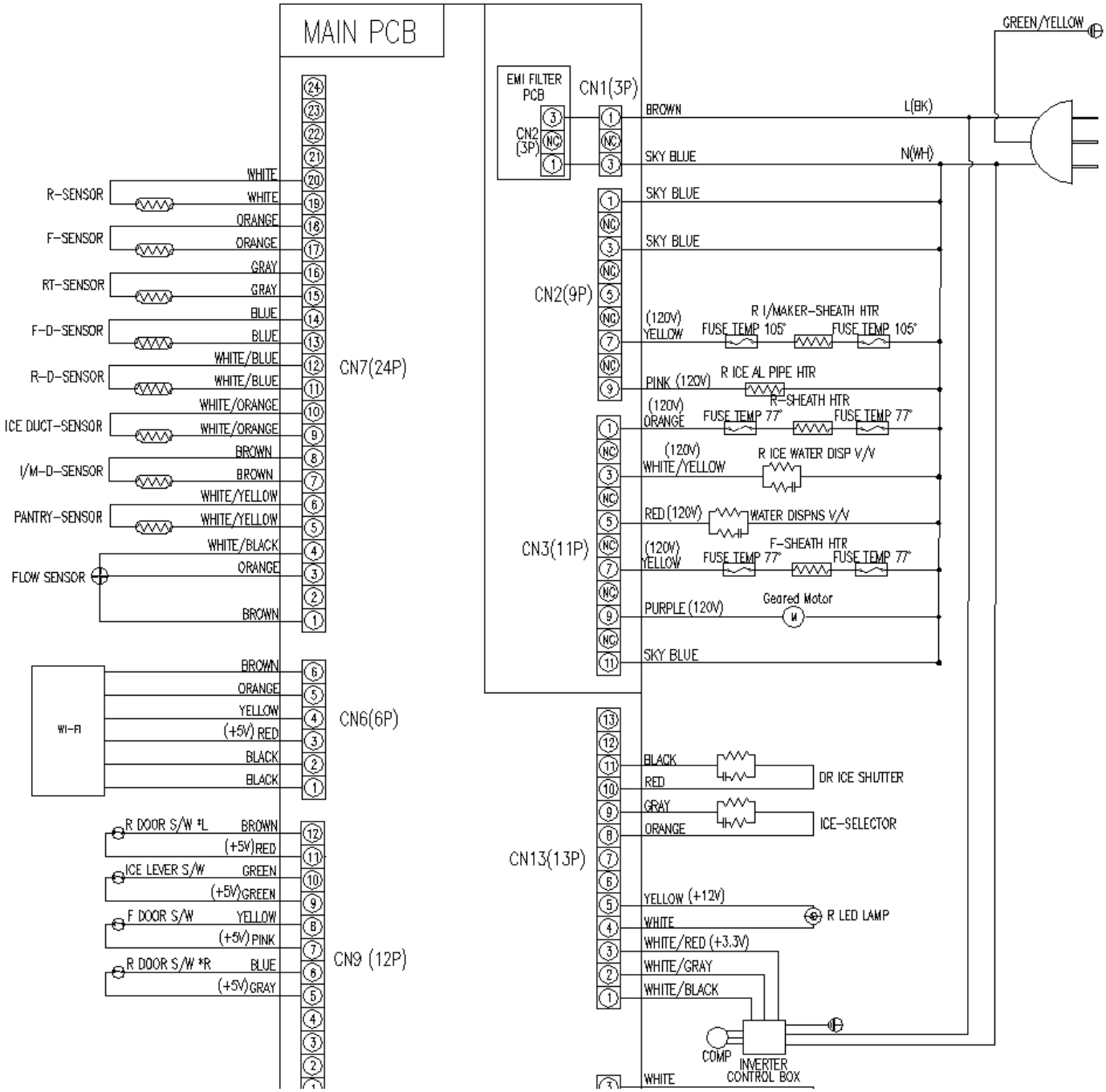
When the Icemaker valve is open, the refrigerant flows through the freezer and the icemaker compartment

When the Freezer valve is open, the refrigerant flows through the freezing compartment only

There is no way to force open each individual valve.

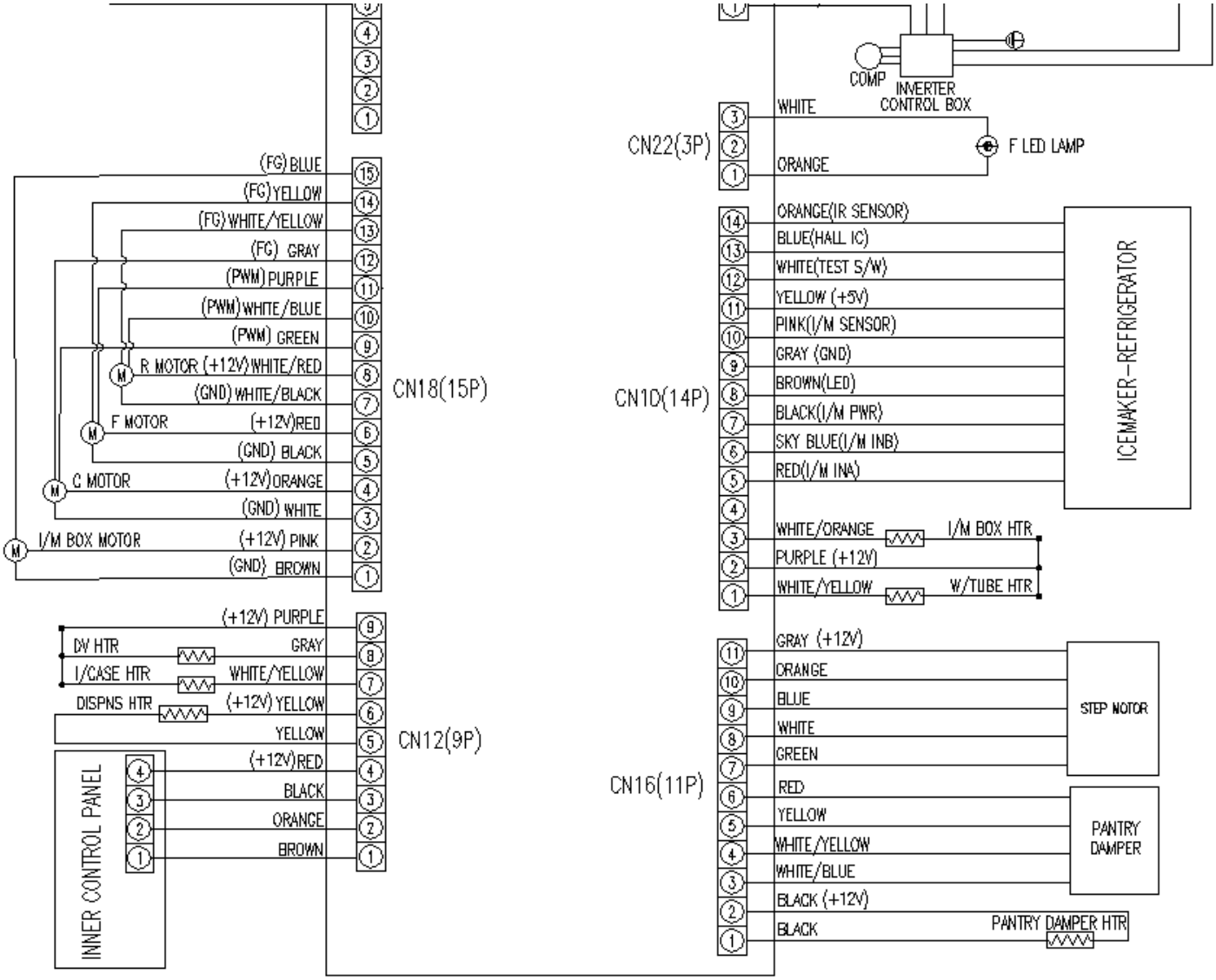
7. Wiring Diagram

7-1. Total View(1/2)



7. Wiring Diagram

7-1. Total View(2/2)



7-2. Dispenser HTR, DV Heater, I/Case Heater Operation.

7-2-1. The dispenser heater is always on.

7-2-2. The DV (Division) heater is always on and located
Between refrigerator doors to improve performance.

7-2-3. The I/CASE heater cycles repeatedly, Under 21℉(-6℃) on and 25 ℉ (-4℃) off
It is located within the icemaker. It helps to remove residual ice from the ice case

7-3. Other voltage.

7-3-1. CN 9 (Switch)

Item	Pin No	Open(On)	Close(Off)	비고
R DOOR S/W L	12,11	5	0	
ICE LEVER S/W	10,9	0	5	
F DOOR S/W	8,7	5	0	
R DOOR S/W R	6,5	5	0	

7-3-2. CN 10 (Ice Maker)

Item	Pin No	On		Off		Remarks
		Voltage (V)	frequency (Hz)	Voltage (V)	frequency (Hz)	
Pipe Heater	1	0		12		Floating
Case Heater1	3	0		12		Floating
IM_Step	5,6	2.5		5		Bi-Directional
IM_Power	7	5		0		
IM_Led	8	0		10		Floating
I_S	10					Sensor Table
IM_Test Switch		0		5		
IM_Flat Switch		0(Flat status)		5		
IM_Full Switch		5(Full status)		0		

7-3-3. CN 13(Compressor Inverter)

Item	Pin No	On		Off		Remarks
		Voltage (V)	frequency (Hz)	Voltage (V)	frequency (Hz)	
Comp Watt Input	2, 1	2.5	15~250	5	-	Frequency (Compressor Power Consumption) Feedback to the main PCB
Comp RPM	3, 1	3.3	50~125	6.5	-	Frequency (Compressor Control) Sends RPM Command (RPM PCB -> Inverter)

7. Wiring Diagram

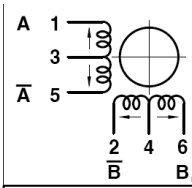
7-3. Other voltage. (continued)

7-3-4. CN 16(Damper & Step Valve)

Item	Pin No	On		Off		Remarks
		Voltage (V)	frequency (Hz)	Voltage (V)	frequency (Hz)	
Damper Heater	1	0	-	12	-	Floating
Damper Signal	3,4,5,6	6	-	0	-	Floating
Step Motor	7,8,9,10	0~12V Swing	-	12	-	Floating

※ Floating – pins 7, 8, 9, 10 are completed to circuit ground in sequence to operate the stepper valve

Step Motor



CoilPOINT			[Ω]
1-3	Black	Wh/Gray	40Ω
1-5	Black	Yellow	80Ω
3-5	Wh/Gray	Yellow	40Ω
2-4	RED	Wh/Gray	40Ω
2-6	RED	Blue	40Ω
4-6	Wh/Gray	Blue	40Ω

Following is the correct pin for PCB and step motor pin:
PCB Pin 7 = Step Motor Pin 6
PCB Pin 8 = Step Motor Pin 2
PCB Pin 9 = Step Motor Pin 5
PCB Pin 10 = Step Motor Pin 1
PCB Pin 11 = Step Motor Pin 3&4

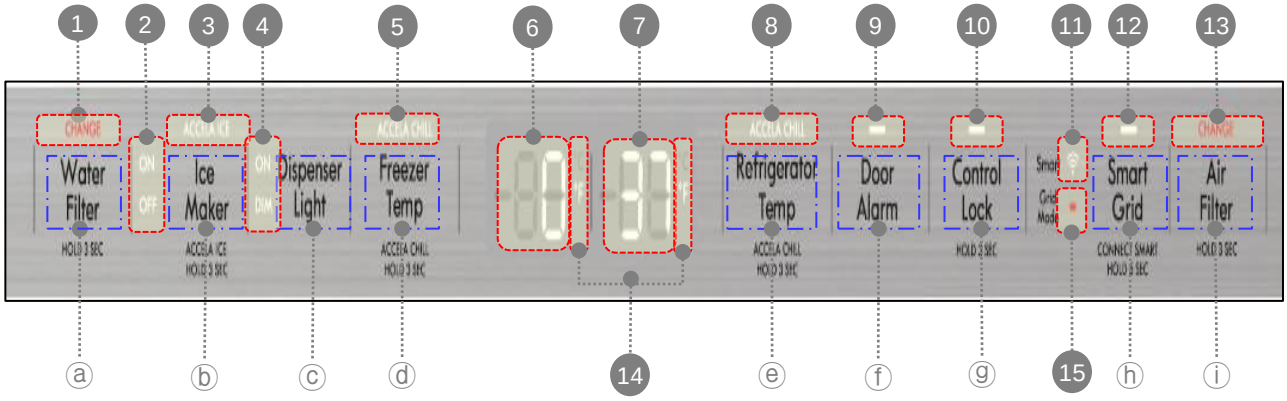
7-3-5. CN 18(Fan Motor)

Item	Pin No	On		Off		비고
		Voltage (V)	frequency (Hz)	Voltage (V)	frequency (Hz)	
I/M BOX MOTOR	2,1	10 ~ 12	-	0	-	
I/M BOX MOTOR (Feedback signal)	15	≒2.5	65~80	0	0	Frequency fluctuation
C MOTOR	4,3	≒12	-	0	-	
C MOTOR (PWM frequency)	9	≒2.5	7000	0	0	
C MOTOR (Feedback signal)	12	≒2.5	80~95	0	0	Frequency fluctuation
F MOTOR	6,5	≒12	-	0	-	
F MOTOR (PWM frequency)	11	≒3.3	7000	0	0	
F MOTOR (Feedback signal)	14	≒2.5	45~65	0	0	Frequency fluctuation
R MOTOR	8,7	≒12	-	0	-	
R MOTOR (PWM frequency)	10	≒3.3	7000	0	0	
R MOTOR (Feedback signal)	13	≒2.5	50~55	0	0	Frequency fluctuation

8. Operation and Functions

8-1. How to Use Control Panel

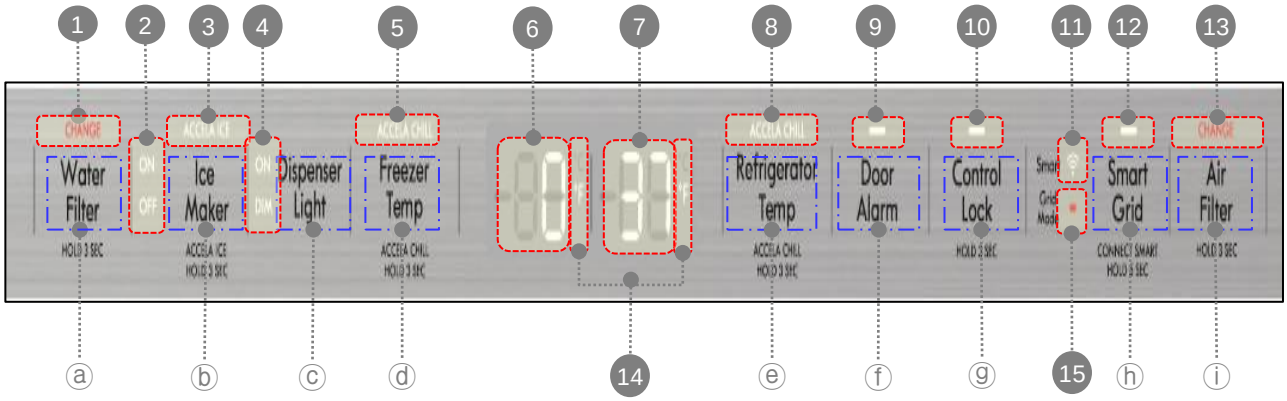
8-1-1. Inner Control Panel



Button	Item	Display	Description
-	Initial Temperature by power input	88 LED	Freezer : 0ºF / Refrigerator : 37ºF
ⓐ	Water Filter Reset	LED ①	Press and hold " Water Filter" button for 3sec, "CHANGE" icon LED OFF ※ After about 6 months from power on or Filter Reset, the icon LED ON.
ⓑ	Icemaker on/off	LED ②	Default : " ON " LED on. "OFF" → "ON" (repeat)
ⓑ	"Accela Ice" Function	LED ③	☐ How to Start : Press and hold this button for 3sec. ☐ How to Proceed : The icon LED On, Quick ice cube production mode for 24hr ☐ How to End 1) Time Limit. 2) If no water comes into the icemaker for 6hr, the operation is canceled.
ⓒ	Door Dispenser Display	LED ④	Default : " ICONS" and " LIGHT" LED off. 1st Time press ⓒ button "ON" LED On 2nd Time press ⓒ button "ON" LED Off and "DIM" LED on 3rd Time press ⓒ button "ON" and "DIM" LED on 4th Time press ⓒ button "ON" and "DIM" LED off (repeat)
ⓓ	Freezer Temp	88 LED	ºF : 0 → -2 → -4 → -6 → **-8(Coldest)** → 6 → 4 → 2 → (repeat) ℃ : -18 → -19 → -20 → -21 → **-22(Coldest)** → -15 → -16 → -17 → (repeat)
	Freezer Accela Chill Function	LED ⑤	☐ How to Start : Press and hold this button for 3sec. ☐ How to Proceed : the icon LED ON, Coldest Temp for 3000min ☐ How to End : Time Limit or Any press for changing Temp or Power Rest
ⓔ	Refrigerator Temp	88 LED	ºF : 37 → 35 → **33(Coldest)** → 45 → 43 → 41 → 39→ (repeat) ℃ : 3 → 2 → **1(Coldest)** → 7 → 6 → 5 → 4→ (repeat)
	Refrigerator Accela Chill Function	LED ⑧	☐ How to Start : Press and hold this button 3sec. ☐ How to Proceed : the icon LED ON, Coldest Temp for 360min ☐ How to End : Time Limit or Any press for changing Temp or Power Rest

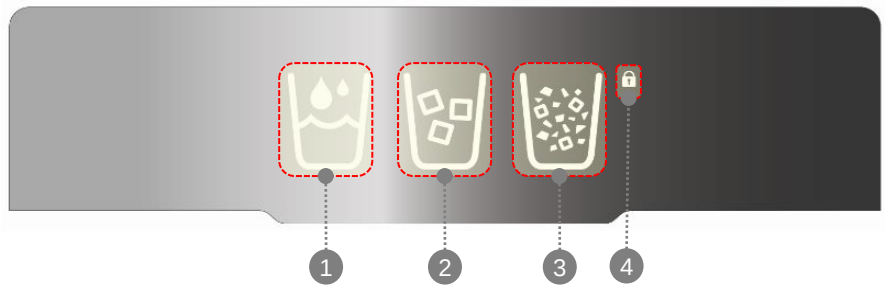
8. Operation and Functions

8-1-1. Inner Control Panel



Button	Item	Display	Description
⑨→ ⓓⓔ	Switch Temperature Unit ºF ↔ ℃	LED ⑭	First, Place into Lock mode by pressing g for 3 sec. While in lock mode, press and hold the D and E buttons at the same time for 5 secs.
ⓕ	Door Alarm Function	LED ⑨	Pressing the Door Alarm button or closing the door or drawer will turn the tone off. Pressing the Door Alarm button will not turn off the LED. The LED will remain lit until you close the door or drawer.
⑨	Lock Control Function	LED ⑩	Press and hold ⑨ button 3sec to stop operation of different buttons. The ice or water dispenser does not work during lock mode.
ⓗ	Smart Function (WiFi Connection)	LED ⑪	Press and hold this button for 5sec. WiFi on/off WiFi on : LED⑪ on WiFi off : LED⑪ off
-	Smart Mode Function	LED ⑮	LED on when signal is received from electric power company
ⓘ	Air Filter	LED ⑬	Press and hold “Air Filter” button for 3sec, “CHANGE” icon LED OFF ※ After about 6 months from power on or Filter Reset, the icon LED ON.

8-1-2. Dispenser Control Panel



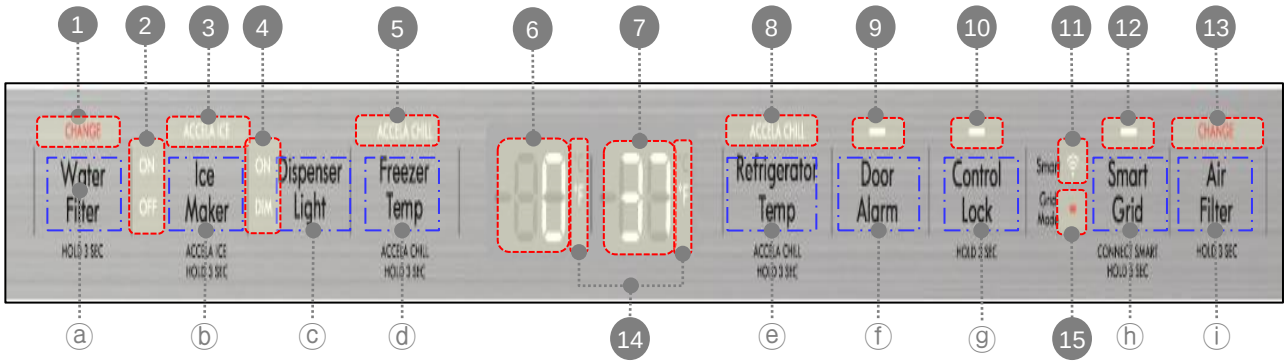
Button	Item	Display	Description
①	Dispenser Water	LED ①	Default : Water LED on Press ①button and “Water “LED on
②	Dispenser Cubed Ice	LED ②	Press ②button and “Cubed Ice “LED on
③	Dispenser Crushed Ice	LED ③	Press ③button and “Crushed Ice “LED on
-	Lock Control Function	LED ④	Press and hold “Control Lock”(Inner control panel) button 3sec.

8-1-3. Pantry Control Panel

Button	Item	Display	Description
-	Initial Temperature by power input	Deli Snacks	
ⓐ	Pantry Room Temp		Deli Snacks → Cold Drinks → Meat Seafood
ⓐ	Lock Control Function	LED ①	Press and hold “Select/ Lock” button 3sec. “Lock” LED on

8. Operation and Functions

8-1. How to Use Control Panel (continued)



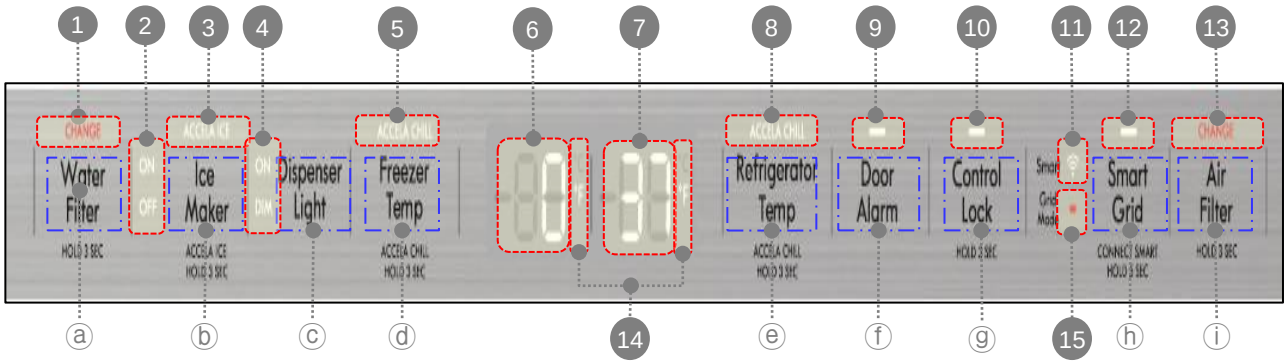
Button	Item	Display	Description
ⓖ → ⓐⓑⓒ	Service Mode (Error Display)	88 LED	☐ How to Start : **In lock mode,** press ⓒ 5 times, while pushing ⓐ & ⓑ at once and ⓐ & ⓑ 5sec hold ☐ How to Proceed : operating state values (ex : **error codes**) are displayed ※ Error display is skipped if no error. ☐ How to End : Press "Control Lock" button 1 time or No input for 20min. ☐ see next page for codes list ☐ If more than one error occurs, they are multiple displayed
ⓖ → ⓐⓑⓗ	Forced Defrosting	-	☐ How to Start : **In lock mode,** press ⓗ 5 times, while pushing ⓐ & ⓑ at once and ⓐ & ⓑ 5sec hold ☐ How to Proceed : How to Proceed : Heater is on regardless of F/R/IM Defrost Sensor for first 30sec. ☐ How to End : Same as normal defrosting or Power Rest
ⓖ → ⓑⓒⓖ	Changing Sensor ON/OFF Temp (for Service)	88 LED	☐ How to Start : **In lock mode,** press ⓖ5 times, while pushing ⓑ & ⓒat once and ⓑ & ⓒ 5sec hold ☐ How to Proceed :

	Freezer	Refrigerator
Default Value Display	F 88 LED "00"	R 88 LED "00"
Value "01" =	0.13ºF (0.072℃)	0.18ºF (0.1℃)
Range of Value Change	"00 ±30"	
= Range of Temp Change	0±3.9ºF (0±2.16℃)	0±5.4ºF (0±3℃)
Control Button to be Warmer	ⓓ	ⓔ
Control Button to be Colder	ⓒ	ⓕ

☐ How to End : No input for 10sec
☐ If the refrigerator is disconnected from initial power on before 5 days after setting change, the value is initialized.

8. Operation and Functions

8-1. How to Use Control Panel (continued)



Button	Item	Display	Description
ⓖ → ⓐⓒⓔ	Showroom Mode (Cooling Off) (Demo Mode)	LED	☐ How to Start : **In lock mode,** press ⓔ 5 times, while pushing ⓐ & ⓒ at once and ⓐ & ⓒ 5sec hold ☐ How to Proceed : All electrical components are OFF [except] Control Panel sequentially display; Dispenser LED ON; All dampers open; Fans & interior lamps ON/OFF by door opening. ☐ How to End : **In lock mode,** press ⓔ 5 times, while pushing ⓐ & ⓒ at once and ⓐ & ⓒ 5sec hold or Power Rest
ⓖ → ⓐⓑⓕ	Forced Comp On Mode (use this mode, when you recharge refrigerant.) --> Voltage : 5.4 ~ 6.6V --> frequency : 122Hz ± 2Hz		☐ How to Start : **In lock mode,** press ⓕ 5 times, while pushing ⓐ & ⓑ at once and ⓐ & ⓑ 5sec hold ☐ How to Proceed : Compressor operates continuously for 30 hours. ☐ How to End : **Power reset, or after 30 hours.**

8-2. Service Mode and Error Display

☐ How to Start :

Preparation Work	INPUT
"Lock" Mode ON	Water Filter + Ice Maker + Dispenser Light 5 Times

☐ How to Proceed :

•Unit ℃ : Press "Ice Maker" button and the following value is displayed successively.

STEP	Content	Example Display				Description
		etc.	F 88	R 88	etc.	
1	Operating Time		12	34		12hr 34min ※ reset every 24hr
2	Freezer Sensor Temp	-	F0	58	ºF	-5.8ºF ※ Sensor Open / Short : R 88 = Hi / Lo
3	Refrigerator Sensor Temp		r3	92	ºF	39.2ºF ※ Sensor Open / Short : R 88 = Hi / Lo
4	icemaker Sensor Temp in the Icemaker Room		c0	32	ºF	3.2ºF ※ Sensor Open / Short : R 88 = Hi / Lo
5	Icemaker Room(IR) Sensor Temp		i1	50	ºF	15ºF ※ Sensor Open / Short : R 88 = Hi / Lo
6	Pantry Room Sensor Temp		u3	02	ºF	30.2ºF ※ Sensor Open / Short : R 88 = Hi / Lo
7	Freezer Defrost(FD) Sensor Temp	-	D1	39	ºF	-13.9ºF ※ Sensor Open / Short : R 88 = Hi / Lo
8	R Defrost(RD) Sensor Temp	-	E1	39	ºF	-13.9ºF ※ Sensor Open / Short : R 88 = Hi / Lo
9	Ice Maker Defrost(ID) Sensor Temp	-	n1	39	ºF	-13.9ºF ※ Sensor Open / Short : R 88 = Hi / Lo
10	RT Sensor Temp		T7	64	ºF	Ambient Temperature : 76.4ºF
11	Ice Maker Status	-	C0	00		Ice not full and ejector not flat
				01		Ice not full and ejector flat
				10		Ice full and ejector not flat
				11		Ice full and ejector flat
12	Water Filter remaining life time		43	17		4,317hr
13	Air Filter remaining Life Time		43	17		4,317hr
14	**Error Code** : F Sensor		Er	F1		The sensor is read as open or shorted. Check the wiring connections in each part and at Main PCB.
15	**Error Code** : R Sensor		Er	r1		

※ The temperature by display in service mode is shown by sensor. The real temp of the cooling area could be different.

8-2. Service Mode and Error Display (continued)

STEP	Content	Example Display				Description
		etc.	F 88	R 88	etc.	
16	**Error Code** : Icemaker Sensor in the Icemaker Room		Er	i1		The sensor is read as open or shorted. Or Icemaker Heating Error
17	EEPROM Error		Er	EP		EEPROM read / write Error
18	Dispenser lever time		Er	E5		When using water and ice continuously for more Than 1 minute
19	SUPPLY_WATER		Er	E9		Watering error of ice maker (same as freezer, refrigerator, ice maker)
20	**Error Code** : Icemaker Room Sensor		Er	i2		The sensor is read as open or shorted. Check the wiring connections in each part and at Main PCB. The sensor is read as open or shorted. Check the wiring connections in each part and at Main PCB.
21	**Error Code** : Pantry Drawer Sensor		Er	u1		
22	**Error Code** : F Defrost Sensor		Er	Fd		
23	**Error Code** : R Defrost Sensor		Er	rd		
24	**Error Code** : Icemaker Room Defrost sensor		Er	id		
25	**Error Code** : RT Sensor		Er	rt		
26	**Error Code** : Cycle		Er	C1		In case compressor works for over 3hr when FD or RD sensor temp is over 23ºF(-5℃) Check refrigerant leakage.
27	**Error Code** : F Door Switch		Er	dF		In case it senses that door is open for more than 1hr. Check F/R/ Pantry door or Door Switch.
28	**Error Code** : R Door Switch		Er	dr		
29	**Error Code** : Pantry Door Switch		Er	dP		
30	**Error Code** : F Defrost Heater		Er	F3		In case defrosting return is done by time limit of 70 min Check the Defrost HTR or Defrost sensor .
31	**Error Code** : R Defrost Heater		Er	r3		
32	**Error Code** : Icemaker Room Defrost Heater		Er	i3		
33	**Error Code** : Dispenser Lever Time		Er	ES		In case dispenser lever is pressed for over 1min
34	**Error Code** : Flow Sensor Error		Er	EF		The sensor is read as open or shorted.
35	**Error Code** : F Fan Motor RPM Error		Er	FF		F Fan Motor RPM Error
36	**Error Code** : R Fan Motor RPM Error		Er	rF		R Fan Motor RPM Error
37	**Error Code** : C Fan Motor RPM Error		Er	cF		C Fan Motor RPM Error
38	**Error Code** : i Fan Motor RPM Error		Er	iF		Ice Fan Motor RPM Error
39	Mode Display : Forced Defrost		Ξ Ξ	d2		Forced Defrost
40	Mode Display : Forced Comp ON		Ξ Ξ	Co		Forced Comp ON

※ Error code will be released automatically when the condition is normal.

8-2. Service Mode and Error Display (continued)

STEP	Content	Example Display				Description
		etc.	F 88	R 88	etc.	
41	WiFi Status		RSSI	Status		WIFI stauts 0 : power off 1 : power on 2 : device ready 3 : pairing 4 : try access ap 5 : connected ap 6 : try access server 7 : connected server 8 : disconect

※ Error code will be released automatically when the condition is normal.

☐ How to End :

Preparation Work	INPUT
"Lock" Mode ON	Press "Control Lock" button 1 time or No input for 20min.

8-3. Compressor, Fan & Damper

			Output					
			Comp	C FAN	F FAN	R FAN	Icemaker Room FAN	Pantry Damper
INPUT	Sensor Target Temp	Freezer	On/Off	On/Off	On/Off	-	-	-
		Refrigerator	-	-	-	On/Off	-	-
		Pantry Drawer	-	-	-	-		Open/Close
	Ice Harvest Condition & Step Valve Location		-	-	-	-	On/Off	-
	F Door Open		-	-	-	-	-	-
	R Door Open		-	-	-	-	-	-
	Defrosting Mode		Off	Off	Off	Off	Off	Close
	Showroom Mode (Demo Mode)		Off	Off	On only F Door Open	On only R Door Open	On only R Door Open	Open
	F Accela Chill		On/Off (Coldest Temp for setting time)	On/Off (Coldest Temp for setting time)	On/Off (Coldest Temp for setting time)	-	-	-
	R Accela Chill		-	-	-	On/Off (Coldest Temp for setting time)	-	Open/Close
	Accela Ice		On for setting time (only ice making condition)	-	-	-	On for setting time (only ice making condition)	-

■ **Compressor will not restart within 6 min after the refrigerator is disconnected from power supply.**

☐ Fan voltage of control mode : Freezer 12V, Refrigerator 12V, Icemaker Room 12V, Condenser 12V

8-4. Defrost Mode

☐ The defrost mode starts with compressor work time, defrost sensor temp, any error mode, etc.

☐ The defrosting return is done by F and R and Ice Defrost sensor.

8-5. Forced Defrost Mode

☐ How to Start :

Preparation Work	INPUT
"Lock" Mode ON	Water Filter + Ice Maker + Smart Grid 5 Times

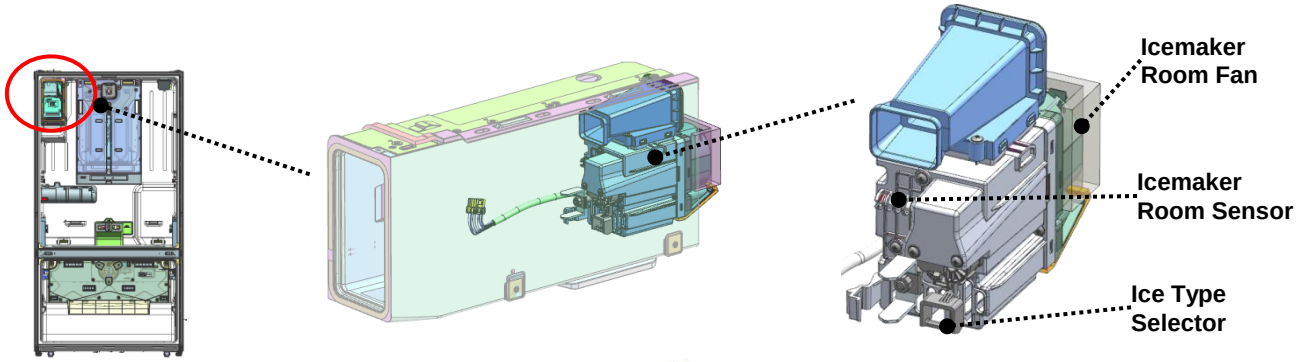
☐ How to Proceed and End: Same as normal defrost mode

8-6. Icemaker in the Icemaker Room

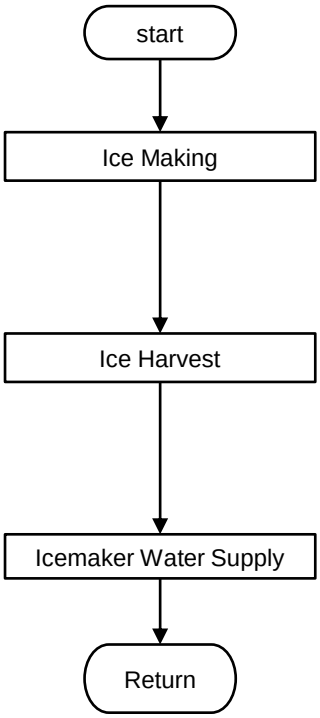
1) Icemaker Room Temperature Control : by IM Sensor On/Off

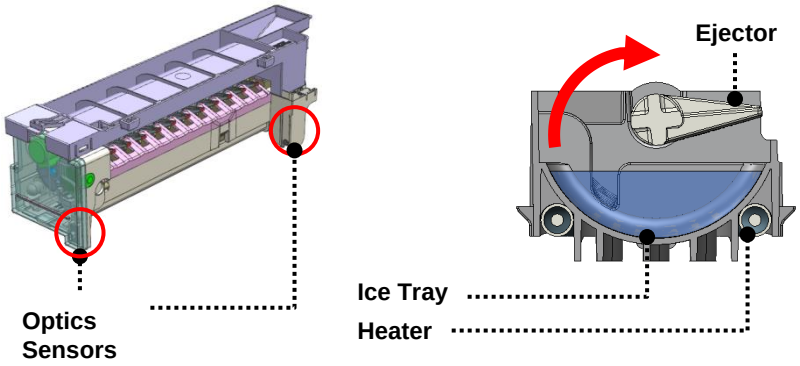
- Icemaker Room Temp is controlled by IM Sensor on/off setting value.
- In "Accela Ice" mode, the compress and icemaker room fan will turn on 24hr for Quick Icing.

※ In case of no icemaker water supply for 6hr, the "Accela Ice" function is canceled.



2) Icemaker System :





- Icemaker starts harvest process by sensing tray temp unless ice storage bin is full.

※ When the bin fills to the level of the optics sensors, the icemaker will stop making ice.

- Icemaker has a ejector and a heater for harvest.
- Ice cube surface is melted by the heater installed the ice tray and ice cubes are swept for the ejector from the ice tray.

- Icemaker is filled a certain amount of water provided by flow sensor in water valve.
- If the water pressure is too low (under flow sensor pulse value 6), the icemaker will not work.
- To operate the icemaker properly, water pressure of 20~125psi is required.

※ Water Filter Operation Pressure : 30 ~125psi (207~862kPa, 2.1~8.8kgf/㎠)

※ If the water pressure exceeds 125psi, a pressure reducing valve must be installed.

※ If the water pressure is under 30psi, a booster pump must be installed.

8-6. Icemaker in the Icemaker Room (continued)

3) Icemaker Power OFF :

☐ How to Start :

Preparation Work	INPUT
	Ice Maker
-	or  Press power button of the icemaker for 3sec.

☐ How to Proceed :

- Display : LED light of Icemaker will turn off. And "off" icon of the inner control panel will light up.
- Icemaker stops making ice.

☐ How to End : same as input to start.

4) Icemaker Test Mode :

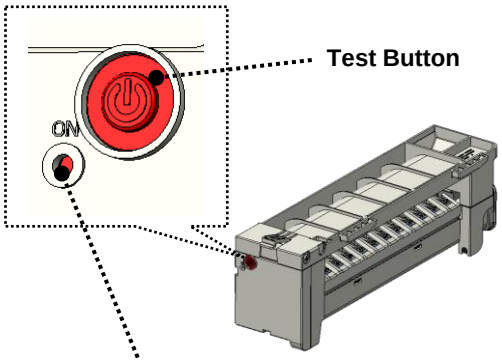
☐ How to Start :

Preparation Work	INPUT
-	 Press power button of the icemaker 6 times within 3sec.

☐ How to Proceed :

- Display : Icemaker LED will flash red.
- Ice type(cubed/crushed) selector works 3 times.
- Icemaker motor runs 1 cycle.
  (Motor On → Heater On → Water Supply → Motor Off)

☐ How to End : by finishing test



5) Icemaker Errors

☐ Error Display :

- IM Sensor Error : Error code display and icemaker LED flashing
- IM Heater Error : icemaker LED flashing

☐ How to Service :

1) Check the wiring connections in each part and at Main PCB.
2) If normal, change the icemaker to new one.

8-7. Pantry Drawer

- The Temp is controlled by Pantry Drawer Sensor, RT Sensor and Pantry Drawer Damper.
- In case of Pantry Drawer Sensor error, the Pantry Drawer damper will repeat open and close every 5min.

8-8. Dispenser Lever

- The operating time using the dispenser will be max 1min at a time to protect electric parts.
  To use dispenser for more than 1min, the dispenser lever should be pushed again every 1min.

8-9. Buzzer or Alarm

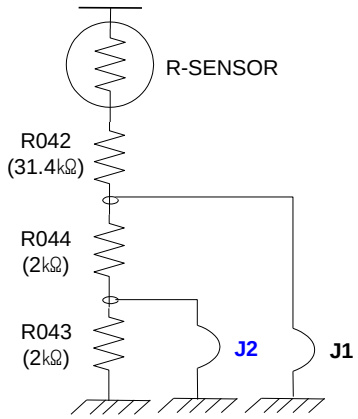
- Buzzer sounds if any button of Front Control Panel is pressed.
- Buzzer sounds after 3sec from initial power input.
- If door is left open for more than 1min, the alarm beeps 5 times every 1min until open total time 6min. The beeping stops when door is close.
- Buzzer sounds 3 times when the "Forced Defrost" mode starts.
- Buzzer sounds 3 times when the "Error Display" mode starts.
- Buzzer sounds 3 times when the icemaker power ON/OFF.

8-9 Compensation of Refrigerator Sensor On/Off Temp

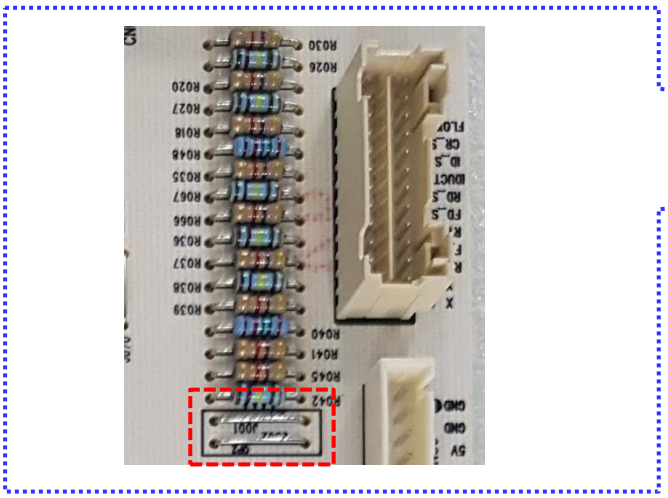
☐ R42 : R-SENSOR standard resistance in normal mode (31.4㏀)

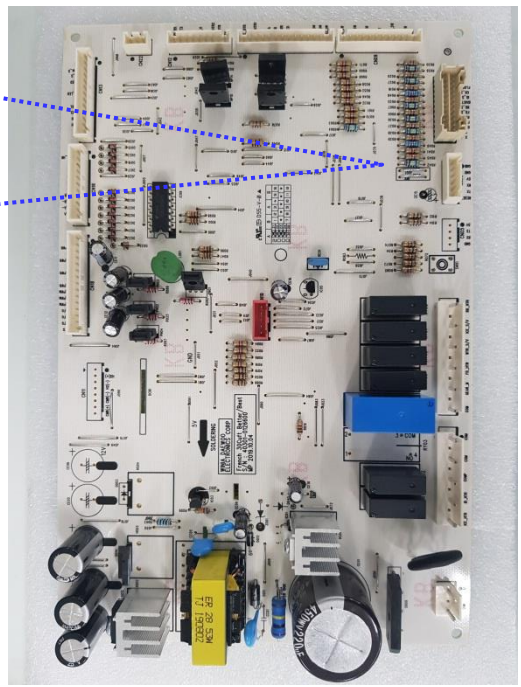
☐ In case temperature of refrigerator compartment is week or insufficient, take the following action.

- Cut J1 to increase the standard resistance by 2㏀ ⇒ 1.5℃ down (2.7 ºF down)
- Cut J1 & J2 to increase the standard resistance by 4㏀ ⇒ 3℃ down (5.4ºF down)

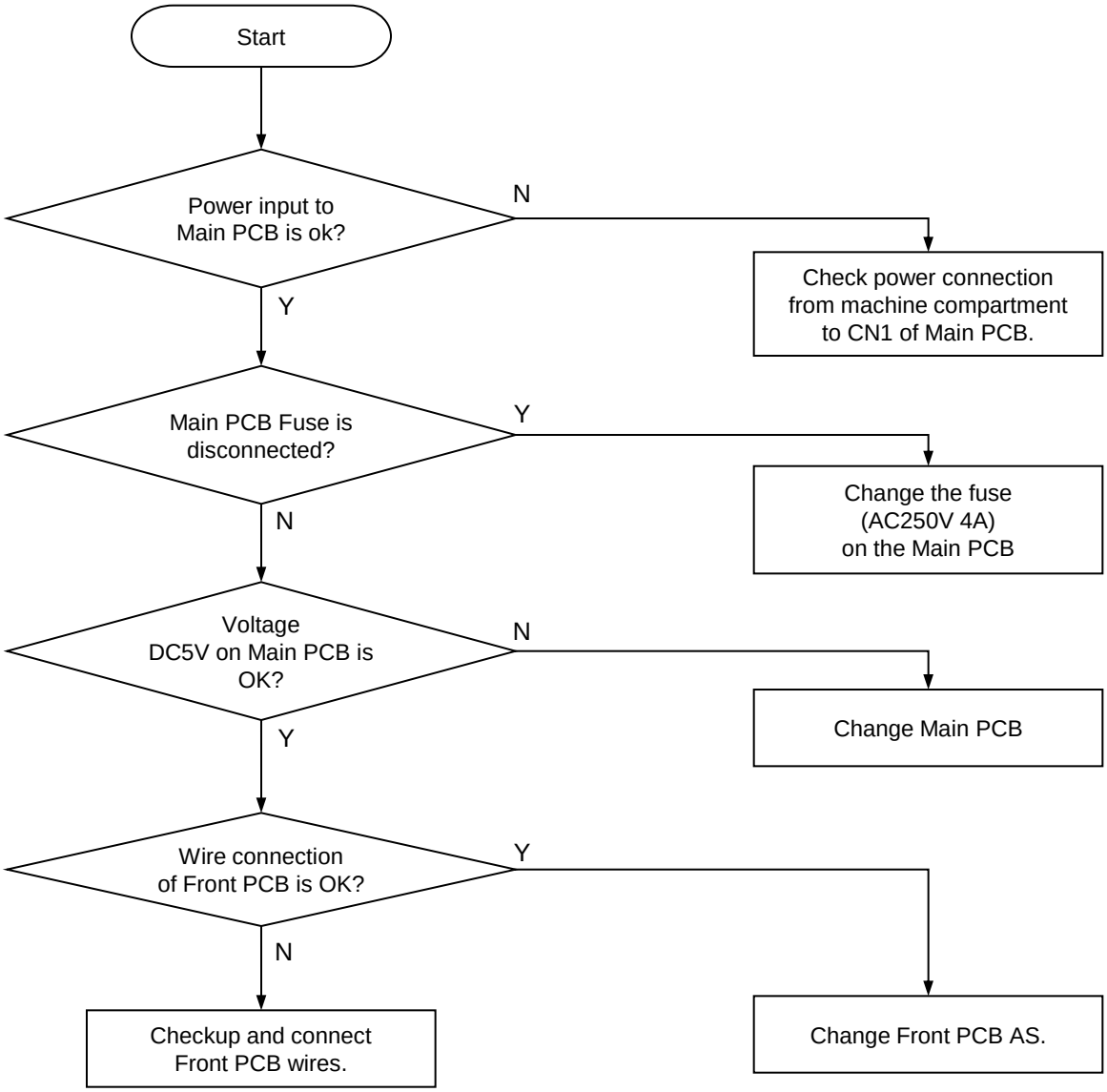


J001	-	cut	-	cut
J002	-	-	cut	cut
Temperature compensation	0℃	-1.5℃(-2.7 ºF)	0℃	-3℃(-5.4 ºF)
Resistance	R042	R042+R044	R042	R042+R044 +R043
	31.4㏀	(31.4+2)㏀	31.4㏀	(31.4+2+2)㏀





9-1. Faulty Start (F/M/R lights Off , F-PCB Power Off)

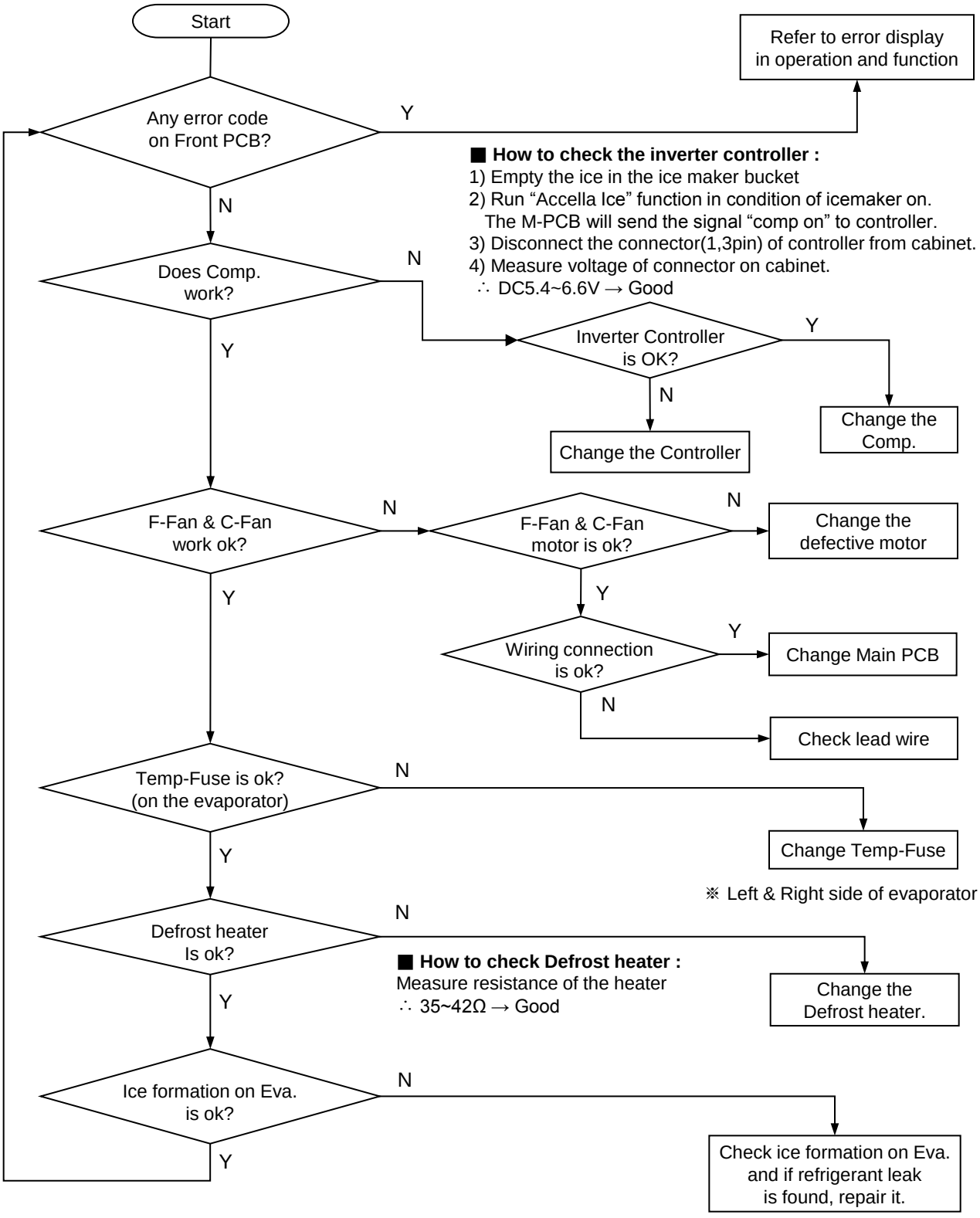


■ **How to check DC voltage on main PCB :**

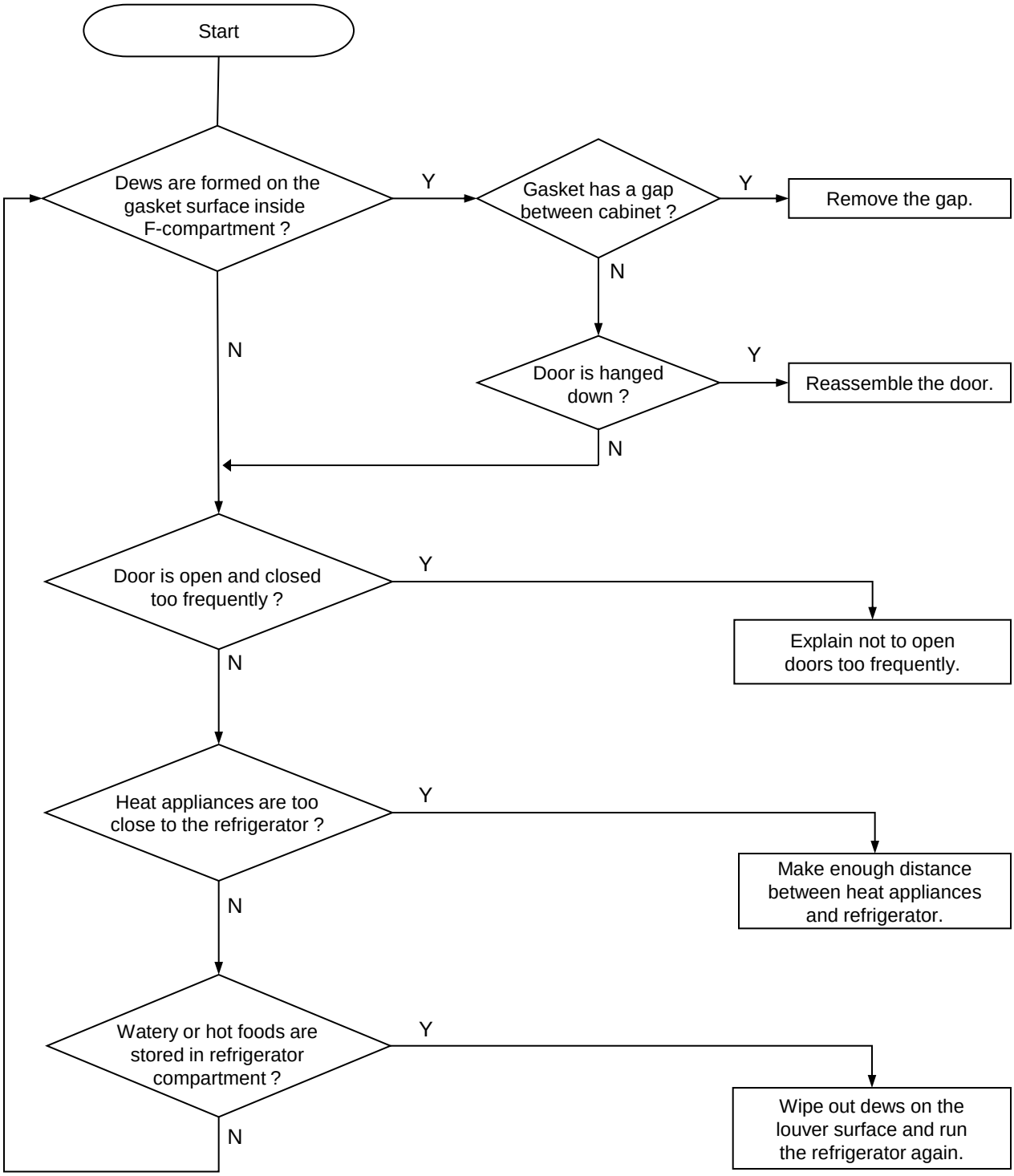
⚠ WARNING

Never touch the bottom face of PCB board directly by hand to prevent electric shock or injury.

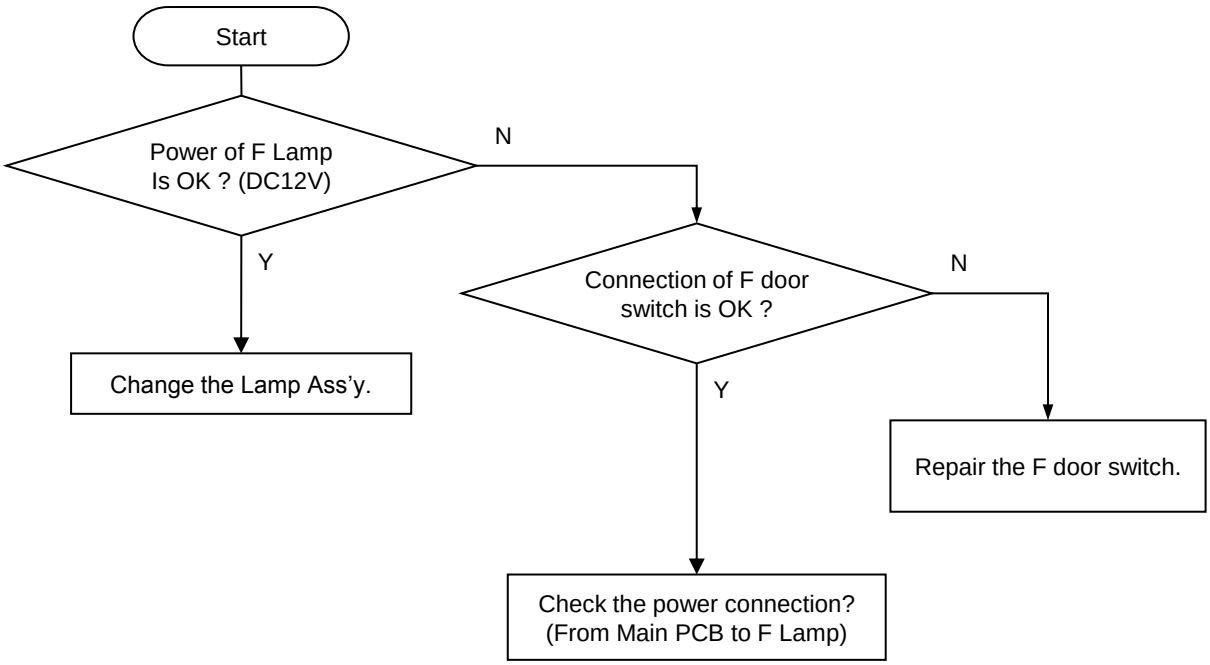
9-2. Freezing Failure . (Foods are not frozen/cold.)



9-3. Ice Formation on F-Louver



9-4. Disconnection / Breaking of Freezer Lights Ass'y



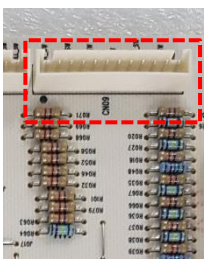
■ How to check power of F-Lamp :

Disassemble the F lamp window on the top wall in freezer.
∴ 10.8~ 13.2 V → GOOD

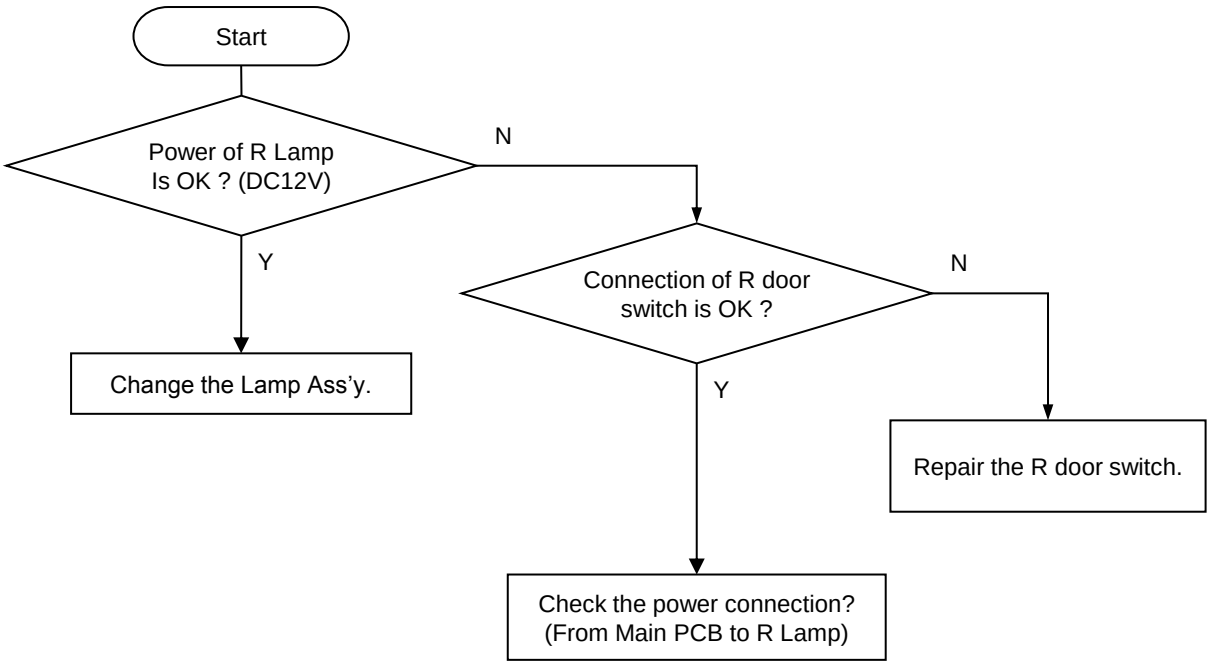
■ How to check connection of F Door switch :

1) Disassemble the F door switch on the right wall in freezer.
2) Connect the connector properly and check if lamp on.
3) Disconnect the connector and check the location of terminal pins.
4) Check the switch is open circuit without pushing button.
   Or test the lamp with a new switch.
5) Check the pins of connector on M-PCB connected to the switch.

	Door Open(Lamp On)	Door Close(Lamp Off)
F Switch Circuit	Open	Close
Terminal of F Switch	Pin 1, 2 (2pc.)	
Connector on M-PCB Connected to F Switch	Pin 07, 08 of CN09	



9-5. Disconnection / Breaking of Refrigerator Lights Ass'y



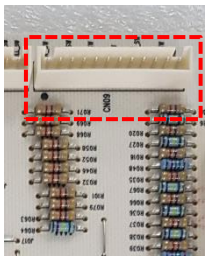
■ How to check power of R-Lamp :

Disassemble the R lamp window on the top wall in refrigerator.
∴ 10.8~ 13.2 V → GOOD

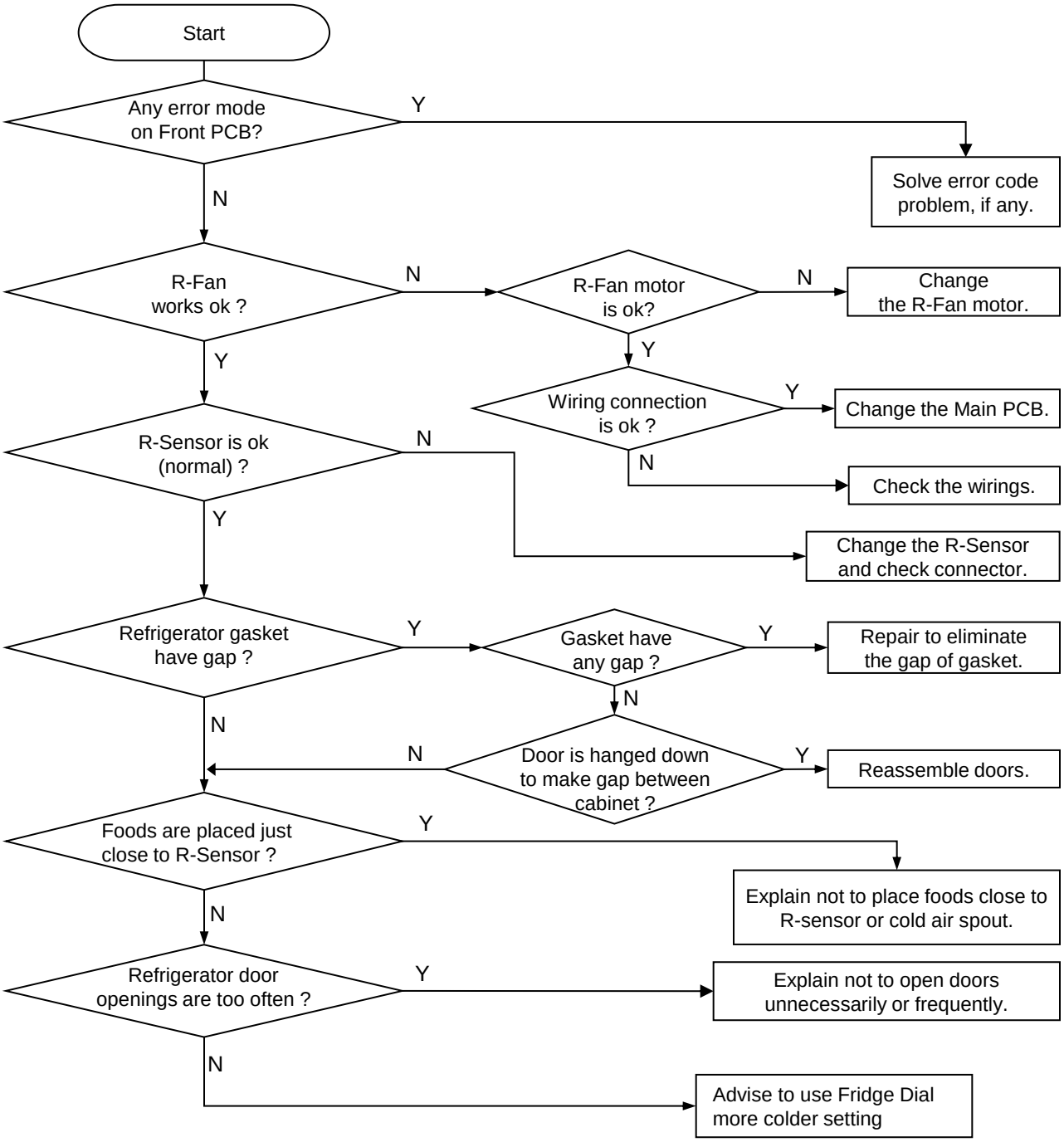
■ How to check connection of F Door switch :

1) Disassemble the top hinge cover.
2) Connect the connectors properly and check if lamp on.
3) Check if the wires and connectors are no damage.
4) Check the each switch is close circuit without pushing button.
   Or test the lamp with new switches.
5) Check the pins of connector on M-PCB connected to the switches.

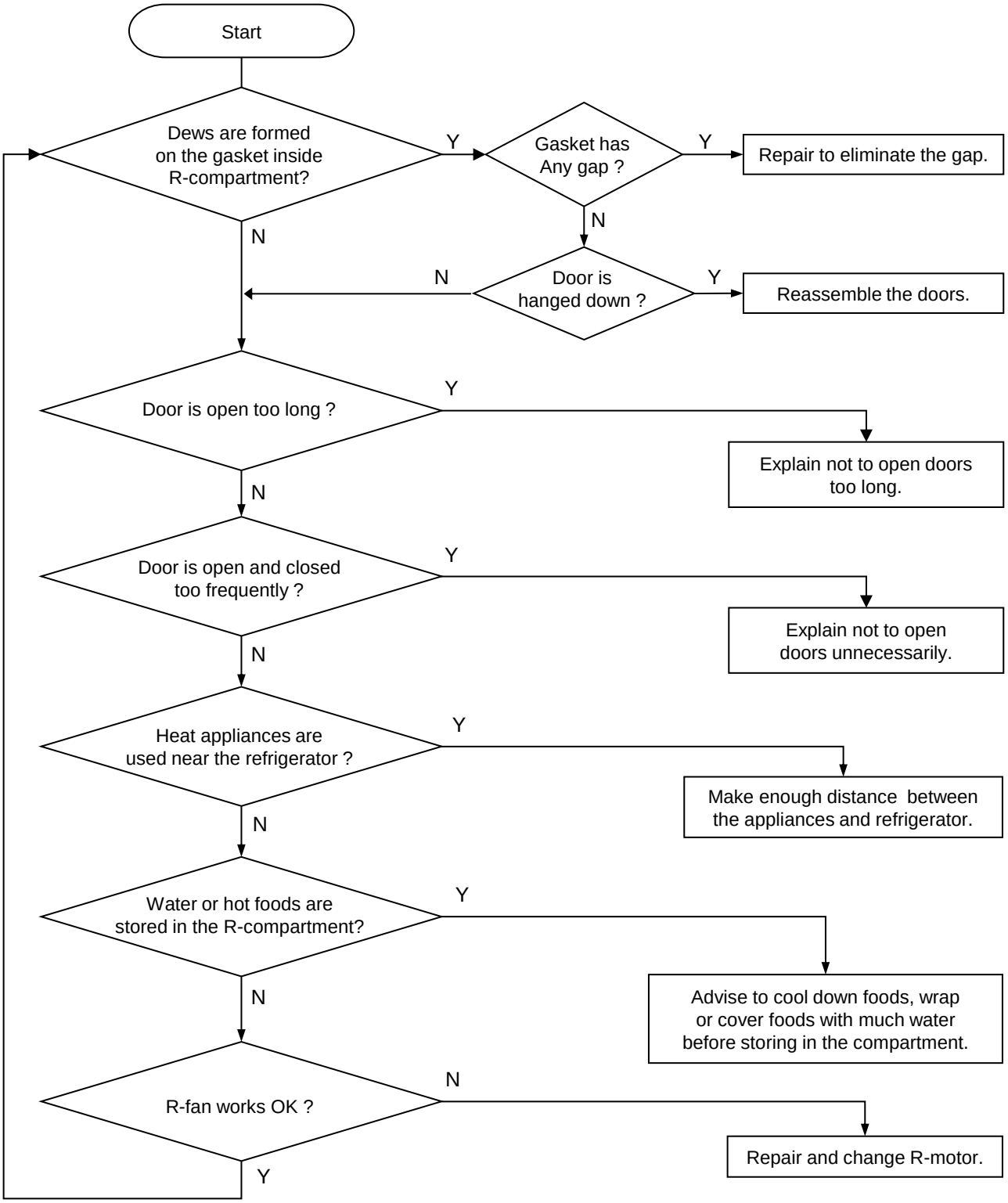
	Door Open(Lamp On)	Door Close(Lamp Off)
R Switch Circuit	Open	Close
Terminal of R Switch	Pin 1, 2 (2pc.)	
Connector on M-PCB Connected to R Switch	Dispenser Door : Pin 8, 9 of CN09 Right Door : pin 5, 6 of CN09 Left Door : pin 11, 12 of CN09	



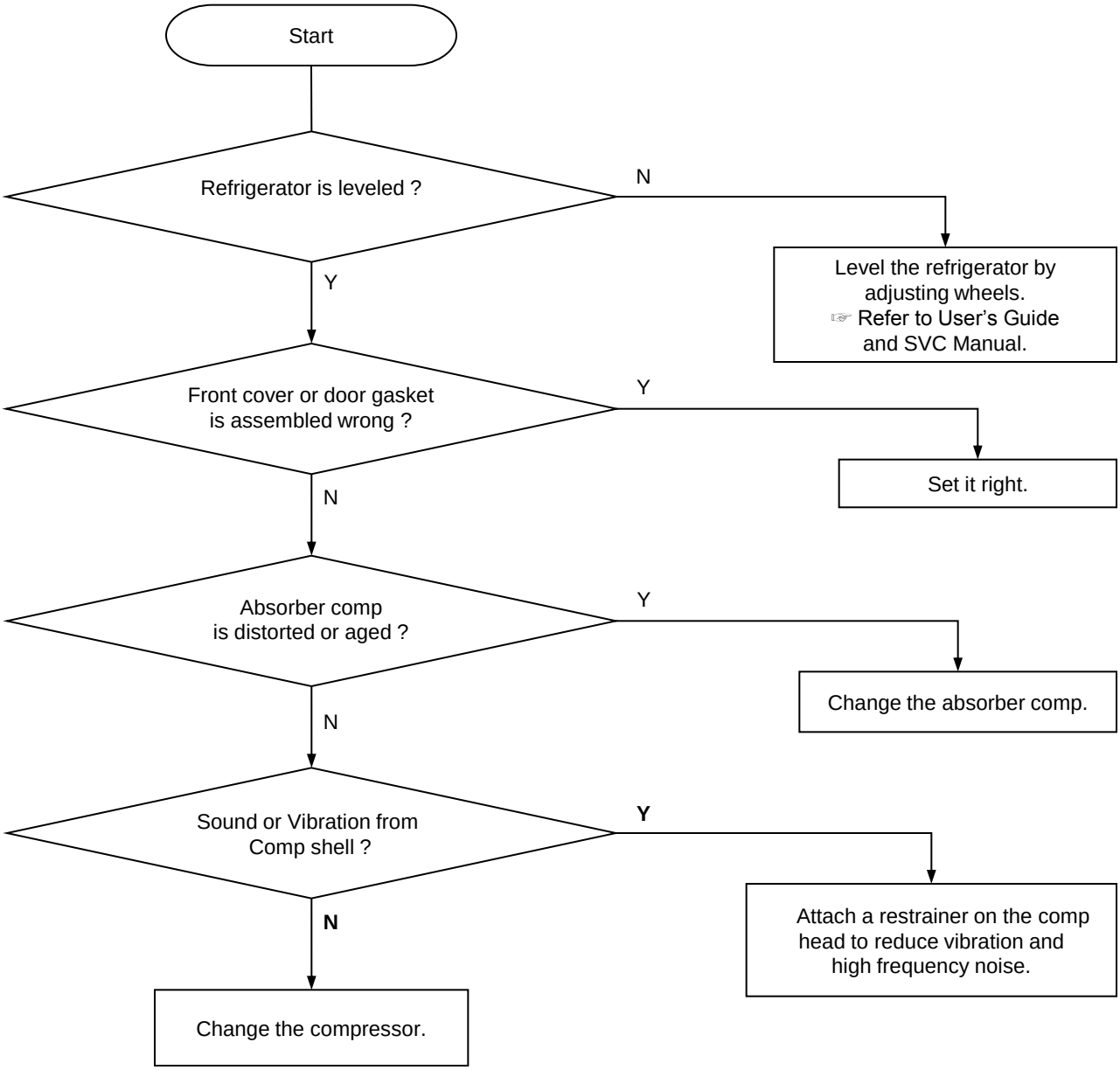
9-6. Refrigeration Failure (Foods does not get cool or cold soon.)



9-7. Dews on Refrigerator Compartment



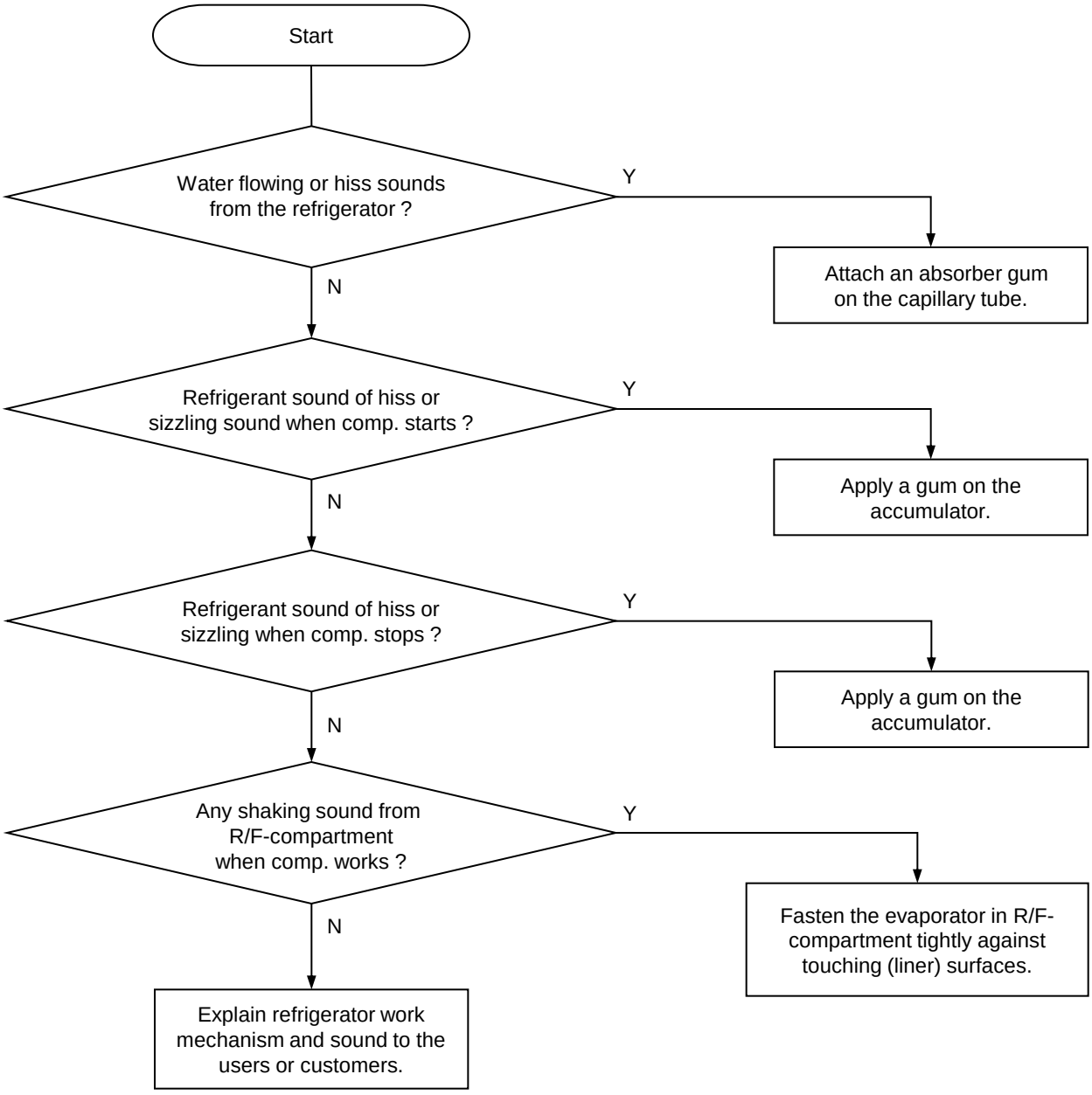
9-8. Comp. Operation Noise



Remarks

- Compressor sound is somewhat normal because it works like a heart to circulate the refrigerant in the pipes during the refrigerator operation.
- Rattling or metallic touch sound of motor, piston of comp. can be heard when it starts or stops.

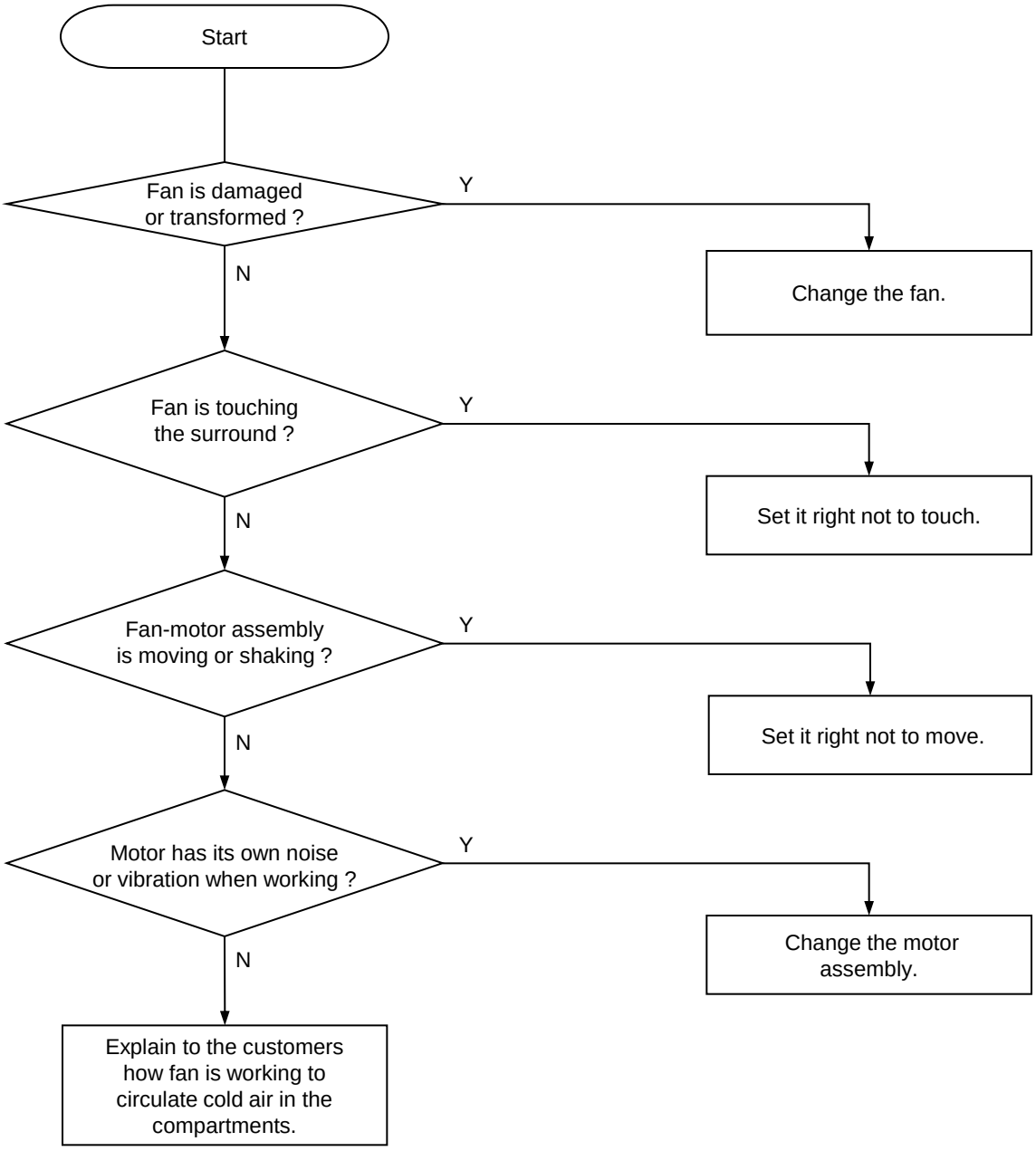
9-9. Refrigerant Flow Sound



Remarks

- Water flowing sound, hiss or sizzling sound can make while refrigerant in the pipes is changing from liquid to gas state when comp. starts or stops. It is normal to the refrigerator.

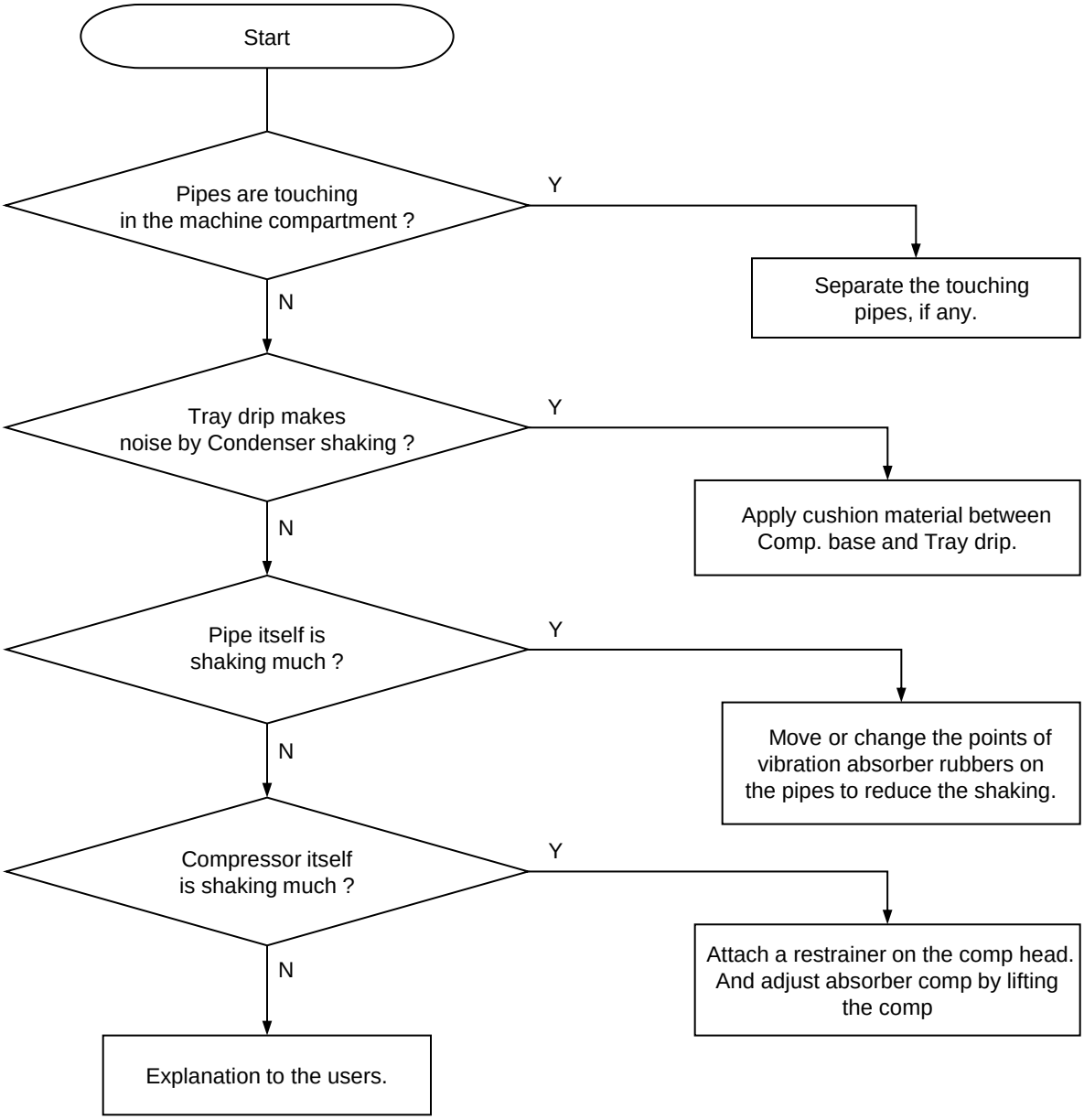
9-10. Fan Noise



Remarks

- The fan is sending out cold air to circulate it through the compartments. When the air is touching the surface of louver or liner wall, such sound can make.

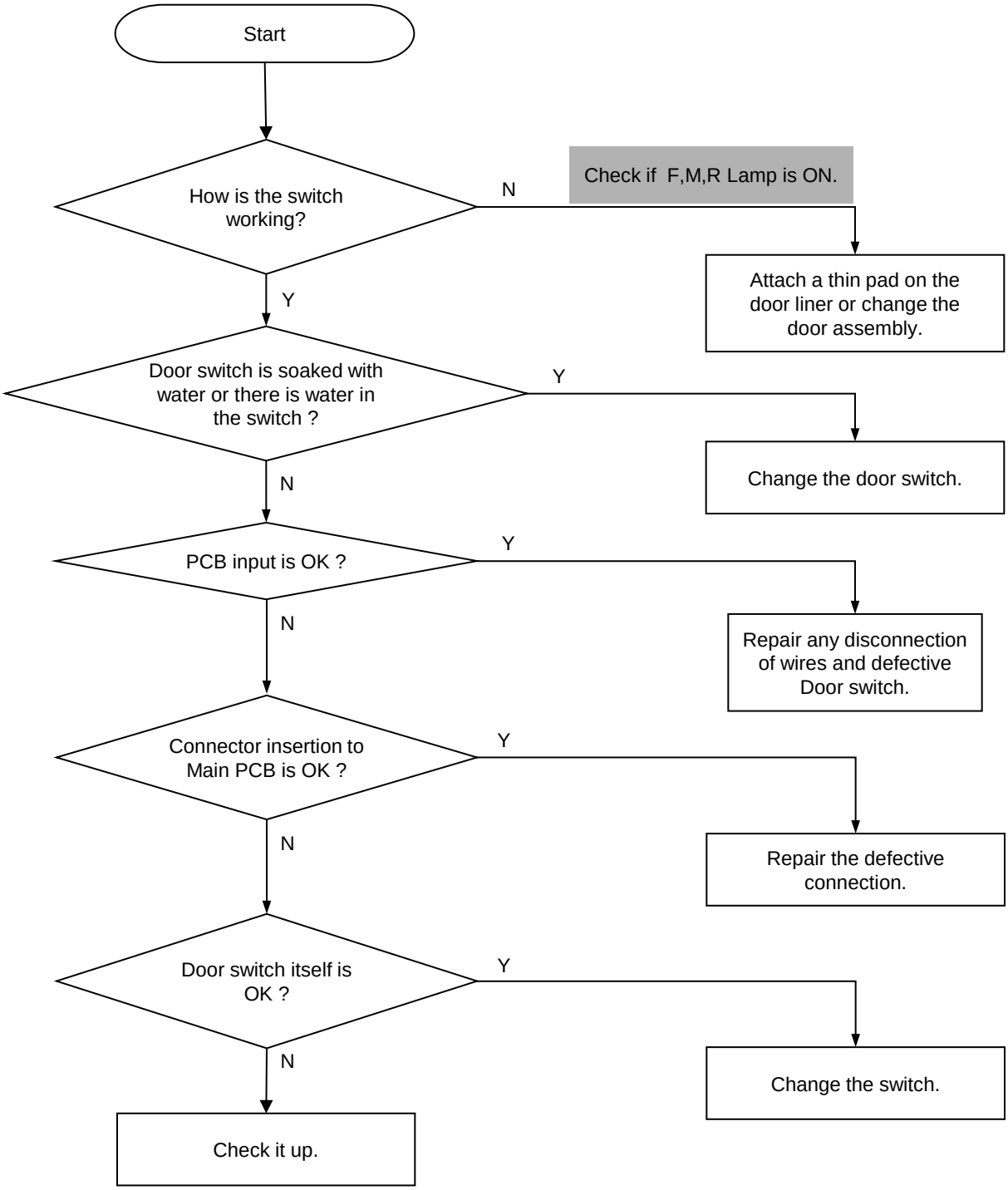
9-11. Pipe Noise



Remarks

- Refrigerant is erupting rapidly from the compressor to circulate pipes, so pipe shaking noise can make to some degree.
- In case compressor vibration is sent to a pipe directly, apply vibration absorber rubbers to welding points of the pipe and comp. or to a much bent point on the pipe.

9-12. Door opening alarm continues though the door is closed.

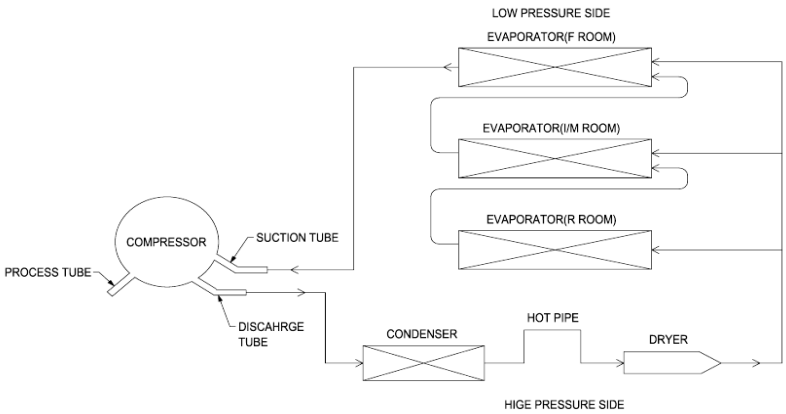


10. Cooling Cycle Heavy Repair

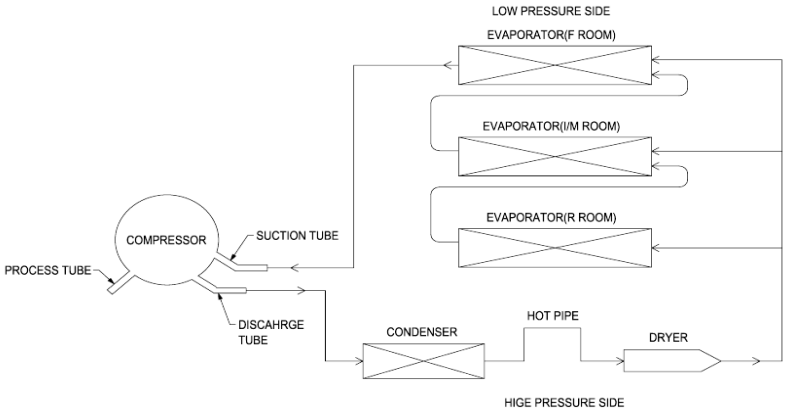
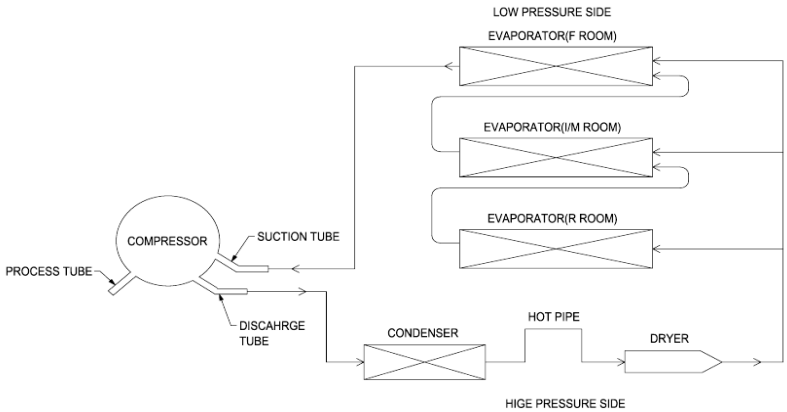
10-1. Summary of Heavy Repair

Process	Contents	Tools
Step Valve Position	1. Place Step Valve into full open position - WATER FILTER + ICE MAKER+DOOR ALARM 5times 2. Turn off refrigerator after 10 minutes to open Step valve	
Remove refrigerant residuals	Cut charging pipe ends(compressor & dryer) and discharge refrigerant from dryer and compressor.	Nipper, side cutters
Parts replacement and welding	▪ Confirm refrigerant (R134a or R600a) and oil for compressor and dryer. ▪ Confirm N2 sealing and packing conditions before use. Use good one for welding and assembly. ▪ Weld under nitrogen gas atmosphere. ▪ Repair in a clean and dry place.	Pipe, gas welder, N2 gas
Vacuum	Evacuate for more than forty minutes after connecting manifold gauge hose and vacuum pump to high (dryer) and low (compressor) pressure sides.	Vacuum pump, manifold gauge
Refrigerant charging and charging inlet welding	▪ Weigh and control the charge in a vacuum conditions with electronic scales and charge through compressor inlet (process tube). ▪ Charge while refrigerator operates. ▪ Weld carefully after inlet pinching.	Can of refrigerant, refrigerant manifold gauge, electronic scales, punching off flier, gas welding machine
Check refrigerant leak and cooling capacity	▪ Check leak at weld joints. ※ Note :Do not use soapy water for check. ▪ Check cooling capacity → Check condenser manually to see if warm. → Check hot pipe manually to see if warm. → Check frost formation on the whole surface of the evaporator.	Electronic leak detector, driver.
Compressor compartment and tools arrangement	▪ Remove flux from the silver weld joints with soft ▪ brush wet rag. (flux may be the cause of corrosion and leaks.) ▪ Clean tools and store them in a clean tool box or in their place.	Copper brush, rag, tool box
Transportation and installation	Installation should be conducted in accordance with the standard installation procedure. (Leave space of more than 5 cm from the wall for compressor compartment cooling fan mounted model.)	

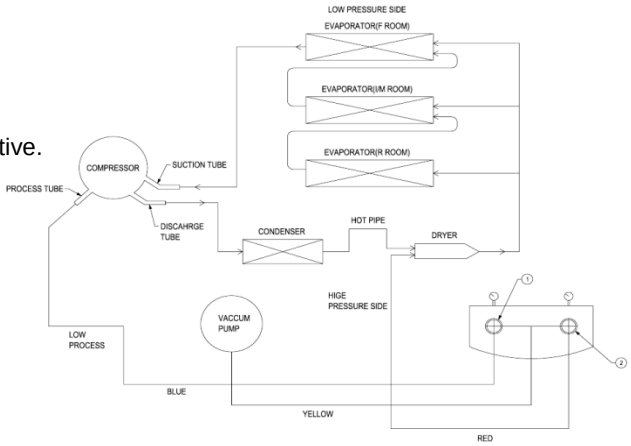
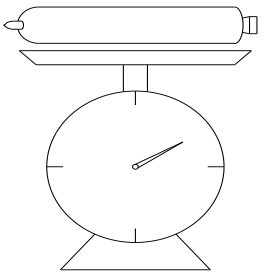
10-2. Precautions During Heavy Repair

Items	Precautions
Use of tools	Use special parts and tools for R-134a or R-600a
Removal of retained refrigerant.	1) Input 'Foced Comp On Mode' at Control Panel. Trun off a refrigerator after 10 Minutes to open STEP VALVE. - Water Filter + Ice Maker + Dorr Alarm 5 time 2) Remove retained refrigerant more than 5 minutes after turning off a refrigerator. (If not, oil will leak inside.) 3) Remove retained refrigerant by cutting first high pressure side (dryer part) with a nipper and then cut low pressure side. (If the order is not observed, oil leak will happen.) 
Replacement of dryer	Be sure to replace dryer when repairing pipes and injecting refrigerant.
Nitrogen blowing welding	Weld under nitrogen atmosphere in order to prevent oxidation inside a pipe. (Nitrogen pressure : 0.1~0.2 kg/cm2.)
Others	1) Nitrogen only should be used when cleaning inside of cycle pipes inside and sealing. 2) Check leakage with an electronic leakage tester. 3) Be sure to use a pipe cutter when cutting pipes. 4) Be careful not the water let intrude into the inside of the cycle.

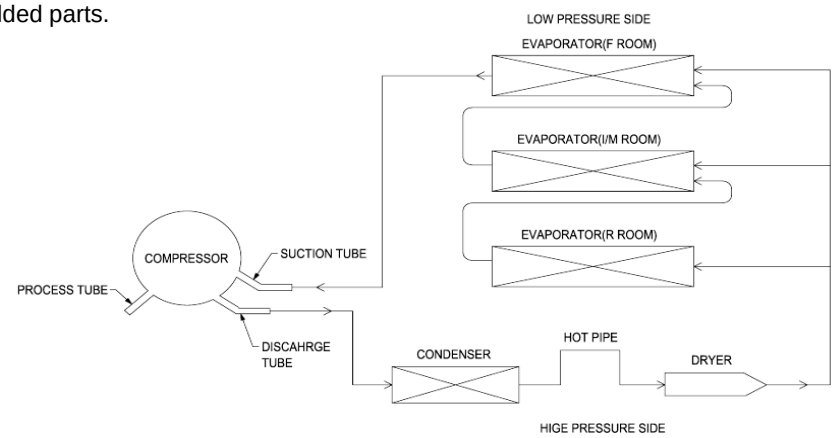
10-3. Practical Work for Heavy Repair

Items	Precautions
1. Removal of residual refrigerant	1) Remove residual refrigerant more than 5 minutes later after turning off the refrigerator. (If not, compressor oil may leak inside.) 2) Remove retained refrigerant slowly by cutting first high pressure side (dryer part) with a nipper and then cut low pressure side. 
2. Nitrogen blowing welding	▪ **When replacing a dryer :** Weld ①and② parts by blowing nitrogen (0.1~0.2kg/cm2) to high pressure side after assembling a dryer. ▪ **When replacing a compressor :** Weld ③and④ parts by blowing nitrogen to the low pressure side. ※ Note) For other parts, nitrogen blowing is not necessary because it does not produce oxidized scales inside pipe because of its short welding time. ■ KEYPOINTING ■ Welding without nitrogen blowing produces oxidized scales inside a pipe, which affect on performance and reliability of a product. 

10-3. Practical Work for Heavy Repair (continued)

Items	Precautions
3.Vacuum degassing	▪ **Pipe Connection :** Connect a “red” hose to the high pressure side and a “blue” hose to the low pressure side. ▪ **Vacuum Sequence :** Open ①,② valves and evacuate for 40 minutes. Close valve ①. ■ KEYPOINTING ■ 1) If power is applied during vacuum degassing, vacuum degassing shall be more effective. 2) Operate compressor while charging refrigerant. (It is easier and more certain to do like this.) 
4.Refrigerant charging	▪ **Charging sequence :** 1) Check the amount of refrigerant supplied to each model after completing vacuum degassing. 2) Evacuate bombe with a vacuum pump. 3) Measure the amount of refrigerant charged. → Measure the weight of an evacuated bombe with an electronic scale. → Charge refrigerant into a bombe and measure the weight. → Calculate the weight of refrigerant charged into the bombe by subtracting the weight of an evacuated bombe. ■ KEYPOINTING ■ 1) Be sure to charge the refrigerant at around 25°C. 2) Be sure to keep -5g in the winter and +5g in summer. ※ Calculation of amount of refrigerant charged (Wc) **Wc = Wa - Wb** Wa : weight after charging Wb : weight before charging (= weight of an evacuated cylinder) 

10-3. Practical Work for Heavy Repair (continued)

Items	Precautions
4.Refrigerant charging (continued)	4) Refrigerant Charging Charge refrigerant while operating a compressor as shown above. 5) Pinch a charging pipe with a pinch-off pliers after completion of charging. 6) Lockring the end of a pinched charging pipe with lockring and take a gas leakage test on the welded parts. 
5. Gas-leakage test	Take a leakage test on the welded or suspicious area with an electronic leakage tester.
6. Pipe arrangement in each cycle	Check each pipe is placed in its original place before closing a cover back-M/C after completion of work.

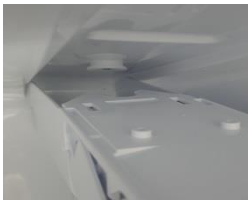
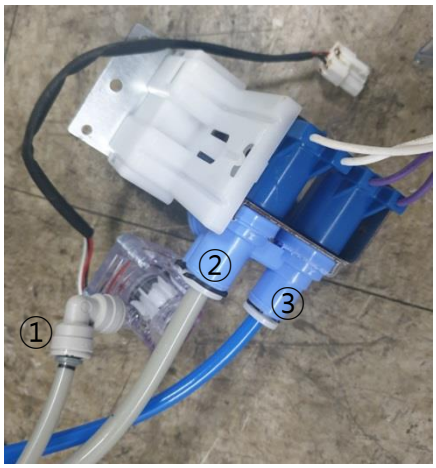
10-4. Standard Regulations for Heavy Repair

1) Observe the safety precautions for gas handling.
2) Use JIG (or wet towel) in order to prevent electric wires from burning during welding.
(In order to prevent insulation break and accident.)
3) The inner case shall be melted and insulation material (polyurethane) shall be burnt if not cared during welding inner case parts.
4) The copper pipe shall be oxidized by overheating if not cared during welding.
5) Not allow the aluminum pipes to contact to copper pipes. (In order to prevent corrosion.)
6) Make sure that the inner diameter should not be distorted while cutting a capillary tube.
7) Be sure that a suction pipe and a filling tube should not be substituted each other during welding.
(High efficiency pump.)

11. Disassemble/Assemble Procedures

11-1. Holder Water Filter Assembly

※ Follow the reverse order when assembling.

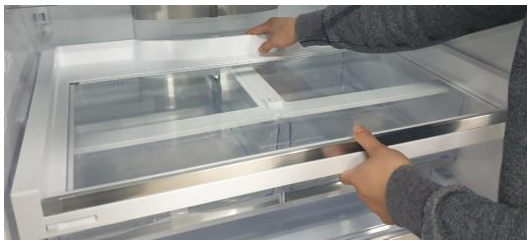
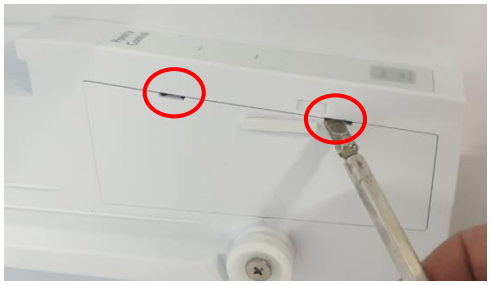
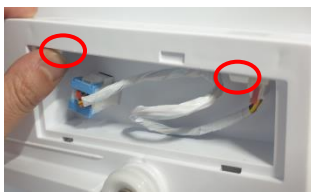
<table>
<tr><th>Step</th><th>Description</th><th>Step</th><th>Description</th></tr>
<tr><td>1</td><td>⚠ CAUTION
Turn off the main water supply to the appliance.</td><td>5</td><td> 
Remove a screw</td></tr>
<tr><td>2</td><td> 
Separate the tube fixture on the upper left side cabinet back face.</td><td>6</td><td> 
Pull down the Holder Assembly and tubes gently to remove.</td></tr>
<tr><td>3</td><td> 
Separate the tube fixtures, if necessary.</td><td rowspan="2"> 
① Gray (1/4″) – Water Filter Outlet
② Gray (1/4″) – Water Tank Inlet
③ Blue (5/16″) – Ice Maker Tube</td></tr>
<tr><td>4</td><td> 
Remove ¼” tube connected to water filter outlet from the water valve while pressing the part (A). Remove the locking clip before pushing the part.
See the left figure.</td></tr>
</table>

☐ Remark :

- Remove any residual matter inside the water supply line after installation.
  1) Turn on the main water supply to the refrigerator .
  2) Dispense water using dispenser for approx.10min to clean water and remove air from the lines.
  3) And then check there are no water leaks or drips coming out from the water filter and dispenser.
  4) If necessary, run water through the dispenser more.

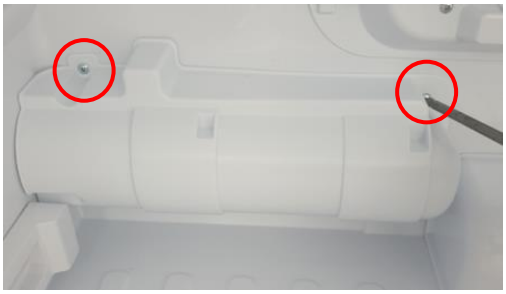
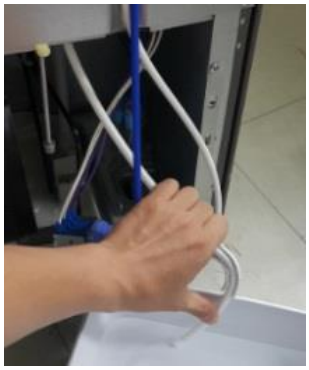
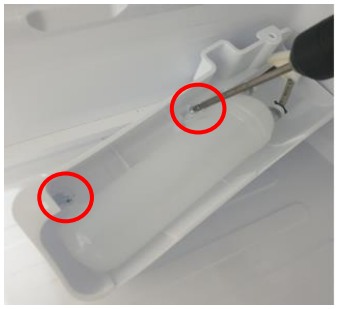
11-2. Water Tank & Cover Vegetable Case & Pantry PCB Assembly

※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	Remove Wide Slide Shelf. 	5	Remove Case. 
2	Remove two Vegetable cases. 	6	Remove Cover Case. 
3	Remove two Cover Cases. 	7	Remove Cover with a thin flat tool. 
4	Press and pull on the bottom of the divider. 	8	Remove the pcb assembly by pushing in 2 places by hand.  

11-2. Water Tank & Cover Vegetable Case & Pantry PCB Assembly

※ Follow the reverse order when assembling.

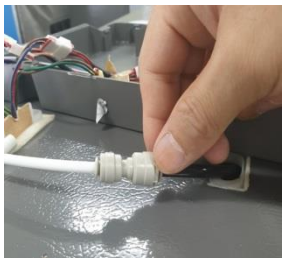
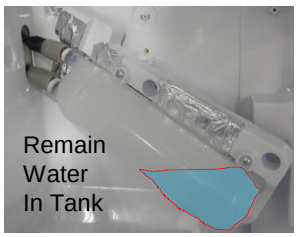
Step	Description	Step	Description
9	Remove two screws, and pull the tank to the front. 	12	Take off the front cover from the water tank assembly to see the water storage condition. ※ The water need to be removed from the water line of refrigerator to replace new tank. 
10	⚠ CAUTION **Turn off the main water supply to the appliance.**	13	Unscrew the water valve assembly in machine room. And separate the 5/16”(the big one) tube from water valve. **Be careful not to be wet on the floor.** Remove the water inside water tank and water line. 
11	Remove two screws. 		

☐ Remark :

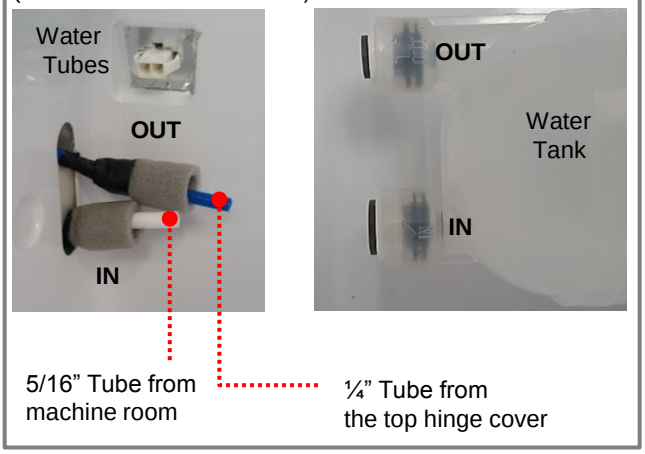
- Remove any residual matter inside the water supply line after installation.
  1) Turn on the main water supply to the refrigerator .
  2) Dispense water using dispenser for approx.10min to clean water and remove air from the lines.
  3) And then check there are no water leaks or drips coming out from the water tank and dispenser.
  4) If necessary, run water through the dispenser more.

11-2. Water Tank & Cover Vegetable Case & Pantry PCB Assembly

※ Follow the reverse order when assembling.

Step	Description
14	 Separate the fixture to protect 5/16”(the big one) tube from bending damage.
15	 After removing the water toward the machine room, put a large cup on dispenser and prepare to fill the remain water in door water line.
16	 Remove the top hinge cover and disconnect water tube from the water tube fitting.
17	 Tilt the tank toward the under right side and then pull the tank and tubes out slowly to remove.

Water Tank Assembly
(tank + tubes + cover + …)

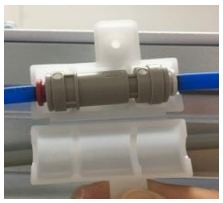
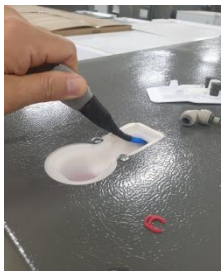


☐ Remark :

- Cutting 5/16” plastic tube can make disassembly from valve easier. But **Be careful not to be wet on the floor.**
- The water line must be fully inserted into the water tube fitting to prevent water leakage.

11-3. Hose Ice Maker Tube Assembly

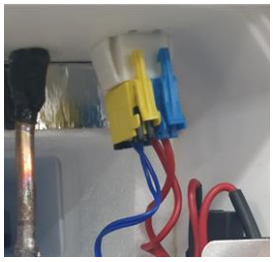
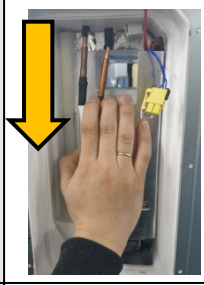
※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	 Separate the cover icemaker Water tube on the top of cabinet Using (-) driver.	5	 Remove the icemaker water tube cover.
2	 Pull the water outlet parts.	6	  Remove water tube from the water tube fitting.
3	 Remove a lock clip from the bend-type fitting.	7	  Pull out the tube to remove from the fixtures on back of cabinet.
4	  Remove one screw attached to the cover Remove the check valve.	8	 Pull out the tube in the direction of the top cabinet to remove.

☐ Remark :

11-4. I Maker Defrost Sensor and Heater in the Evaporator Assembly

※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	  Remove eight screw attached to the cover. and Remove cover	5	 Welding removes the remaining pipes. ※ Caution Be careful not to melt the parts.
2	  Cutting the pipe using a tool.	6	  Insert Eva all the way into the pipe.
3	 Remove the two connectors.	7	  Assemble by pressing in the direction of the arrow so that the EVA is assembled at the bottom..
4	 Hold the top of the eva and then pull.	8	 Fixing the pipe by welding. ※ Caution Be careful not to melt the parts.

☐ Remark :

11-5. cover Icemaker

※ Follow the reverse order when assembling.

Step	Description
1	 Hold the bottom of the bucket and then pull it straight out.
2	  Unscrew and remove the wires cover.
3	 Disconnect the connector of icemaker.
4	 Remove the icemaker.

☐ Remark :

• If the bucket does not fit, turn the helix 90 degree and try again.

11-6. Fixture Geared Motor

※ Follow the reverse order when assembling.

Step	Description
1	  Disconnect the connector of the Fixture Geared Motor assembly.
2	 Separate wires from hooks gently.
3	 Pull a hook to the right to remove.
4	 Remove the Fixture G/Motor.

☐ Remark :

- Locking Good : Put and arrange the connectors deeply into the bottom of the motor.
- NG1 : The bad arrangement of connectors will cause a failure to assemble the Fixture G/Motor into the icemaker room.

11-7. Cover Multi-duct Assembly

※ Follow the reverse order when assembling.

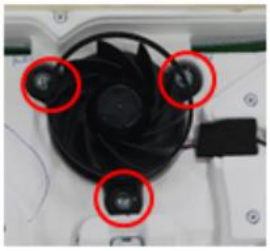
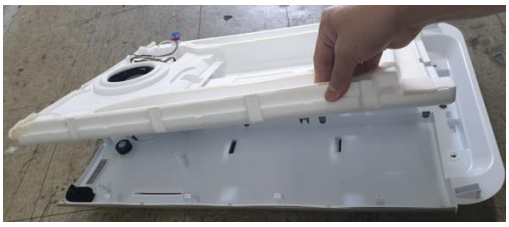
<table>
<tr><th>Step</th><th>Description</th><th>Step</th><th>Description</th></tr>
<tr><td>1</td><td> 
Remove vegetable cases, vegetable cover.</td><td>5</td><td>Hold the low side of the Cover Multi-duct and then pull it to release hooks.
  </td></tr>
<tr><td>2</td><td>Remove Cover with a thin flat tool.
  </td><td>6</td><td>Disconnect one sensor connectors and the motor Connectors from back wall.
  </td></tr>
<tr><td>3</td><td>Remove one caps with a thin flat tool.
   </td><td rowspan="2">  </td></tr>
<tr><td>4</td><td> 
Loosen the upper screw(big one; outside diameter of thread 5mm) and lower screw(small one; outside diameter of thread 4mm)
  </td></tr>
</table>

☐ Remark :

• Do not use the small screw in the upper side of Multi-duct Assembly. The screw could be loose.

11-8. Refrigerator Sensor, Fan Motor in Cover Multi-duct Assembly

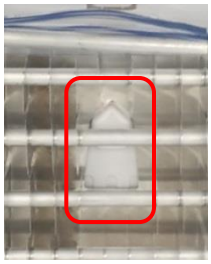
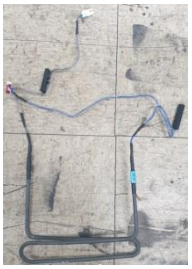
※ Follow the reverse order when assembling.

Step	Description
1	 Loosen the 6 screws, remove fan motor cover.
2	 Loosen the 3 screws. Remove R Fan Motor.
3	 Separate the insulator from the multi-duct cover.
4	  Remove R sensor on the upper side of cover.

☐ Remark :

11-9. Refrigerator Defrost Sensor and Heater in the Evaporator Assembly

※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	 right Remove the three connectors.	5	  remove clamping parts. (the left and right side of Eva)
2	 Pull out the evaporator from shape on the back wall.	6	 Bend out the lower clamping parts (the left and right side of Eva) to remove the pipe of defrost heater.
3	  Cut the cable ties and remove the defrost sensors on right side of Eva.	7	 Remove the heater from Eva.
4	 Cut the cable ties and remove two temp fuse covers on left and right side of Eva.	8	

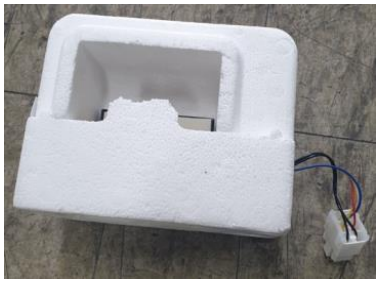
☐ Remark :

• Do not miss 4 cable ties. They could block two drain holes and the drain water will overflow into freezer.

11-10. Cover Damper and Insu Damp Covr Assembly

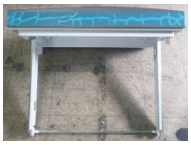
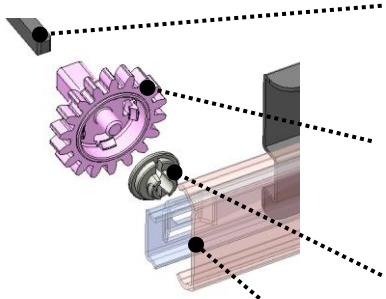
※ Follow the reverse order when assembling.

Step	Description
1	Remove one screw 
2	Disconnect the damper Connectors from back wall. 
3	Separate the insulator assemble. The sensor cannot be separated. 

☐ Remark :

11-11. Freezer Louver Assembly

※ Follow the reverse order when assembling.

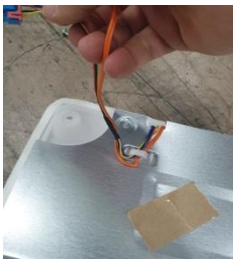
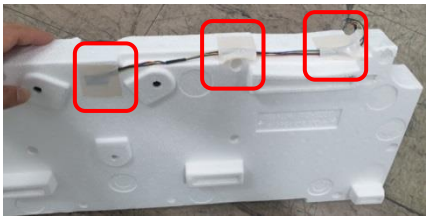
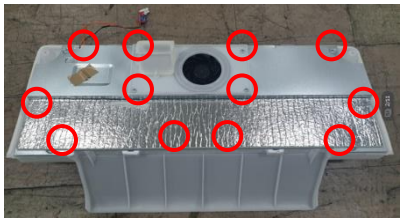
<table>
<tr><th>Step</th><th>Description</th><th>Step</th><th>Description</th></tr>
<tr><td>1</td><td> 
Remove freezer drawers.</td><td>5</td><td>   
Disconnect the connectors of F fan motor and F sensor.</td></tr>
<tr><td>2</td><td>   
Press the left fixing hook of the rail system.
Holding the top of the F door, pull it out a little to release. Repeat release the right hook as same way.
And then fully open the door to remove.</td><td rowspan="3" colspan="2"> 
Fixture F Rail *M
(Material : steel bar)
Gear F rail *M
(Material : plastic)
Supporter F Rail Gear *M
(Material : plastic)
Rail System
 
  </td></tr>
<tr><td>3</td><td>  
Remove two screws.</td></tr>
<tr><td>4</td><td> 
Holding the bottom of Louver, pull it forward.
Be careful no to damage the wires in the right side.</td></tr>
</table>

☐ Remark :

- After installing the f door, fully push and close it to align left and right rack gear tooth. And check locking rail system.
- If necessary, assemble one Gear F Rail *M in the rail system. Push and assemble another one Gear Rail F *M on opposite side of rail.

11-12. Freezer Sensor, F Fan and Fan Motor

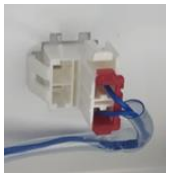
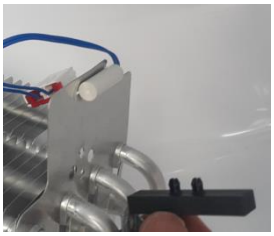
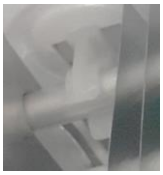
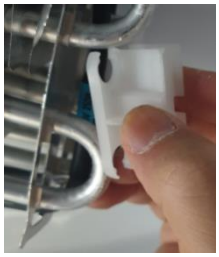
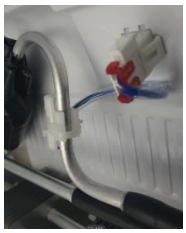
※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	 Remove the tape to separate wires of F-sensor and F Fan motor.	5	 Remove Three Tape. And remove F Fan motor assembly from the Louver.
2	 Loosen 12 screws marked by circle to remove F-sensor.	6	 Remove three screws. Pull the motor to the front to remove.
3	 Separate the insulator from the f louver cover.	7	
4	 remove the sensor from the hook.	8	

☐ Remark :

11-13. Freezer Defrost Sensor and Heater in the Evaporator Assembly

※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	  left and right Remove the three connectors.	5	 Remove two temp fuses of defrost heater.
2	  Pull out the evaporator from 2 hooks on the back wall.	6	 remove clamping parts. (the right side of Eva)
3	  Cut the cable ties and remove the defrost sensors on left side of Eva.	7	 Bend out the lower clamping parts (the right side of Eva) to remove the pipe of defrost heater.
4	  Cut the cable ties and remove two temp fuse covers on right side of Eva.	8	 Remove the heater from Eva.

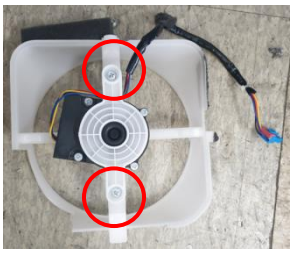
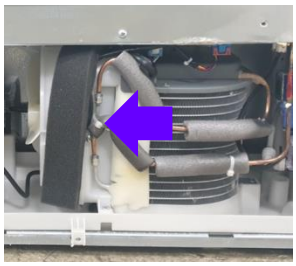
☐ Remark :

• Do not miss 2 cable ties. They could block two drain holes and the drain water will overflow into freezer.

11-14. Condenser Fan Motor in the Machine Room

※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	 Disconnect the connector of C Fan Motor.	5	   Break the shaft(plastic) of fan blade. Do not use the old fan again. Be careful not to damage the shaft of motor if the motor is used again. If necessary, scratch the lock paint(green one).
2	 Loosen 2 screws.	6	 Loosen 2 screws.
3	 Push the fixing hook in the left direction to separate the C Fan Motor Assembly.	7	 Remember how to arrange the wires. Remove the C fan motor.
4	 Supporting the back side of fan with 2 fingers, pull out and remove the fixing spring with a long nose plier. If necessary, scratch the lock paint(green one). ※ The diameter and shape of this C Fan is different from the F and C Fan.		

☐ Remark :

11-15. Freezer & Refrigerator Door Switches

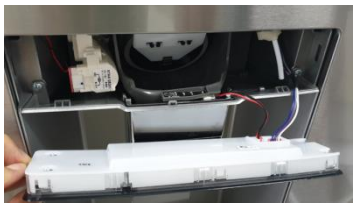
※ Follow the reverse order when assembling.

<table>
<tr><th>Step</th><th>Description</th><th>Step</th><th>Description</th></tr>
<tr><td>1</td><td> 
Remove the F door switch with flat-blade screwdriver.</td><td rowspan="3">4</td><td rowspan="3"> 
  
Remove two door switches and disconnect the connectors.</td></tr>
<tr><td>2</td><td> 
Disconnect the connector.</td></tr>
<tr><td>3</td><td> 
Loosen 5 screws and remove the top hinge cover.</td></tr>
<tr><td colspan="4">  </td></tr>
</table>

☐ Remark :

11-16. Front Control Panel Dispenser in the Left Refrigerator Door

※ Follow the reverse order when assembling.

Step	Description
1	 Grip the bottom side of the FCP with two hands and lift and pull it forward to remove.
2	 Disconnector the connector.

☐ Remark :

11-17. Box Dispenser Ass'y

※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	 Remove the Front Control Panel. Loosen 4 screws to remove the Box Dispenser Ice Shutter Assembly.	5	 Loosen 2 screws.
2	 Pull and remove the assembly.	6	  Remember how to link the dispenser flap moving motor and the Box Dispenser Ice shut Assembly. Loosen a screw to remove the motor.
3	 Disconnect 1 fitting	7	 Loosen 1 screws and disconnect the led.
4	 Disconnect 2 connectors.		

☐ Remark :

11-18. Dispenser Lever Ass'y

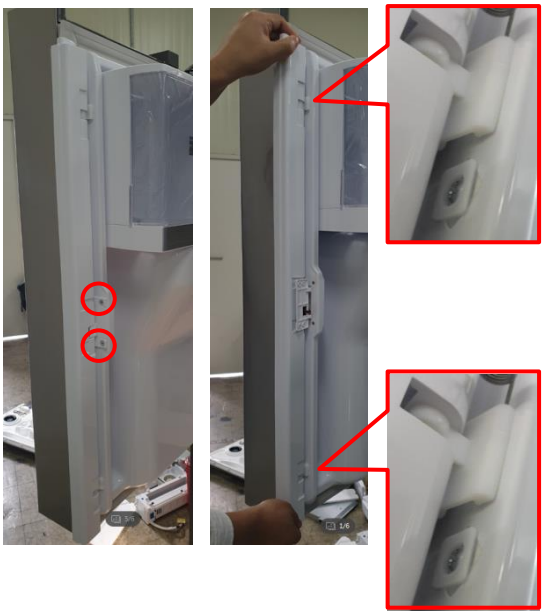
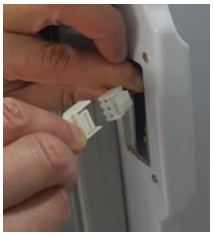
※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	 Grip the bottom side of the lever with hands and lift and pull it forward to remove.	5	 Remember how to arrange the spring assemble. Separate the spring which is assembled to lever.
2	 Disconnect 2 connector.	6	
3	 Remove one screw. 	7	
4	 the bottom side of the lever with hands and lift and pull it to remove.		

☐ Remark :

11-19. Mullion Bar Ass'y

※ Follow the reverse order when assembling.

Step	Description
1	 Loosen 2 screws. Grip the upper and lower side of the bar. Push it up to remove.
2	 Disconnect the mullion bar heater(AC) connector.

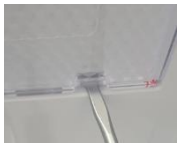
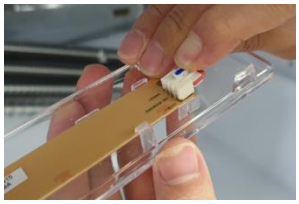
※ Assemble Procedures at Middle Hinge Part

Align the 2 screw holes on the door with the mounting holes on the middle hinge of mullion bar after fitting two hooks certainly.
And then tighten 2 screws.

☐ Remark :

11-20. Interior R / F Lamp

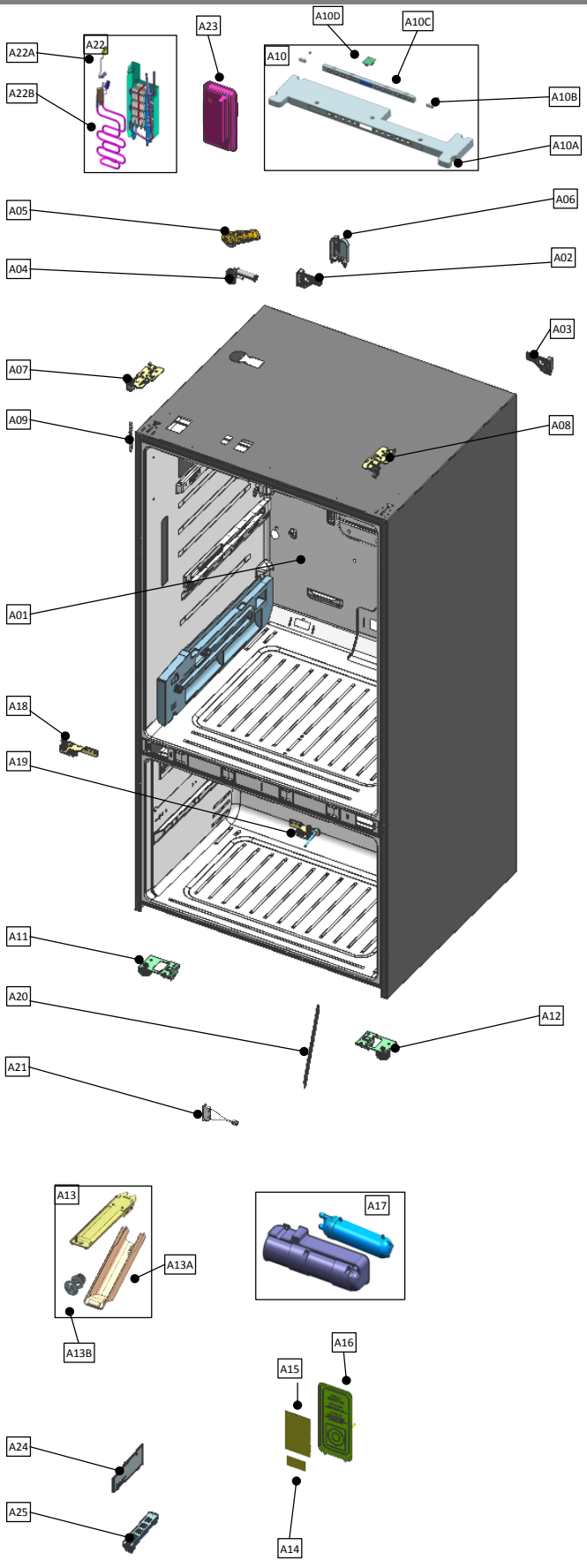
※ Follow the reverse order when assembling.

Step	Description	Step	Description
1	  Remove the R lamp with flat-blade screwdriver.	1	  Remove the F lamp with flat-blade screwdriver.
2	 Loosen 2 screws and remove the r led case.	2	 Disconnect the F lamp connector..
3	 Disconnect the r lamp connector. 		

☐ Remark :

12. Service Part List.

12-1. Cabinet



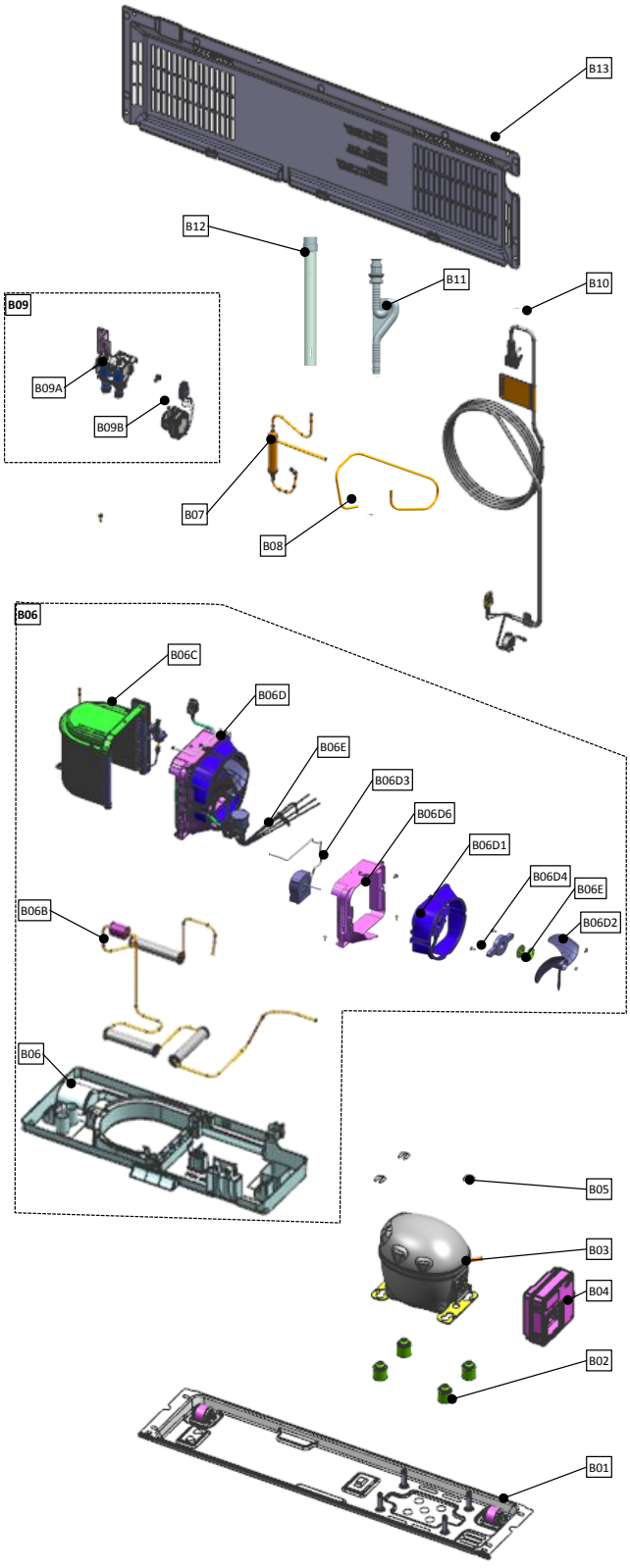
NO			PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
A01	-	-	-	ASSY CAB URT		1	N	
A02	-	-	**30126-0031200-00**	HANDLE CAB COVR *L	ABS 1*2*2	1	Y	
A03	-	-	**30126-0031700-00**	HANDLE CAB COVR *R	ABS 1*2*2	1	Y	
A04	-	-	**30132-0005700-01**	HOSE I/MAKER TUBE A1 AS	RFP71KE	1	Y	
A05	-	-	**30114-0113100-00**	COVER GUIDE I/MAKER TUBE A2 AS	RFP71KE	1	Y	
A06	-	-	**30114-0120100-00**	COVER GUIDE CAB W/TUBE	PP FDR 30Cuft	2	Y	
A07	-	-	**30129-0024900-00**	HINGE *T *L AS	PO FDR 30Cuft	1	Y	
A08	-	-	**30129-0025000-00**	HINGE *T *R AS	PO FDR 30Cuft	1	Y	
A09	-	-	**30151-0001500-00**	SPRING GUIDE W/TUBE	SPRING GUIDE W/TUBE SUS304 OD8XL100	1	Y	
A10	-	-	**30114-0125104-00**	COVER HI *T AS	SUA4S (STS)	1	Y	
			30114-0125105-00		BUA8S (BLK STS)			
			30114-0125106-00		DWH1C (WHT)			
			30114-0125107-00		BLH1C (BLK)			
	A	-	**30114-0119600-00**	COVER HI *T	ABS 1*2 FDR 30Cuft	1	N	
	B	-	**60181-0011700-00**	SWITCH REED AS	MAX 200VDC 0.5A, MAX 10W, a Type(NO), MS-406CU-DW	2	Y	
	C	-	-	FRAME FCP AS		1	Y	
	D	-	**40522-0000302-00**	MODULE CAMERA		1	Y	
A11	-	-	**30106-0037900-00**	BRACKET ADJ FT *L AS	SPHC, T:2.6	1	Y	
A12	-	-	**30106-0037800-00**	BRACKET ADJ FT *R AS	SPHC, T:2.6	1	Y	
A13	-	-	**30130-0009000-00**	HOLDER W/FILT AS	FDBM 30cuft RFP83	1	Y	
	A	-	**30114-0120000-00**	COVER W/FILT	HIPS FDR 30Cuft	1	Y	
	B	-	**30109-0022400-01**	CAP W/FILT AS	CAP W/FILT AS FRY-601G	1	Y	
A14	-	-	**40301-0126900-00**	REF PCB EMI FILTER AS	USA FDR 30Cuft	1	Y	
A15	-	-	**40301-0126902-00**	REF PCB MAIN ASSY	USA FDR 31Cuft Better	1	Y	
A16	-	-	**30114-0125600-00**	COVER M/PCB BOX AS	SGCC 0.4t FDR 30Cuft	1	Y	
A17	-	-	**30182-0005700-00**	TANK WATER AS	FDBM 30cuft RFP783	1	Y	
	A	-	**30182-0005100-00**	TANK WATER SAS	RFP71KE	1	N	
	B	-	**30114-0124600-00**	COVER W/TANK	PP 1x2 RFP83	1	N	
A18	-	-	**30129-0024700-00**	HINGE *M *L AS	PO FDR 30Cuft	1	Y	
A19	-	-	**30129-0024800-00**	HINGE *M *R AS	PO FDR 30Cuft	1	Y	
A20	-	-	**30123-0005700-02**	GASKET CAB BASE	GASKET CAB BASE PVC(S+H/2)	1	Y	
A21	-	-	**60181-0011700-00**	SWITCH REED AS	MAX 200VDC 0.5A, MAX 10W, a Type(NO), MS-406CU-DW	1	Y	
A22	-	-	**60170-0016300-00**	EVA I/M AS	120V FDR 30CUFT	1	Y	
	A	-	**60148-0001401-00**	SENSOR D AS	PBN-43 FRS-55NF	1	Y	
	B	-	**60128-0017000-00**	HEATER I/M SHEATH DEFR AS	120V 40W RFP71KE*	1	Y	
A23	-	-	**30114-0123300-00**	COVER I/MAKER EVA AS	FDR 30CUFT	1	Y	
A24	-	-	**30114-0129200-00**	COVER HOUSING	FDR 31CUFT	1	Y	
A25	-	-	**30114-0131000-00**	COVER CH/RM CONTL AS	FDR 31CUFT	1	Y	

- Some parts can be chaged for improving their perfomance without notice.

No	DATE	NOTE	REMARK

12. Service Part List.

12-2. Machine ROOM



NO	PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
B01 - -	**30103-0044300-00**	BASE COMP AS	30Cuft	1	Y	
B02 - -	**60101-0000600-01**	ABSORBER COMP	NBR	4	Y	
B03 - -	**60110-0027200-00**	COMPRESSOR	BMK140NAMV LG R600a	1	Y	
B04 - -	**30105-0057700-00**	BOX INVERTER AS	LG, CEA3100H1A, 110~127V	1	Y	
B05 - -	**30160-0001300-00**	SPECIAL WASHER COMP	SK-5 T0.8XW22XL24.5	4	Y	
B06 - -	**30111-0064101-00**	CASE VAPORI AS	RFP86K*	1	Y	
B06 A -	**30111-0061900-00**	CASE VAPORI	30Cuft	1	N	
B06 B -	**60144-0049400-00**	PIPE CONN A1 AS	31Cuft	1	Y	
B06 C -	**60144-0048401-00**	PIPE WICON AS	31Cuft	1	Y	
B06 - -	**30185-0003800-00**	M/BELL AS	30Cuft	1	Y	
B06 - 1	**30185-0003600-00**	M/BELL BODY	PP	1	Y	
B06 - 2	**60118-0001400-02**	FAN	ABS	1	Y	
B06 D 3	**60159-0014000-00**	MOTOR C FAN AS	OHSUNG DC12V 2.0W↓ 1130RPM	1	Y	
B06 - 4	**30120-0015200-00**	FIXTURE C FAN MOTR	PP (NATURAL)	1	Y	
B06 - 5	**60101-0002600-00**	ABSORBER F MOTR	NBR	2	Y	
B06 - 6	**30185-0003700-00**	M/BELL COVR	PP	1	Y	
B06 E -	**60154-0002303-01**	VALVE AS	4-WAY DC12V	1	Y	
B07 - -	**60168-0003200-00**	DRYER AS	10g RFP83*	1	Y	
B08 - -	**60144-0049700-00**	PIPE SUC CONN AS	31Cuft	1	Y	
B09 - -	**60154-0004800-01**	VALVE WATER AS	AC110~127V DIRECT MOLDED HNRS	1	Y	
B09 A -	**60154-0002501-01**	VALVE WATER	AC110~127V/60Hz 2-WAY RIV-12A-33	1	N	
B09 B -	**60148-0001701-01**	SENSOR FLOW AS	SENSOR FLOW+PROTECT TUBE	1	Y	
B10 - -	**60113-0004608-01**	CORD POWER AS	125V 15A(UL) TR25X12G5B	1	Y	
B11 - -	**30132-0007200-00**	HOSE DRN A2 AS	HOSE + SEAL RFP84*	1	Y	
B12 - -	**30132-0007400-00**	HOSE DRN A1 AS	EPDM+PVC	2	Y	
B13 - -	**30114-0125000-00**	COVER MACH RM AS	30Cuft	1	Y	

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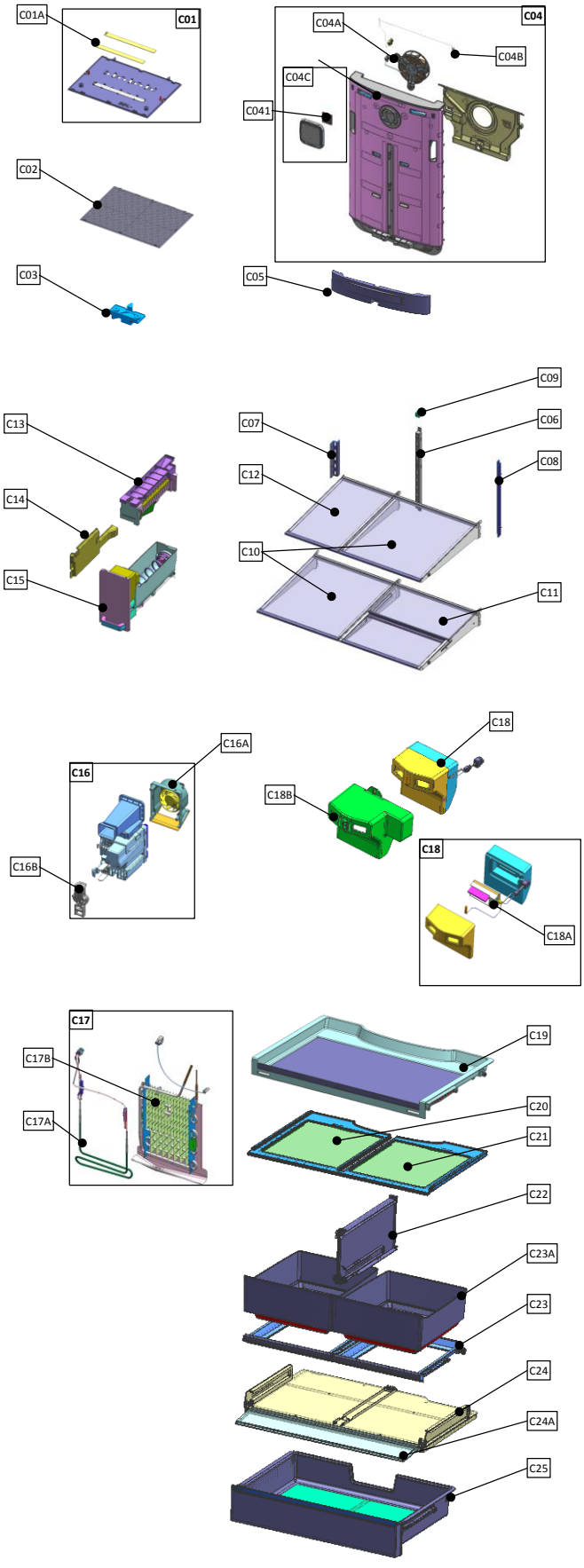
No	DATE	NOTE	REMARK

12. Service Part List.

12-3. R-Room



NO	PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
C01 - -	30103-0044500-00	BASE R LED *T AS	HIPS, 9LED*2EA, SUB HARNESS	1	Y	
A -	40301-0056000-00	REF PCB SUB ASSY	9-LED, CEM-1, 230X20X1.6T(3PIN)	2	Y	
C02 - -	30155-0032100-00	WINDOW R LED *T	GPPS 1*1 FDR 30Cuft	1	Y	
C03 - -	30125-0050800-00	GUIDE R DV	ABS, HG-0763, RFP83*	1	Y	
C04 - -	30114-0120900-00	COVER M/FLOW DUCT AS	FDR 30CUFT	1	Y	
A -	60159-0014500-00	MOTOR R FAN AS	NMB DC12V 1600RPM/Φ120 30Cuft	1	Y	
B -	60148-0009900-00	SENSOR R AS	PBN-43B ABS CAP 30cuft	1	Y	
C -	30122-0047900-00	FRAME DEO AS	FDR 30CUFT	1	Y	
1	60119-0001400-00	FILTER DEO CATECHIN AS	ANTI BACTERIA T5*40*40 RSZ800H*	1	Y	
C05 - -	30114-0127000-00	COVER M/FLOW DUCT A1	31Cuft	1	Y	
C06 - -	30153-0032100-00	SUPPORTER SHELF *M	SECC T2.0 30Cuft	1	Y	
C07 - -	30153-0031900-00	SUPPORTER SHELF *L	SECC T2.0 30Cuft	1	Y	
C08 - -	30153-0032000-00	SUPPORTER SHELF *R	SECC T2.0 30Cuft	1	Y	
C09 - -	30109-0018701-00	CAP SHELF SUPORT *T	ABS+SPRAY	1	Y	
C10 - -	30122-0048800-00	FRAME R SHELF AS	30Cuft	2	Y	
C11 - -	30122-0048900-00	FRAME SLIDE SHELF AS	30Cuft	1	Y	
C12 - -	30122-0049000-00	FRAME R SHELF SM AS	30Cuft	1	Y	
C13 - -	30122-0049300-00	FRAME I/MAKER AS	FDR 30CUFT	1	Y	
C14 - -	30114-0124100-00	COVER HOUSING I/MAKER A1 AS	FDR 30CUFT	1	Y	
C15 - -	30111-0063100-00	CASE I/CRUSHER AS	FDR 30CUFT	1	Y	
C16 - -	30120-0035800-00	FIXTURE G/MOTR AS	FDR 30CUFT	1	Y	
A -	60159-0014600-00	MOTOR BOX FAN AS	OHSUNG DV12V	1	N	
B -	60159-0013700-00	MOTOR I/SELECTOR AS	SCD, STAB04D01, DC12V	1	N	
C17 - -	60170-0015600-00	EVA R AS	120V 120W FDR 30CUFT	1	Y	
A -	60128-0018700-00	HEATER R SHEATH AS	120V 120W FDR 30CUFT	1	Y	
B -	60148-0010300-00	SENSOR D AS	ABS PBN-43B 30cuft	1	Y	
C18 - -	30114-0131100-00	COVR DAMP AS	RFP86*	1	Y	
A -	60167-0000100-01	DAMPER AS	DAMPER AS DU24-013	1	Y	
B -	60148-0010400-00	SENSOR RT CH/RM AS	PBN-43B L265 ABS CAP RFP86k*	1	Y	
C19 - -	30122-0050400-00	RRAME WIDE SHELF AS	31Cuft	1	Y	
C20 - -	30114-0130800-00	COVER V/CASE L AS	31Cuft	1	Y	
C21 - -	30114-0130900-00	COVER V/CASE R AS	31Cuft	1	Y	
C22 - -	30125-0055100-00	GUIDE V/CASE M AS	31Cuft	1	Y	
C23 - -	30111-0063500-00	CASE VEGETB *U AS	30Cuft	2	Y	
A -	30111-0062400-00	CASE VEGETB *T	30Cuft	2	Y	
C24 - -	30114-0130700-00	COVER CH/RM AS	31Cuft	1	Y	
A -	30155-0033100-00	WINDOW CH/RM COVR	31Cuft	1	Y	
C25 - -	30111-0065800-00	CASE CH/RM AS	31Cuft	1	Y	
- - -						

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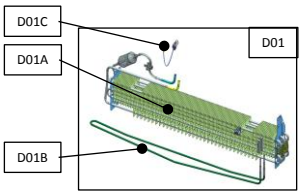
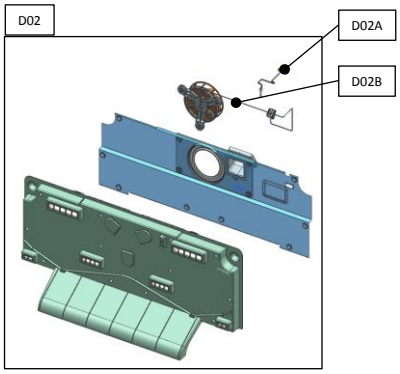
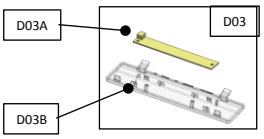
No	DATE	NOTE	REMARK

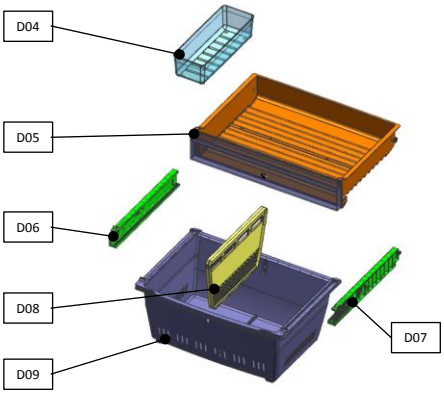
12. Service Part List.

12-4. F-Room









NO			PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
D01	-	-	**60170-0016100-00**	EVA AS	FDR 30CUFT	1	Y	
	A	-	**60170-0015900-00**	EVA SAS	FDR 30CUFT	1	N	
	B	-	**60128-0018600-00**	HEATER F SHEATH DEFR AS	120V 250W FDR 30CUFT	1	Y	
	C	-	**60148-0010200-00**	SENSOR RT DEFT AS	ABS I PBN-43B 30cuft	1	Y	
D02	-	-	**30189-0017500-00**	LOUVER F AS	30Cuft	1	Y	
	A	-	**60148-0010000-00**	SENSOR F AS	ABS (PT-38) CAP FDBM/30cu.ft	1	Y	
	B	-	**60159-0014700-00**	MOTOR F FAN AS	NMB DC12V	1	Y	
D03	-	-	**30155-0032800-00**	WINDOW F LED *T AS	GPPS, 5 LED	1	Y	
	A	-	**40301-0051900-00**	REF PCB SUB ASSY	5-LED, CEM-1, 125X20X1.6T(3PIN)	1	Y	
	B	-	**30155-0032200-00**	WINDOW F LED *T	WINDOW F LAMP ABS	1	Y	
D04	-	-	**30111-0062000-00**	CASE ICE	GPPS	1	Y	
D05	-	-	**30111-0063400-00**	CASE F *T AS	30Cuft	1	Y	
D06	-	-	**30153-0031100-00**	SUPPORTER F DRAW RAIL *L	ABS 1*2*2 FDR 30Cuft	1	Y	
D07	-	-	**30153-0031000-00**	SUPPORTER F DRAW RAIL *R	ABS 1*2*2 FDR 30Cuft	1	Y	
D08	-	-	**30145-0040700-00**	PLATE F CASE *U DV	HIPS	1	Y	
D09	-	-	**30111-0063300-00**	CASE F *U AS	30Cuft	1	Y	

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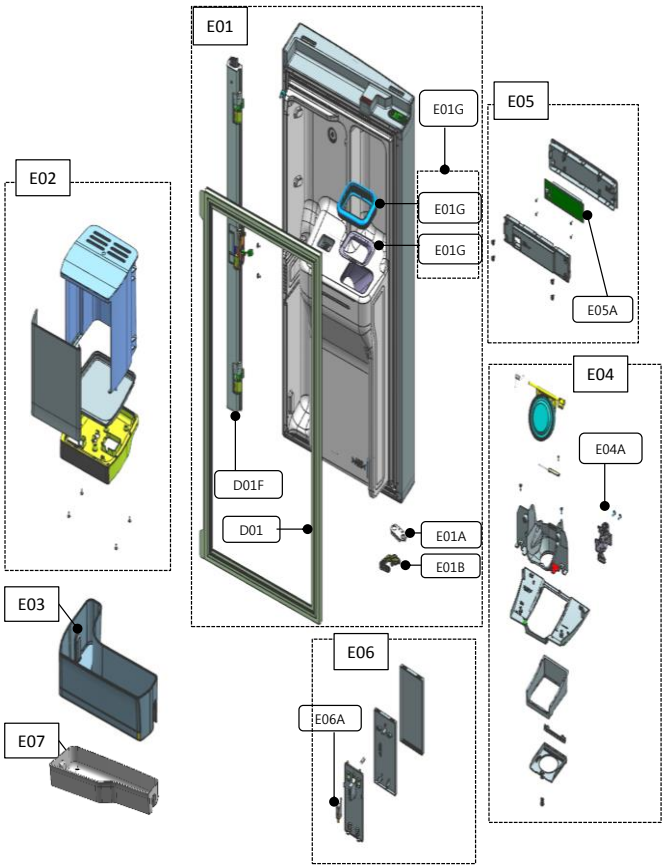
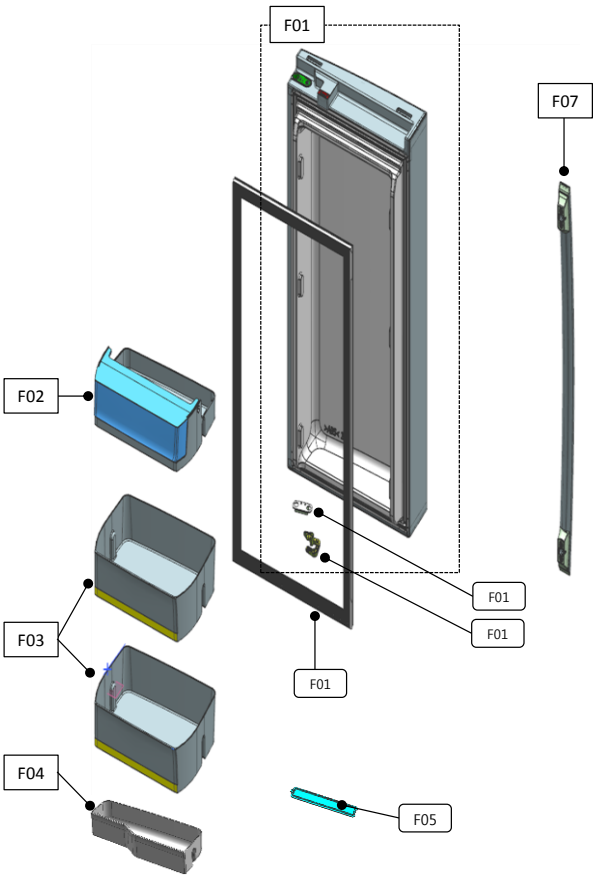
No	DATE	NOTE	REMARK

12. Service Part List.





NO			PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
E01	-	-	30100-0256200-00	ASSY R DR L	SUA4S (STS)	1	Y	
			30100-0256201-00		BUA8S (BLK STS)			
			30100-0256202-00		DWH1C (WHT)			
			30100-0256203-00		BLH1C (BLK)			
	A	-	30152-0001900-01	STOPPER DR	PO+PAINT(BK)	1	Y	
	B	-	30125-0051500-00	GUIDE R DR CAP *L AS	FDR 30Cuft	1	Y	
	C	-	30123-0005208-00	GASKET R DR *L AS	PVC-SILVER	1	Y	
			30123-0005209-00		PVC-BLACK			
	F	-	30145-0043300-00	PLATE R DV AS	AC115V, GRAY	1	Y	
			30145-0043301-00		AC115V, BLK			
	G	-	30109-0069700-00	CAP I/PATH FRAME AS	FDR 30Cuft	1	Y	
	G	1	30123-0021000-00	GASKET CAP I/PATH	SILICON	1	Y	
	G	2	30109-0067800-00	CAP I/PATH FRAME	HIPS	1	Y	
E02	-	-	30190-0034000-00	POCKET MULTI AS	RFP83*	1	Y	
E03	-	-	30190-0033600-00	POCKET UTILITY	GPPS	1	Y	
E04	-	-	30105-0059100-00	BOX DISPNS I/SHUT AS	SUA4S (STS)	1	Y	
			30105-0059101-00		BUA8S (BLK STS)			
			30105-0059102-00		DWH1C (WHT)			
			30105-0059103-00		BLH1C (BLK)			
	A	-	60159-0008300-00	MOTOR I/SHUT AS	DC12V (SCD)	1	Y	
E05	-	-	60142-0037400-00	PANEL CONTL *F AS	SUA4S (STS)	1	Y	
			60142-0037401-00		BUA8S (BLK STS)			
			60142-0037402-00		DWH1C (WHT)			
			60142-0037403-00		BLH1C (BLK)			
E05	A	-	40301-0127200-00	REF PCB FRONT ASSY	30Cuft FR-4 Dispns PBA	1	Y	
			40301-0127202-00		30Cuft FR-4 Dispns PBA Only Wht			
E06	-	-	30137-0006800-00	LEVER DISPNS AS	SUA4S (STS)	1	Y	
			30137-0006801-00		BUA8S (BLK STS)			
			30137-0006802-00		DWH1C (WHT)			
			30137-0006803-00		BLH1C (BLK)			
E06	A	-	60181-0014600-00	SWITCH MICRO	DC30V 0.1A/VP 133A-2C	1	Y	
E07	A	-	30190-0034500-00	POCKET R *U *L	FDR 31Cuft	1	Y	

NO			PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
F01	-	-	30100-0256100-00	ASSY R DR R	SUA4S (STS)	1	Y	
			30100-0256101-00		BUA8S (BLK STS)			
			30100-0256102-00		DWH1C (WHT)			
			30100-0256103-00		BLH1C (BLK)			
	A	-	30152-0001900-01	STOPPER DR	PO+PAINT(BK)	1	Y	
	B	-	30125-0051600-00	GUIDE R DR CAP *R AS	-	1	Y	
	C	-	30123-0006108-00	GASKET R DR *R AS	PVC-SILVER	1	Y	
			30123-0006109-00		PVC-BLACK			
F02	-	-	30190-0034100-00	POCKET DAIRY AS	RFP83*	1	Y	
F03	-	-	30190-0033700-00	POCKET GALLON	GPPS	2	Y	
F04	-	-	30190-0034600-00	POCKET R *U *R	FDR 31Cuft	1	Y	
F05	-	-	30155-0032300-00	WINDOW R DR LED	FDR 30Cuft	1	Y	

NO			PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
F07	-	-	30126-0033000-00	HANDLE R AS	SUA4S (STS)	2	Y	
			30126-0033001-00		BUA8S (BLK STS)			
			30126-0033002-00		DWH1C (WHT)			
			30126-0033003-00		BLH1C (BLK)			

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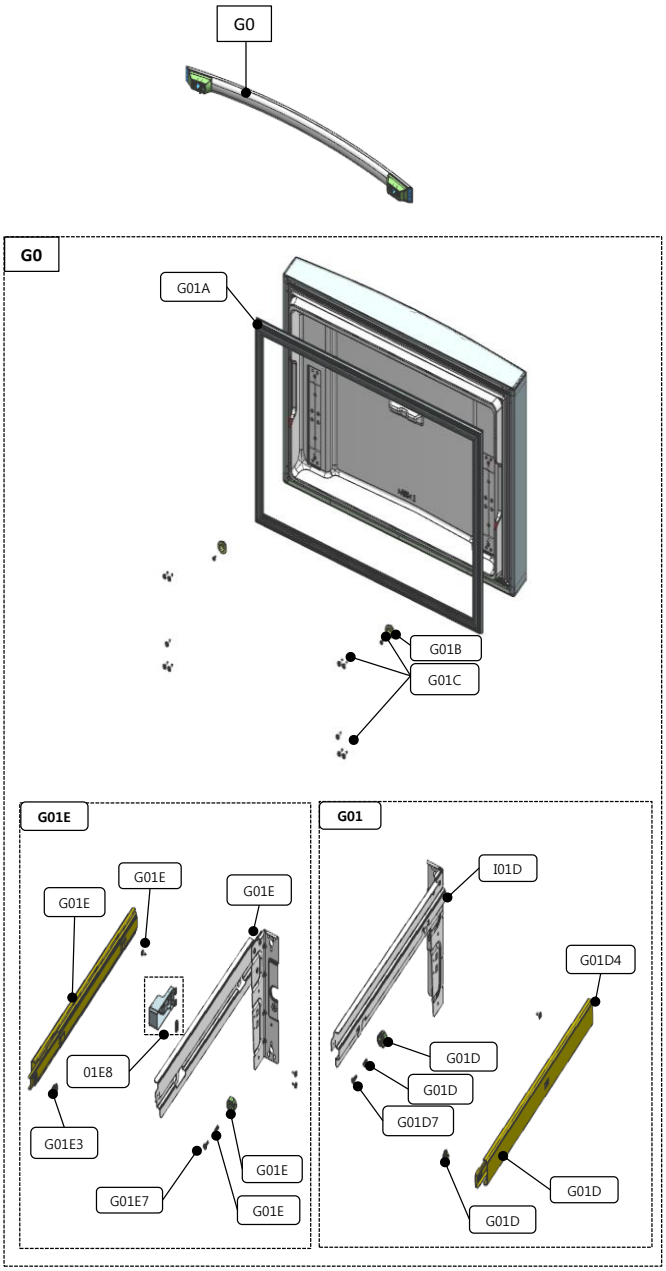
No	DATE	NOTE	REMARK

12. Service Part List.

12-6. F-Door & Handles



NO			PART-CODE	PART NAME	SPEC.	Quantity 31Cuft	SVC Part	Remark
G01	-	-	30100-0251100-00	ASSY F DR	SUA4S (STS)	1	Y	
			30100-0251101-00		BUA8S (BLK STS)			
			30100-0251102-00		DWH1C (WHT)			
			30100-0251103-00		BLH1C (BLK)			
	A	-	30123-0021500-00	GASKET F DR AS	PVC-SILVER	1	Y	
			30123-0021501-00		PVC-BLACK			
	B	-	30120-0008300-00	FIXTURE I/BOX *T	HIPS	2	Y	
	C	-	90007-0008200-00	SCREW TAPPING	T2S TRS 5*20 MFZN	10	-	
	D	-	30122-0049500-00	FRAME F DRAW RAIL *L AS	RFP83*	1	Y	
		1	30122-0047400-00	FRAME F DRAW RAIL *L	SECC T2.0	1	N	
		2	30104-0006200-00	BODY F DRAW RAIL *L AS	H53 L538, T2.3	1	N	
		3	30153-0005600-00	SUPPORTER F RAIL GEAR *M	POM	1	N	
		4	90007-0006100-00	SCREW TAPPING	T2S TRS 4*10 MFZN	1	-	
		5	30153-0024900-00	SUPPORTER F DR POSITION	HIPS	1	N	
		6	30151-0003400-00	SPRING W/TANK VALV	SUS FRB-6530NA	1	N	
		7	30160-0005400-00	SPECIAL GRIP HNDL	M5XL16 MFZN	1	N	
	E	-	30122-0049400-00	FRAME F DRAW RAIL *R AS	RFP83*	1	Y	
		1	30122-0047500-00	FRAME F DRAW RAIL *R	SECC T2.0	1	N	
		2	30104-0006300-00	BODY F DRAW RAIL *R AS	H53 L538, T2.3	1	N	
		3	30153-0005600-00	SUPPORTER F RAIL GEAR *M	POM	1	N	
		4	90007-0006100-00	SCREW TAPPING	T2S TRS 4*10 MFZN	1	-	
		5	30153-0024900-00	SUPPORTER F DR POSITION	HIPS	1	N	
		6	30151-0003400-00	SPRING W/TANK VALV	SUS FRB-6530NA	1	N	
		7	30160-0005400-00	SPECIAL GRIP HNDL	M5XL16 MFZN	1	N	
		8	30114-0125200-00	COVER MAGNET AS	RFP83*	1	Y	
G02	-	-	30173-0000500-01	GEAR F RAIL *M	POM	2	Y	
G03	-	-	30120-0010901-00	FIXTURE F RAIL GEAR	SWCH10A	1	Y	

NO			PART-CODE	PART NAME	SPEC.	Quantity 30Cuft	SVC Part	Remark
G04	-	-	30126-0032300-00	HANDLE F AS	SUA4S (STS)	1	Y	
			30126-0032301-00		BUA8S (BLK STS)			
			30126-0032302-00		DWH1C (WHT)			
			30126-0032303-00		BLH1C (BLK)			

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No	DATE	NOTE	REMARK