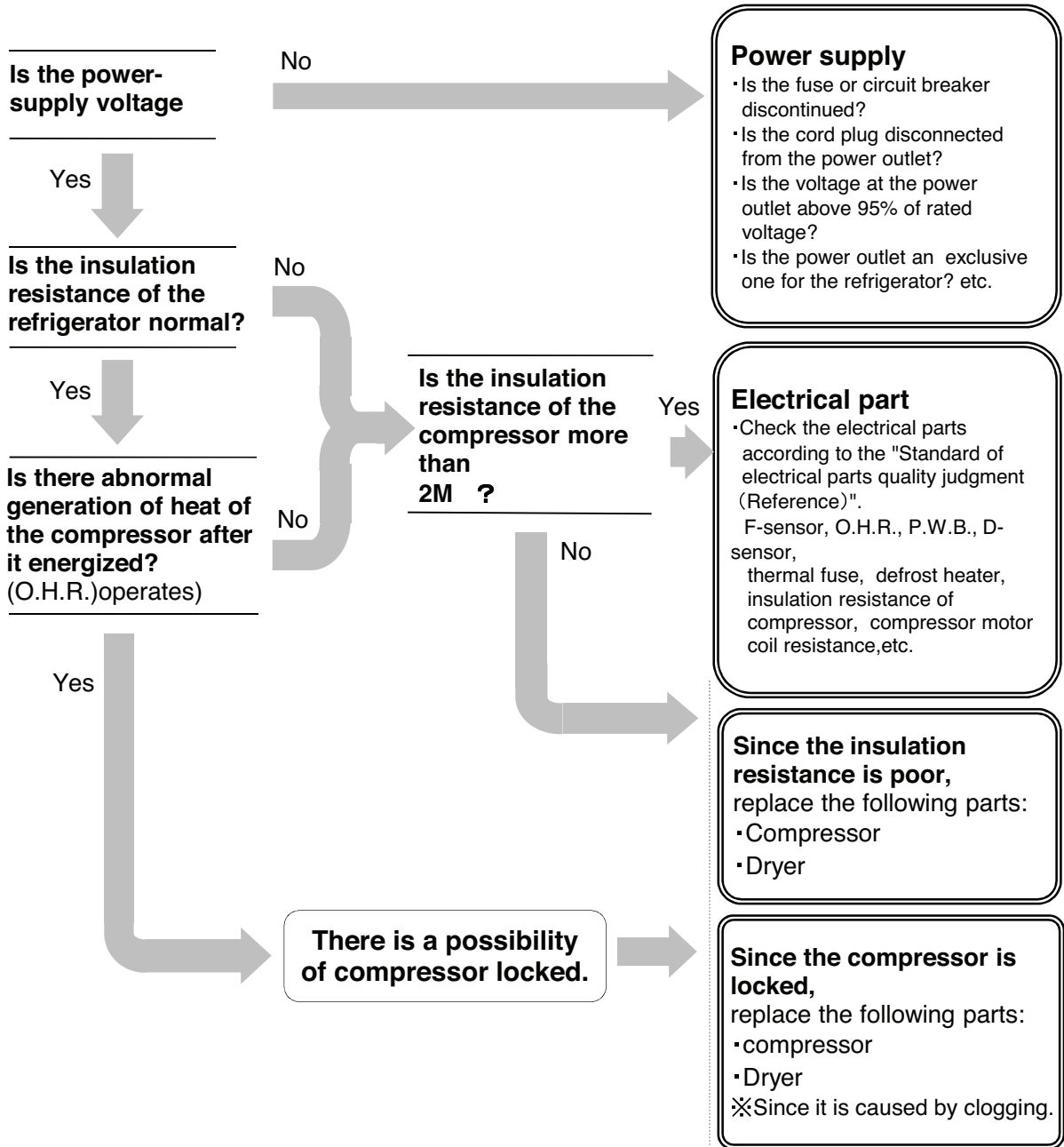


(3)TROUBLESHOOTING ② (Compressor Not in operation)



(4) TROUBLESHOOTING ③ (Poor cooling)

How is the frosting or dewing on the evaporator?

※ Refer to "Checking points for frosting condition on evaporator."

Frosting or dewing occurs from time to time.

Since the moisture clogging, replace the following:

- Compressor
- Dryer

A little or none

On the top pipe only

Since the defrost is poor and gas leaks, check the following:

- Check the gas leaks.
- Defrost sensor

A full frosting(Soft and Hard frost)

Since don't the defrost, check the following parts:

- Defrost heater
- Defrost sensor
- Thermal fuse
- Internal fan motor

Is there any frosting or dewing at the outlet of the condenser and capillary tube, dryer .

Yes

Since it is caused by half-clogging,

(Refer to "How to gas leak and clogging in refrigerating cycle") replace the following:

- Compressor
- Dryer

(If the capillary tube is clogged, cut it at the point 15mm from the razed part of the dryer.)

No

Is there any gas leak?

Yes

Since gas leaks, repair the leakage parts:

replace the following:

- Compressor
- Dryer

No

Is there any frosting at the suction pipe.

Yes

Since the refrigerant is excessively charged,

replace the following parts:

- Compressor
- Dryer

then chage a proper volume of refrigerant.

No

Since the compressor is poor compression,

replace the following parts:

- compressor
- Dryer

- Checking points for frosting condition on evaporator (Reference)

	Frosting condition	Phenomenon & Check method	Cause
①	Not at all.	[Phenomenon] No cooling at all	<ul style="list-style-type: none"> ▪ Gas leak ▪ Poor compression ▪ Clogging of refrigerating cycle
②	Thin frost has adhered to the whole.	[Phenomenon] Poor cooling ※The frost can be melted by touched with wet finger. ※The operation sound of the compressor is unusually large.	<ul style="list-style-type: none"> ▪ poor cycle
③	Frost has adhered on to a few pipes.	[Phenomenon] Poor cooling ※Hard frost adheres to a few pipes, and frost has not adhered the lower side .	
④	Frost has adhered on to a few pipes.	[Phenomenon] Poor cooling ※Hard ice adheres to a few pipes, and soft frost has adhered the lower side. ※Soft frost can be melted by touched with wet finger.	
⑤	Frost melted at the vicinity of the outlet of the pipe (vicinity of the accumulator).	[Phenomenon] Cooling has worsened. ※The wet finger is stuck on the pipe, but the frost on the accumulator is melted by ※Ice cream has melted.	
⑥	A lot of frost has adhered to the top pipe. (It is normal at the refrigeration cycle.)	[Phenomenon] Poor cooling ※Abundant ices adheres to the top pipe, and the internal fan is state of the lock. ※On the top pipe, there are a lot of frost. In the lower side, frost condition is normal and the wet finger is stuck on the pipe.	The defrost termination early. <ul style="list-style-type: none"> ▪ Check defrost sensor.
⑦	A lot of frost has adhered to the Evaporator.	[Phenomenon] Poor cooling ※Check the gap between door gasket and cabinet.	The defrost is defective. <ul style="list-style-type: none"> ▪ Check defrost sensor and P.W.B. and defrost heater. ▪ Gap between gasket and cabinet or door open.

▪ How to gas leak and clogging in refrigerating cycle (Reference)

	Gas leak	Clogging	Half-clogging
Position	Brazed portions Evaporator	Capillary tube Brazed portions	Capillary tube Brazed portions
Symptoms appearing when fault occurs on either of high- or low-pressure side	Oozed oil is found at oil leakage portion.	No oozing of oil is on the pipe surface.	No oozing of oil is on the pipe surface.
	Frost or dew on evaporator is less in amount than in a normal refrigerating cycle. Otherwise, no frosting or dewing is found.	No frosting or dewing is on the evaporator.	Frost or dew on the evaporator is less in amount than in a normal refrigerating cycle.
	Sound of refrigerant flow through the evaporator is intermitted, or sound of gas flow is heard.	No sound of refrigerant is heard from the evaporator.	Sound of refrigerant flow through the evaporator is intermitted.
	Gas leak detector reacts at the following times: 1.High-pressure side: During operation of compressor 2.Low-pressure side: During stop of compressor ◆Pay extra attention when using soapy water Soapy water may be sucked in if low-pressure side is in operation. * Use a detector suitable for the refrigerant used.	Gas leak detector does not react.	Gas leak detector does not react.
Symptoms appearing when fault occurs on low-pressure side	Current input is nearly the same as in a normal refrigerating cycle (in case of extremely little gas leak). It will decrease with less gas leak.	Current input is small.	Current input is nearly the same as in a normal refrigerating cycle. It will be less at any half-clogged portions.
	Sound of compression is nearly the same as in a normal compression. The sound will be lighter with less gas leak.	Sound of compression is lighter than in a normal compression.	Sound of compressor is nearly the same as in a normal compression. It will be lighter at any half-clogged portions.
	The delivery pipe is higher in temperature. The temperature will possibly be lower with less gas leak.	The temperature of delivery pipe does not rise.	The temperature of the delivery pipe is nearly the same as in a normal refrigerating cycle. It will be higher at any half-clogged portions.
	Over heat relay will possibly be actuated.	Over heat relay is not actuated.	Over heat relay is not actuated.

	Gas leak	Clogging	Half-clogging
Symptoms appearing when fault occurs on either of high- pressure side	Current input is lower than in a normal refrigerating cycle.	Current input is higher than in a normal refrigerating cycle (※the compressor will not possibly be actuated).	Current input is nearly the same as in a normal refrigerating cycle. The current input will be larger at any half-clogged portions than that in a normal refrigerating cycle.
	Sound compression is lighter than in a normal compressor.	Sound of compression is heavier than in a normal compressor.	Sound of compression is nearly the same as in a normal compressor. The sound will possibly be heavier at any half-clogged portions.
	The temperature of delivery pipe is lower than in a normal refrigerating cycle.	The temperature of discharge pipe will: <ul style="list-style-type: none"> - not rise if the discharge pipe is clogged - rise once and subsequently, fall if the drain condenser is clogged (while the refrigerator is being operated continuously, the compressor motor coil is overheated, warming the discharge 	The temperature of delivery pipe is nearly the same as in a normal refrigerating cycle.
	Over heat relay may possible be actuated.	Over heat relay is not actuated.	Over heat relay will possibly be actuated.
	/	[Dryer and capillary tube:] <ol style="list-style-type: none"> 1. Current and total input will possibly be smaller than in a normal refrigerating cycle. 2. Sound of compression is lighter than in a normal compressor. 3. The temperature of discharge pipe rises, and subsequently, falls. 4. Over heat relay will possibly be actuated. 5. When the vacuum pipe is cut, refrigerant gas will be released more heavily than in a normal refrigerating cycle. 	/

Transporting refrigerant in service vehicle

(1) Maximum load

The service vehicle must carry the minimum amount (number) necessary for repairs for the day. The maximum load is 1.5kg (18 or less 80g service cans).

(2) Cautions during transportation

- ☒ Secure service cans erect on vehicle and protect them from other loads.
- ☒ When transporting in vehicle (station wagon, etc.), open the windows to change air so that gas, if leaked, does not accumulate in the vehicle.
- ☒ No smoking in vehicle.
- ☒ Avoid direct sunlight and keep the temperature of container at less than 40°C.

2. Refrigerating Cycle Repair Procedure

This procedure is established on the premise that the same method is used to charge refrigerant: However, since the refrigerant is flammable, the methods of discharging refrigerant and connecting pipes are different from conventional ones.

This procedure is also established on the premise that the entire compressor is replaced as a typical repair procedure to ensure safety from flammable refrigerant remaining in compressor.

1. Before starting repair

【Points for ensuring safety】

(1) Checking refrigerant used

Be sure to check the type of refrigerant using the "Specification label" pasted on product. (R600a could cause ignition or explosion.)

<Reference> Types of refrigerant used for household refrigerators:

- ☒ Flammable refrigerant (R600a): The name of refrigerant is indicated as R600a or isobutene.
- ☒ CFC alternatives (R134a) • CFCs (R12, R502, R22)

(2) Methods of ventilation

- ☒ Turn on ventilating fan. • Open windows to change air in installation place.

(3) Prohibition of fire

- ☒ Check gas heater, stove, and other electric heaters, etc. • No smoking in room

(4) Use of gas leak alarm

Place a gas leak alarm in a handy place when repairing refrigerating cycle, and always take care with accumulation of gas.



Always check operation before use

Troubleshooting

(1) Checking leakage of gas

When locating a gas leak point among the trouble shooting procedures of refrigerating cycle, carefully perform the procedure shown in the table below, remembering that the pressure of R600a is as low as approx. half that of conventional refrigerants (CFC12, HFC134a, etc.)

Gas Leak Check Procedure

Check point	Details of check	Caution
Low-pressure side	① Check oil leak by eye or touch. ② Check gas leak using gas leak detection liquid (soapy water). ③ Check gas leak using a flammable gas leak detector . Caution: Perform check items ② and ③ only after stopping the compressor and opening the door of freezer for approx. 15 minutes.	<input checked="" type="checkbox"/> Perform check with the compressor stopped and freezer door open.
High-pressure side	① Check oil leak by eye or touch . ② Check gas leak using gas leak detection liquid (soapy water). ③ Check gas leak using a flammable gas leak detector .	<input checked="" type="checkbox"/> Perform check with the compressor operating.

Cautions:

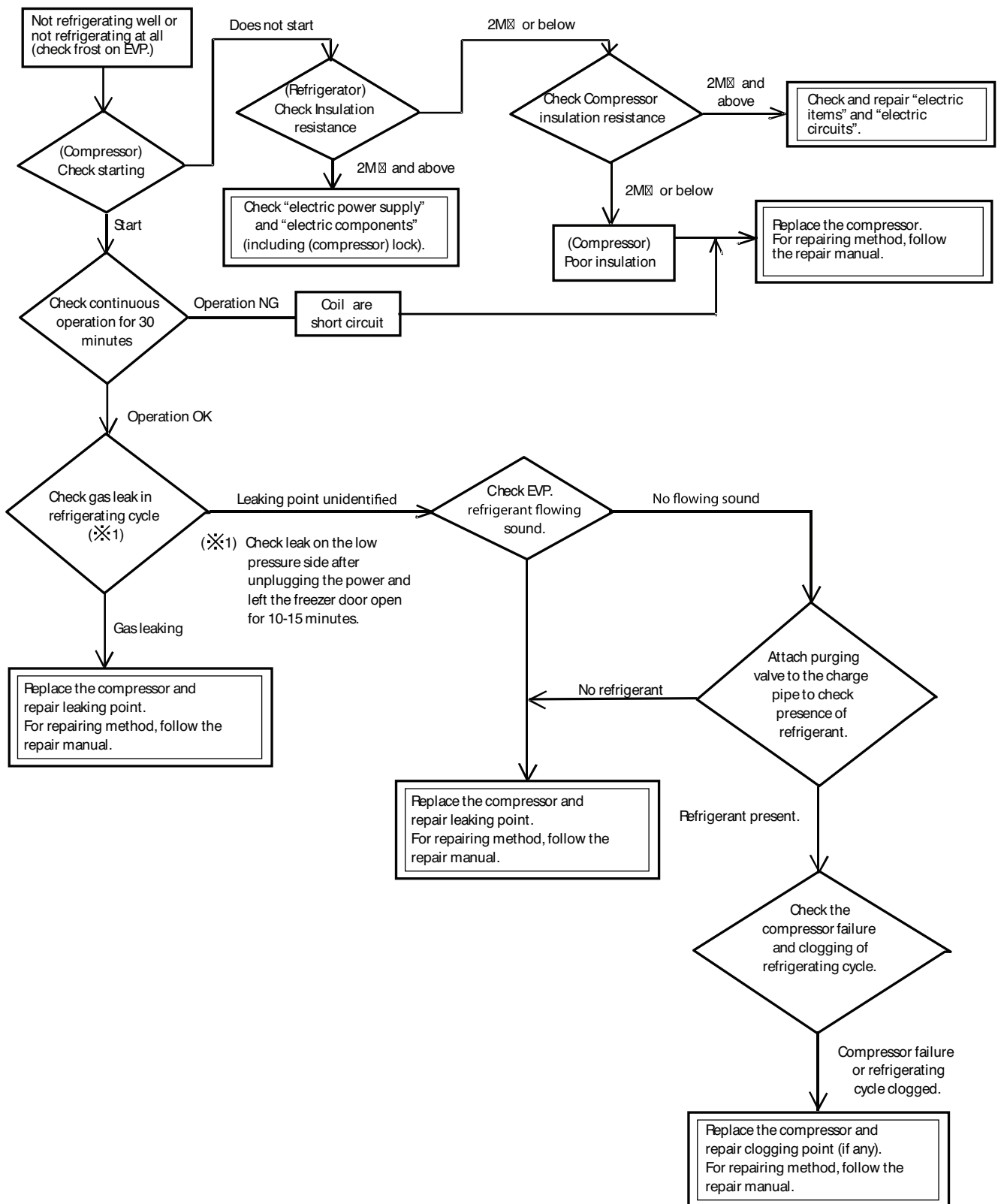
1. Never use a detector, such as halogen leak detector, which may be an ignition source.
2. When using soapy water, completely wipe it off after check (leaving soapy water as is could cause deterioration).

(2) Simplified Refrigerating Cycle Troubleshooting Flowchart

If refrigerator or freezer using HC refrigerant (isobutene) has a symptom such as “not refrigerate well” or “not refrigerate at all”, perform diagnosis following the flowchart shown below.

(Note) ① For troubleshooting of electrical products, refer to service guide to perform diagnosis.

② This manual describes mainly on troubleshooting of refrigerating cycle and repair parts.



3. Refrigerating cycle repair procedure

The repair procedures of refrigerating cycle vary depending on the sealing method of pipe: This manual introduces the operation procedure for sealing using a LOKRING

The summary of repair procedures of refrigerating cycle is as follows:

- ① Discharge the refrigerant from refrigerator.
- ② Remove the compressor to be replaced.
- ③ Blow out refrigerant from the refrigerating cycle pipe with nitrogen gas.
- ④ Remove the dryer.
- ⑤ Attaching the new compressor.
- ⑥ Attaching the new dryer.
- ⑦ Attaching the pack less valves (vacuum valve, charge valve).
- ⑧ Inspect gas leakage.
- ⑨ Vacuumization the refrigerating cycle.
- ⑩ Refrigerant Charge.
- ⑪ Inspect gas leakage after refrigerant charging.
- ⑫ Seal (both vacuum pipe and charge pipe).
- ⑬ Reassemble
- ⑭ Trial run

(1) Discharging refrigerant in refrigerator and discharging residual refrigerant

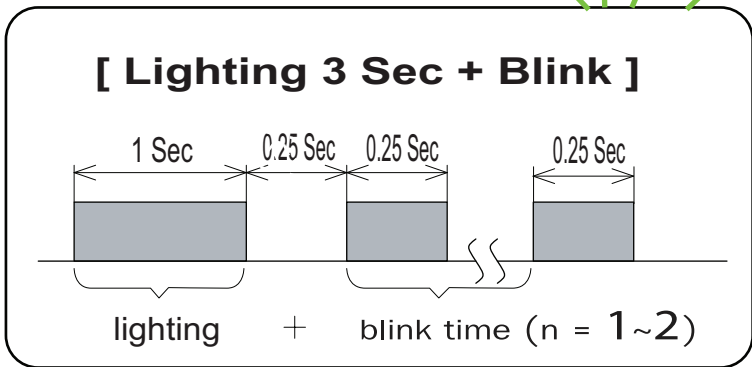
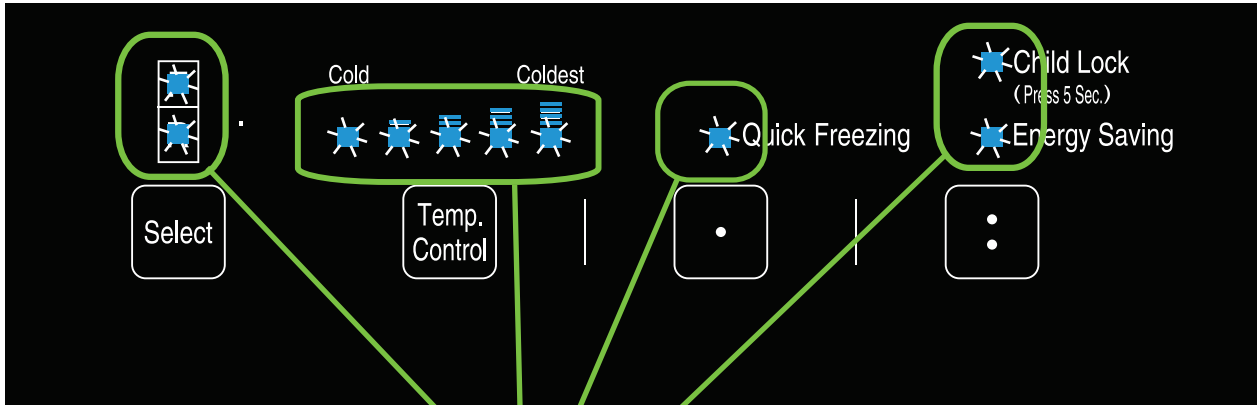
【Safety points】

- Discharge the residual refrigerant in refrigerating cycle to a safe place with no danger of fire.
- Thoroughly instruct customers “not to approach the vacuum pump” and “not to use fire”.
- If it is judged that the refrigerating cycle is faulty, be sure to discharge the residual refrigerant in a safe manner.
- Use preventive explosion type vacuum pump.

Details of work	Remarks (precautions)
(1) Attach a purging valve to the charge pipe of compressor. (2) Connect a gauge manifold and put the hose for discharge (10m) outside. (3) Open the purging valve and gauge manifold valve to discharge the refrigerant outdoors for approx. 5 minutes. (4) Connect the hose for discharge to explosion-proof type vacuum pump (installed outdoors). (5) Operate the vacuum pump for vacuumization. (6) After making sure of discharge completion on the gauge manifold, stop the vacuum pump, and then remove the discharge hose and purging valve.	<ul style="list-style-type: none"> • Make sure that no leak occurs from connecting portion. • It will take at least 5 minutes to discharge refrigerant. • Make sure that there is no fire or ignition source nearby. Take special care with the tip of hose when discharging refrigerant. • It will take 10 minutes for vacuumization [vacuum up to 0.1MPa (750mmHg) at manifold gauge].

12. SELF DIAGNOSIS

When faulty is found, After setting Failure Diagnosis mode, The LED all will on and off in below sequence that code can be seen in the table.



Setting Failure Diagnosis mode

- F-Door and R-Door open
- Push some button on Control Panel 10 Sec.

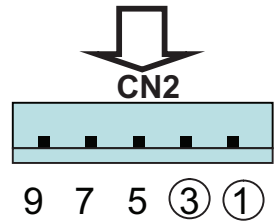
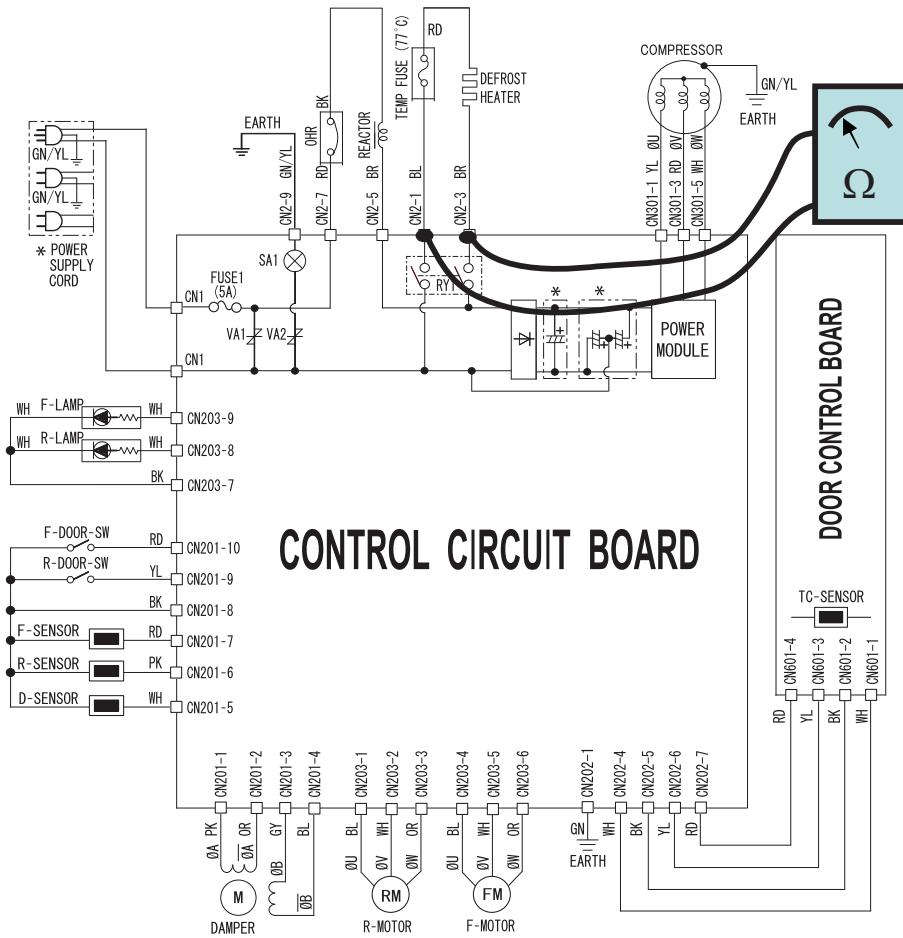
Self diagnosis display table

Priority	Error code display			Breakdown list	Breakdown description
	7 Segments	LED			
		Lighting (Sec)	Blinking (Time)		
1	F1 01	1	1	F-Sensor abnormal	F-Sensor abnormal
2	F1 02	1	2	R-Sensor abnormal	R-Sensor abnormal
3	F1 03	1	3	TC-Sensor abnormal	TC-Sensor abnormal
4	F1 04	1	4	D-Sensor abnormal	D-Sensor abnormal
5	F0 02	0	2	EEPROM data abnormal	EEPROM data abnormal
6	F0 07	0	7	Over curent	Over curent
7	F0 08	0	8	Abnormal lowspeed	Rotor position dose not match control
8	F0 09	0	9	Switch failure	Rotor position dose not match control
9	F0 11	0	11	Comp Micon communication abnormal	Communication abnormal between Main-Micon and Comp-Micon
10	F0 12	0	12	F-Motor abnormal	F-Motor Lock
11	F0 17	0	17	R-Motor abnormal	R-Motor Lock
12	F0 03	0	3	Ice Maker abnormal	Ice tray position signal abnormal
13	F1 05	1	5	IM-Sensor abnormal	IM-Sensor abnormal
14	F0 04	0	4	Defrost circuit abnormal	Defrosting continutes even after 2 hour
15	F3 01	3	1	Freezer not cold	F-Sensor stay over -10°C for 72 hr
16	F3 02	3	2	Refrigerator not cool	R-Sensor stay over 10°C for 72 hr

13. HOW TO CHECK A DEFROST HEATER

How to check a Defrost heater

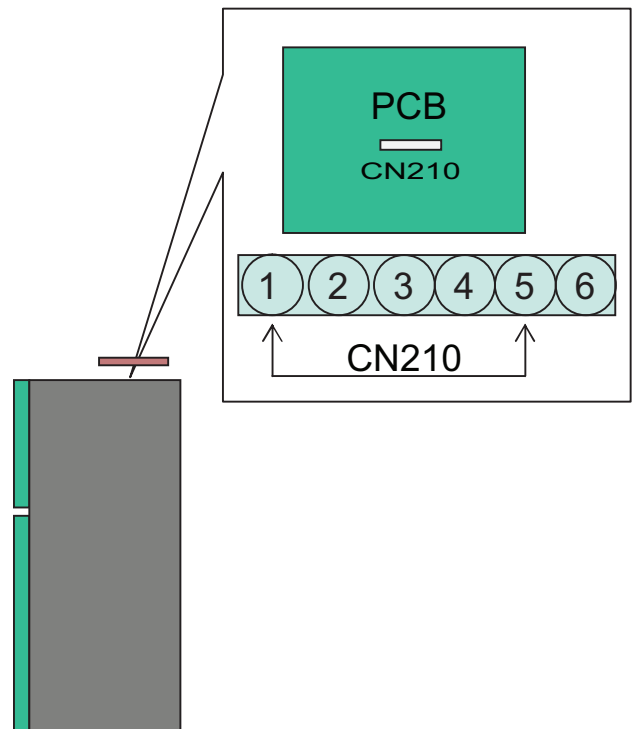
So you can check the resistance of defrost heater at the main PCB without to take it out.
 First, you have to pull the power plug out before do check.
 Please reference as below service diagram, Using a multi meter at the CN2-1 (connector No.2-pin No. 1)
 And CN2-3 (connector No2- pin No.3).



Measuring point the Defrost heater on PCB at Pin No. 1 and 3

How to Checks the compressor starting operation and defrost circuit

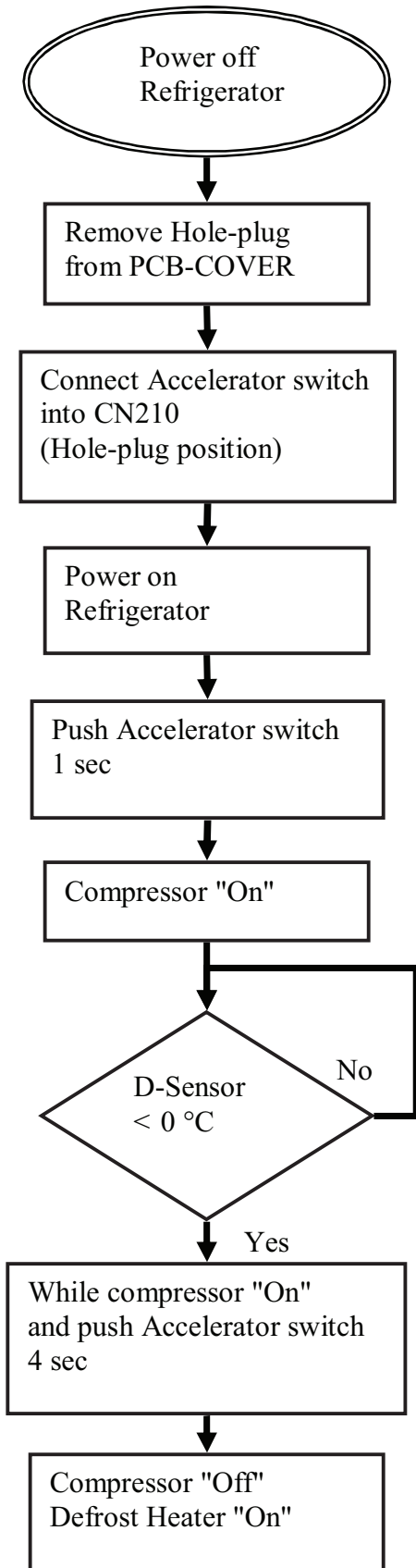
- (1) Unplug the power cord when D sensor is cold.
- (2) Plug in the power cord after approximately 7 minutes.
- (3) Short circuit pin 1 and 5 of the CN210 on PCB for 1 sec.
Then compressor will start.
- (4) When the short-circuit is kept for 4 sec.
Compressor is turned off. Defrost heater turns on.
- (5) Stop the short circuit of pin 1 and 5 of CN210
Once again the defrost heater is on.



14. ACCELERATOR SWITCH

For easily check the compressor starting and defrost operation that you have to order the accelerator switch

And see as below for using.



Follow this flow chart :

1. Please pull the power plug out before connect the accelerator switch into main PCB.
(Connector CN210 / Position same as the Hole-plug)
2. After power "On" then push accelerator switch 1 second, compressor will turn on suddenly.
3. Must waiting about 10 minute of compressor operating for the temperature of D-Sensor $< 0^{\circ}\text{C}$.
4. After 10 minute passed then push accelerator switch for 4 seconds, compressor will turn off and turn on the Defrosting mode.
5. After Defrosting mode finished the refrigerator will operation in normal mode automatically.

Note

- 1) For waiting time for D-Sensor $< 0^{\circ}\text{C}$ that if D-Sensor still more than 0°C then the refrigerator can not switch to Defrosting mode.
- 2) If push accelerator switch 20 seconds then the refrigerator will switch to demonstration mode which all parts for cooling system control will can not operating. For cancel demonstration mode, we must power off and power on the refrigerator only.



Service part No. PTR-T00L 025 ACCELERATOR-SWITCH

15. ELECTRIC TABLE

PART NAME	TYPE	RATE		
		600L-2D		
COMPRESSOR	WL16H10DAN	COIL RESISTANCE (at 75°C)		
		M-C COIL	9.56 OHM	
		S-C COIL	9.56 OHM	
Over Load Relay	OHR-208A	OPEN TEMPERATURE	120°C	
		CLOSE TEMPERATURE	80°C	
TEMPERATURE CONTROL OF FREEZER ROOM	FREEZER ROOM TEMPERATURE THERMOSTAT	OFF	-23°C	! 1
		ON	-18°C	
TEMPERATURE CONTROL OF REFRIGERATOR ROOM	REFRIGERATOR ROOM TEMPERATURE THERMOSTAT	OFF	-5°C	! 1
		ON	7°C	
DEFROST CONTROL	DEFROST TEMPERATURE THERMOSTAT	OFF	11°C	
CAPACITOR	STARTING CAPACITOR	NONE		
FAN MOTOR	F/R FAN MOTOR	DC 12 v		
THERMAL FUSE	FOR DEFROST HEATER			76°C

! 1 There must be reference the sensor specification table below.

SENSOR SPECIFICATION

F-sensor		R-sensor		D-sensor		TC-sensor	
Temp. ()	Resistance ()	Temp. ()	Resistance ()	Temp. ()	Resistance ()	Temp. ()	Resistance ()
! -57	! 241.87k	! -20	! 19.23k	! -58	! 271.14k	! -20	! 105.38k
! -25	! 25.58k	! -15	! 14.26k	! -20	! 19.17k	! -15	! 82.03k
-20	18.9k	-10	10.78k	-10	10.83k	-10	60.86k
-15	14.13k	-5	8.23k	-5	8.27k	-5	45.67k
-10	10.68k	0	6.35k	0	6.38k	0	34.62k
-5	8.15k	5	4.94k	5	4.97k	5	26.52k
0	6.29k	10	3.88k	10	3.90k	10	20.50k
5	4.90k	15	3.08k	15	3.09k	15	15.99k
10	3.85k	20	2.46k	20	2.47k	20	12.00k
15	3.05k	25	1.98k	25	1.98k	25	9.97k
20	2.43k	30	1.60k	30	1.61k	30	7.97k
25	1.96k	35	1.31k	40	1.08k	35	6.42k
30	1.59k	40	1.07k	50	0.74k	40	5.20k
! 61	! 0.51k	! 60	! 0.51k	! 61	! 0.50k	! 62	! 2.32k
! !	! !	! !	! !	! !	! !	! !	! !

Abnormal range → Display Error code

Normal range

Abnormal range → Display Error code

16. SERVICE CALL Q&A

Q: The Food in the chilled drawer is not frozen but defrosted

A: The chilled drawer does not freeze food use for any fresh food for short periods
It is normal that frozen foods thaw in the chilled drawer

Q : The food stored at inside of shelf freezes even the temp is set at “MID”

A: There are stored near the cold air outlet. The cold air outlet is always below freezing point
If cold air outlet is blocked, the ref compartment will not be cooled

Q: Odor in the refrigerator compartment

A: The basic principle of odor; each food has its own peculiar odor. Therefore it is impossible to prevent or avoid food odor completely in the fridge. Deodorizer can absorb some portion of odor but not completely and take a time Clean inside the fridge with detergent and remove moisture. Opening the door for 3-4 Hr. and set temperature control at high.

Q: Frost in the freezer compartment

A: The main causes of frosting:
- Door was left open.
-air penetration through the gasket
- Too frequency door opening Hot food are store before cooled down

Q: Vibration sound

A: Check sound whether it comes from pipe vibration and friction;
-insert rubber or leave a space between pipe to avoid the noise.

Q: Sound depends on the installation location.

A: Sound become louder if the fridge is installed on a wooden floor or near a wooden wall. Move it to the other location
If the fridge is not leaved properly, a small vibration can make a loud sound. Please adjust the level of the fridge.

Q: When is the power connected ?

A: You can connect the power right after the installation. But if the fridge was laid flat during it transportation for a long period of time and the refrigerant and comp oil are mixed up, then this will badly the performance of a fridge. Be sure to connect the power 2-3 Hrs. after a fridge installed.

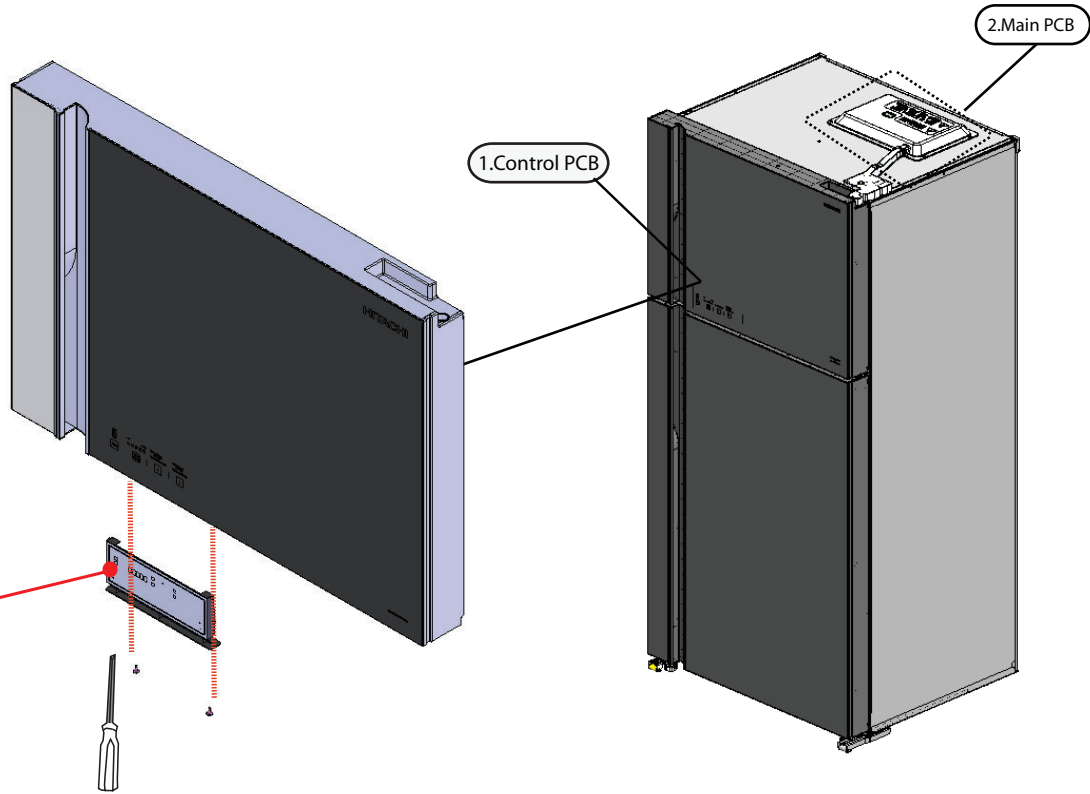
17. MECHANICAL DISASSEMBLY

PCB DISPLAY & CONTROLLER

1. Control panel.

Opening the Control panel by take off 2 screws at bottom #FD-Glass

TOUCH-SCREEN-PANEL
PTR-VG710P3 006



2. Main PCB

HOLE-CAP
PTR-SBS6200T 027

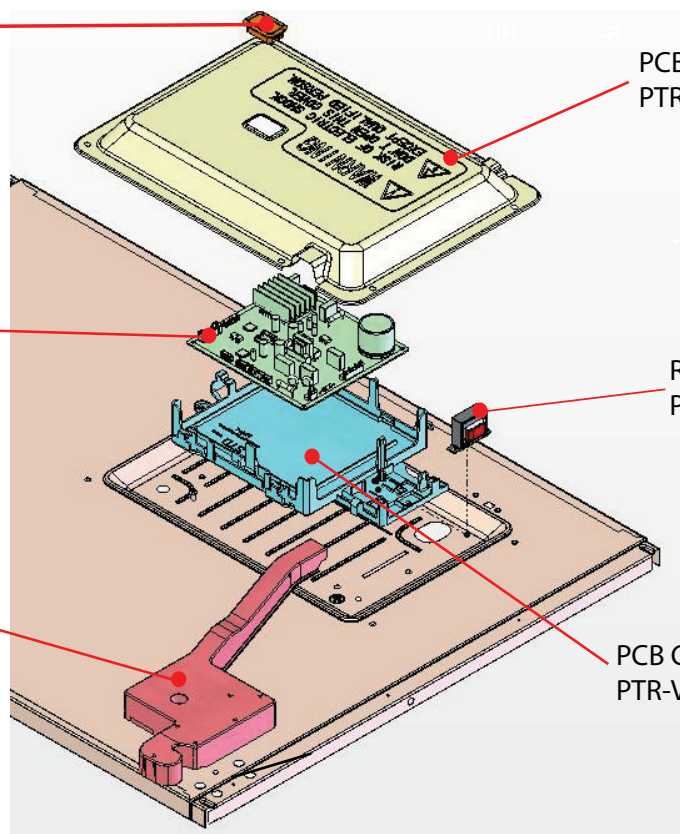
PCB-COVER
PTR-W800FPS 056

PCB MAIN
PTR-VG710P3 050

REACTOR
PTR-V720PG1 054

UP-HINGE-COVER
PTR V720PG1

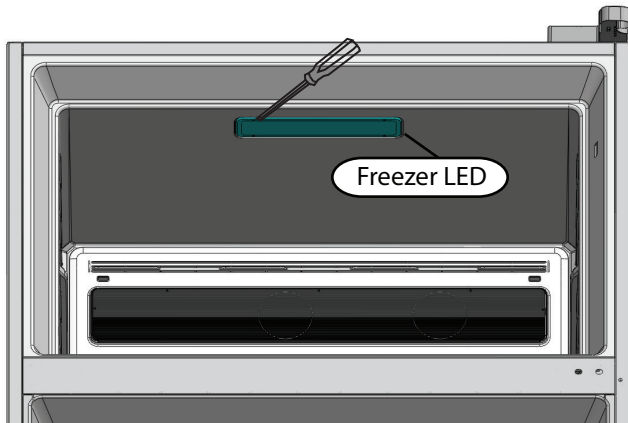
PCB CASE
PTR-V720PG1 056



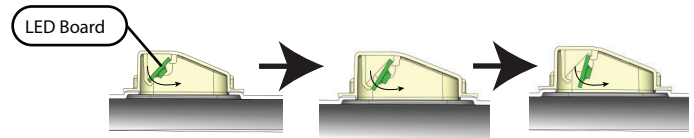
After repair, Check the assembled state of components. It must be in the same assembled state when compared with the state before disassembly.

Mechanical Disassembly

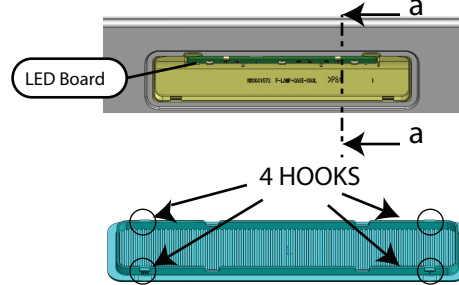
1. FREEZER COMPARTMENT Freezer LED lamp



Before disassemble the LED lamp, Should be remove all accessories in freezer.

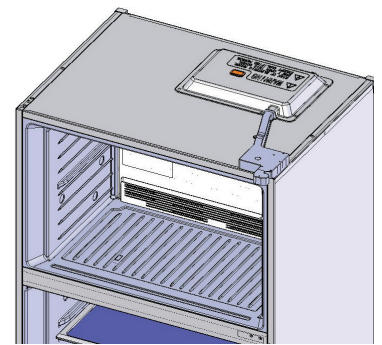


Section picture (a-a) how to remove LED board



LAMP-COVER-F
PTR-V720PG1042

Do not desolder evaporator to replace the defrost heater only.



Freezer Compartment

EVAPORATOR
PTR-VG710P3 033 (550L,510L)
PTR-V540PGV 023 (450L)

FAN-MOTOR-SV
PTR-VG710P3 032 (550L,510L)
PTR-V540PGV 022 (450L)

F-SENSOR-SV
PTR-VG710P3 030 (550L,510L)
PTR-V540PGV 020 (450L)

R-HEATER
PTR-VG710P3 034 (550L,510L)
PTR-V540PGV 024 (450L)

THERMO FUSE
PTR-VG710P3 064

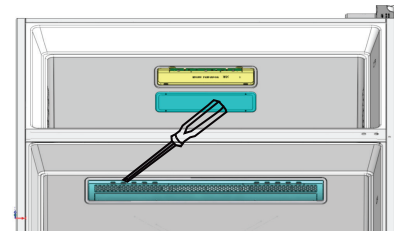
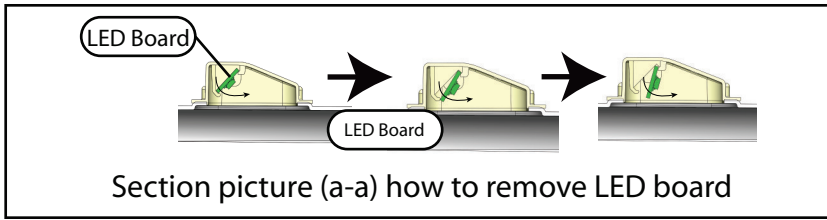
FAN-GUARD-COVER
PTR-VG710P3 028 (550L,510L)
PTR-V540PGV 018 (450L)

FAN-GUARD
PTR-VG710P3 029 (550L,510L)
PTR-V540PGV 019 (450L)

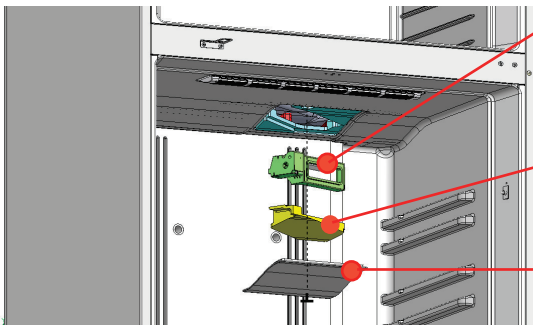
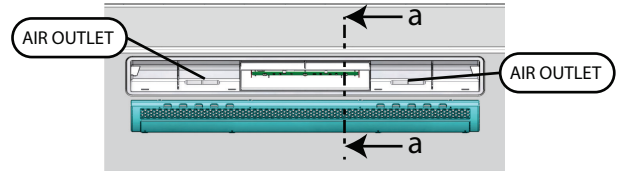
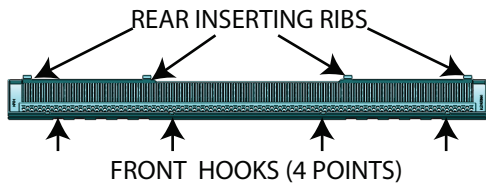
MOUTH-PLATE-SV
PTR-VG710P3 031 (550L,510L)
PTR-V540PGV 021 (450L)

After repair, Check the assembled state of components.
It must be in the same assembled state when compared
with the state before disassembly.

2. REFRIGERATOR COMPARTMENT



Release the front 4 hooks by minus screw driver then take it out the rear inserting ribs.

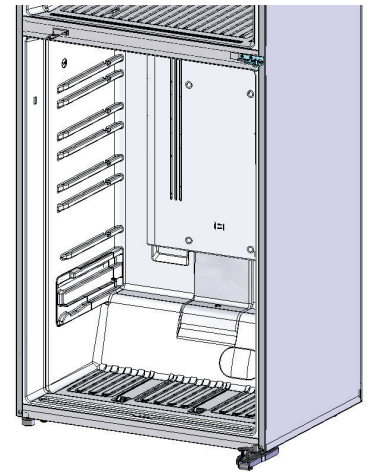


DAMPER
PTR-V70PGD3 001

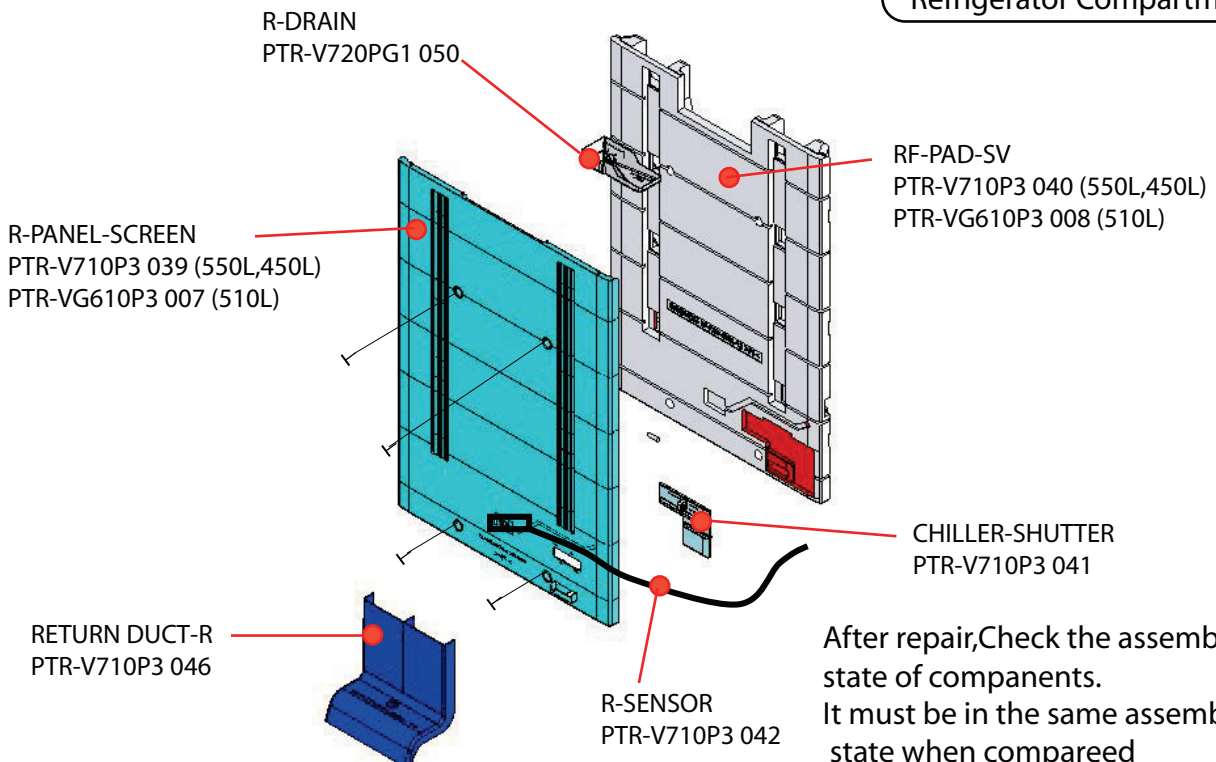
DAMPER COVER FOAM
PTR-VG710P3 044

DAMPER COVER
PTR-VG710P3 045

Damper Locating



Refrigerator Compartment



After repair, Check the assembled state of components. It must be in the same assembled state when compared with the state before disassembly.



SERVICE MANUAL

PT

NO. XXXXE

R-VG660XXX (GBK)



TABLE

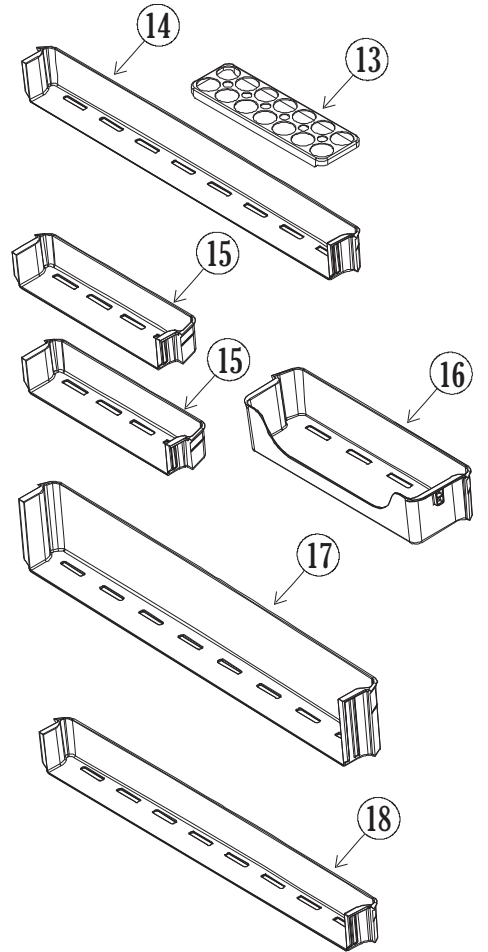
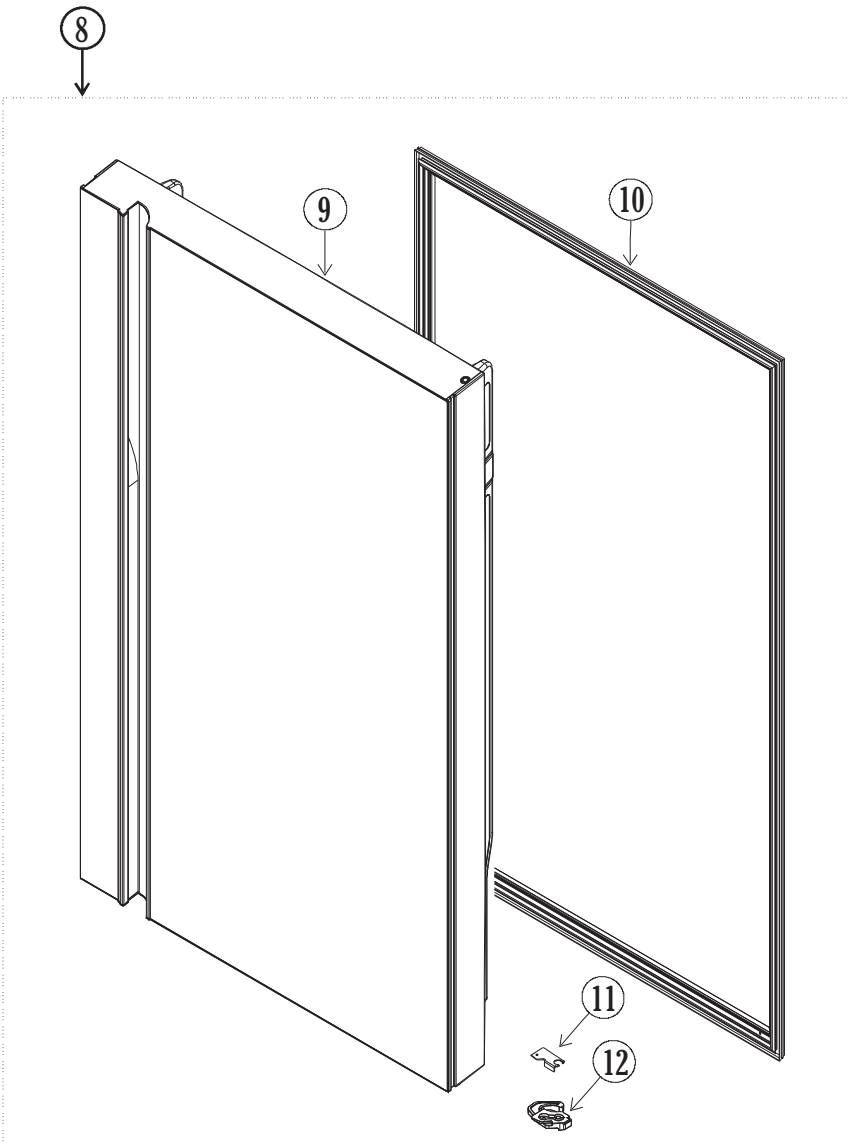
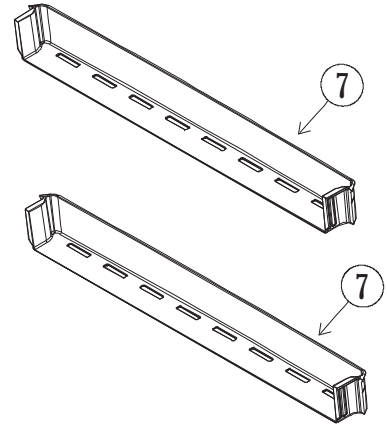
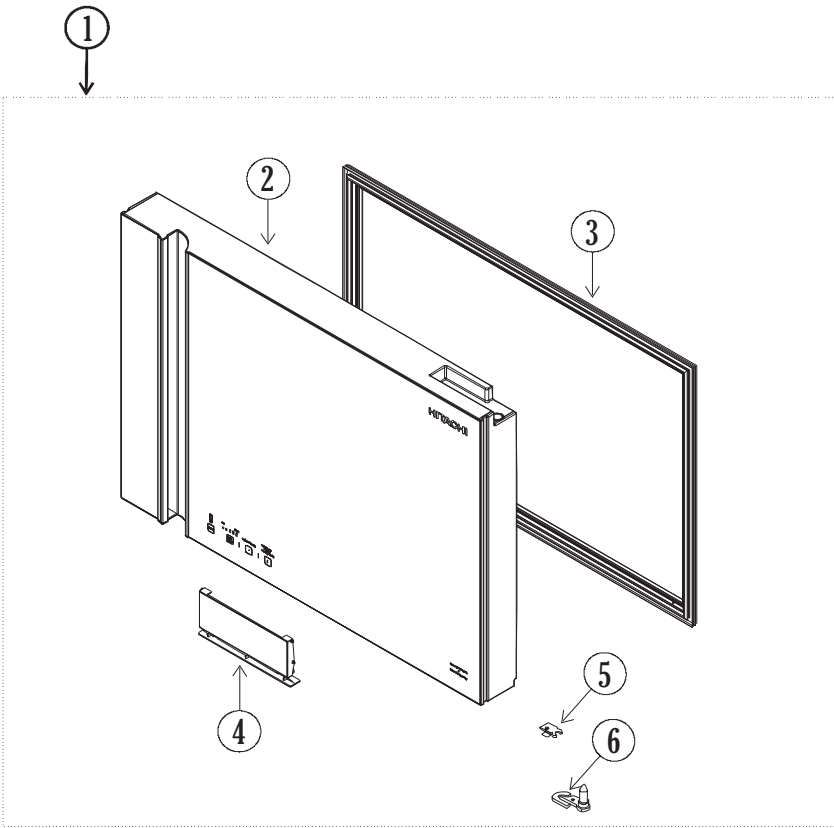
SPECIFICATION X
 CIRCUIT DIAGRAM X
 FIGURE PARTS X
 PARTS LIST (GBK)..... X

For servicing details, Please refer to service manual No. 2966E

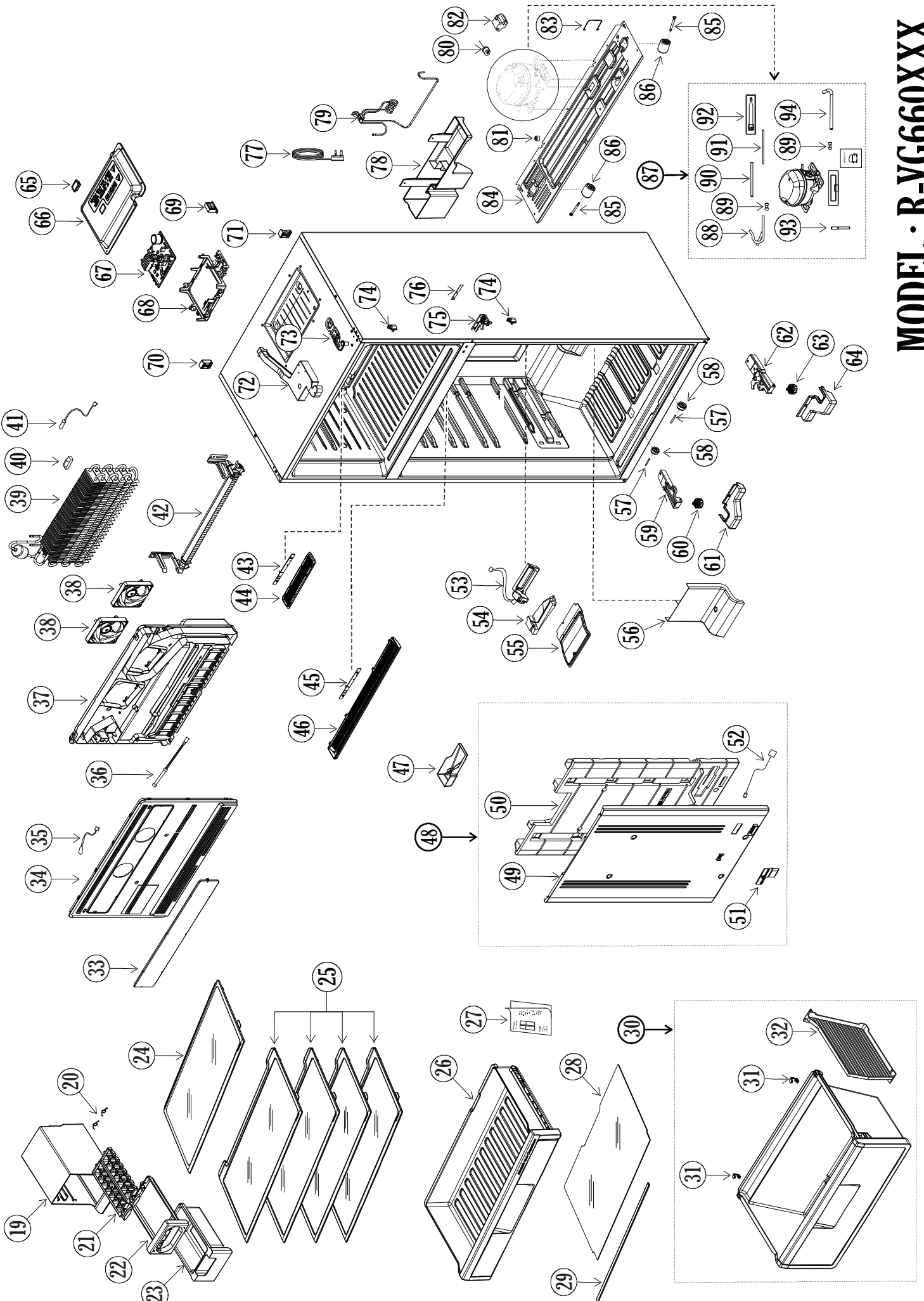
For service refrigerant R600a cycle please refer to service manual No.2736E

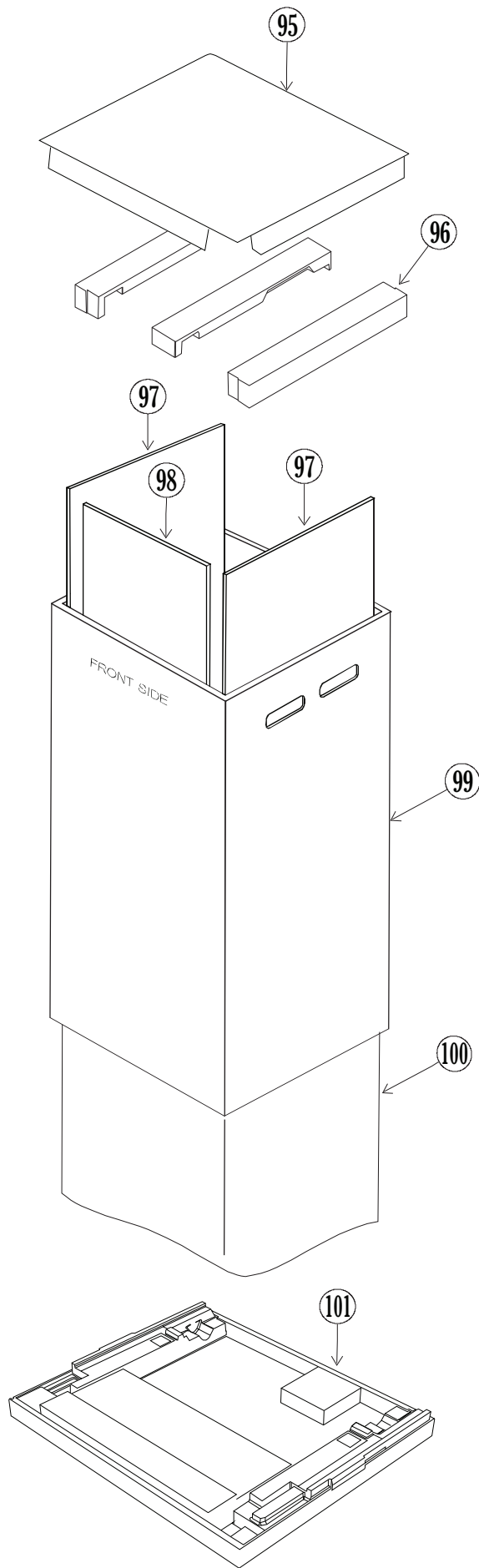
SPECIFICATIONS

TYPE		GLASS BIG 2 DOOR	
MODEL		R-VG660XXX	
COLOR		GBK	
POWER SOURCE		1Ø,220-240V, 50Hz	
POWER INPUT (W)		140	
TOTAL CURRENT (A)		1.5	
VOLUME	TOTAL	NET	550L
DIMENSIONS (mm)	W		855
	H		1835
	D		740
NET WEIGHT (Kgs)		97	



MODEL : R-VG660XXX





MODEL : R-VG660XXX

MODEL : R-VG660XXX (GBK)

NO	SERVICE NO.	SERVICE NAME	Q'TY/SET	REMARKS
			R-VG660XXX	
1	PTR-VG710P3 XXX	GLASS-DOOR-PANEL-F-ASS'Y (GBK)	1	**
2	PTR-VG710P3 XXX	GLASS-DOOR-PANEL-F (GBK)	1	**
3	PTR-VG710P3 XXX	GASKET-550L-F	1	**
4	PTR-VG710P3 XXX	TOUCH-SCREEN-PANEL	1	**
5	PTR-V720PG1 XXX	STOPPER	1	
6	PTR-VG710P3 XXX	DOOR-CLOSER	1	
7	PTR-VG710P3 XXX	DOOR-RACK-F	2	
8	PTR-VG710P3 XXX	GLASS-DOOR-PANEL-R-ASS'Y (GBK)	1	**
9	PTR-VG710P3 XXX	GLASS-DOOR-PANEL-R (GBK)	1	**
10	PTR-VG710P3 XXX	GASKET-550L-R	1	**
11	PTR-VG710P3 XXX	DOOR-STOPPER-RL	1	
12	PTR-V720PG1 XXX	CLOSER-R	1	
13	PTR-610AS3T XXX	EGG-CASE-550	1	
14	PTR-VG710P3 XXX	DOOR-RACK-R1	1	
15	PTR-VG710P3 XXX	DOOR-RACK-R2	2	
16	PTR-VG710P3 XXX	R-DOOR-POCKET	1	
17	PTR-VG710P3 XXX	DOOR-RACK-SCREEN-R3	1	
18	PTR-VG710P3 XXX	DOOR-RACK-SCREEN-R4	1	
19	PTR-Z610EMX XXX	ICE-CORNER	1	
20	PTR-610AS3T XXX	ICE-MAKER-SPRING	2	
21	PTR-400WP XXX	ICE-TRAY	2	
22	PTR-VG710P3 XXX	ICE-SUPPORT	1	
23	PTR-Z400V XXX	ICE-BANK	1	
24	PTR-VG710P3 XXX	GLASS-SHELF-F	1	
25	PTR-VG710P3 XXX	GLASS-SHELF-R	4	
26	PTR-VG710P3 XXX	CHILLER-CASE '07	1	
27	PTR-G7095HT XXX	INSTRUCTION-BOOK	1	
28	PTR-VG710P3 XXX	CRISPER-COVER	1	
29	PTR-VG710P3 XXX	CRISPER-TRIM-COVER	1	
30	PTR-VG710P3 XXX	CRISPER-ASS'Y	1	
31	PTR-V720PG1 XXX	CRISPER SUPPORT	2	
32	PTR-VG710P3 XXX	CRISPER-PARTITION	1	
33	PTR-VG710P3 XXX	FAN-GUARD-COVER	1	
34	PTR-VG710P3 XXX	FAN-GUARD	1	

MODEL : R-VG660XXX (GBK)

NO	SERVICE NO.	SERVICE NAME	Q'TY/SET	REMARKS
			R-VG660XXX	
35	PTR-VG710P3 XXX	F-SENSOR-SV	1	**
36	PTR-VG710P3 XXX	THERMAL FUSE	1	**
37	PTR-VG710P3 XXX	MOUTH-PLATE-SV	1	
38	PTR-VG710P3 XXX	FAN-MOTOR-SV	2	**
39	PTR-VG710P3 XXX	EVAPORATOR	1	**
40	PTR-208A1HE XXX	SENSOR HOLDER	1	
41	PTR-M800P2M XXX	D-SENSOR	1	**
42	PTR-VG710P3 XXX	R-HEATER	1	**
43	PTR-VG710P3 XXX	LED-LAMP-F	1	**
44	PTR-V720PG1 XXX	LAMP-COVER-F	1	
45	PTR-VG710P3 XXX	LED-LAMP-R	1	**
46	PTR-VG710P3 XXX	LAMP-COVER-R	1	
47	PTR-V720PG1 XXX	R-DRAIN	1	
48	PTR-VG710P3 XXX	R-PANEL-ASS'Y	1	**
49	PTR-VG710P3 XXX	R-PANEL-SCREEN	1	
50	PTR-VG710P3 XXX	RF-PAD-SV	1	
51	PTR-VG710P3 XXX	CHILLER-SHUTTER	1	
52	PTR-VG710P3 XXX	R-SENSOR	1	**
53	PTR-V70PGD3 XXX	DAMPER	1	**
54	PTR-VG710P3 XXX	DAMPER-COVER-FOAM	1	
55	PTR-VG710P3 XXX	DAMPER-COVER	1	
56	PTR-VG710P3 XXX	RETURN-DUCT-R	1	
57	PTR-Z675AS7 XXX	ROLLER-PIN	2	
58	PTR-Z675AS7 XXX	ROLLER	2	
59	PTR-VG710P3 XXX	LEG-ROLLER	1	
60	PTR-VG710P3 XXX	ADJUSTOR-L	1	
61	PTR-VG710P3 XXX	FRONT-COVER-R	1	
62	PTR-V720PG1 XXX	LO-HINGE	1	
63	PTR-Z650AJ7 XXX	ADJUSTOR	1	
64	PTR-VG710P3 XXX	FRONT-COVER-L	1	
65	PTR-SBS6200T XXX	HOLE-CAP	1	
66	PTR-W800FPS XXX	PCB-COVER-ASS'Y	1	
67	PTR-VG710P3 XXX	MAIN-PCB	1	**
68	PTR-V720PG1 XXX	PCB-CASE	1	

MODEL : R-VG660XXX (GBK)

NO	SERVICE NO.	SERVICE NAME	Q'TY/SET	REMARKS
			R-VG660XXX	
69	PTR-V720PG1 XXX	REACTOR	1	**
70	PTR-VG710P3 XXX	BACK-HANDLE-L	1	
71	PTR-VG710P3 XXX	BACK-HANDLE-R	1	
72	PTR-W800FPS XXX	UP-HINGE-COVER-R (GBK)	1	
73	PTR-V720PRS XXX	UP-HINGE-R	1	
74	PTR-25A3P XXX	DOOR SWITCH	2	**
75	PTR-Z700AM XXX	CENTER-HINGE '07	1	
76	PTR-VG710P3 XXX	CENTER-HINGE-SHEET	1	
77	PTR-VG660P3 XXX	PLUG	1	**
78	PTR-VG710P3 XXX	EVAPORATOR PAN	1	
79	PTR-VG710P3 XXX	DIP-PIPE	1	
80	PTR-SF37WVPH XXX	OVERLOAD RELAY	1	**
81	PTR-T270W XXX	R-GROMMET	1	
82	PTR-SF37WVPH XXX	TERMINAL-COVER	1	
83	PTR-SF37WVPH XXX	COMP COVER LOCK	1	
84	PTR-VG710P3 XXX	COMPRESSOR BASE	1	
85	PTR-923V XXX	ROLLER PIN	2	
86	PTR-SF37WVP XXX	ROLLER	2	
87	PTR-WB490P2 XXX	COMPRESSOR	1	**
88	PTR-SG31BPH XXX	S-PIPE-P-SOLF-R600a	1	
89	PTR-TOOL XXX	LOKING STOPPER	2	
90	PTR-S31SVTH-1 XXX	PIPE-COMP-R600a	1	
91	PTR-S700EUK8 XXX	CHARG-PIPE-DRYER	1	
92	PTR-14MX7 XXX	DRYER KMP (NON-CFC)	1	**
93	PTR-SF37WVPTH XXX	SV-PIPE-BS4D	1	
94	PTR-S700EUK XXX	SV-PIPE-600L	1	
95	PTR-VG710P3 XXX	UP-CARTON	1	
96	PTR-VG710P3 XXX	UP-CUSHION	1	
97	PTR-Z66ARP7 XXX	SIDE CUSHION	2	
98	PTR-S70GPRP9 XXX	SIDE CUSHION	1	
99	PTR-VG660PK XXX	CARTON-BOX-R-VG660XXX (GBK)	1	
100	PTR-610AS3T XXX	POLY BAG	1	
101	PTR-VG710P3 XXX	CARTON-BASE	1	

HITACHI