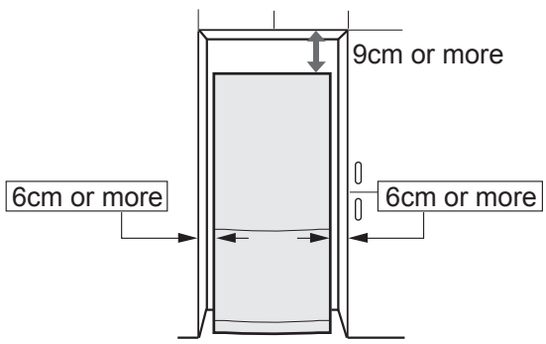
[1] INSTALATION

Free standing type

• To ensure adequate ventilation for this refrigerator, install with 6 cm space at the rear and both sides, with a minimum space of 9 cm above the refrigerator.



• This refrigerator shall be used under the ordinary place condition between +5 ºC and +43 ºC of ambient temperature, and also not be left under -10 ºC for long days.

• To be used this refrigerator within the range of the rated voltage±6%.

[2] SPECIFICATIONS

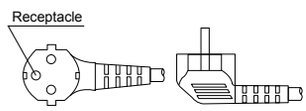
Items		SJ-WS360T	SJ-RP360T	SJ-WP360T	SJ-RM360T	SJ-WM362T
Type		2 Door				
Outer dimensions	Height	2000 mm (78.7 ")				
	Width	600 mm (23.6 ")				
	Depth	650 mm (25.6 ")				
Rated storage volume	Total	366 liter (12.9 cu.ft)				
	Freezer	89 liter (3.1 cu.ft)				
	Refrigerator	277 liter (9.8 cu.ft)				
Rated gross volume	Total	410 liter (14.5 cu.ft)				
Defrosting	System	Heater system				
	Start	Automatic				
	Finish	Automatic				
Temperature control		Automatic (Adjustable)				
No-frost freezer		Yes				
Interior lamp (LED)		14			10	
Caster		4				
Evaporating pan		1 (unremovable)				
Refrigerator Compartment	R glass shelf ass'y	3				
	V glass shelf ass'y	1				
	Vegetable case	1				
	V parting plate	1				
	C shelf ass'y	1				
	Chilled case	1				
	Pocket cover	1				
	Utility pocket	1				
	Door pocket	2				
	Egg tray	1				
	Bottle pocket	1				
	Tube stand	1				
Freezer Compartment	Ice cube maker	Twin ice cube maker				
	Ice storage box	1				
	F case S	1				
	F case M ass'y	1				
	F case L ass'y	1				
	F glass shelf	1				
Control panel	Plasmacluster	Yes				
	Express Freezing	Yes			No	
	Vacation mode	Yes			No	
	Child lock	Yes			No	
	Power failure	Yes				
	Controlling Temperature	Yes				
	Door alarm	Yes				
	Sound ON/OFF	Yes				
	Eco mode	Yes				
Aluminum panel		Yes				
Deodorizing unit (Honeycomb type)		Yes				
Door opening side		—	Changeable	—	Changeable	—

RATING

Items		**SJ-WS360T**	**SJ-RP360T**	**SJ-WP360T**	**SJ-RM360T**	**SJ-WM362T**
Rated voltage	(V~)	220-240				
Rated frequency	(Hz)	50				
Climate class		SN-T				
Rated current	(A)	0.7-0.8		0.5-0.6		0.7-0.8
Rated input of heating systems	(W)	121-142				
Defrosting input	(W)	121-142				
Refrigerant (Charging quantity)		R600a (57 g) [Flammable]				HFC134a (110 g) [Non-flammable]
Insulation blowing gas		Cyclo pentane (NON-CFC) [Flammable]				
Net Weight	(kg)	83	75	83	75	83

PLUG TYPE

Plug cord	2pin+Earth
Plug type	CS
Destination mark	E



COLOR

Items	-S/SL	-BK	-BE/B	-WH
Outside color	Silver	Black	Beige	White
Inside color	White	White	White	White

[3] FICHE

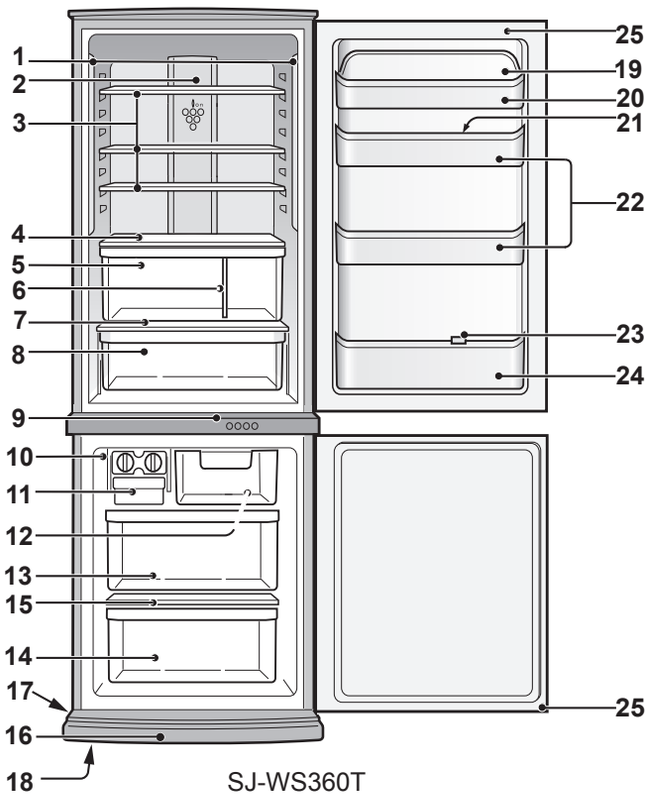
THE FICHE(according to ANNEX Ⅱ : 94/2/EC)

NO.	Items	Description			Remark
1	Trade mark	SHARP	SHARP	SHARP	
2	Model name	SJ-WS360T, SJ-RP360T	SJ-WP360T, SJ-RM360T	SJ-WM362T	
3	Type	Category;7	Category;7	Category;7	fridge/freezer
4	Energy efficiency class	A++	A+	A	A++/A+/A~G
5	Eco-award mark	—	—	—	880/92
6	Energy consumption (230V 50Hz at 25°C)	265 kWh/year	330 kWh/year	400 kWh/year	EN153:2006
7	Net storage volume of fresh food storage compartment	277L	277L	277L	
8	Net storage volume of frozen food (4star compartment)	89L	89L	89L	****
9	Star rating of frozen food compartment	****	****	****	****
10	No frost	No frost	No frost	No frost	
11	Temperature rise time	16h	15h	15h	at 25°C
12	Freezing capacity	4.5kg/24h	4.5kg/24h	4.5kg/24h	at 25°C
13	Climate class	SN-T	SN-T	SN-T	
14	Noise	36dB(A) re 1 pw	38dB(A) re 1 pw	37dB(A) re 1 pw	86/594/EEC
		(96/57/EC)			
15	Tier	4	4	1	

[4] DESIGNATION OF VARIOUS PARTS

1. EXTERNAL DESCRIPTION

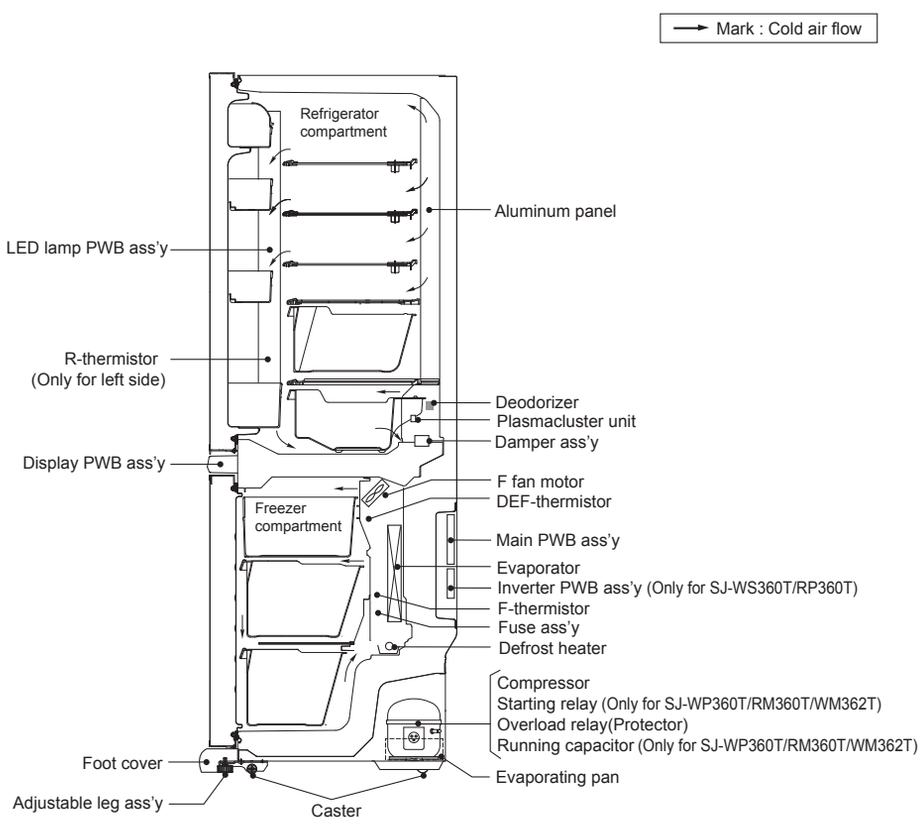
The names in parenthesis "[ ]" are the denominations used in the REPLACEMENT PARTS GUIDE.



SJ-WS360T

1. LED light [LED lamp pwb ass'y]
2. Hybrid cooling panel (Aluminum panel)
3. Refrigerator shelf [R glass shelf ass'y]
4. Fruit & Vegetable shelf [V glass shelf ass'y]
5. Fruit & Vegetable crisper [Vegetable case]
6. Divider [V parting plate]
7. Shelf [C shelf ass'y]
8. Chilled case
9. Control panel
10. Ice cube maker
11. Ice cube box [Ice storage box]
12. Freezer case (top) [F case S ass'y]
13. Freezer case (middle) [F case M ass'y]
14. Freezer case (bottom) [F case L ass'y]
15. Freezer shelf [F glass shelf]
16. Foot cover [Base cover]
17. Caster
18. Adjustable feet [Adjustable leg ass'y]
19. Utility pocket cover [Pocket cover]
20. Utility pocket
21. Egg holder [Egg tray]
22. Door pocket
23. Bottle stopper / Tube stand [Tube stand]
24. Bottle pocket
25. Magnetic door seal [Door packing]

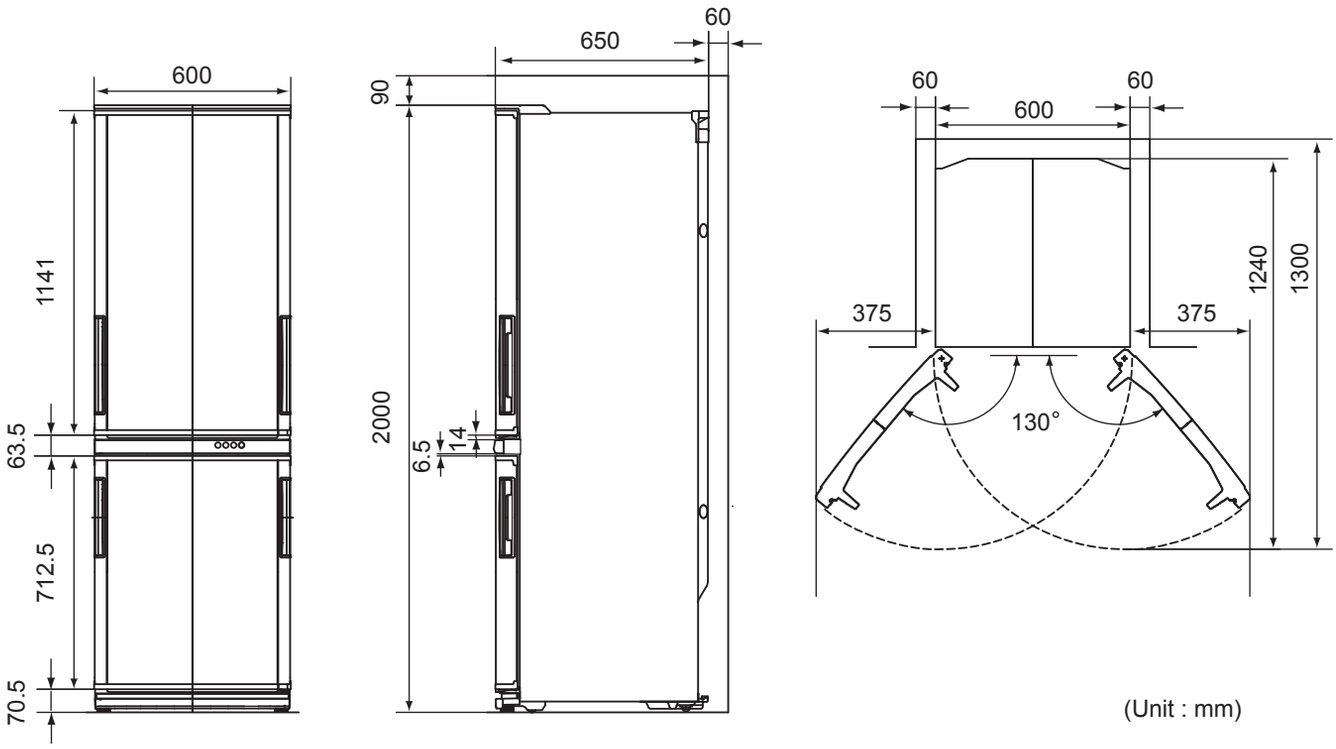
2. CONSTRUCTIONS



[5] DIMENSIONS

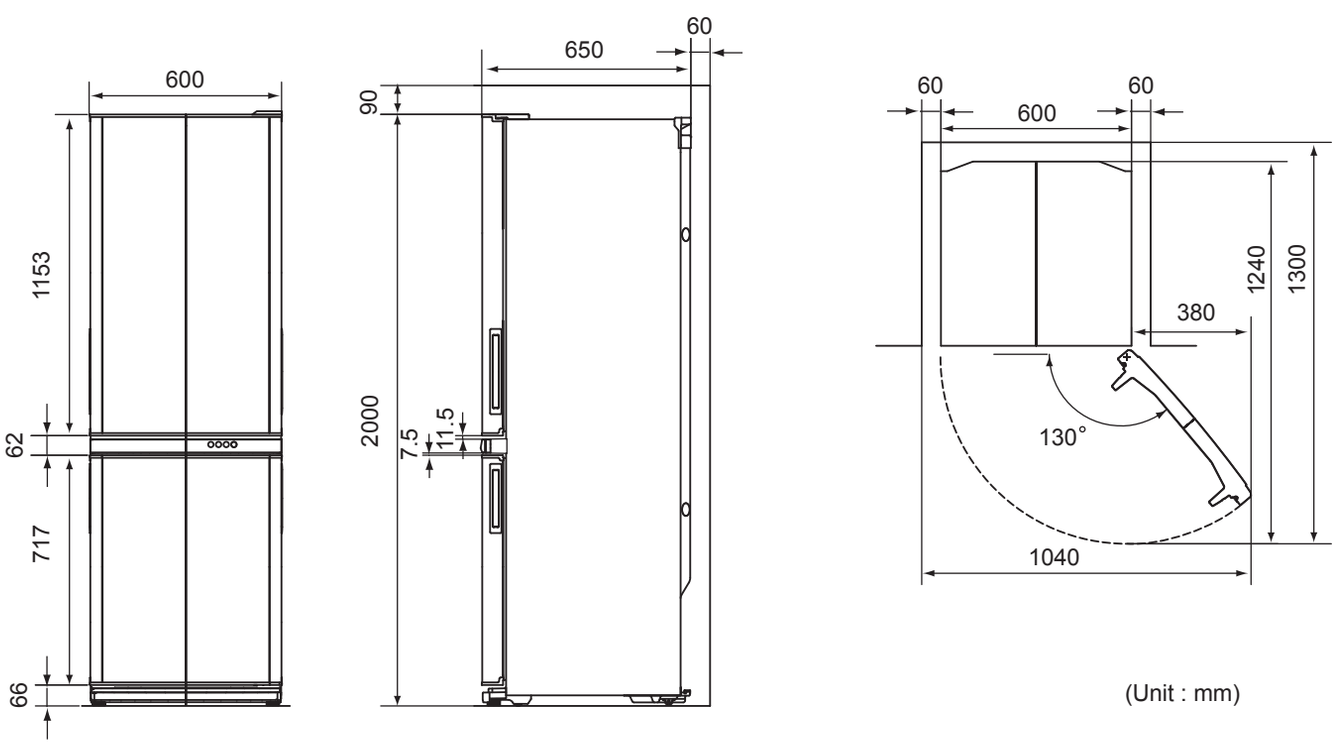
1. OUTER DIMENSIONS AND CLEARANCE

1) SJ-WS360T/WP360T/WM362T



(Unit : mm)

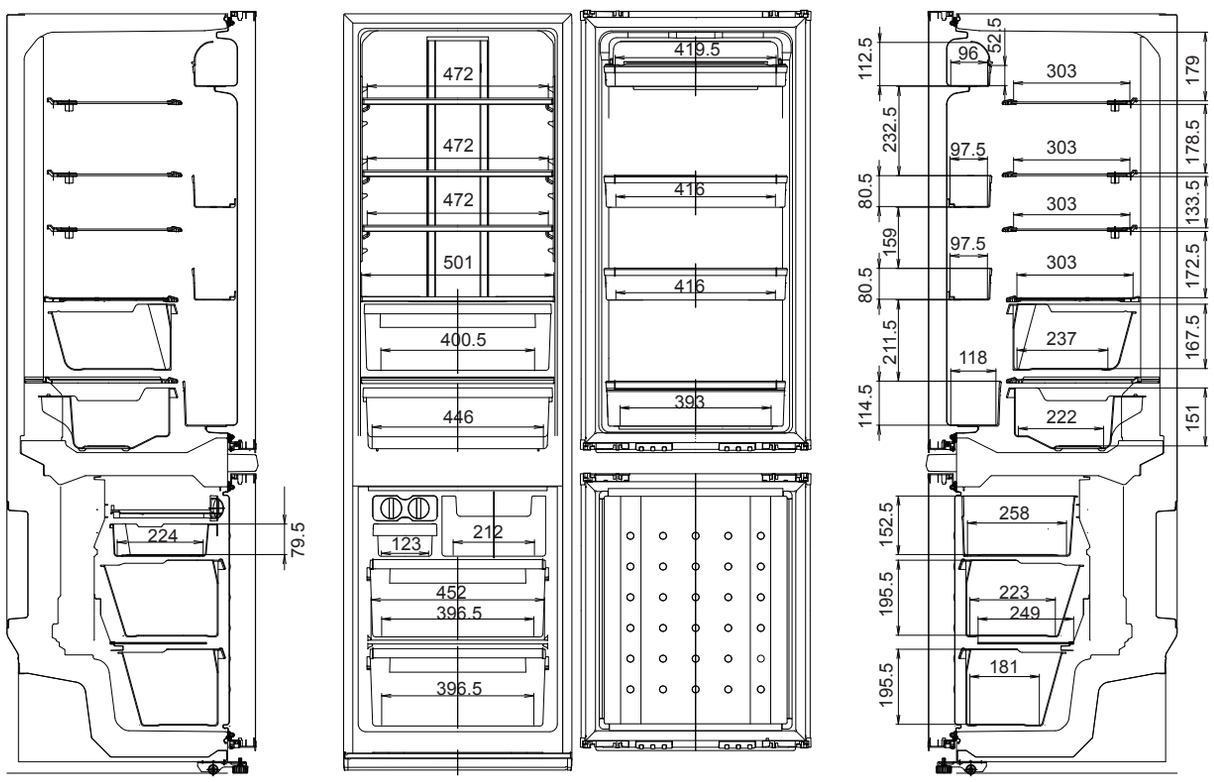
2) SJ-RP360T/RM360T



(Unit : mm)

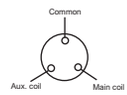
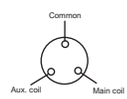
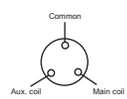
2. INNER DIMENSIONS

The dimensions between shelves can be changed by setting the shelves on the other rails.



(Unit : mm)

[6] LIST OF ELECTRICAL PARTS

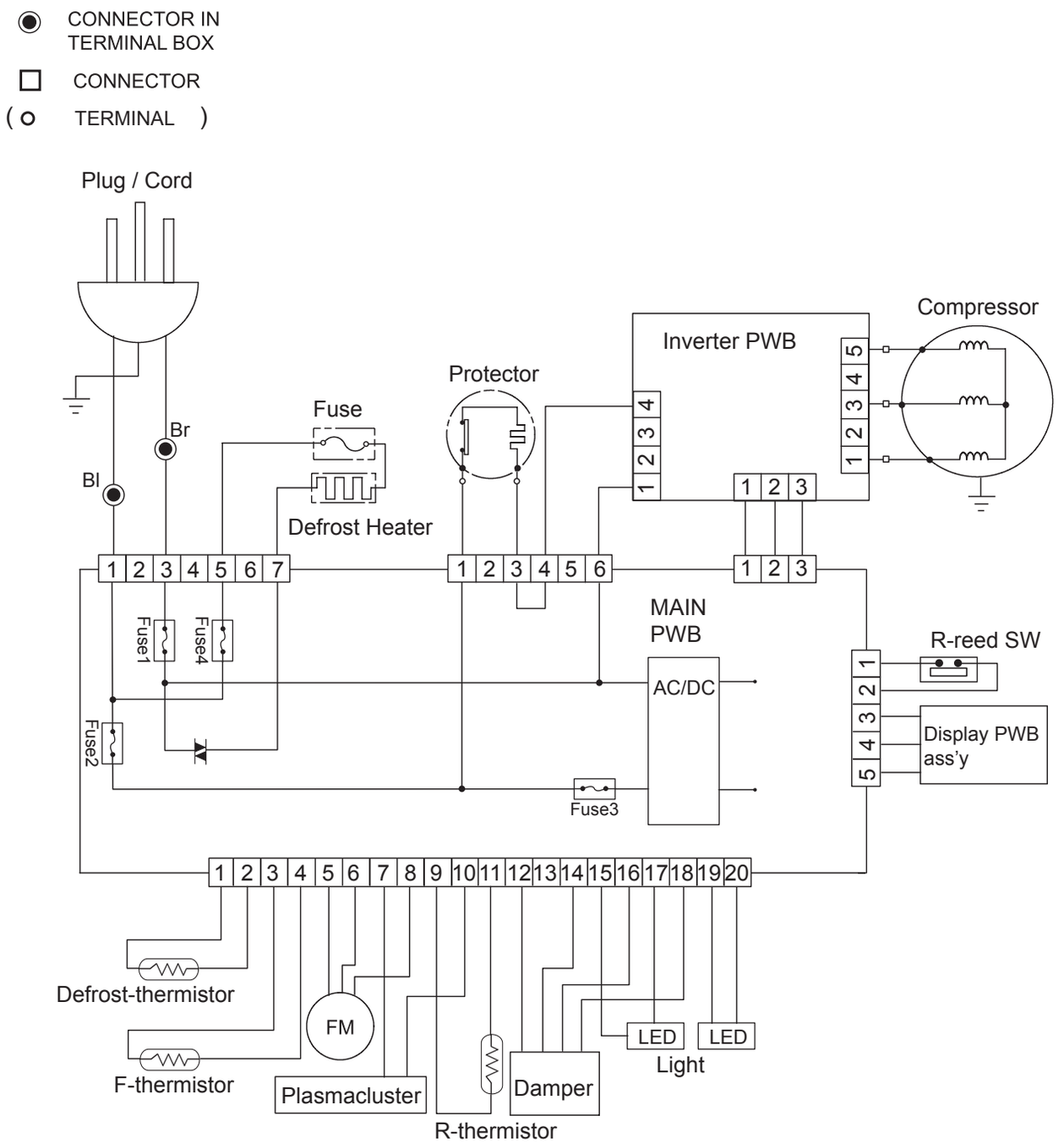
ITEMS		PARTS CODE	TYPE NAME	RATING	SPECIFICATIONS
R Thermistor		RH-HXA139CBZZ	—	DC5V	R0 = 6.4 kΩ, B(0) = 3811
F Thermistor		RH-HXA135CBZZ	—	DC5V	R0 = 6.4 kΩ, B(0) = 3811
Def-themistor		RH-HXA118CBZZ	—	DC5V	R0 = 15 kΩ, B(0) = 3811
Damper ass'y		DTHM-A031CBKZ	—	DC12V	—
F fan motor		RMOTRA096CBZZ	FBA12J15VXD	DC15V	—
Fuse ass'y		FFS-TA126CBKZ	SF70E	250V 10A	Working temp. : 73 ºC
Plasmacluster unit		CKITTA159AKKZ	—	DC15V	4.55kV p-p (Second wave)
Reed SW ass'y		FSW-LA002CBKZ	MS-332/651	DC5V	Magnetic Switch
Compressor	SJ-WS360T	FCMPLA367CBKZ PCMPLA343CBZZ	VEMX9C+	230V / 40-150Hz	Cooling capacity : 223 W (4500rpm) Main coil : 13.4 Ω Aux. coil : 13.4 Ω (at 25 ºC) 
	SJ-RP360T				
	SJ-WP360T	FCMPLA368CBKZ PCMPLA344CBZZ	HPK190AA	220-240V / 50Hz	Cooling capacity : 192 W (50 Hz) Main coil : 12.64 Ω Aux. coil : 12.03 Ω (at 25 ºC) 
	SJ-RM360T				
	SJ-WM362T	FCMPLA374CBKZ PCMPLA361CBZZ	FL15S68NAG	220-240V / 50Hz	Cooling capacity : 200 W (50 Hz) Main coil : 14.3 Ω Aux. coil : 21.1 Ω (at 75 ºC) 
Overload Relay (Protector)	SJ-WS360T	RHOG-A246CBZZ	MRA58142-6	—	Open/Close : 105/61 ºC
	SJ-RP360T				
	SJ-WP360T	RHOG-A247CBZZ	4TM276NFBYY-53	—	Open/Close : 115-125/70-52 ºC
	SJ-RM360T				
	SJ-WM362T	RHOG-A207CBZZ	5TM232RFBYY-53	—	Open/Close : 130±5.0/61±9.0 ºC
Starting Relay (PTC Relay)	SJ-WS360T	—	—	—	—
	SJ-RP360T				
	SJ-WP360T	RSTT-A173CBZZ	PTH8M150MD2	—	15 ± 20 Ω (at 25 ºC)
	SJ-RM360T				
	SJ-WM362T	RSTT-A203CBZZ	PGN6SBT	—	33±6.6Ω (at 25 ºC)
Running capacitor	SJ-WS360T	—	—	—	—
	SJ-RP360T				
	SJ-WP360T	RC-EZA289CBZZ	—	—	400V 5µF
	SJ-RM360T				
	SJ-WM362T	RC-EZA250CBZZ	—	—	400V 4µF
Def. heater ass'y	SJ-WS360T	FHETBA255CBZZ	—	230V (220-240V)	130 W (230V) 406.9 Ω
	SJ-RP360T				
	SJ-WP360T				
	SJ-RM360T				
	SJ-WM362T	FHETBA257CBZZ	—	230V (220-240V)	130 W (230V) 406.9 Ω
Inverter PWB ass'y	SJ-WS360T	FPWB-A734CBKZ	—	220-240V	—
	SJ-RP360T				
	SJ-WP360T	—	—	—	—
	SJ-RM360T				
	SJ-WM362T				
LED lamp PWB ass'y	SJ-WS360T	FPWB-A730CBKZ	—	DC25mA	White LED Lamp (7pcs.)
	SJ-RP360T				
	SJ-WP360T				
	SJ-RM360T	FPWB-A737CBKZ	—	DC25mA	White LED Lamp (5pcs.)
	SJ-WM362T				
Main PWB ass'y	SJ-WS360T	FPWB-A732CBKZ	—	220-240V	Control by MPU
	SJ-RP360T				
	SJ-WP360T	FPWB-A735CBKZ	—	220-240V	—
	SJ-RM360T				
	SJ-WM362T				
Display PWB ass'y	SJ-WS360T	FPWB-A728CBKZ	—	DC14.5V	—
	SJ-RP360T				
	SJ-WP360T				
	SJ-RM360T	FPWB-A740CBKZ	—	DC14.5V	—
	SJ-WM362T				

[7] WIRING DIAGRAM

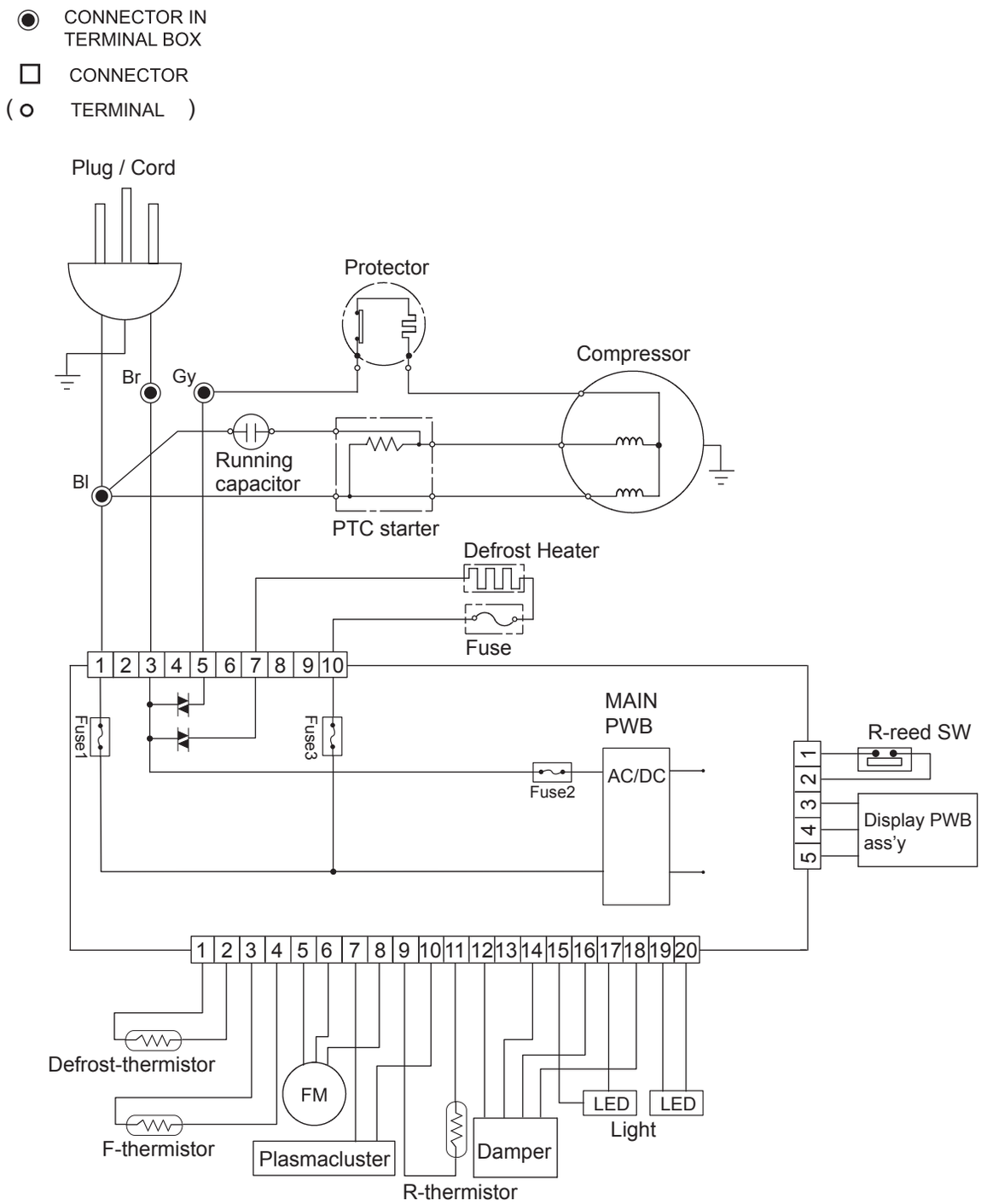
1. WIRING DIAGRAM

Be sure to replace the electrical parts with specified ones for maintaining the safety and performance of the set.

1) SJ-WS360T/RP360T

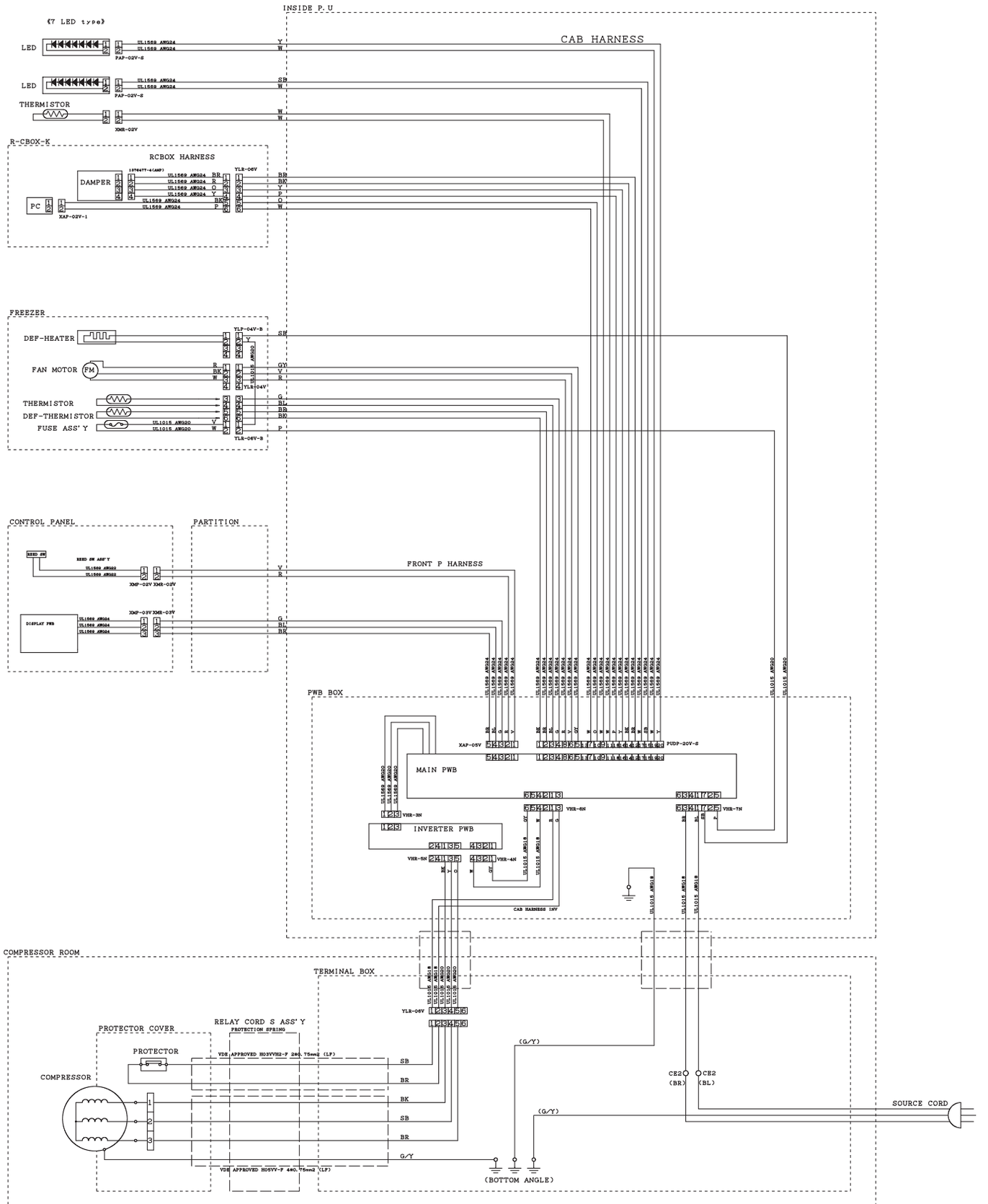


2) SJ-WP360T/RM360T/WM362T

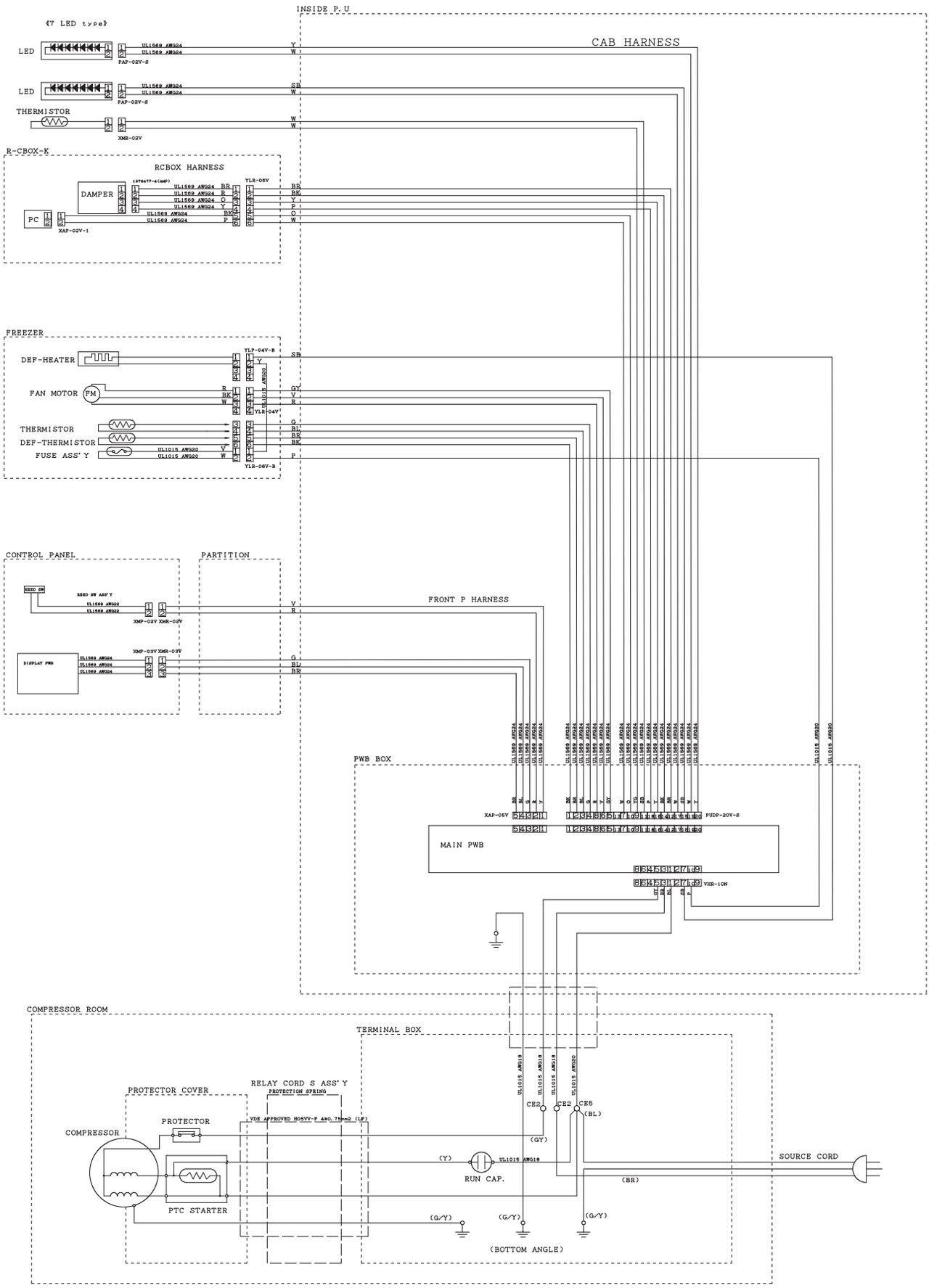


2. ELECTRIC ACCESSORIES LAYOUT

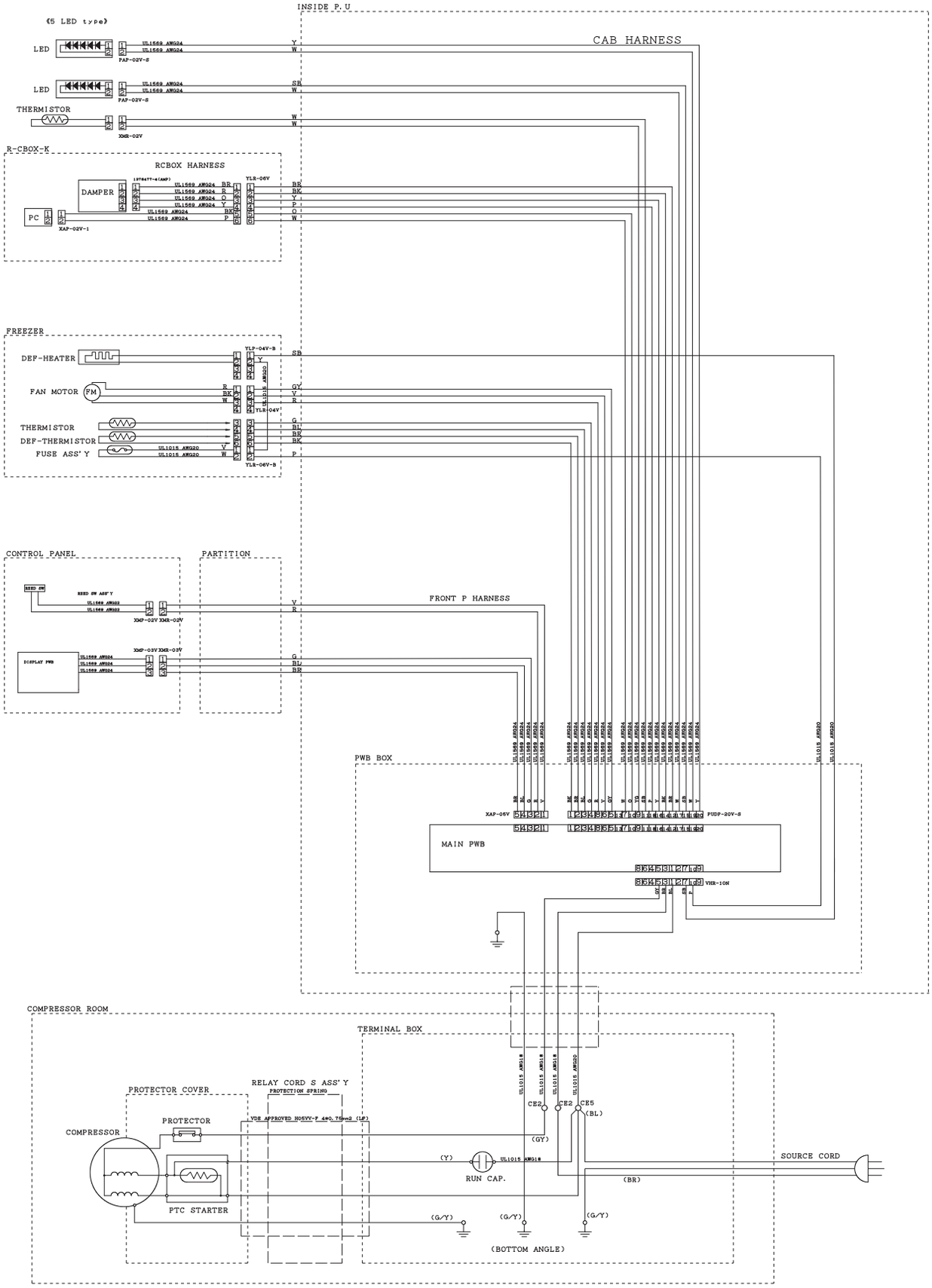
1) SJ-WS360T/RP360T



2) SJ-WP360T

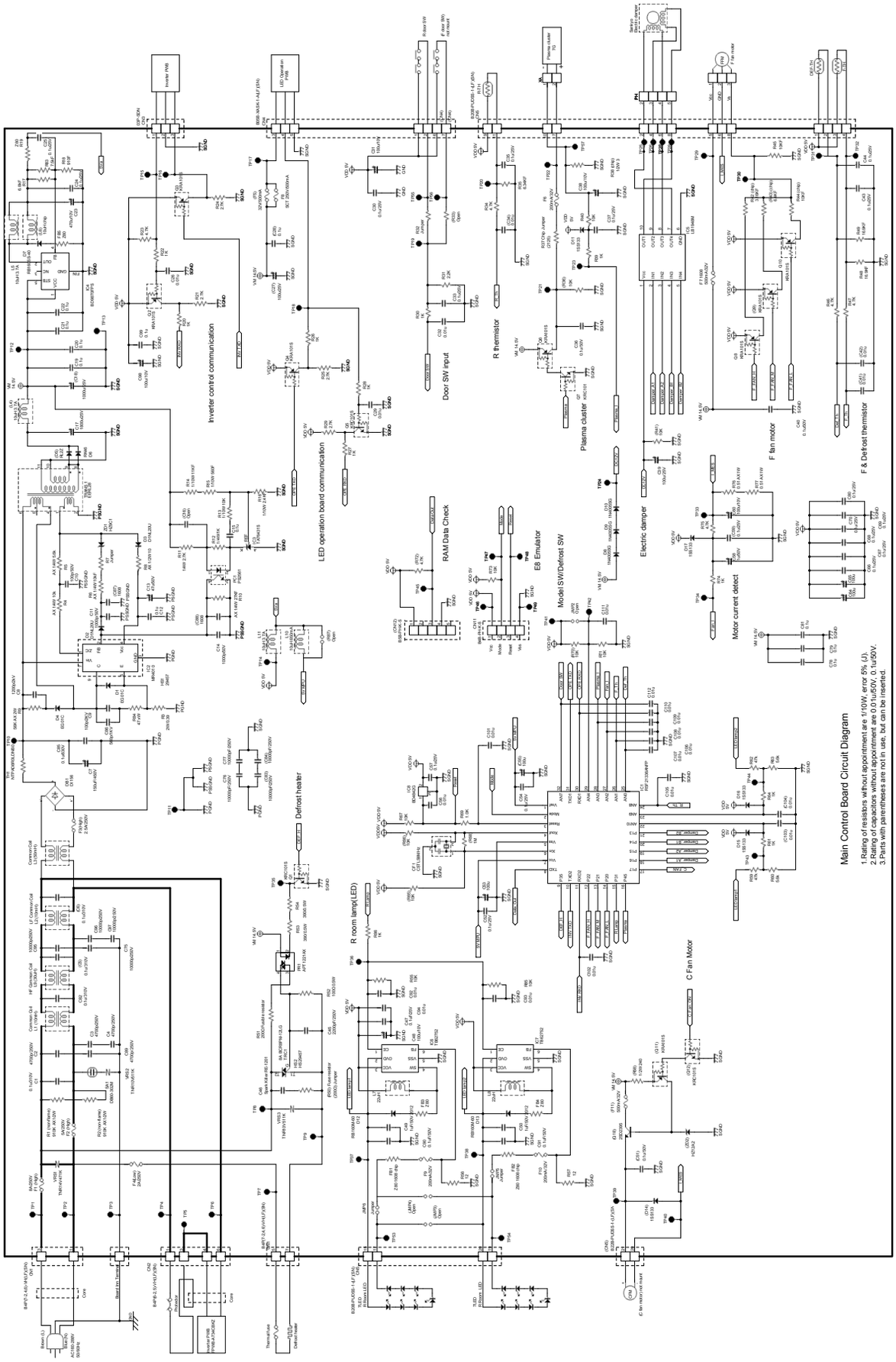

INSIDE P.U
《7 LED type》
CAB HARNESS
LED
LED
THERMISTOR
R-CBOX-K
RCBOX HARNESS
DAMPER
PC
FREEZER
DEF-HEATER
FAN MOTOR
THERMISTOR
DEF-THERMISTOR
FUSE ASS'Y
CONTROL PANEL
PARTITION
REED SW
DISPLAY PWB
FRONT P HARNESS
PWB BOX
MAIN PWB
COMPRESSOR ROOM
TERMINAL BOX
PROTECTOR COVER
RELAY CORD S ASS'Y
PROTECTION SPRING
PROTECTOR
COMPRESSOR
PTC STARTER
RUN CAP.
SOURCE CORD
(BOTTOM ANGLE)

3) SJ-RM360T/WM362T

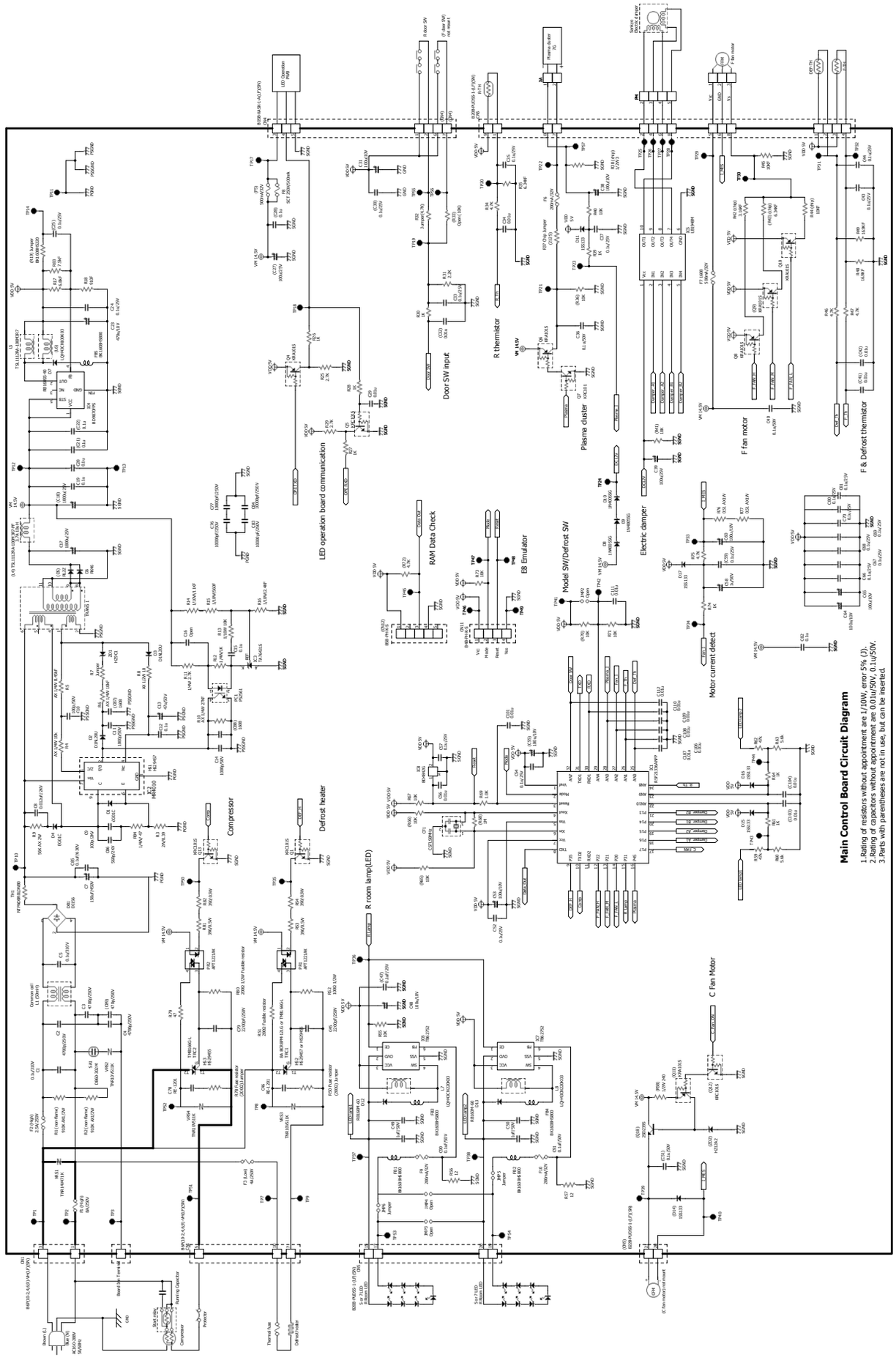


3. CIRCUIT DIAGRAM

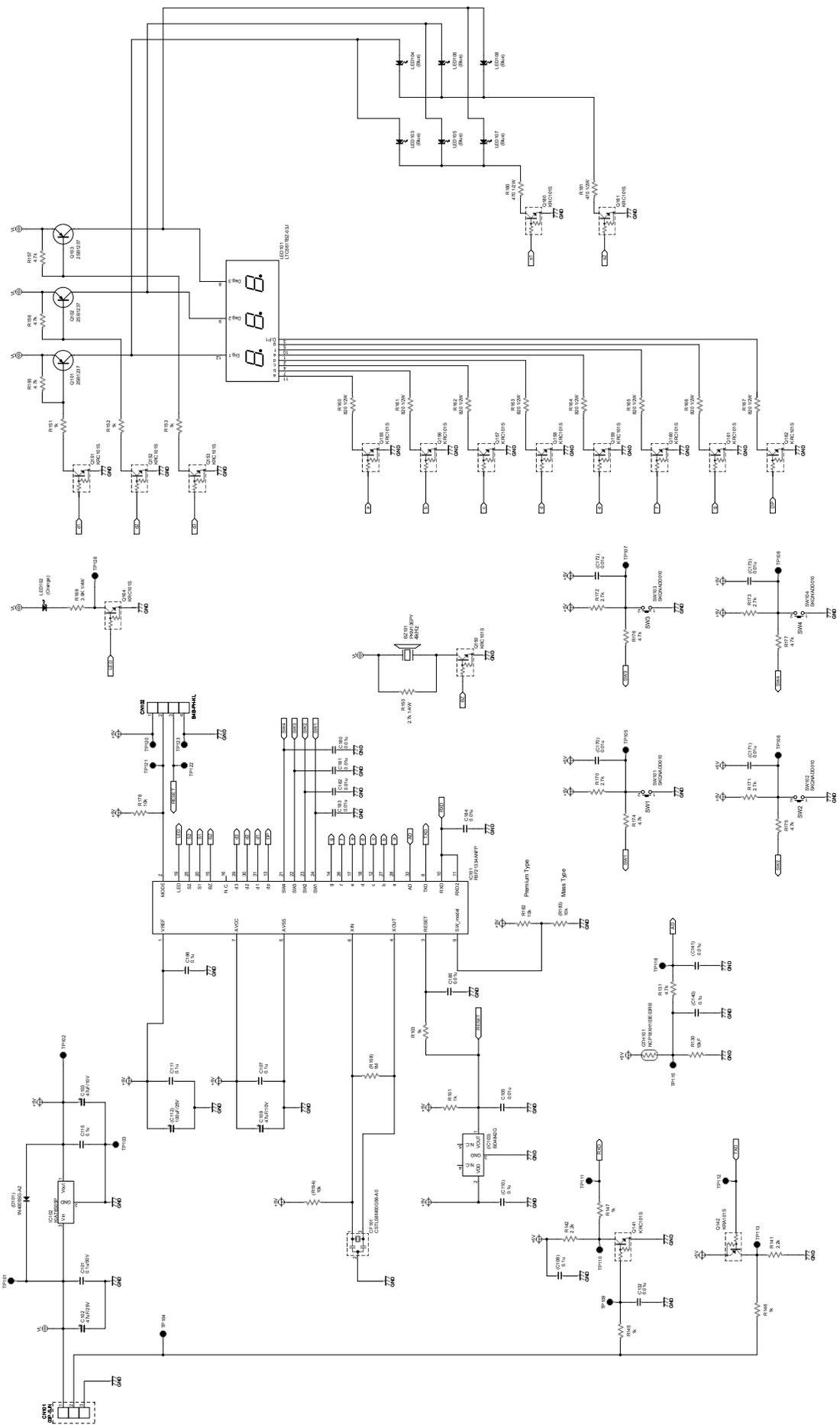
1) Main PWB (SJ-WS360T/RP360T)



2) Main PWB (SJ-WP360T/RM360T/WM362T)



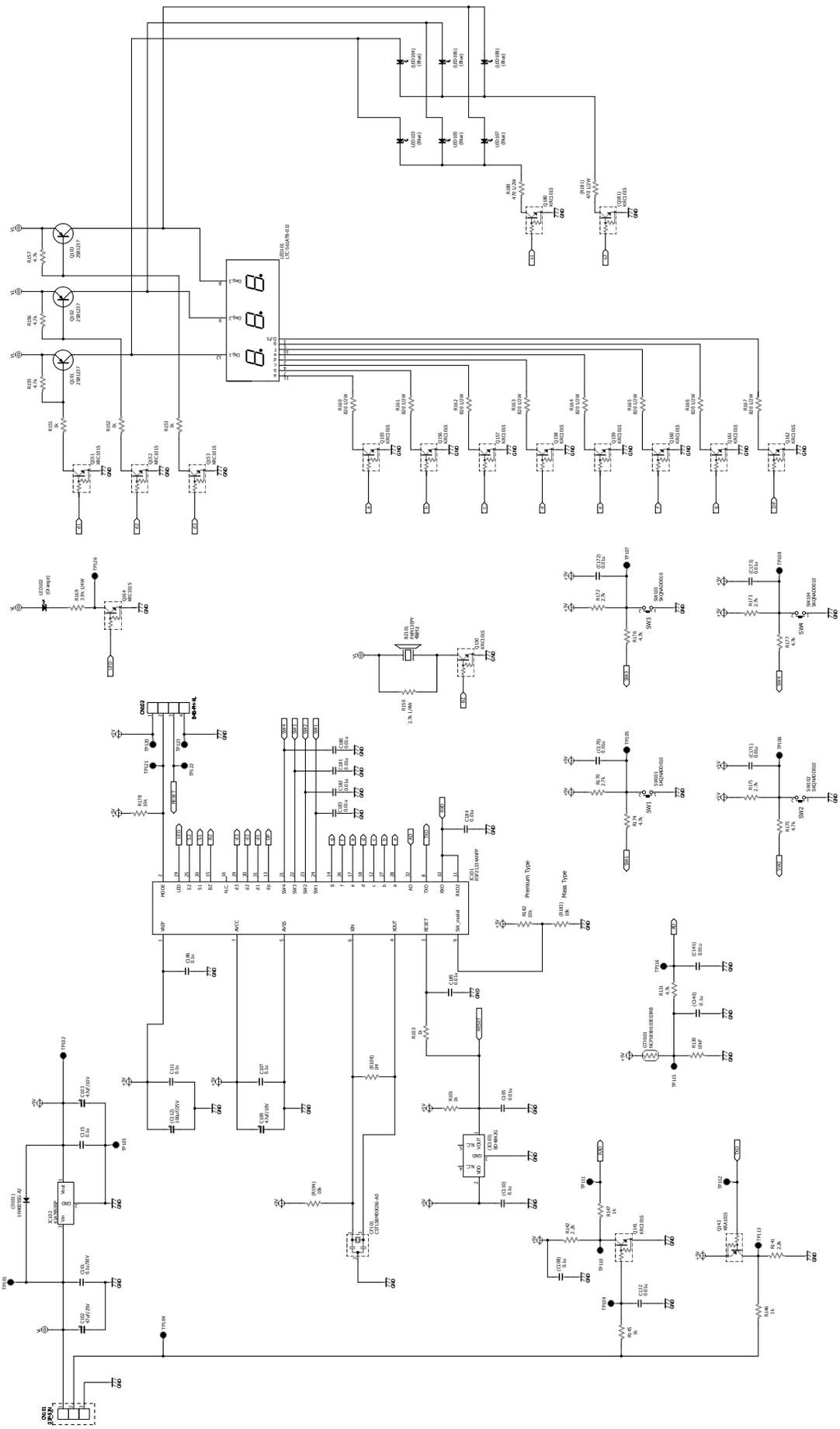
3) Display PWB (SJ-WS360T/RP360T/WP360T)



Operation Board Circuit Diagram

1.Rating of resistors without appointment are 1/10W, error 5% (J).
2.Rating of capacitors without appointment are 0.01uF/50V, 0.1uF/50V.
3.Parts with parentheses are not in use, but can be inserted.

4) Display PWB (SJ-RM360T/WM362T)



Operation Board Circuit Diagram

1.Rating of resistors without appointment are 1/10W, error 5% (J).
2.Rating of capacitors without appointment are 0.01u/50V, 0.1u/50V.
3.Parts with parentheses are not in use, but can be inserted.

4. PRECAUTIONS FOR USING LEAD-FREE SOLDER

1) Employing lead-free solder

The PWB of this model employs lead-free solder. This is indicated by the "LF" symbol printed on the PWB and in the service manual. The suffix letter indicates the alloy type of the solder.

Example:

Indicates lead-free solder of tin, silver and copper

2) Using lead-free wire solder

When repairing a PWB with the "LF" symbol, only lead-free solder should be used. (Using normal tin/lead alloy solder may result in cold soldered joints and damage to printed patterns.)

As the melting point of lead-free solder is approximately 40°C higher than tin/lead alloy solder, it is recommend that a dedicated bit is used, and that the iron temperature is adjusted accordingly.

3) Soldering

As the melting point of lead-free solder (Sn-Ag-Cu) is higher and has poorer wettability, (flow), to prevent damage to the land of the PWB, extreme care should be taken not to leave the bit in contact with the PWB for an extended period of time. Remove the bit as soon as a good flow is achieved.The high content of tin in lead free solder will cause premature corrosion of the bit. To reduce wear on the bit, reduce the temperature or turn off the iron when it is not required.

Leaving different types of solder on the bit will cause contamination of the different alloys, which will alter their characteristics, making good soldering more difficult. It will be necessary to clean and replace bits more often when using lead-free solder. To reduce bit wear, care should be taken to clean the bit thoroughly after each use.

[8] FAILURE DIAGNOSIS

1. OUTLINE OF CONTROL

1) ON/OFF Control of Compressor

ON/OFF of the compressor will be controlled depend on the temperature detected by the R-thermistor and F-thermistor. (Normal cooling control)

In case the surrounding temperature is high at the power supply input, the compressor will be ON at once and the normal cooling control will start after several hours.

• During 6 minutes after the compressor stops, it will not start regardless of the detected temperature by R-thermistor and F-thermistor.

2) Defrosting

Microcomputer calculates the appropriate timing of defrosting and defrosting is made automatically. Therefore no manual operation by user is required. The cycle of defrosting varies depend on the usage condition of the refrigerator. (Maximum time 50 hours, minimum time 40 minutes)

It is possible to perform defrosting forcedly by turning ON the power with the door of the refrigerating room opened.

3) Thermistor

Thermistors are installed in 4 places; in the refrigerator and freezer compartment, and on the Display PWB and close to Evaporator. (R-thermistor, Fthermistor,Outside temp-thermistor, Def-thermistor)

R-thermistor and F-thermistor reads the temperature in the refrigerator and freezer compartment respectively and controls ON/OFF of the compressor and OPEN/CLOSE of the electrical damper.

Def-thermistor detects the temperature around the evaporator and shows the progress of defrosting.

Outside temp-thermistor reads the surrounding temperature of refrigerator. It changes the operation mode by the outside temperature.

2. WHEN THE DEFROSTING FAILURE IS DOUBTFUL

Execute the Self-Diagnosis Mode. (Refer to the Chapter “SELF-DIAGNOSIS MODE”)

• In case the diagnosis result is “ E03” (Def-thermistor system defect), follow up the flowchart of E03. (In case of any abnormity in the Def-thermistor, defrosting will not be made for safety reasons.)

• In case the diagnosis result is “ E07” (Defrost defect), follow up the flowchart of E07.

(This diagnosis result will be displayed when defrosting is made for 120 minutes, the maximum time length. In this case, the defect of PWB itself and also the breakage of heater and heater circuit (melt down of current fuse and temperature fuse) are considerable.)

3. RE-SETTING OF MICROCOMPUTER AT POWER FAILURE

• At the power failure for over about 1 second, the control of the microcomputer will be reset.

(Microcomputer might continue to operate for approximately 10 seconds maximum at power failure depending on the load at the operation. When you need the difinite power off condition ,approximately 30 seconds is necessary.)

• When the power is re-supplied, the normal cooling will be resumed. (Defrosting is not maintained.)

• And the settings on the control panel will be restored to their condition before the power failure. (However “Express Freezing” will not be restored.)

4. DIAGNOSIS METHOD OF FAILURE AROUND PWB

In case of any abnormality of refrigerator, check by the following procedure;

1.Disconnect power supply and check the following point.

- Is there any failure portion in inserting connectors?

2.Detach the PWB and check the appearance.

- Is there any burning or abnormal damage?

3.Check the conditions of the fuse and the varistor. (Fuse and varistor are located at the position in the figure.)

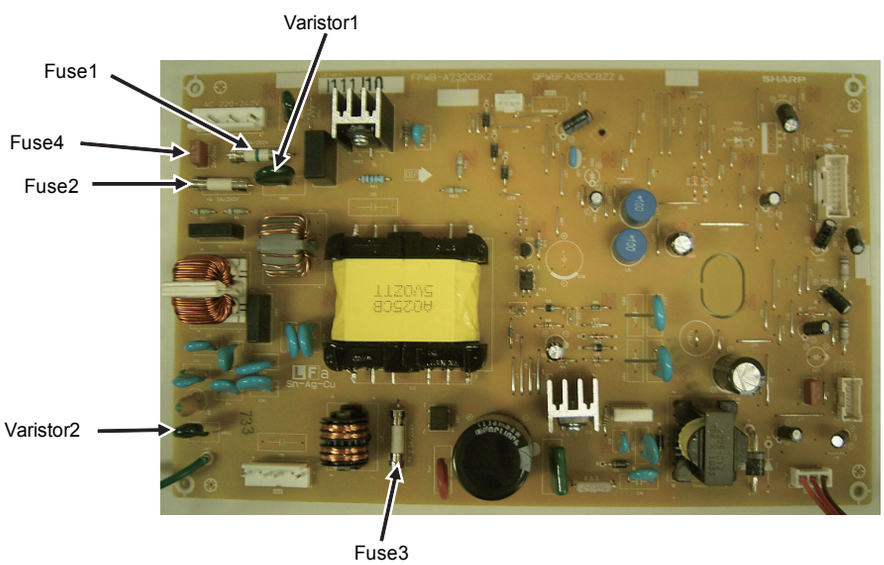
- Under the condition of power supply plug connected;

  When the fuse F1 or F2 or F3 (SJ-WS360T/RP360T) / F1 or F2 (SJ-WP360T/RM360T/WM362T) is melt down, PWB does not operate at all. (No cooling and no indoor lamp)

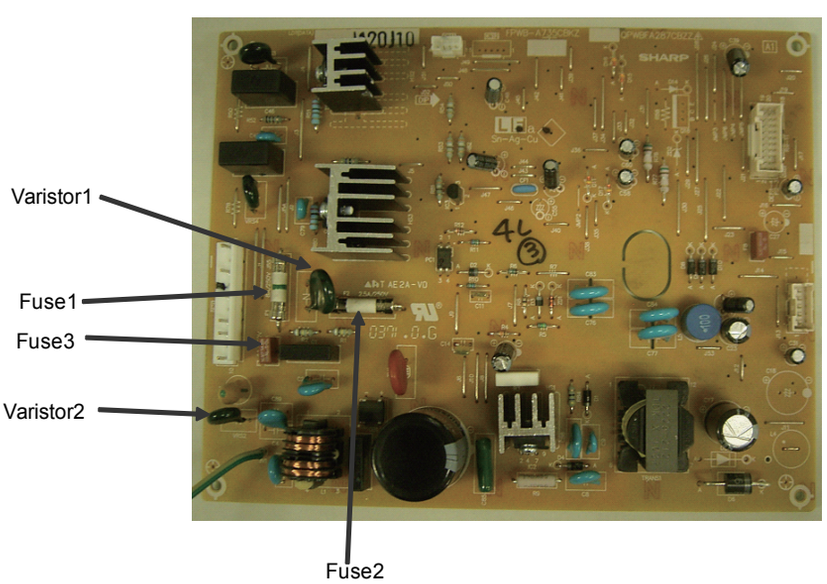
  When the fuse F4 (SJ-WS360T/RP360T) / F3 (SJ-WP360T/RM360T/WM362T) is melt down, only defrosting heater is not electrified. (It will be diagnosed as “Defrosting failure” by the self diagnosis.)

- Melting in the fuse cannot be checked visually (as the safer one than transparent glass tube is used). Be sure to detach the connector “CN1” before measuring the resistance between the both ends of the fuse by the tester.
- Next, check the visible damage of the varistor.

  1) SJ-WS360T/RP360T



  2) SJ-WP360T/RM360T/WM362T



5. CONVERSION TABLE BETWEEN TEMPERATURE AND RESISTANCE VALUE

1) R-thermistor, F-thermistor

Temperature (°C)	Resistance Value (KΩ)	Temperature (°C)	Resistance Value (KΩ)	Temperature (°C)	Resistance Value (KΩ)
-25	26.1	-9	10.3	7	4.5
-24	24.5	-8	9.8	8	4.3
-23	23.1	-7	9.2	9	4.1
-22	21.7	-6	8.8	10	3.9
-21	20.5	-5	8.3	11	3.7
-20	19.3	-4	7.9	12	3.6
-19	18.2	-3	7.5	13	3.4
-18	17.1	-2	7.1	14	3.2
-17	16.2	-1	6.7	15	3.1
-16	15.3	0	6.4	20	2.5
-15	14.4	1	6.1	25	2.0
-14	13.6	2	5.8	30	1.6
-13	12.9	3	5.5	35	1.3
-12	12.2	4	5.2	40	1.1
-11	11.5	5	5.0		
-10	10.9	6	4.7		

2) Def-thermistor

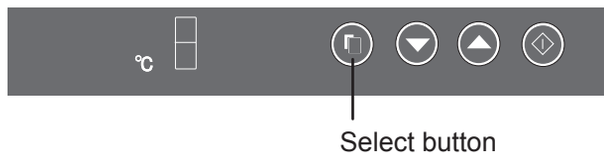
Temperature (°C)	Resistance Value (KΩ)	Temperature (°C)	Resistance Value (KΩ)	Temperature (°C)	Resistance Value (KΩ)
-25	61.2	-9	24.1	7	10.6
-24	57.5	-8	22.9	8	10.1
-23	54.1	-7	21.7	9	9.6
-22	50.9	-6	20.5	10	9.2
-21	47.9	-5	19.5	11	8.7
-20	45.2	-4	18.5	12	8.3
-19	42.6	-3	17.5	13	8.0
-18	40.1	-2	16.6	14	7.6
-17	37.9	-1	15.8	15	7.3
-16	35.7	0	15	20	5.8
-15	33.7	1	14.3	25	4.7
-14	31.9	2	13.6	30	3.8
-13	30.1	3	12.9	35	3.1
-12	28.5	4	12.3	40	2.5
-11	26.9	5	11.7		
-10	25.5	6	11.1		

[9] SELF-DIAGNOSIS MODE

1. Entering method of the mode

1) Press the [Select] button on the control panel over 5 seconds at the opening condition of the refrigerating room door.

2) With a beep sound of buzzer, the self-diagnosis mode is entered. When the self-diagnosis mode is not entered by the above operation, defect of Door SW system can be considered.



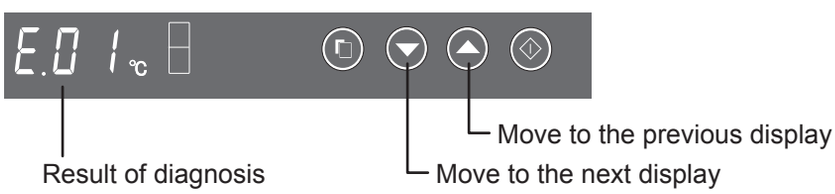
2. Movements during the self-diagnosis mode.

- Door alarm must not be sounded for 20 minutes.
- Defect and various conditions are displayed by [ON/OFF of buzzer].
- Defect and various conditions are displayed on the control panel. In case of plural defects and various conditions, these are displayed one after another by button operation and all contents are notified.

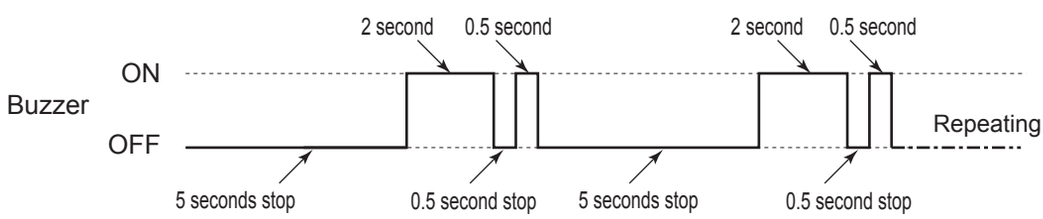
Forced release operation is not prepared for the self-diagnosis mode. It returns to the normal movement after a lapse of 2 minutes.

3. Display of self-diagnosis

- Display example of control panel (at the defect of F-thermistor system)



- Buzzer notice example; (at inverter defect, 2 and 0.5 second ON)



4. Defect display

No.	Status	Buzzer	LED Display	Content	Correspondance method
—	No defects None	None	-- --		
1	F-thermistor system defect	●	E.01	Defect of each thermistor, short circuit/wire breakage of thermistor wiring and defect of main PWB	→ [1]
2	R-thermistor system defect	●	E.02		→ [2]
3	DEF-thermistor system defect	●	E.03		→ [3]
4	Outside temperature-thermistor system defect	●	E.04	Defect of display PWB	→ [4]
5	Defrost defect	●	E.07	Wire breakage of Thermo. fuse, defrost heater, defect of main PWB (120-minute defrosting has been occurred continuously 2 times within the past 48 hours.)	→ [5]
6	Fan motor system defect	●	E.08	Defect of wiring / main PWB (When fan motor is ON, over current or no current is detected.)	→ [6]
7	Plasmacluster system defect	●	E.11	Defect of wiring / main PWB (When Plasmacluster is ON, over current or no current is detected.)	→ [7]
8	Display PWB communication defect	●	E.12	Defect of wiring , defect of display or main PWB (Communication with display PWB has been abnormal over 5 times within the past 48 hours.)	→ [8]
9	Inverter cable unconnected	◎●	E.30	Defect of wiring , Compressor, Overload Relay (Protector) ,inverter PWB, main PWB	→ [9]
10	Inverter Overload Fail	◎●	E.32		→ [9]
11	Inverter Under Speed Fail	◎●	E.33		→ [9]
12	Inverter Start Fail	◎●	E.34		→ [9]
13	Inverter Short Circuit Fail	◎●	E.35		→ [9]
14	Inverter PWB communication defect	◎●	E.38		→ [10]
15	Inverter Wrong rotor position	◎●	E.40		→ [9]
16	LED lamp PWB voltage defect(Left side)	●	E.81	Wire breakage of LED lamp PWB, defect of LED lamp PWB or main PWB	→ [11]
17	LED lamp PWB voltage defect(Right side)	●	E.82		→ [12]
18	F-thermistor system defect history	◎●●	H.61	Defect of thermistor system has been occurred over 1 minute continuously within the past 48 hours	→ [1]
19	R-thermistor system defect history	◎●●	H.62		→ [2]
20	DEF-thermistor system defect history	◎●●	H.63		→ [3]
21	Outside temperature-thermistor system defect history	◎●●	H.64		→ [4]
22	F fan motor system defect history	◎●●	H.67	Defect of fan motor has been occurred over 3 times continuously within the past 48 hours.	→ [6]
23	Plasmacluster system defect history	◎●●	H.73	Defect of Plasmacluster system has been occurred over 3 times continuously within the past 48 hours.	→ [7]
24	F-room high temperature history	◎●●	H.75	Temperature of F-thermistor has been reached over -10°C continuously for 6 hours or more within the past 48 hours. (except right after the installation)	→ [1]
25	R-room high temperature history	◎●●	H.76	Temperature of R-thermistor has been reached over +10°C continuously for 6 hours or more within the past 48 hours (except right after the installation)	→ [2]

Buzzer : ● = 0.5sec. ON/ 0.5sec. OFF, ◎ = 2sec. ON/ 0.5sec. OFF

5. Compressor speed (SJ-WS360T/RP360T)

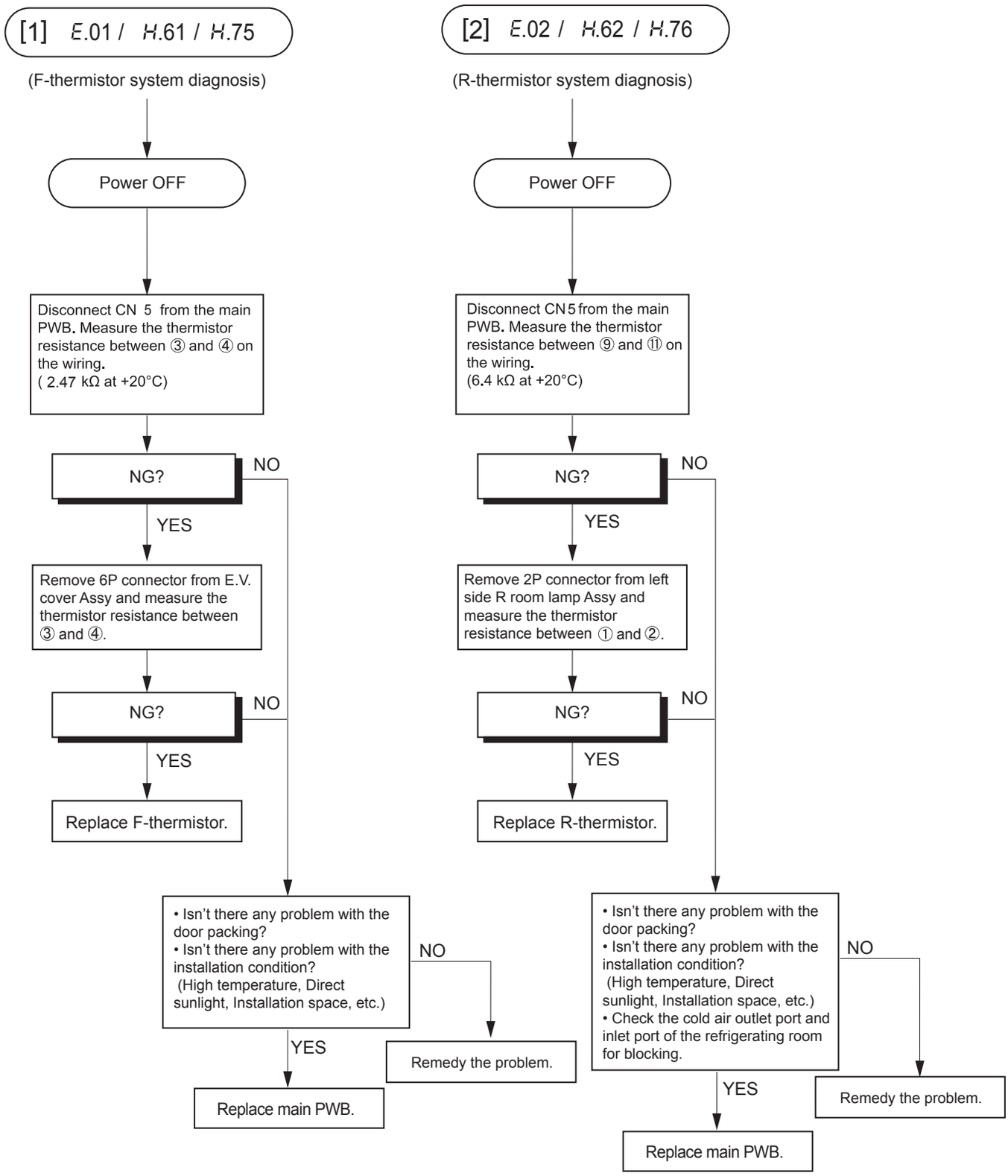
• When the “Select” button is pressed in the self-diagnosis mode, the current rotation speed of the compressor will be indicated.

✲ The buzzer will not sound. (Even if a defect is found by the self-diagnosis, the buzzer will not sound in this mode.)

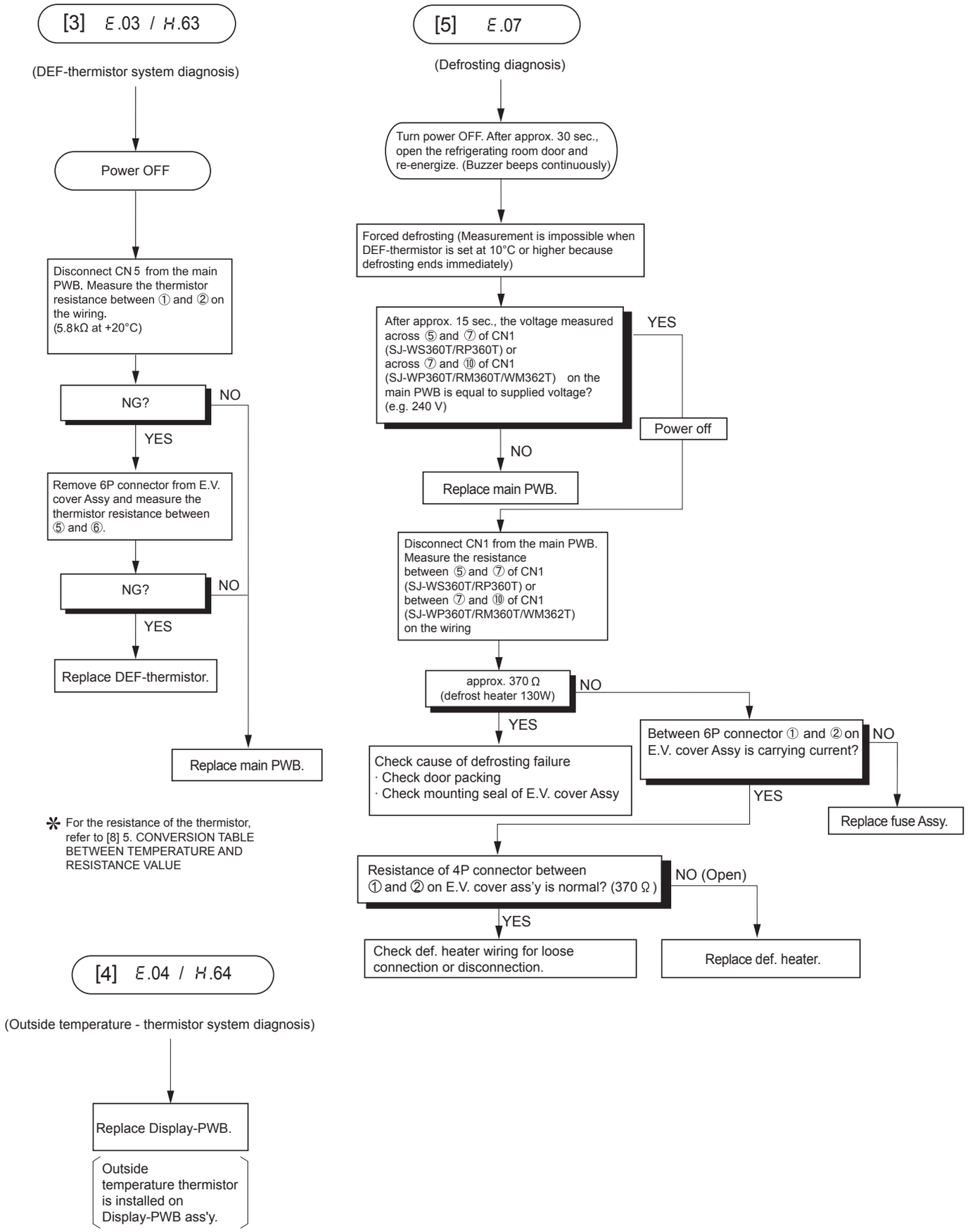
✲ The indicated rotation speed of the compressor is the set rotation speed transmitted from the main PWB to the inverter PWB and not the actual rotation speed of the compressor.

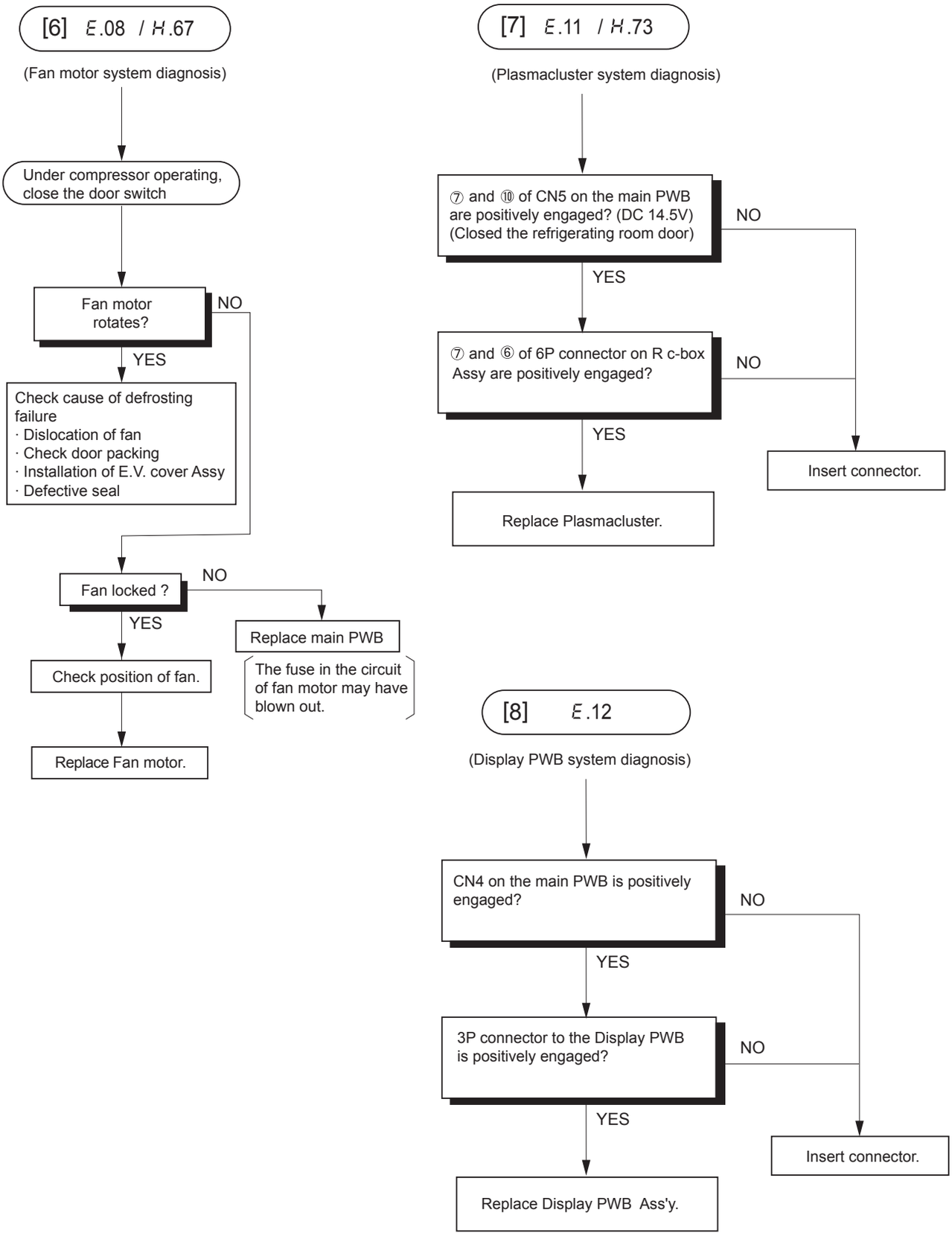
LED indication	Set rotation speed of compressor	Buzzer indication
0	Stop	None
16	1600rpm	
～	～	
42	4200rpm	

6. Correspondence method

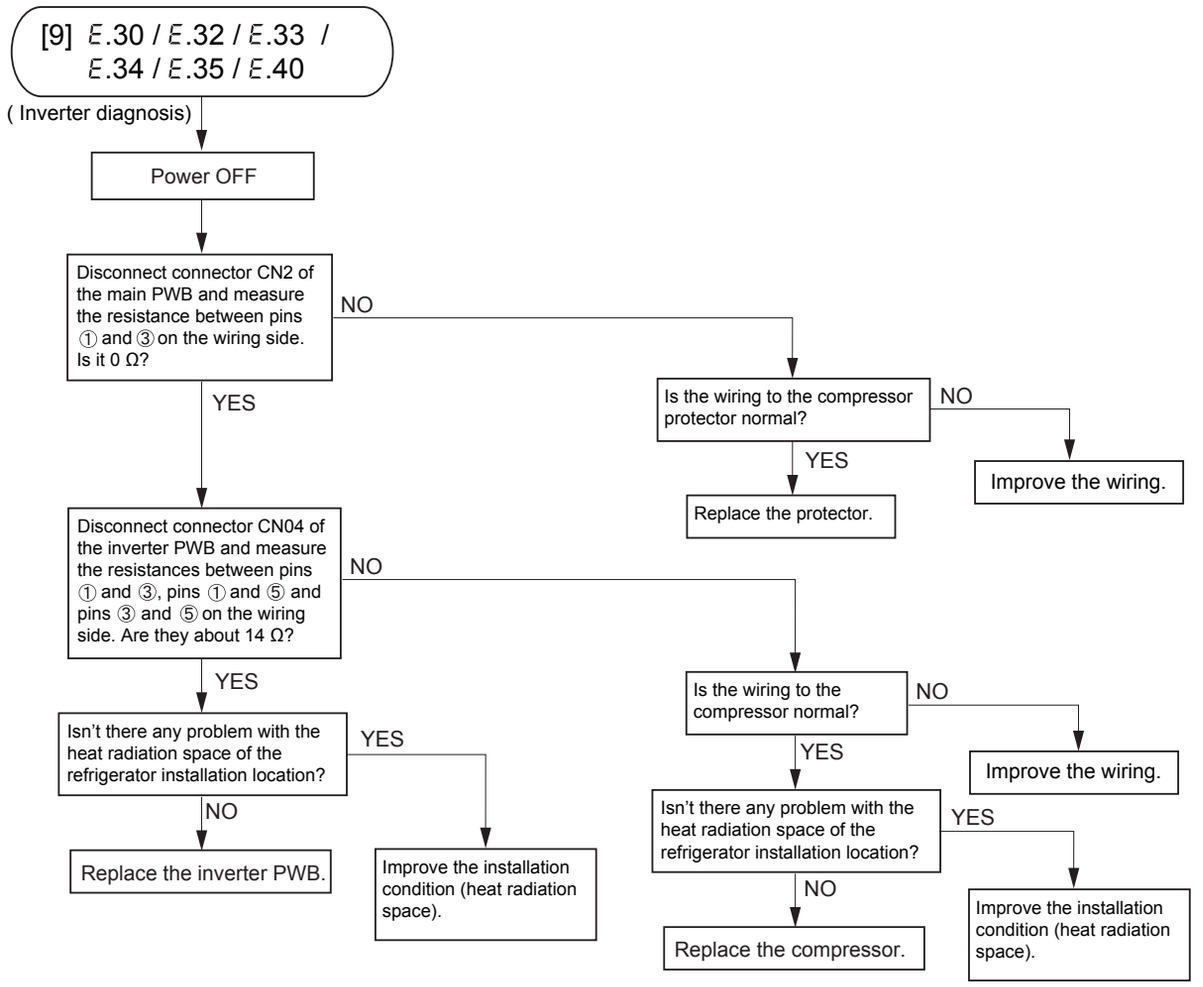


✻ For the resistance of the thermistor, refer to [8] 5. CONVERSION TABLE BETWEEN TEMPERATURE AND RESISTANCE VALUE

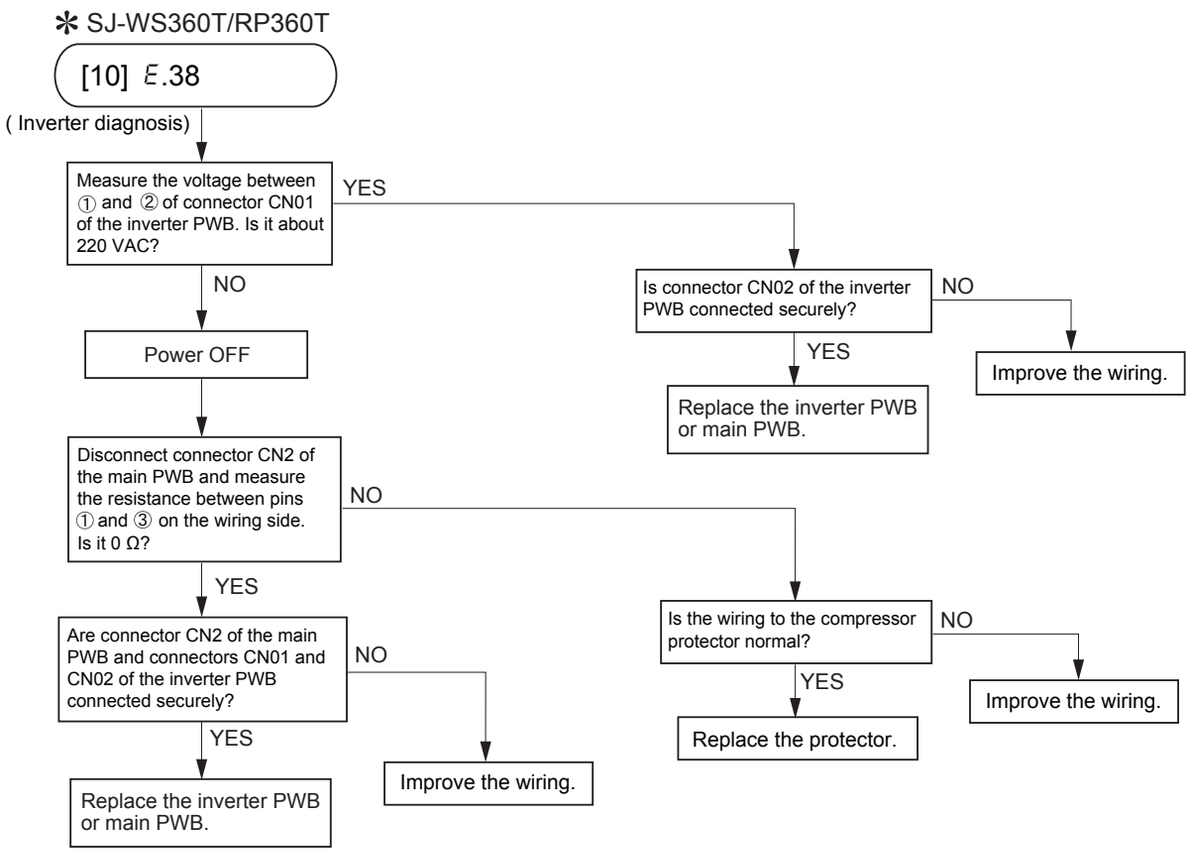

[3] E.03 / H.63
(DEF-thermistor system diagnosis)
Power OFF
Disconnect CN 5 from the main PWB. Measure the thermistor resistance between ① and ② on the wiring.
(5.8kΩ at +20°C)
NG?
NO
YES
Remove 6P connector from E.V. cover Assy and measure the thermistor resistance between ⑤ and ⑥.
NG?
NO
YES
Replace DEF-thermistor.
Replace main PWB.
✻ For the resistance of the thermistor, refer to [8] 5. CONVERSION TABLE BETWEEN TEMPERATURE AND RESISTANCE VALUE
[4] E.04 / H.64
(Outside temperature - thermistor system diagnosis)
Replace Display-PWB.
Outside temperature thermistor is installed on Display-PWB ass'y.
[5] E.07
(Defrosting diagnosis)
Turn power OFF. After approx. 30 sec., open the refrigerating room door and re-energize. (Buzzer beeps continuously)
Forced defrosting (Measurement is impossible when DEF-thermistor is set at 10°C or higher because defrosting ends immediately)
After approx. 15 sec., the voltage measured across ⑤ and ⑦ of CN1 (SJ-WS360T/RP360T) or across ⑦ and ⑩ of CN1 (SJ-WP360T/RM360T/WM362T) on the main PWB is equal to supplied voltage? (e.g. 240 V)
YES
Power off
NO
Replace main PWB.
Disconnect CN1 from the main PWB. Measure the resistance between ⑤ and ⑦ of CN1 (SJ-WS360T/RP360T) or between ⑦ and ⑩ of CN1 (SJ-WP360T/RM360T/WM362T) on the wiring
approx. 370 Ω (defrost heater 130W)
NO
YES
Between 6P connector ① and ② on E.V. cover Assy is carrying current?
NO
YES
Replace fuse Assy.
Check cause of defrosting failure
· Check door packing
· Check mounting seal of E.V. cover Assy
Resistance of 4P connector between ① and ② on E.V. cover ass'y is normal? (370 Ω)
NO (Open)
YES
Check def. heater wiring for loose connection or disconnection.
Replace def. heater.

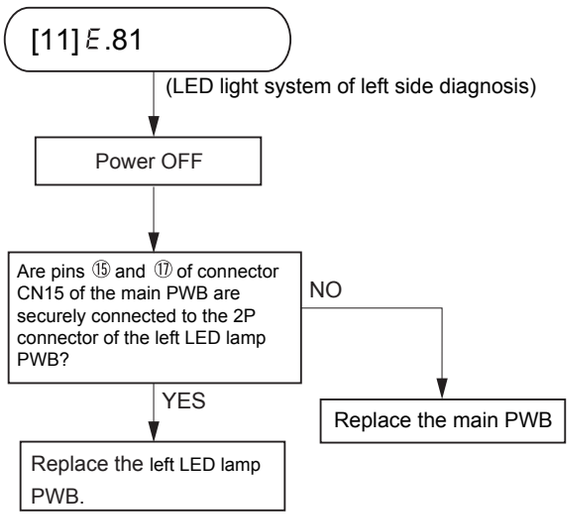

[6] E.08 / H.67
(Fan motor system diagnosis)
Under compressor operating, close the door switch
Fan motor rotates?
NO
YES
Check cause of defrosting failure
· Dislocation of fan
· Check door packing
· Installation of E.V. cover Assy
· Defective seal
Fan locked ?
NO
YES
Replace main PWB
The fuse in the circuit of fan motor may have blown out.
Check position of fan.
Replace Fan motor.
[7] E.11 / H.73
(Plasmacluster system diagnosis)
⑦ and ⑩ of CN5 on the main PWB are positively engaged? (DC 14.5V) (Closed the refrigerating room door)
NO
YES
⑦ and ⑥ of 6P connector on R c-box Assy are positively engaged?
NO
YES
Insert connector.
Replace Plasmacluster.
[8] E.12
(Display PWB system diagnosis)
CN4 on the main PWB is positively engaged?
NO
YES
3P connector to the Display PWB is positively engaged?
NO
YES
Insert connector.
Replace Display PWB Ass'y.

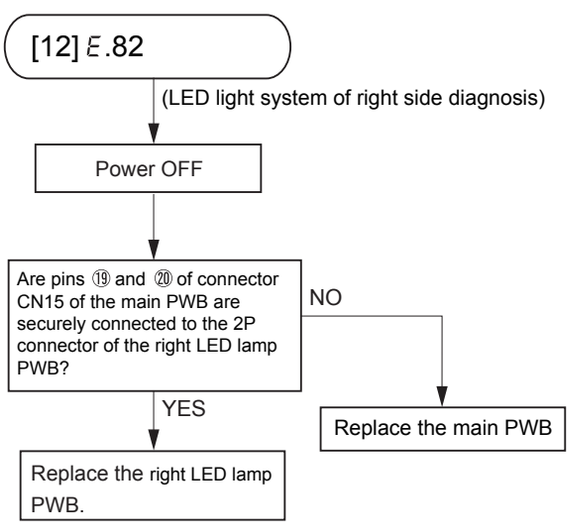
✻ SJ-WS360T/RP360T



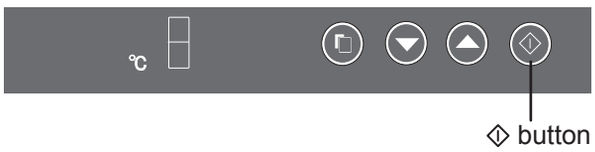
✻ SJ-WS360T/RP360T




[11] E.81
(LED light system of left side diagnosis)
Power OFF
Are pins ⑮ and ⑰ of connector CN15 of the main PWB are securely connected to the 2P connector of the left LED lamp PWB?
NO
YES
Replace the main PWB
Replace the left LED lamp PWB.


[12] E.82
(LED light system of right side diagnosis)
Power OFF
Are pins ⑲ and ⑳ of connector CN15 of the main PWB are securely connected to the 2P connector of the right LED lamp PWB?
NO
YES
Replace the main PWB
Replace the right LED lamp PWB.

[10] MODE FOR DISPLAY



◈ button

1) Entering method of the mode

Within 2 minutes after main power input, press the [◈] button over 5 seconds at the opening condition of the refrigerating room door.

2) Release of the mode

Press the [◈] button over 5 seconds at the opening condition of the refrigerating room door.

(Even without the above operation, release can be made by main power OFF.)

3) Movement in the mode

1.Compressor, fan motor, heater and Plasmacluster are stopped.

2.Damper is always made [CLOSE] condition.

3.Indoor lamp is lit when door is open.

4.LED display

- LED display will be displayed in turn automatically.

5.Door alarm is not operated.

[11] DISASSEMBLING/ASSEMBLING PROCEDURES

1. REFRIGERATOR COMPARTMENT

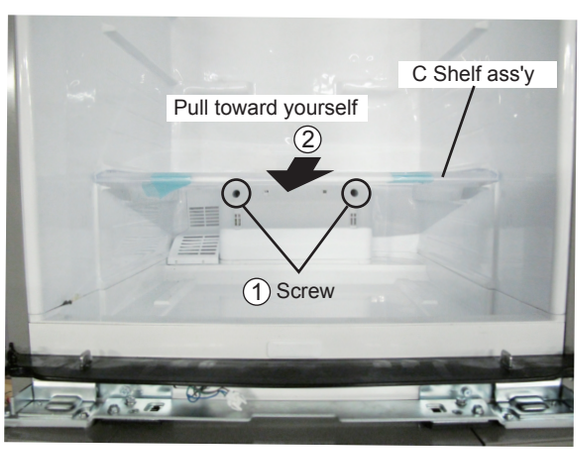
Parents parts name	Included main parts
R control cov. ass'y	Plasmacluster unit, Damper ass'y
Duct cover ass'y	Deodorizer
-	R-thermistor (Inside LED cover)

1. Disassembling procedures

1. Remove the accessories(shelves, vegetable case, chilled case, etc.).

2. Remove the R shower duct ass'y .

3. Remove the C shelf ass'y

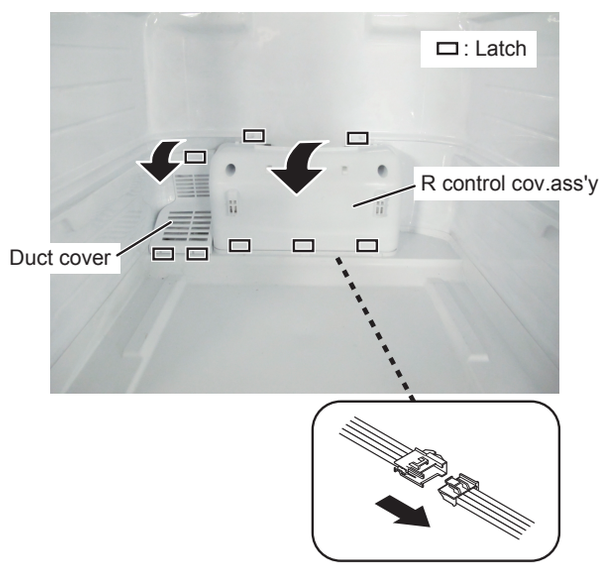


4. Remove the Duct cover

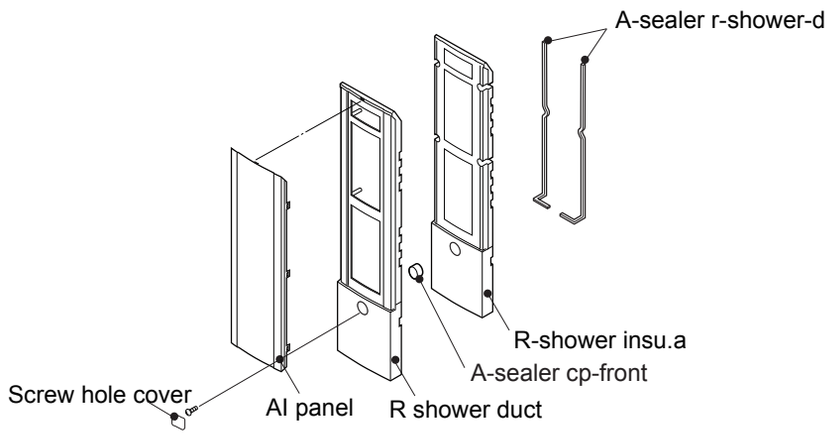
   When installing the cover, first insert the lower latch.

5. Remove the R control cov.ass'y, and disconnect the connectors.

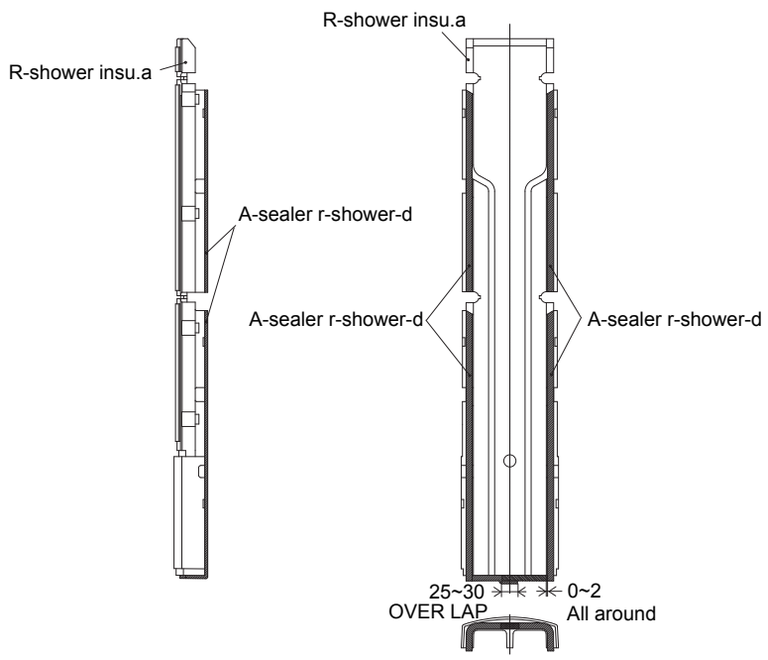
   When installing the R control cov. ass'y, take care not to tuck lead wires.



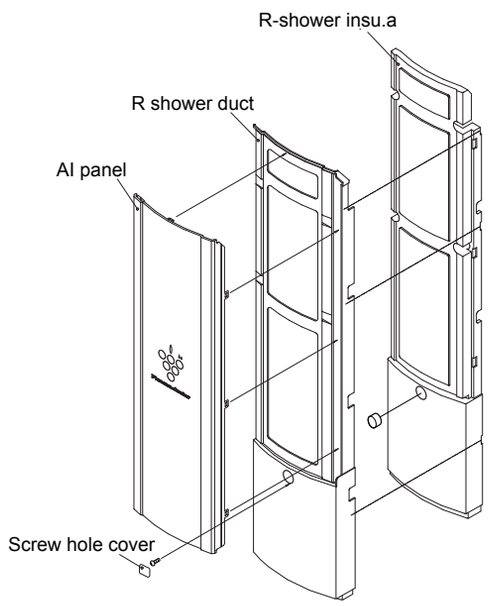
2. Assembling procedures of R shower duct ass'y



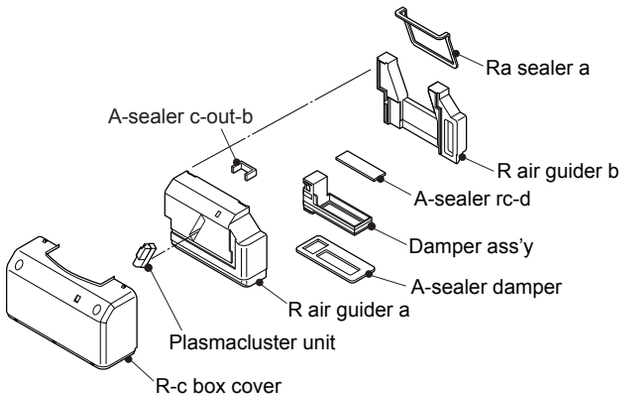
1. Stick A-sealer r-shower-d to R-shower insu.a.



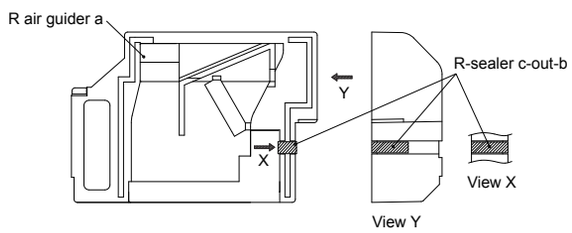
2. Fix 1) ass'y and A-sealer cp front to R shower duct.
3. Fix AI panel to R shower duct.



3. Assembling procedures of R control cov. ass'y

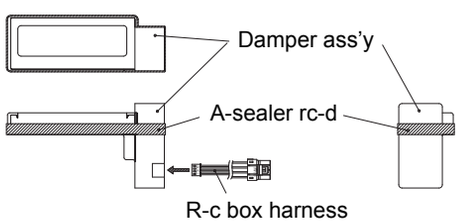


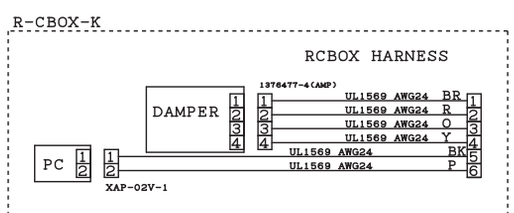
1.Stick A-sealer c-out-b to R air guider a.



2. Stick A-sealer rc-d to Damper ass'y.

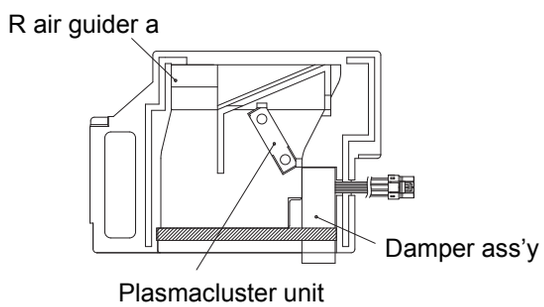
3. Insert R-c box herness to Damper ass'y.



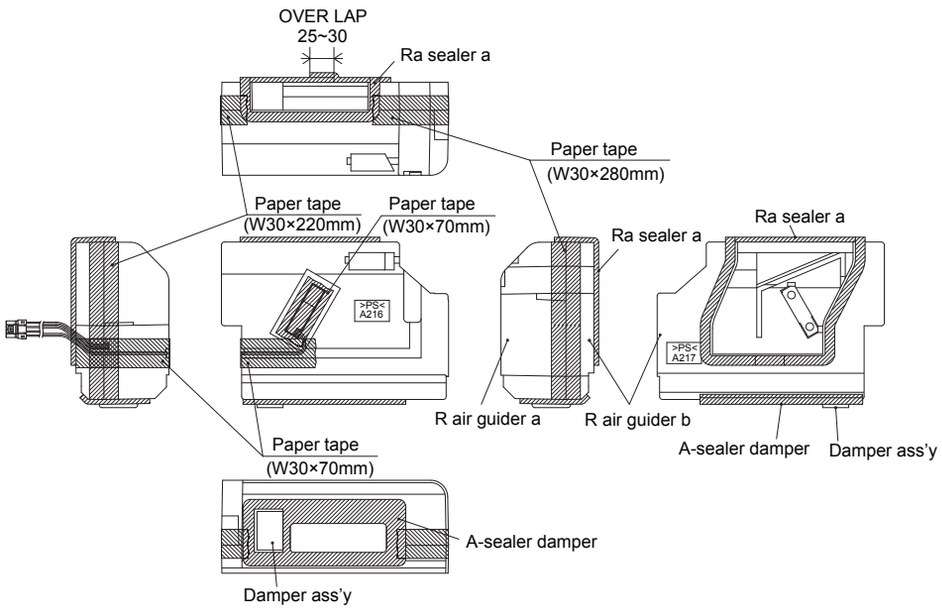


4. Insert R-c box harness to Plasmacluster unit.

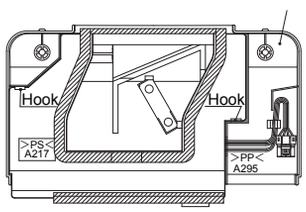
Insert Plasmacluster unit to R air guider a.



5. Fit Damper ass'y to R air guider a and fix R air guider b.
6. Fix 5) ass'y with Paper tape.
7. Stick A-sealer damper to 6) ass'y.
8. Stick Ra sealer a to 6) ass'y.



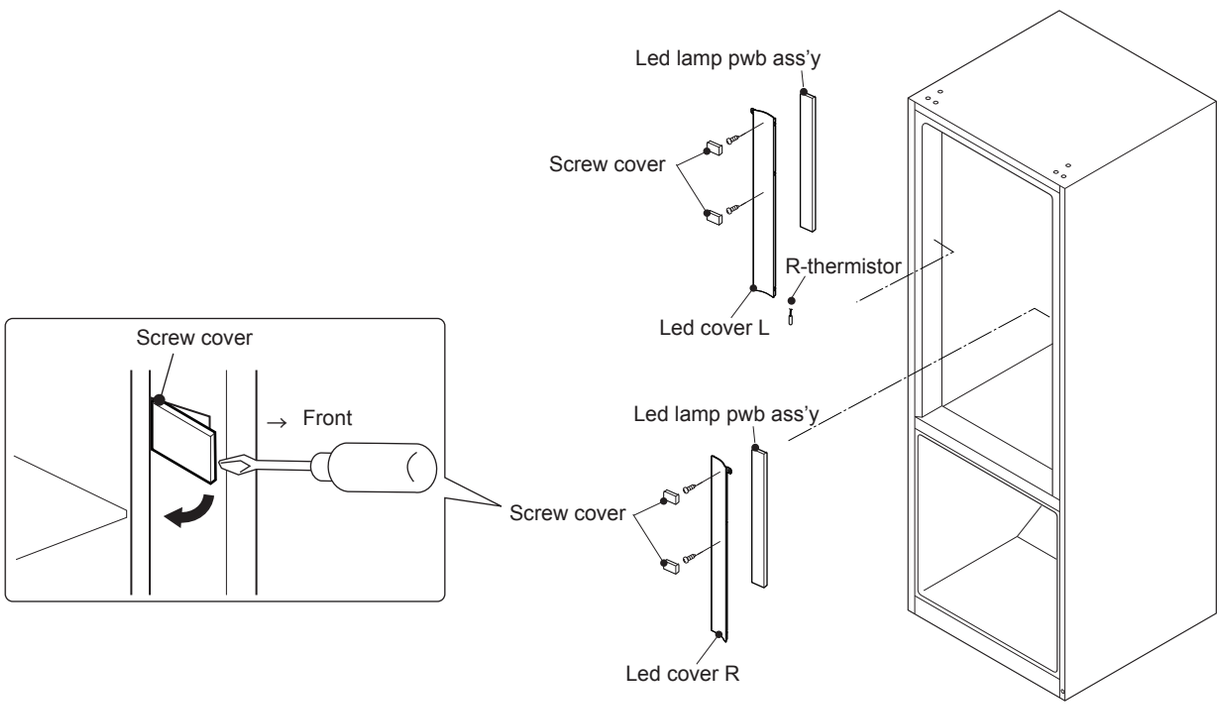
9. Fix 8) ass'y to R-c box cover.



4. How to remove the LED cover

Included main parts
LED lamp pwb ass'y (Inside LED cover)

1. Remove the Screw cover, and the Screw.
2. Remove the Led cover.



2. FREEZER COMPARTMENT

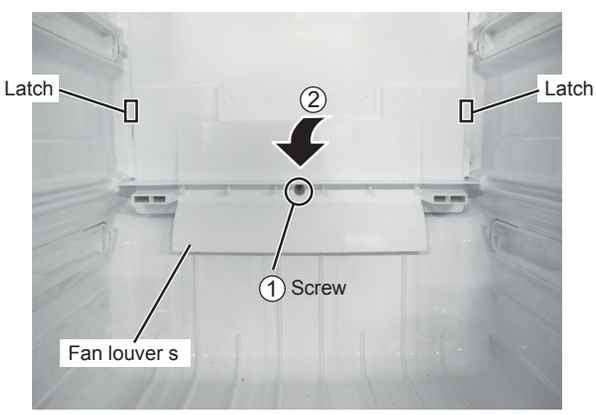
Parents parts name	Included main parts
E.v cover ass'y	Fuse ass'y, Def-thermistor, F-thermistor, F fan motor

1. Disassembling procedures

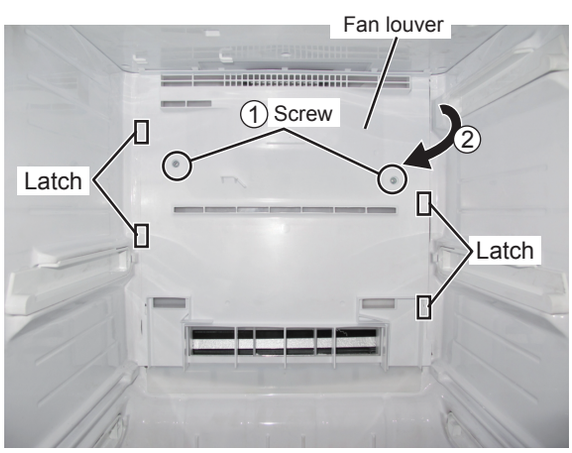
1. Disconnect the accessories(shelf, case, etc.).
2. Remove the Ice frame.

   Insert the flat-head screwdriver into the latch, and lift and move it to the right.

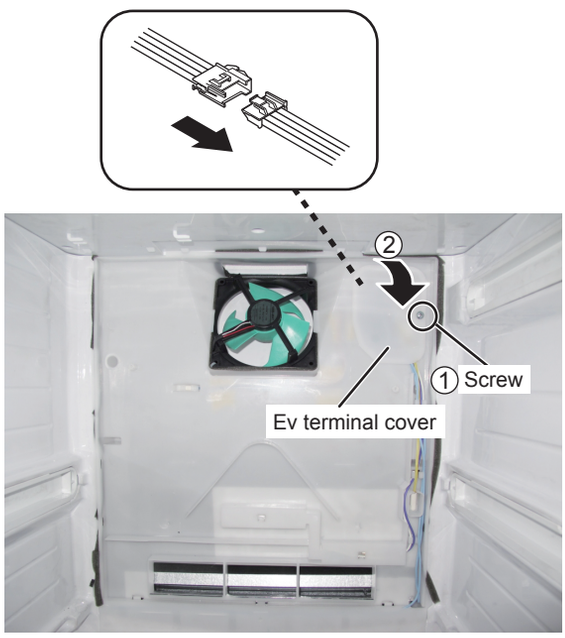
3. Remove the Fan louver s.



4. Remove the Fan louver.

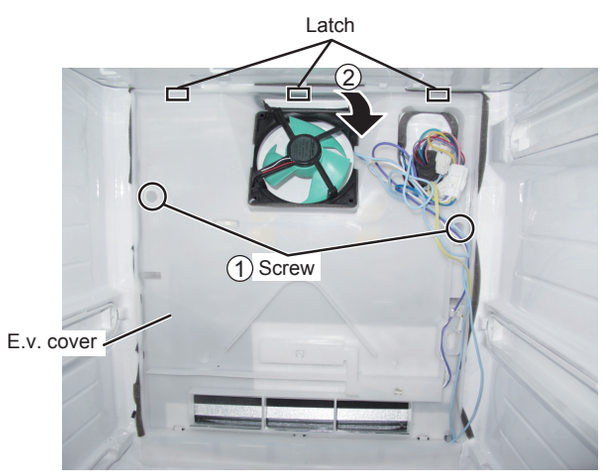


5. Remove the Ev terminal cover, and disconnect the connectros.

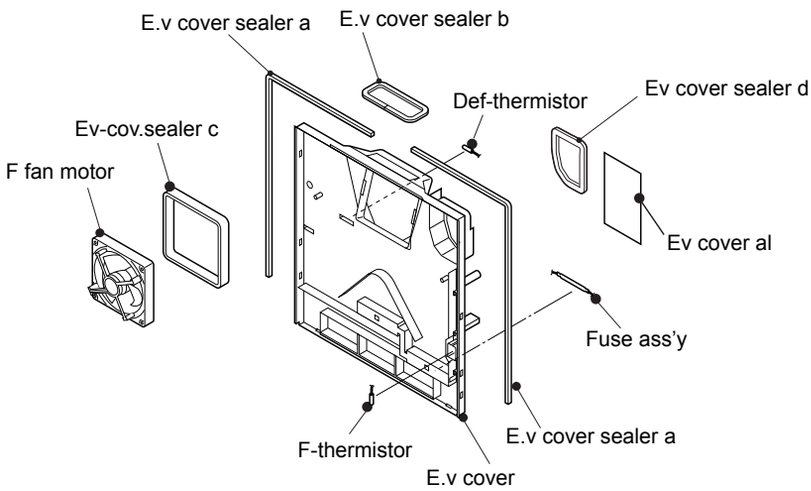


6. Remove the E.v. cover.

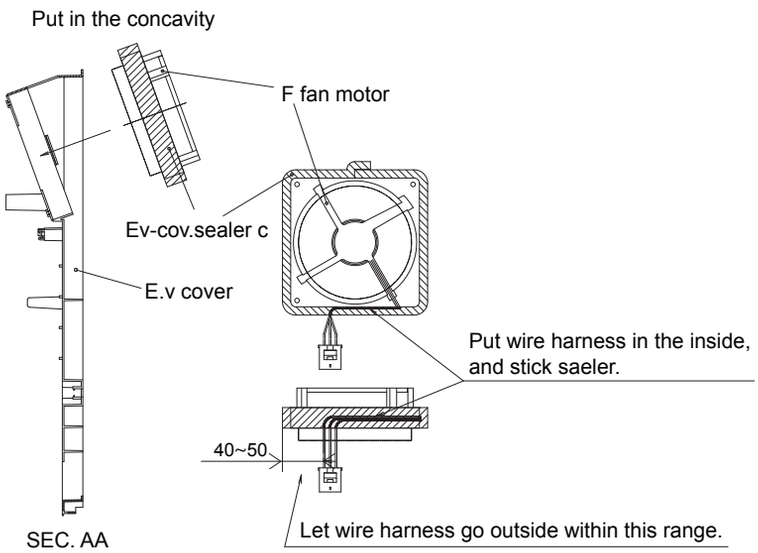
   When installing the E.v cover, take care not to tuck lead wires.



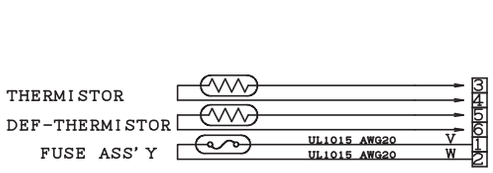
2. Assembling procedures of E.v cover ass'y

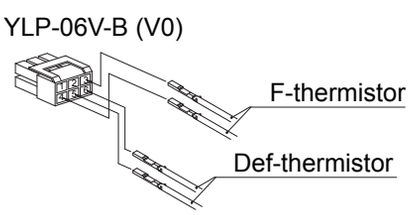


1. Stick Ev-cov.sealer c to F fan motor.



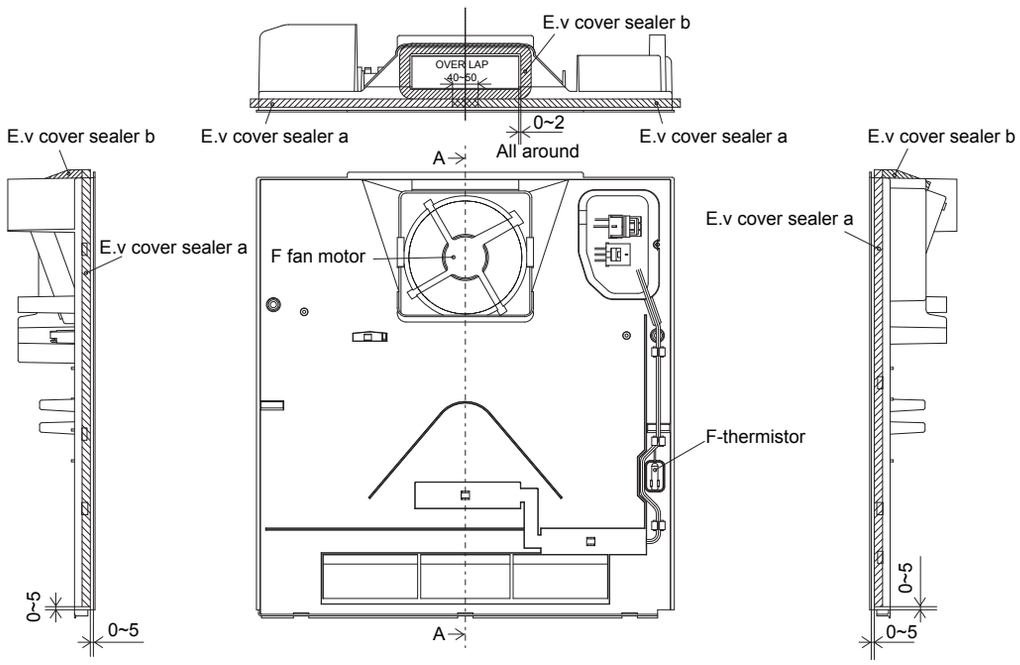
2. Insert terminal F-thermistor and Def-thermistor in the housing.

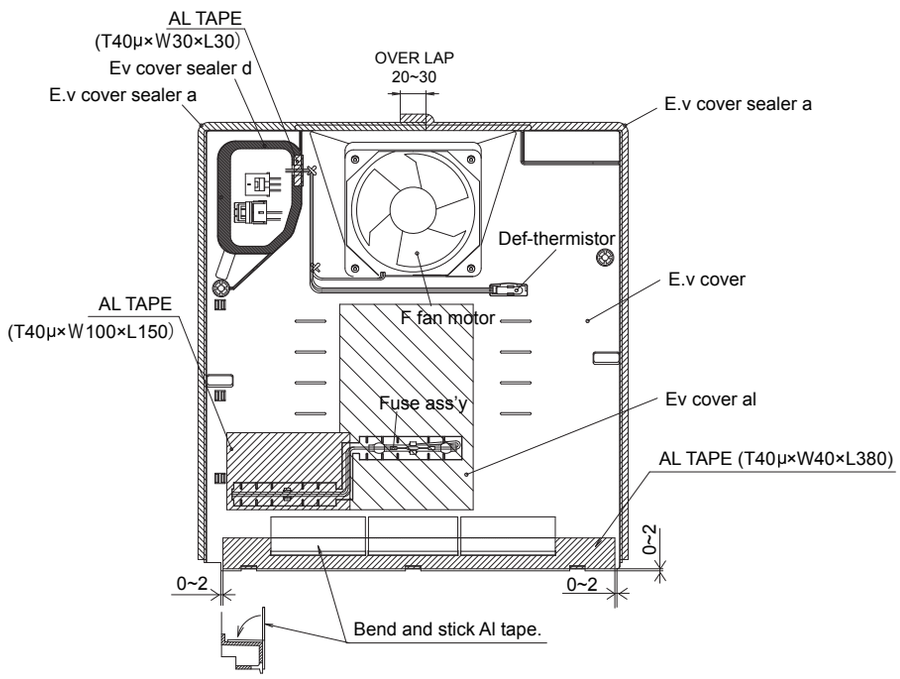




3. Stick E.v cover sealer a, b to E.v cover.

4. Set F fan motor, F-thermistor, Def-thermistor, F fuse ass'y in the E.v cover and stick Ev cover al.

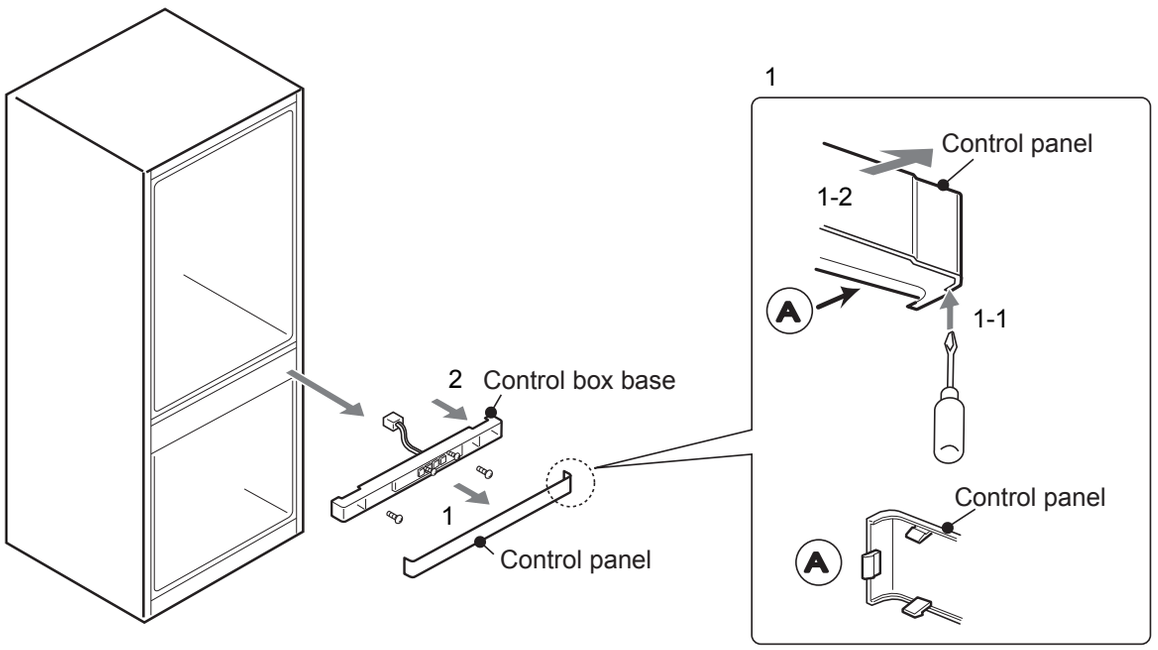




3. HOW TO REMOVE THE CONTROL PANEL

Included main parts
Display pwb ass'y (Inside Control box base)

1. Remove the Control panel.
2. Remove the Control box base.



4. DEFROST HEATER ASSEMBLY

1. Taking-out Evaporator

1. Take-out Fan louver.

2. Take-out E.V cover ass'y.

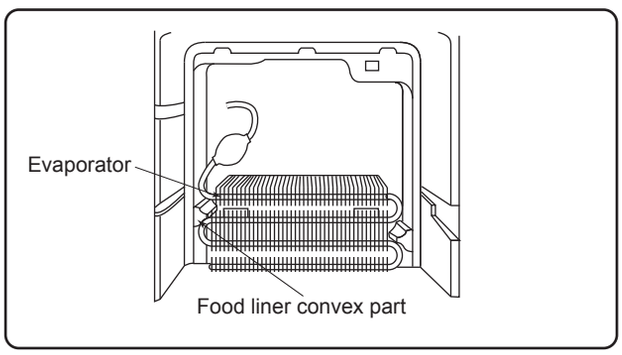


Figure A-1

3. As shown in Figure A-2, pull the upper part of Evaporator toward you, pull it diagonally so that the pipe of Evaporator does not contact the convex part of food liner.

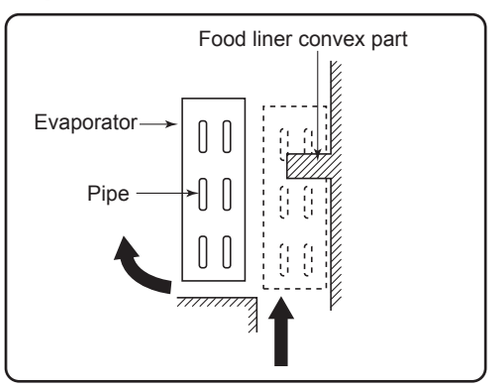


Figure A-2

4. Pull the Evaporator for remove as shown in Figure A-3.

NOTE: When pulling Evaporator and bending the pipes,pay attention so as not to break and deform the pipes. Still, take care not to hurt yourself by fin of Evaporator.

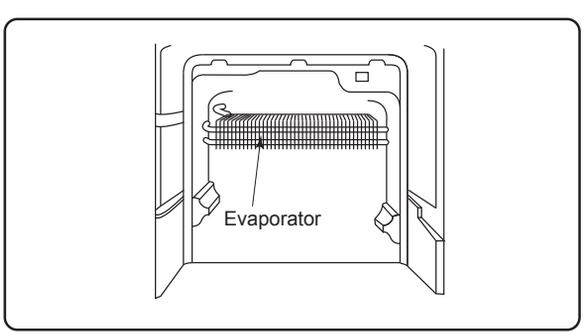


Figure A-3

2. Replacement of Def. heater ass'y.

1.Remove the Ev cover al,the FI al sheet.

Remove the Screw.

2. Take off the Drain support from the food liner.

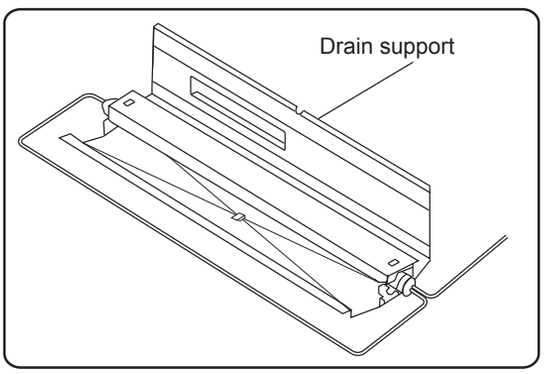


Figure A-4

3. Raise the protrusion part of Drain support.

Then remove Heater cover.

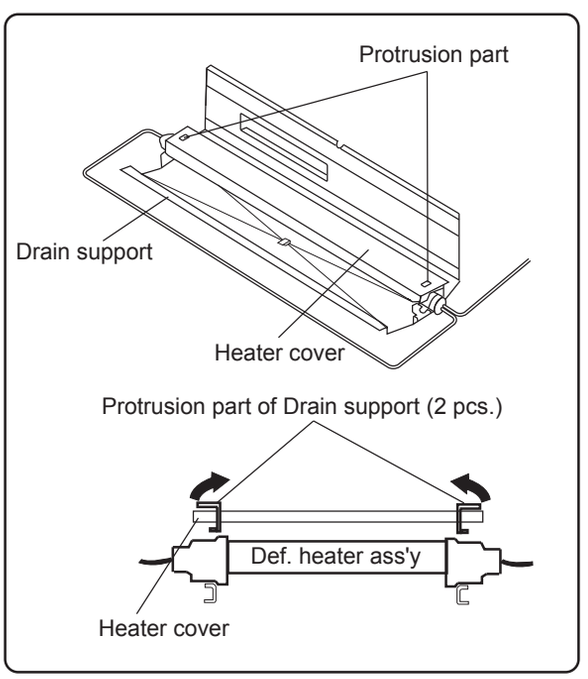


Figure A-5

4. Open Def.heater fixed part of Drain support to the right and left, then remove Def.heater ass'y.

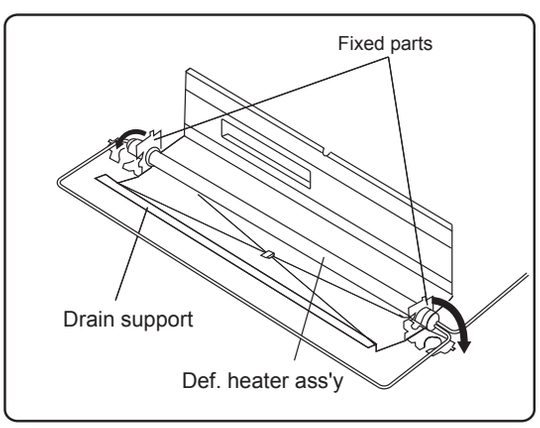


Figure A-6

5. Replace Def. heater ass'y with new one.

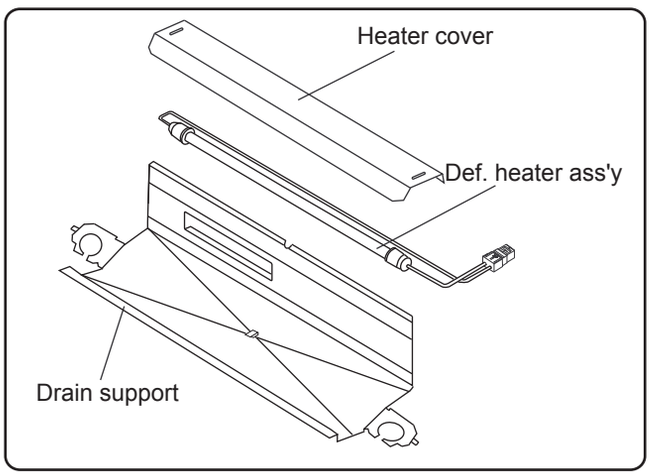


Figure A-7

6. Bend the end of Drain support 90°.

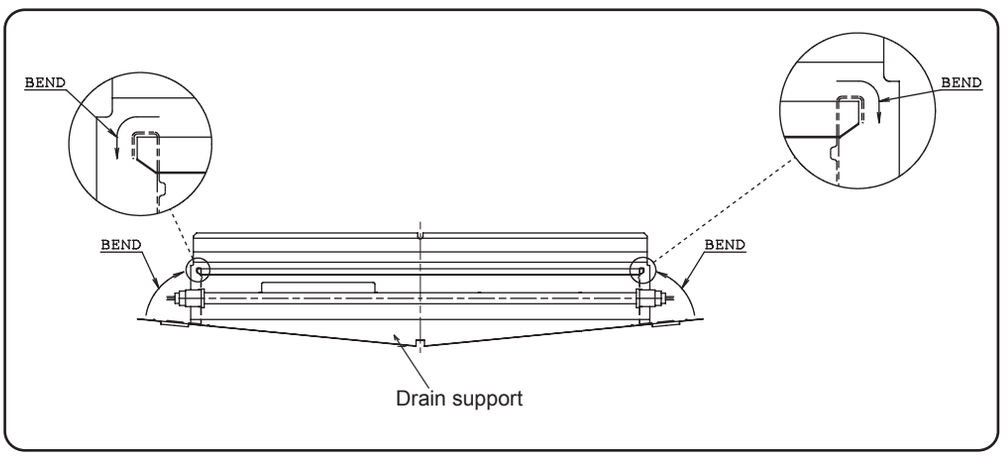


Figure A-8

7. Assemble Defrost heater to Drain support.
8. Assemble Heater cover to Drain support. Bend top edge to outside.
9. Stick the Vinyl tape on the Lead wire of Defrost heater ass'y.

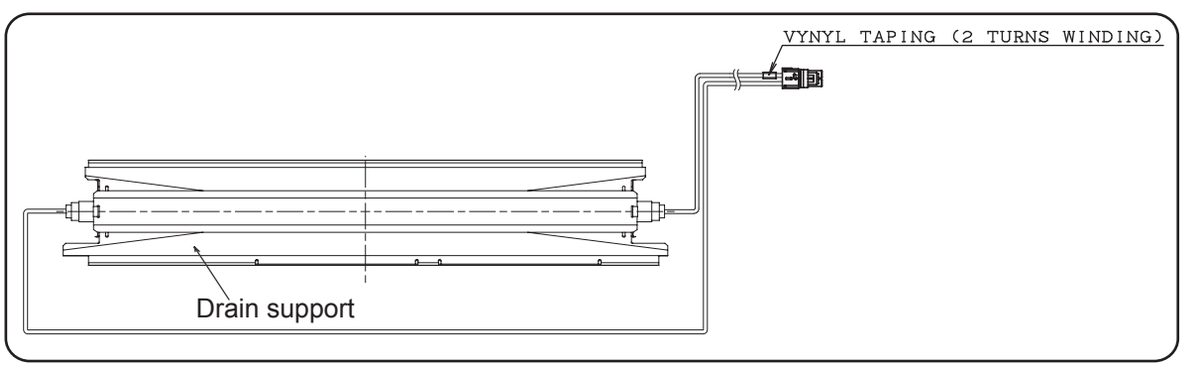


Figure A-9

10.Fix the Fl al sheet, and the Ev cover al.

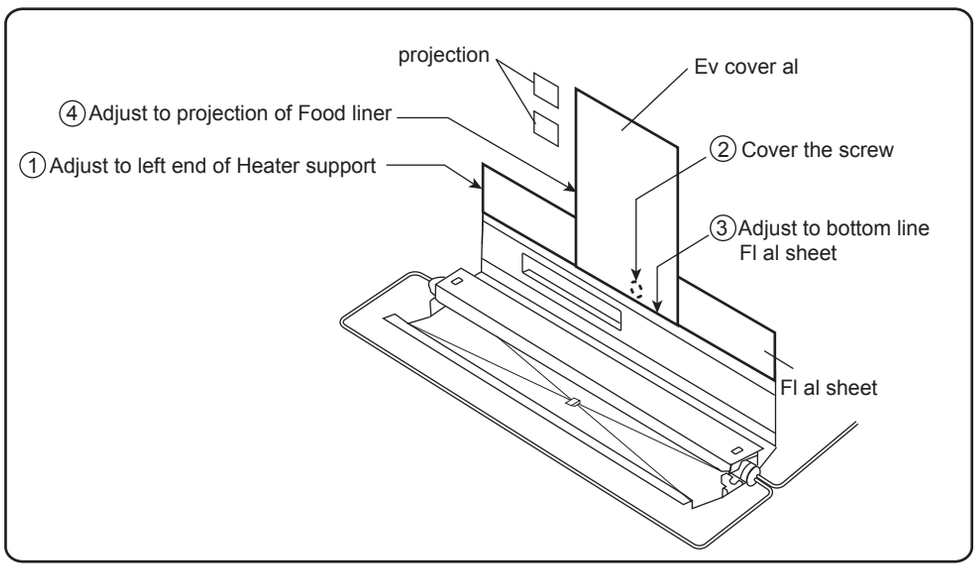


Figure A-10

3. Installing of Evaporator

1. Install Evaporator as shown in the Figure A-1 in the reverse order of Figure A-2.

2. Correct the defromed fin.

NOTE:

1. When installing Evaporator, take care not to deform significantly and break the pipes.

2. Take care not to damage the lead wires and hurt yourself by the fin of Evaporator.

3. You shouldn’t touch Defrost heater with your bare hand. (You should wear pure gloves.)

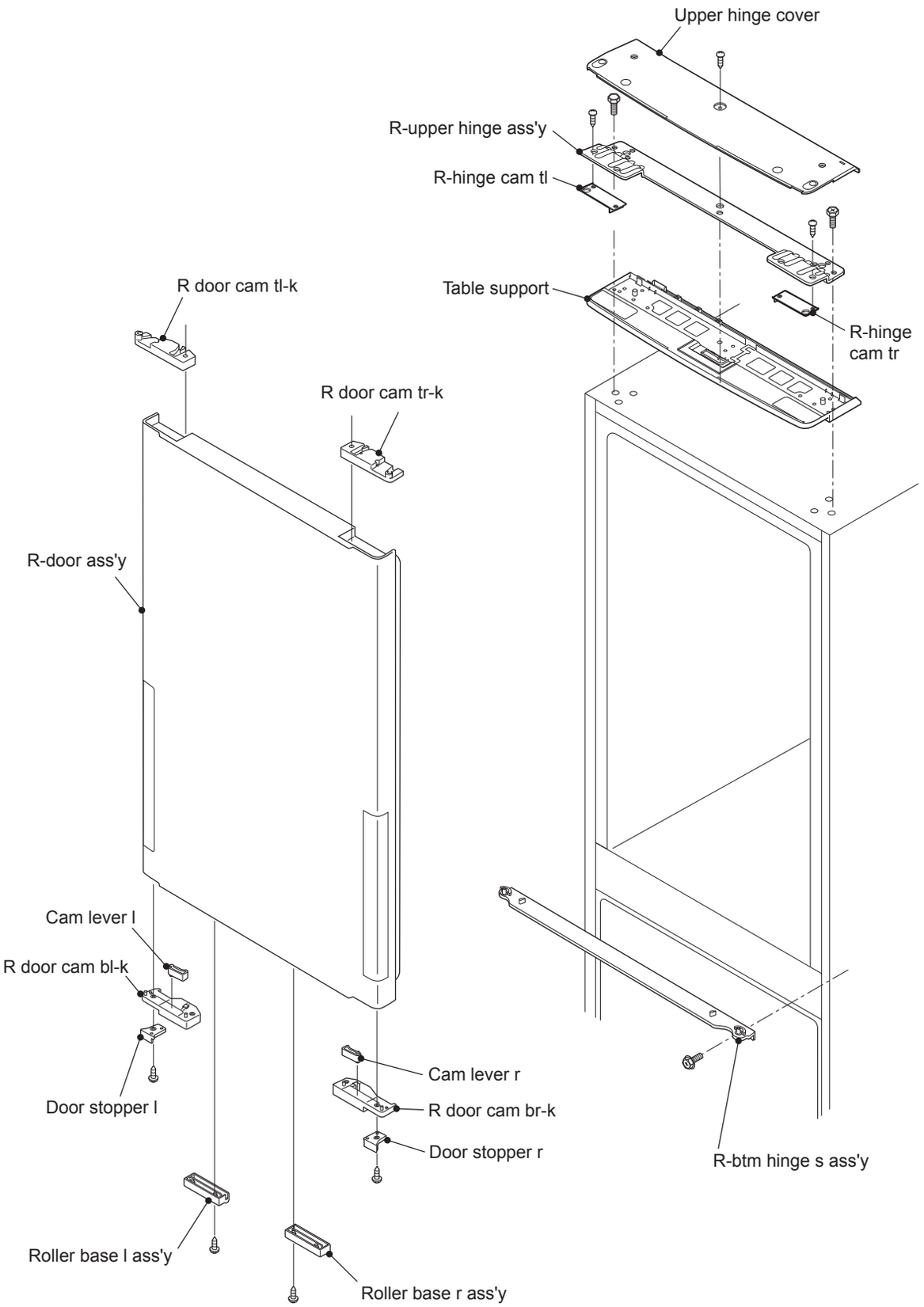
4. You should wipe that with alcohol. When you touch Defrost heater with your bare hand.

5. HOW TO DISASSEMBLE, REASSEMBLE AND ADJUST THE DUAL SWING DOOR (SJ-WS360T / SJ-WP360T / SJ-WM362T)

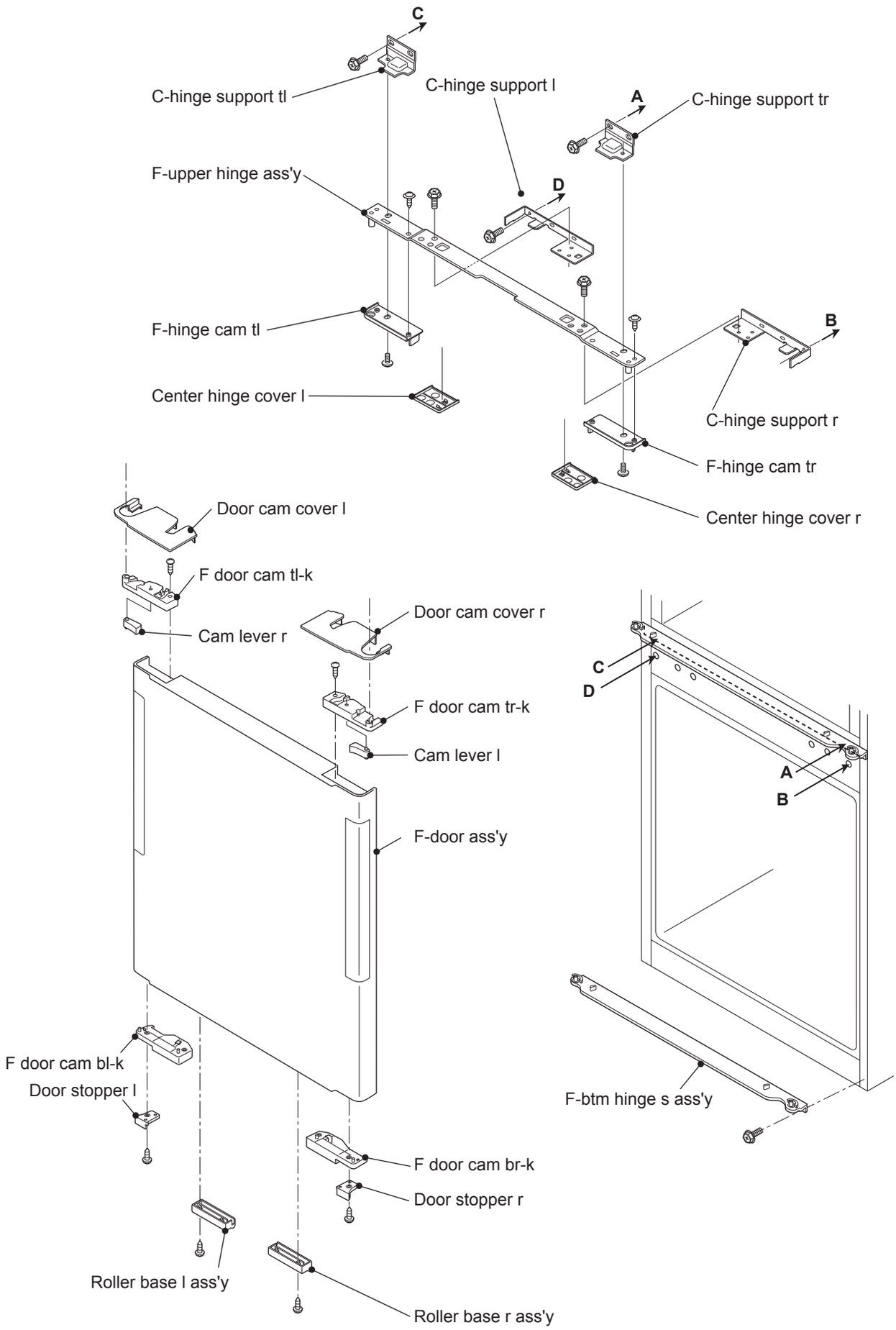
• When replacing or adjusting the door, silicone grease (FPAK-A281CBEZ) is required.

1. Parts constitution of Dual swing doors

(1) Refrigerator door(R door)



(2) Freezer door (F door)

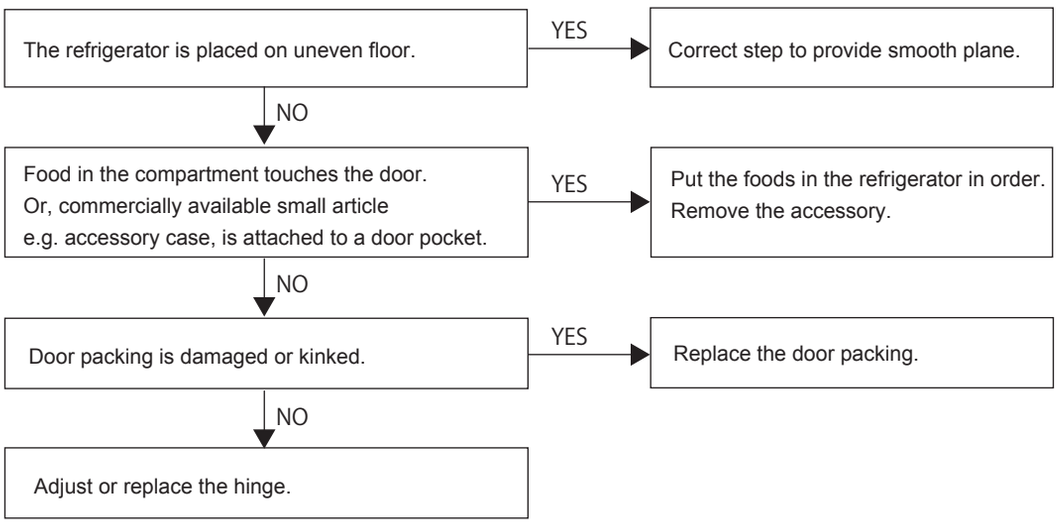


2. Door troubleshooting - Symptom and corrective action

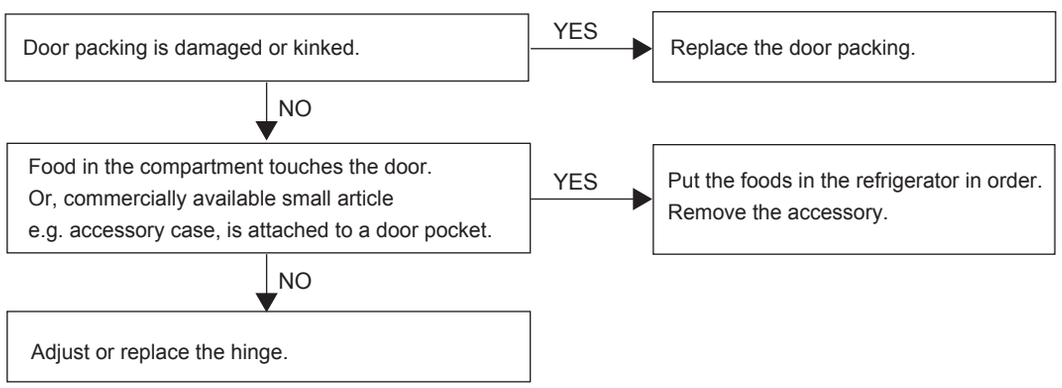
[Symptom]

1. Door(s) cannot be easily opened or closed. Or, one door cannot be opened.
2. Door will not be closed tightly (leaving gap).
3. Door will not be closed tightly (deviating and creating step).

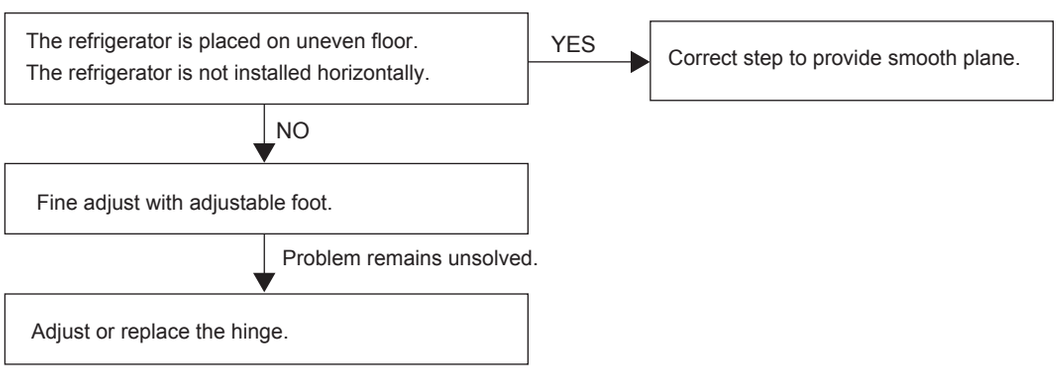
1.Door(s) cannot be easily opened or closed. Or, one door cannot be opened.



2.The door will not be closed tightly (leaving gap).

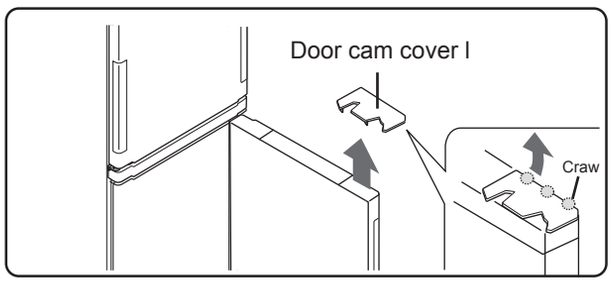


The door will not be closed tightly (deviating and creating step).

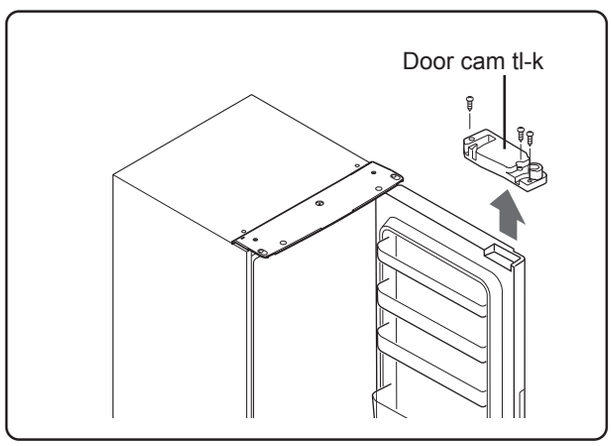


3. How to remove the door (R and F doors)

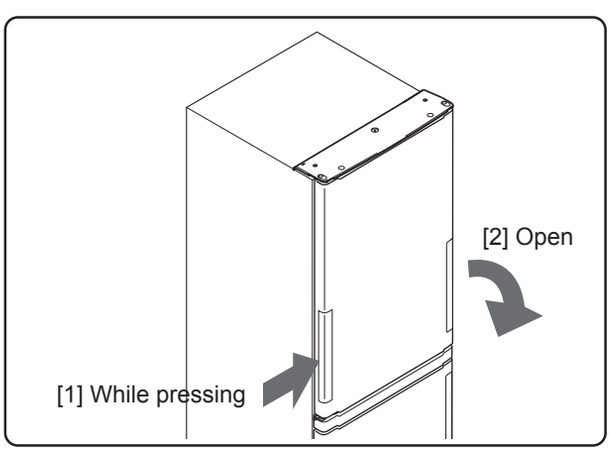
(1) Remove the Door cam cover I. (F door only)



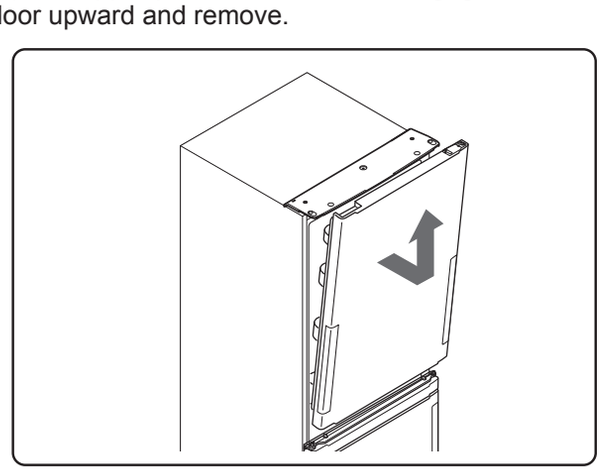
(2) Open the Door and remove the Door cam tl-k.



(3) Close the door. While pressing it in the direction as shown in the figure, open the opposite side.

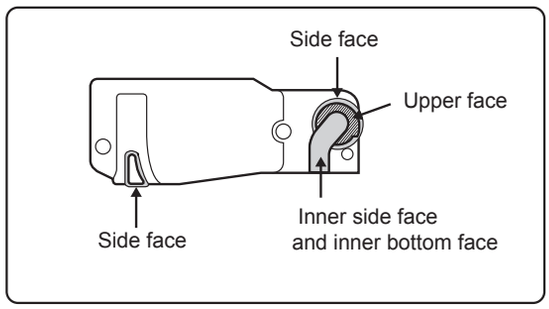


(4) The upper part of the door is disengaged.Pull the door upward and remove.



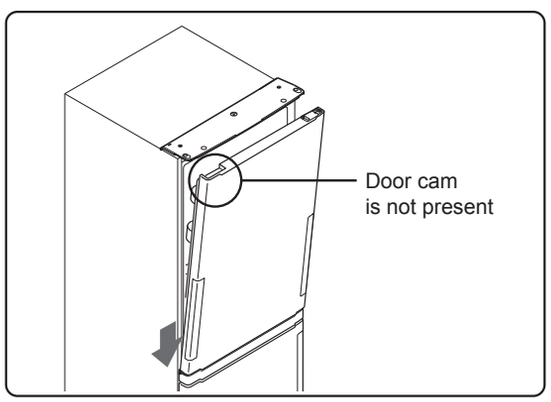
4. How to install the door (R and F doors)

(1) To four corner Door cams, apply silicone oil to the part shown in the figure below.

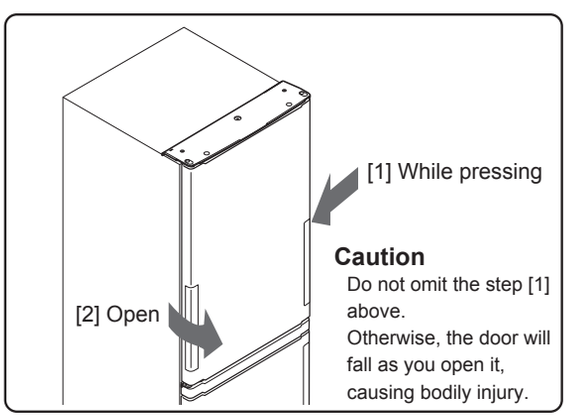


(2) Engage the edge of the door with the left hinge pin (*).

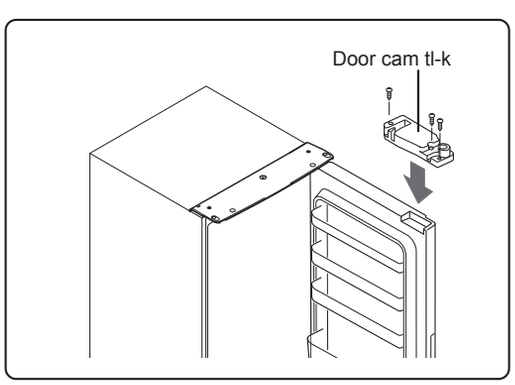
* Without door cam



(3) Close the door. While pressing it from the right side, open it at the opposite side.



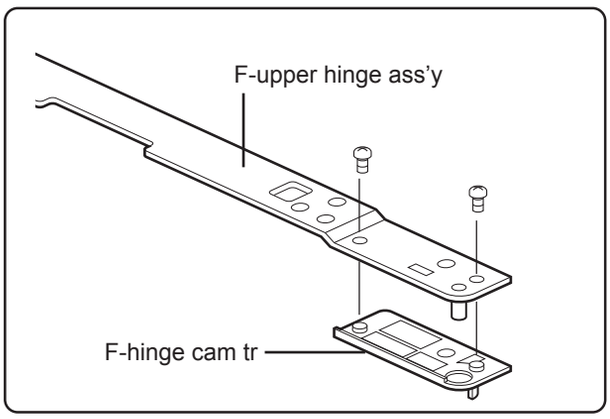
(4) Install the Door cam tl-k.



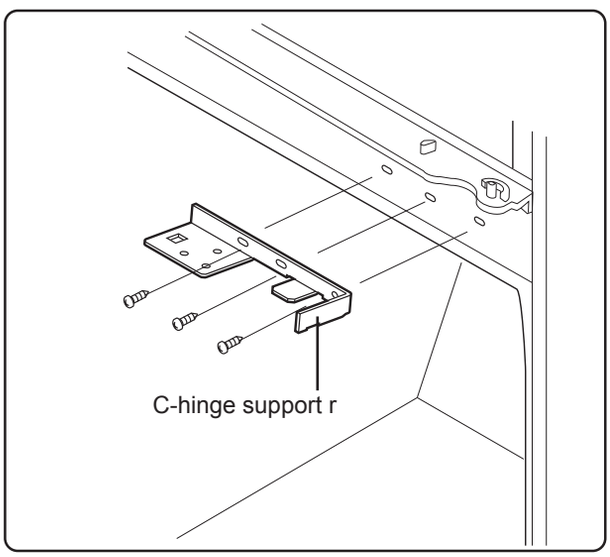
(5) Install the Door cam cover I. (For F door only)

5. Assembling procedure of F Door upper hinge ass'y and associated parts

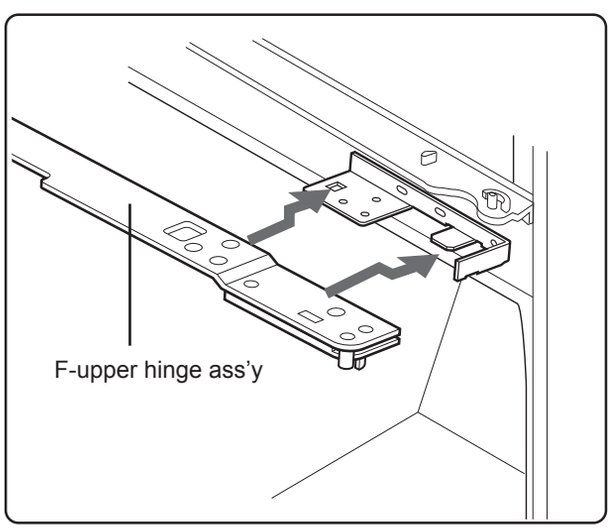
(1) Install F-hinge cam tr and tl to right and left F-upper hinge ass'y, respectively.



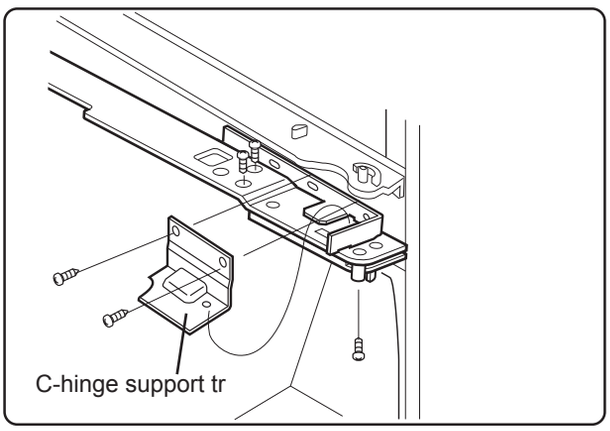
(2) Install C-hinge support r and l to the Cabinet, respectively.



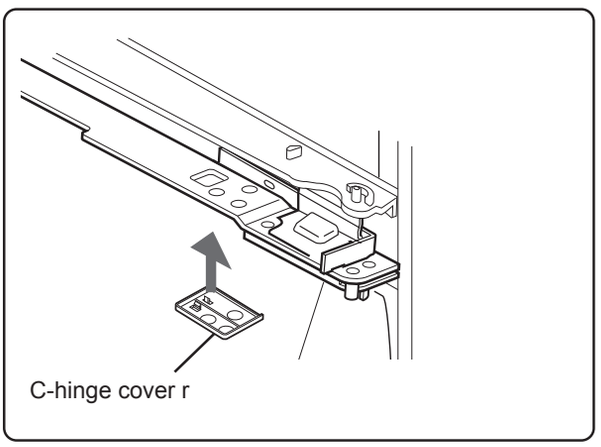
(3) Install F-upper hinge ass'y.



(4) Install C-hinge support tr and tl.



(5) Install C-hinge cover r and l.



6. Door adjusting procedure

CAUTION:
• At the end of adjusting procedure, check the related parts and fasteners for missing and looseness. Poor installation will cause falling of door.
• Before adjusting, take out the foods from the refrigerator compartment and door pocket.

[Symptom suggesting need of readjustment]

• Door will not open/close smoothly.

• Required operating force for right and left doors are not the same.

• Roller goes down excessively.

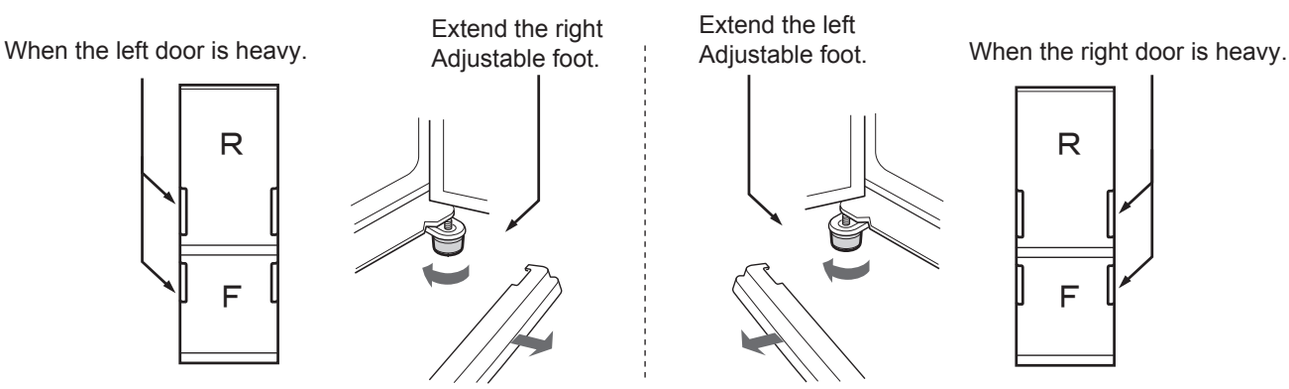
[Cause]

[1] Floor is not level or not flat. (The refrigerator may be distorted.)

[2] Roller run-on height is large or small.

[Adjustment]

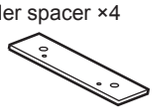
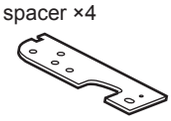
1. When the cause is [1] above, use Adjustable foot.



- Extend the Adjustable foot until the opposite side Adjustable foot is raised.
- While checking opening condition of left and right doors, readjust the Adjustable foot.

2. If the adjustment with the Adjustable foot is not complete (cause [2]), readjust as follows using the spacer kit for adjustment.

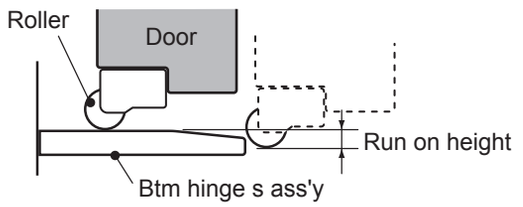
Spacer kit for adjustment

Parts name	**R&L SPACER ASS'Y 2010**
Parts code	**CSOG-E127CBKZ**
Included accessory parts	Roller spacer ×4  Door cam spacer ×4  Upper hinge spacer (For refrigerator door) ×2  Upper hinge spacer (For freezer door)×2  （Thickness:0.5mm）

(On some models, these spacers were installed at the factory before shipping.)

(1) Check the left and right rollers for run on height. (R and F)

(Side view)

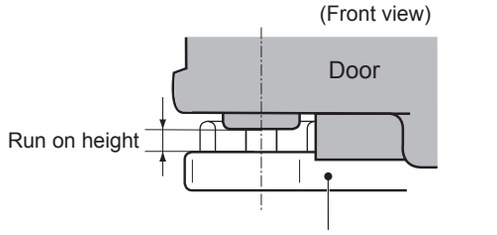


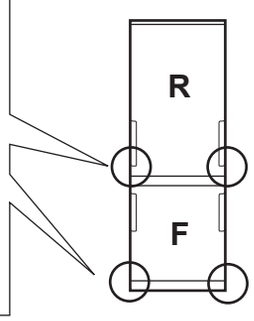
Acceptable run on height
R door : 2.5～3.5 mm
F door : 3～4 mm
Difference in run on height between right and left Rollers should be within 0.5 mm.

The run on height may be checked by referring to the figure shown below.

Gradually open the door until it goes to the highest position, and measure the space between the bottom of the door and the top of Btm hinge s ass' y.

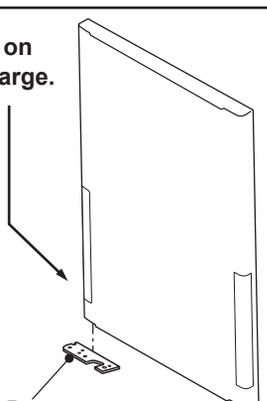
(Front view)





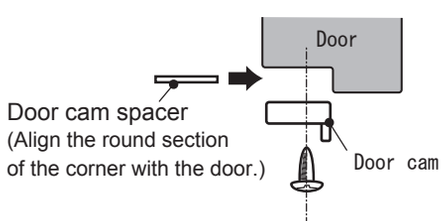
(2) Adjust the run on height by using the spacer kit. (R and F)

When run on height is large.

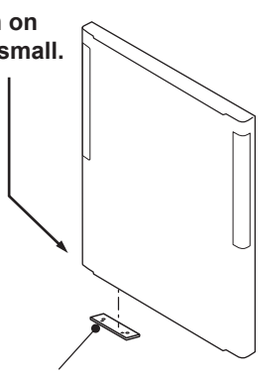


Place the Door cam spacer.

Up to four Door cam spacers can be used.

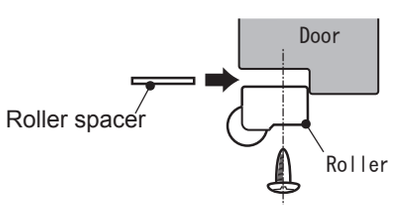


When run on height is small.



Attach the Roller spacer.

Up to four Door cam spacers can be used.



(3) Check balance between right and left regarding the door opening/closing force, self-closing force and Roller run on height. If right and left door opening/closing operation are not balanced, proceed to (4) below.

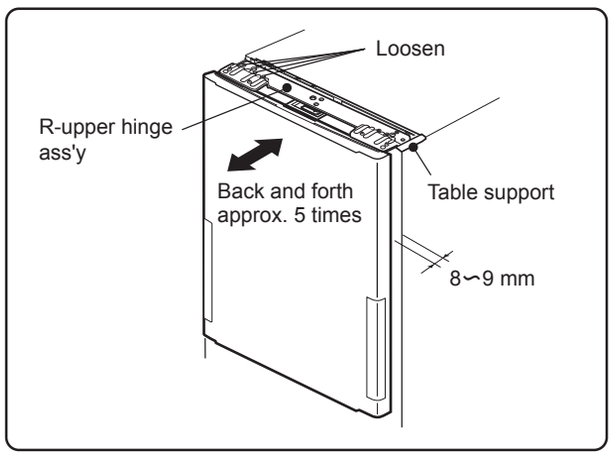
(4) Adjust the upper hinge ass'y.

(4)-1 R door

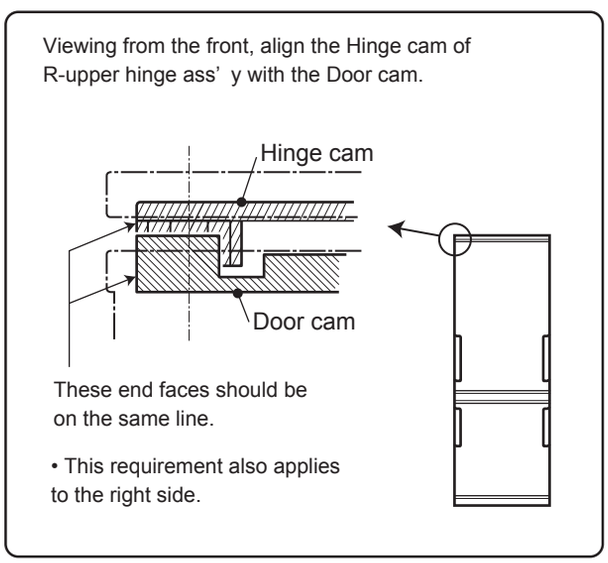
[1] Loosen the screws securing R-upper hinge ass'y (four each on right and left).

[2] Rock the door back and forth 5 times.

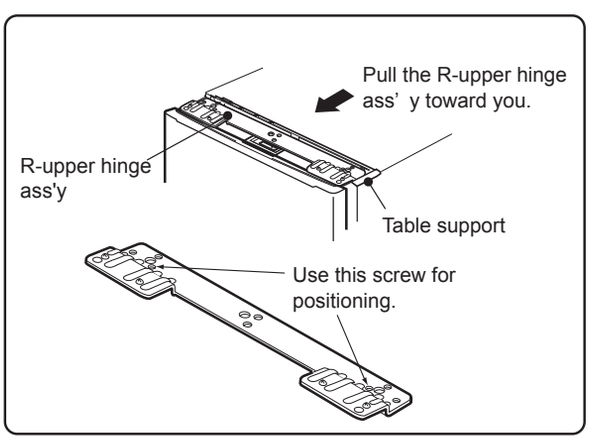
(Because the positional relationship between the door and R-upper hinge ass'y was changed in (2), fit the hinge to the door.)



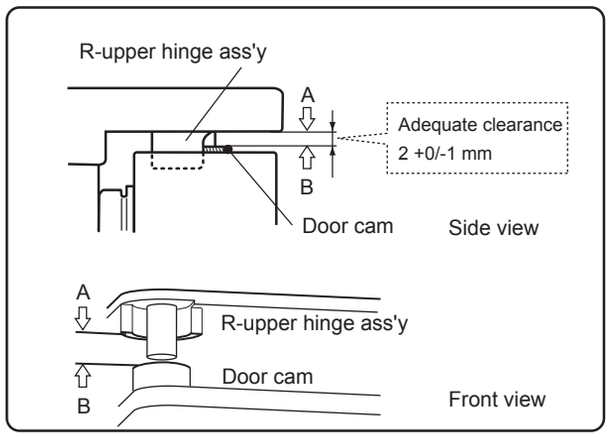
[3] Check the door position.



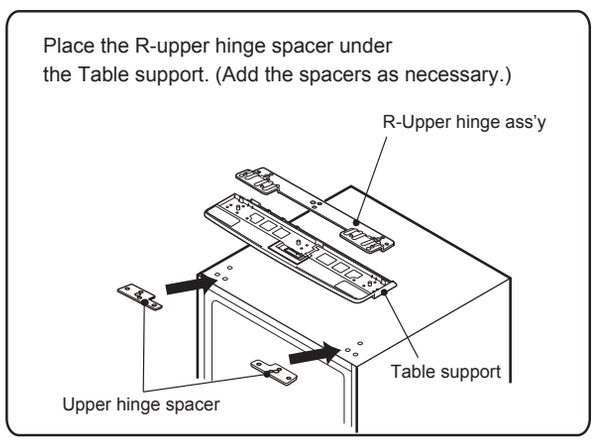
[4] Without moving the door, pull the R-upper hinge ass'y toward you and tighten the screws.



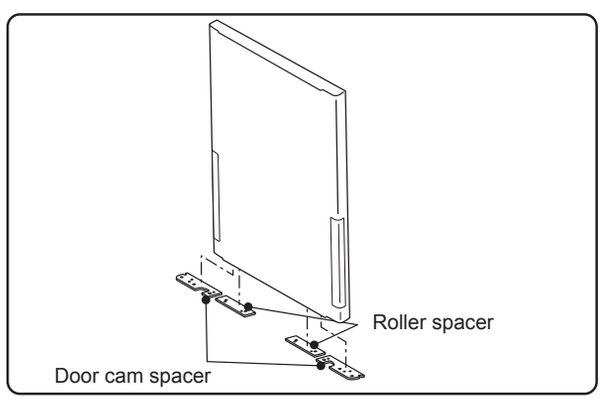
[5] Check the clearance between the R-upper hinge ass'y and Door cam.



• When clearance is narrow: while the door is opening/closing, R-upper hinge ass'y and Door cam rub against each other.



• When the clearance is wide: evenly place the Roller spacer and Door cam spacer under the door.

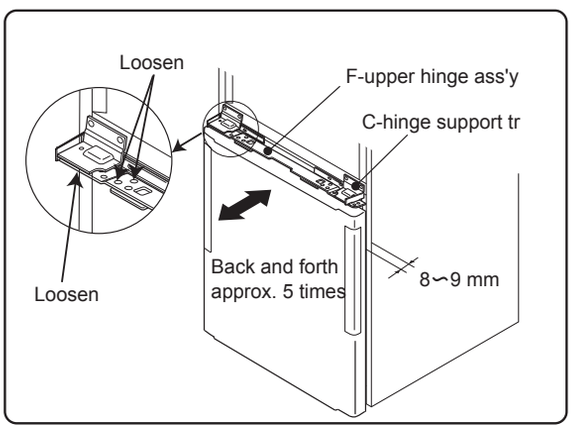


(4)-2 F door
Remove the Control panel and Control box base. See [11] 3. HOW TO REMOVE THE CONTROL PANEL.

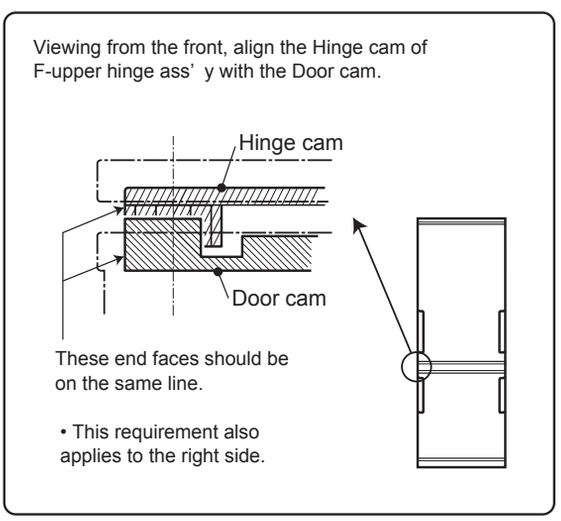
[1] Loosen the screws securing F-upper hinge ass'y (three each at right and left side).

[2] Rock the door back and forth 5 times.

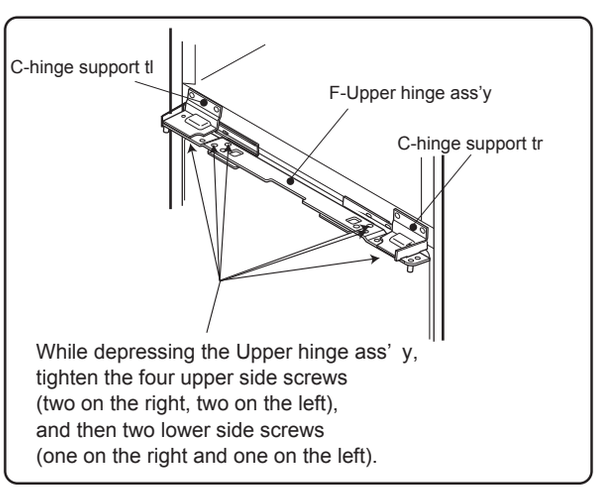
(Because the positional relationship between the door and F-upper hinge ass'y was changed in (2), fit the hinge to the door.)



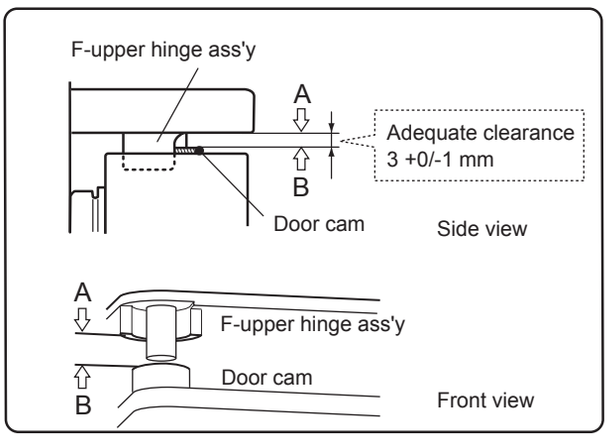
[3] Check the door position.



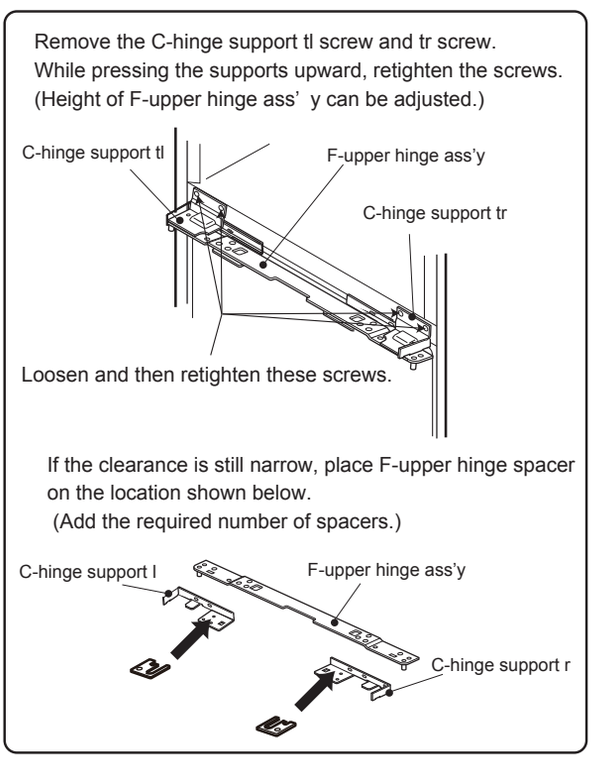
[4] Without moving the door, pull the F-upper hinge ass'y toward you and tighten the screws.



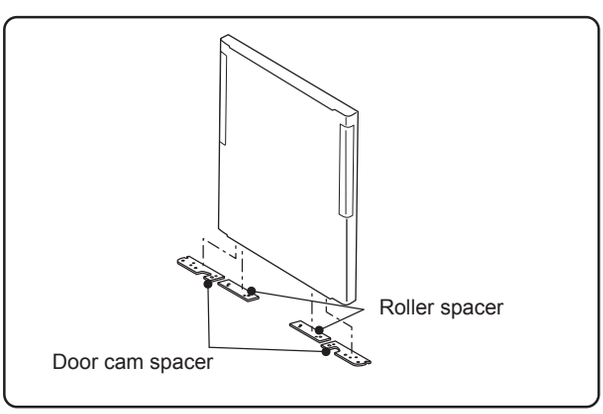
[5] Check the clearance between the F-upper hinge ass'y and Door cam.



• When clearance is narrow: while the door is opening/closing, F-upper hinge ass'y and Door cam rub against each other.

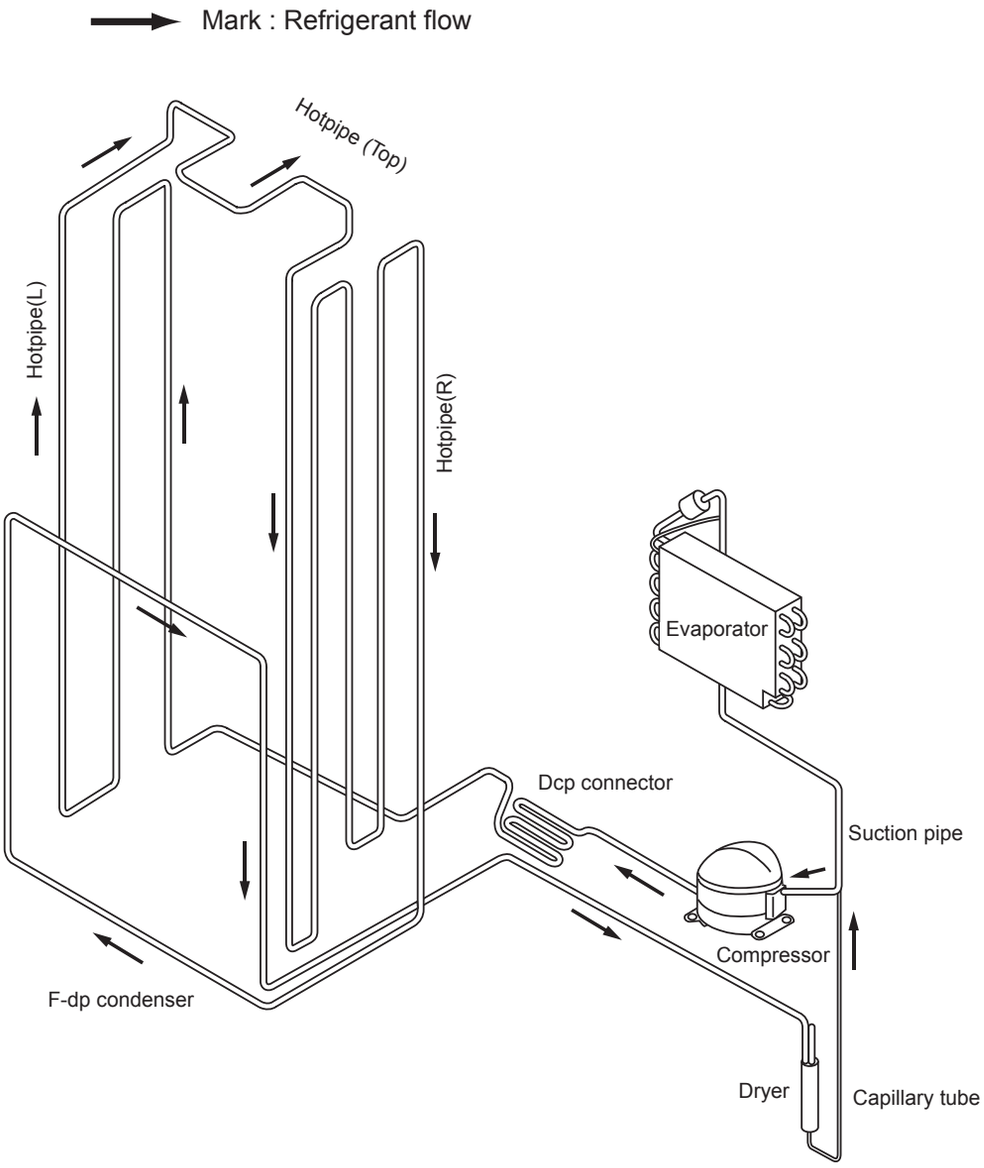


• When the clearance is wide: evenly place the Roller spacer and Door cam spacer under the door.



[12] COOLING UNIT

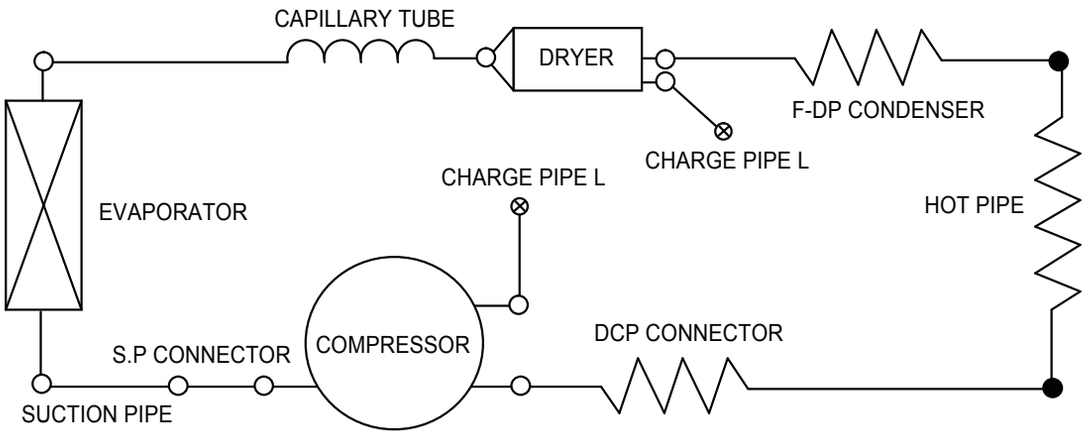
1. COOLING UNIT



2. LOCATION

2-1. SJ-WS360T/RP360T

1) LOCATION 1

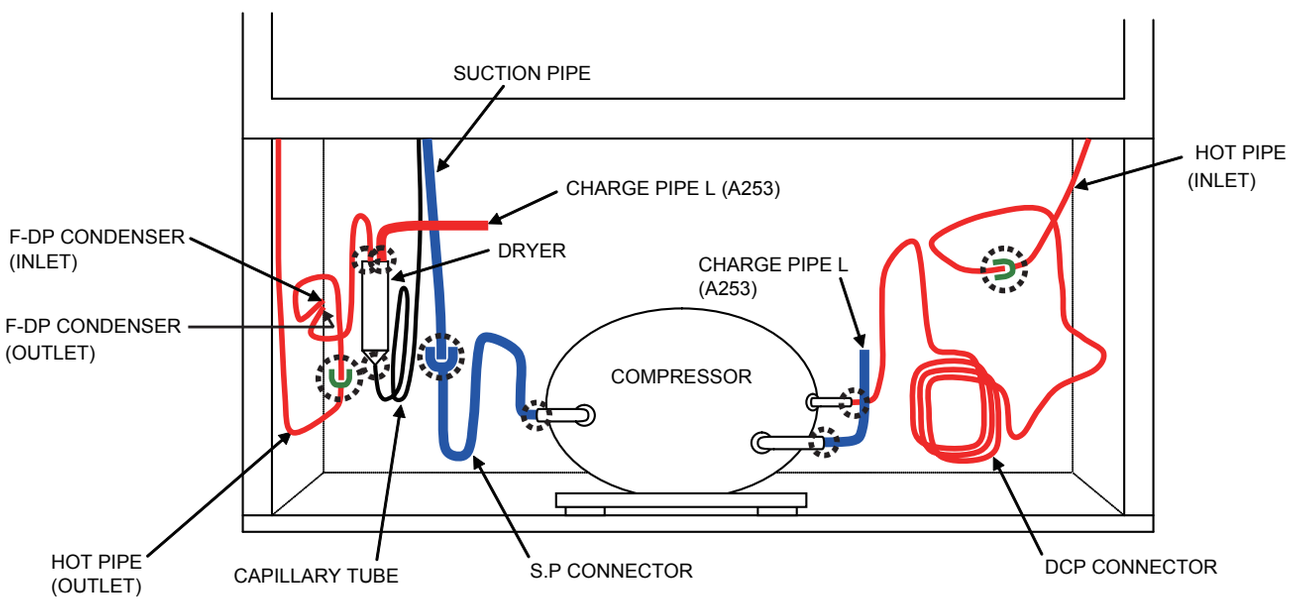


● : Mark show welding points(steel to copper)

○ : Mark show welding points(Copper to copper)

⊗ : Mark show pinch points

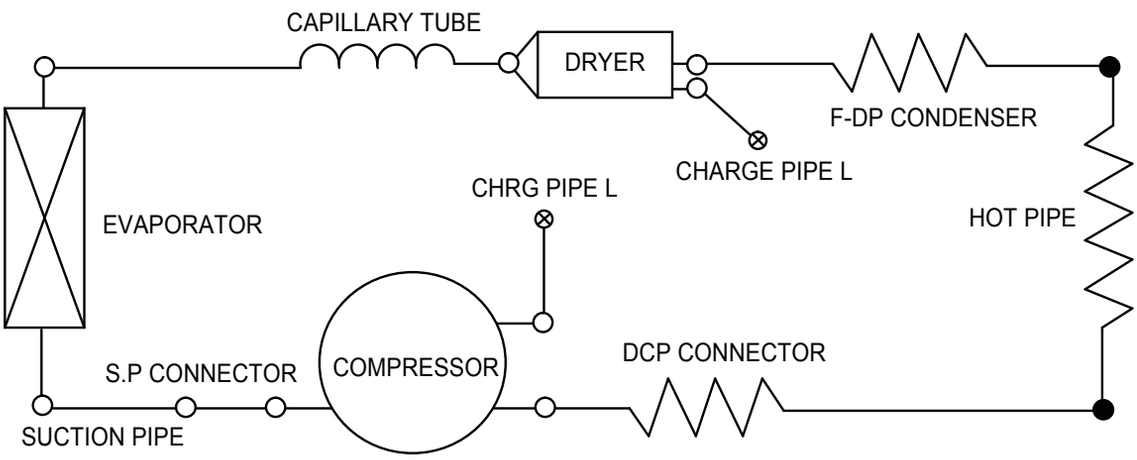
2) LOCATION 2



: Mark show welding points

2-2. SJ-WP360T/RM360T

1) LOCATION 1

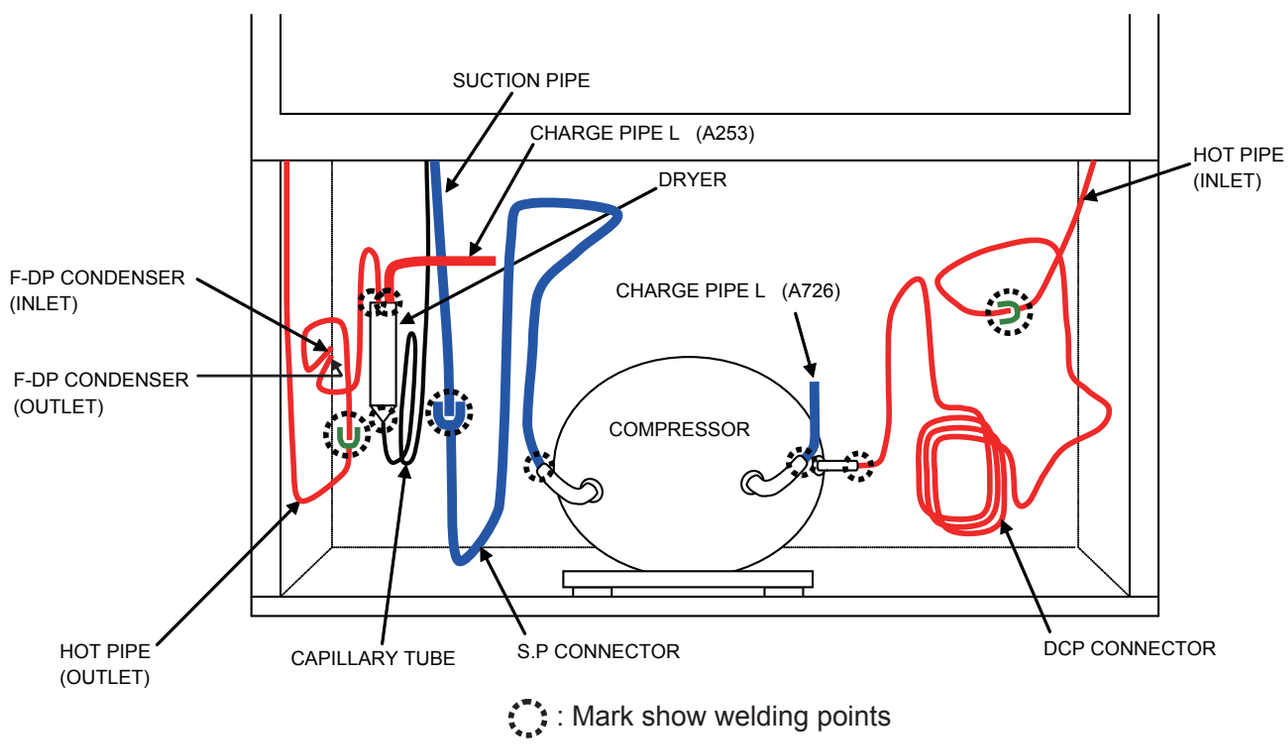


● : Mark show welding points(steel to copper)

○ : Mark show welding points(Copper to copper)

⊗ : Mark show pinch points

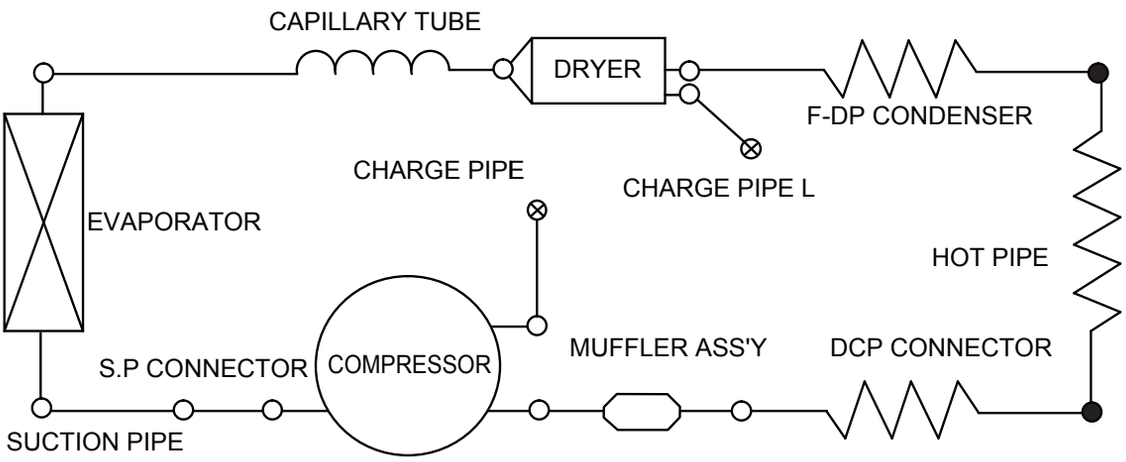
2) LOCATION 2



: Mark show welding points

2-3. SJ-WM362T

1) LOCATION 1

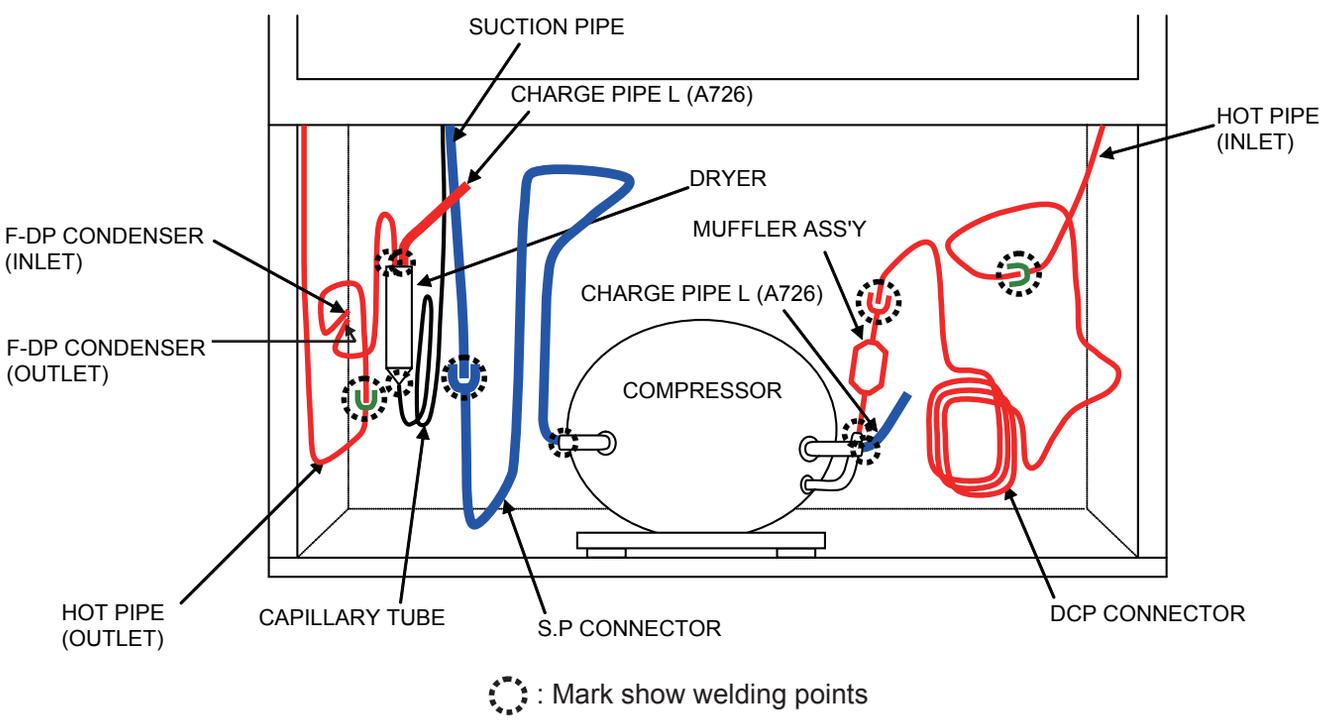


● : Mark show welding points (Steel to copper)

○ : Mark show welding points (Copper to copper)

⊗ : Mark show pinch points

2) LOCATION 2



: Mark show welding points