DESPIECE

Refrigerator

MODEL : FRA280WP

✔ **Caution**

: In this Manual, some parts can be changed for improving, their performance without notice in the parts list. So, if you need the latest parts information,please refer to PPL(Parts Price List) in Service Information Center

DAEWOO ELECTRONICS

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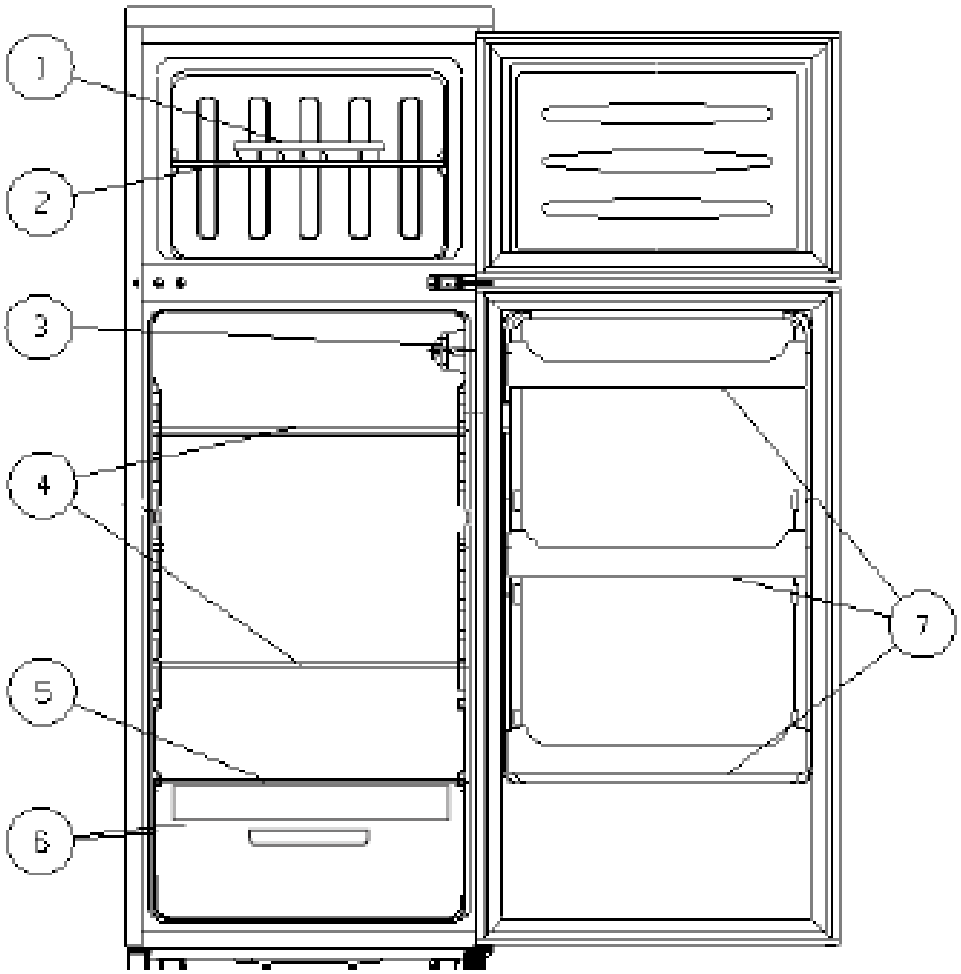
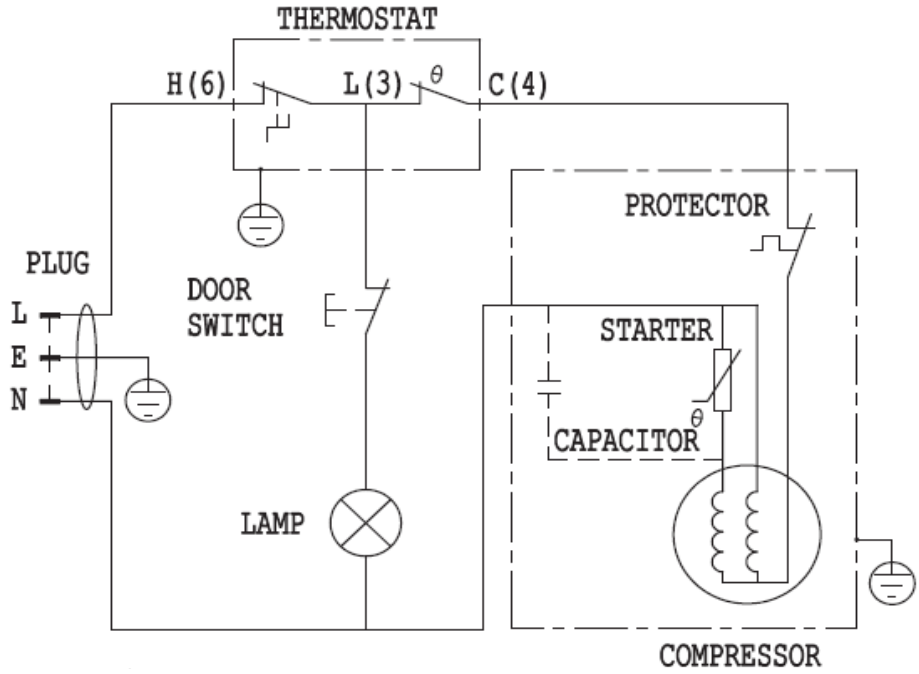
PARTS INENTIFICATION

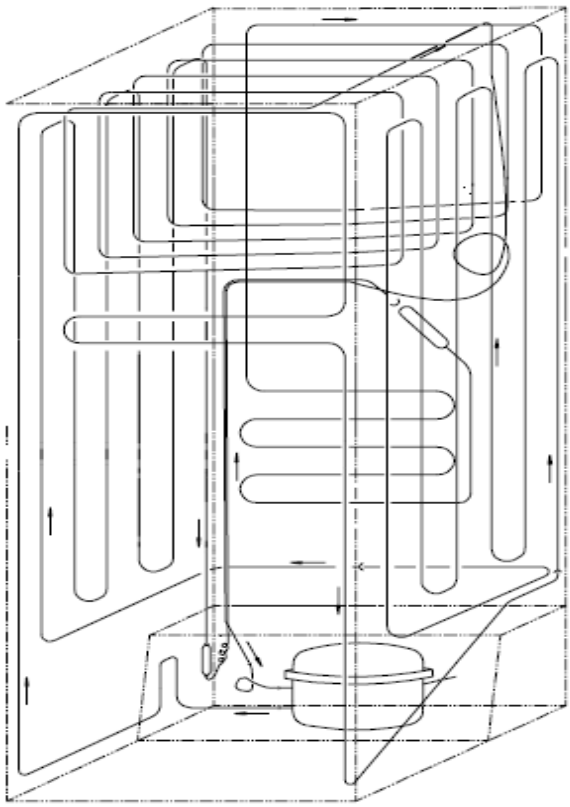


1. **Ice tray**
2. **Wire tray in freezer**
3. **Temperature regulator**
4. **Storage shelves**
5. **Crisper cover**
6. **Crisper**
7. **Door shelves(eggs tray inside the upper shelf)**

CIRCUIT DIAGRAM



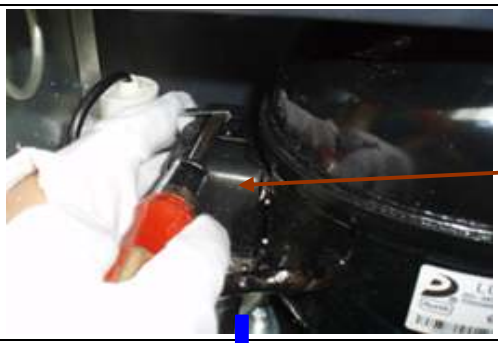
COOLING DIAGRAM



The guide for Disassembly Common parts of Refrigerator

The instruction of replacing Lamp.		
The picture shows the location of the lamp		
Remove the lamp cover and take out the lamp.		
The instruction of replacing thermostat.		
Remove the screws and take out the Controller		
Unplug the connecting wire		
Remove the Temperature control knob and loose the the fixing nut of the thermostat		

And then ,you can replace the thermostat		
The instruction of replacing Door switch.		
You can easy to use a screwdriver to take down the door switch like the right picture.		
The appearance of the door switch.		
The instruction of replacing PTC Starting relay and Overload protector.		
You can easy to use a screwdriver to take down Spring tap and Cover.		
Unplug the connecting wire of the PTC Starting relay and Overload protector.		
The instruction of replaceing PTC Starting relay and Overload protector.		

You can easy to use a screwdriver to take down Spring tap and Cover.		
Unplug the connecting wire of the PTC Starting relay and Overload protector.		
Then you can replace the new one now		

TROUBLESHOOTING

■ Common default tests method.

Check the problem by observing	
Request	detail
a) Checking the temperature of the using condition is according with the specification or not.	temperature between 18-43 degrees
b) Good ventilation, with at least enough room for heat dissipation around the refrigerator.	The appropriate space for running unit will be below: Refrigerator back ≧ 10MM Refrigerator two sides ≧ 20MM Refrigerator top side ≧ 30MM
C) Whether the voltage range meet the requirement of the nameplate	On normal conditions, voltage fluctuation is allowed to be between 10% of rated voltage, whilst if it exceeds a lot or sometimes high sometimes low, the compressor would be effected and even burned down. When voltage is too high, the motor coil will be burnt down, whilst

	if it is too low, the compressor would be difficult to start and the frequent starting will lead to burning down the motor.
Check if the refrigerator' s appearance and internal parts are in good condition.	
a)check the gasket	Through switching the refrigerator door to see whether the gasket is tight and if there' s gap between the cabinet and seal.
b)check the door switch	If the lamp is in good condition but it doesn' t work when opening the door, we should check the door switch.
c)Check the thermostat knob	Checking the location of thermostat knob is directly connected with the refrigerator' s cooling.
Observe all parts of the refrigerator	
a)Check the cooling speed	To check the cooling speed of freezing cabinet with electronic thermometers so as to check if the refrigerator is able to lock the cooling and in good cooling condition.
b)Check the outside tube	Checking the refrigerator' s pipeline system mainly exists in checking whether there is leakage: for example,as the seal of Process tube, the suction pipe, the exhaust pipe welding and the connection of drying filter are prone to leak, we should carefully examine. The checking method is to wipe the connection of the tube with a piece of white cloth and see if there' s oil, if does, there' s leakage.
Discriminate default by temperature	
a)To check the default by measuring compressor' s temperature	When the compressor is in normal operation and it will obviously hot.
b)To check the default by measuring dry filter' s temperature	When the dry filter is in normal condition and it will obviously a little hot.
c)To check the default by measuring suction tube' s temperature	When the suction tube is in normal condition and and it will obviously cool.
d)To check the default by measuring discharge tube' s temperature	When the discharge tube is in normal condition and it will obviously a little warm.
e)To check the default by measuring condenser' s temperature	When the condenser is in normal operation and by testing its temperature, we can assure that the temperature from the entrance to the exit is regressive (the entrance is hotter than the exit).
f)To check the default by touching evaporator' s frosting	When in normal operation and we touching the evaporator' s frosting, it shall not easy to erase.
Discriminate default by running noises	
a)Checeking the compressor' s noise	When compressor is running,it shall go with rhythmic low-frequency sound;
b)Checking the refrigerator flow' noise	If there' s "sisi" sound between capillary and evaporator' s transition, the refrigerator works normally

■ The common problem judgement method

Problem	Cause
Refrigerator can't start	1.1 Is the power cord connecting well? 1.2 Is the power voltage too low? 1.3 Is the thermostat irrational setting? 1.4 Is the ambient temperature too low? 1.5 Is the circuit on power? 1.6 Is there some default in compressor 1.7 Is the refrigeration system blocked by ice or dirty ,please stop the unit and restart after 10 minutes to see if the compressor can start.
Weak cooling effects	2.1 Is there any heat source around the refrigerator? 2.2 Is there enough space around the refrigerator for rejection of heat? 2.3 Is the setting of the thermostat appropriate? 2.4 Is there too much food or overheating food in it? 2.5 Does there open the door frequently? 2.6 Is the door completely closed? 2.7 Does the gasket destroyed or distort? 2.8 Does the refrgeration leak?
The unit can not stop running	3.1 Is there any heat source around the refrigerator? 3.2 Is there enough space around the refrigerator for rejection of heat? 3.3 Is the setting of the thermostat appropriate? 3.4 Is there too much food or overheating food in it? 3.5 Does there open the door frequently? 3.6 Is the door completely closed? 3.7 Does the gasket destroyed or distort? 3.8 Is the thermostat good operation? 3.9 Does the refrgeration leak?
Ice up in the freezing chamber	4.1 Is the setting of the thermostat appropriate? 4.2 Is there multi-moisture food and too close to the back wall of the refrigerator? 4.3 Is the ambient temperature too low? 4.4 Is the electric parts on good condition, specially the thermostat wich will cause the unit non-stopping.
Abnormal noise	5.1 Is the refrigerator stably placed? 5.2 Does the refrigerator bump other objects? 5.3 Whether the internal accessory of the refrigerator is in the right place. 5.4 Whether the water plate of compressor is fall from the unit. 5.5 Does the tube of the refrigeration system bump each other? 5.6 The noise sound likes Water flow inside the refrigerator,in fact,it is normal, which is caused both when refrigerator start and shut-down; in addition, frost-dissolving causes this sound, too, which is a normal phenomenon. 5.7 There will be a cracking sound in the cabinet,when the cabinet or cabinet accessory contracting or expanding, this sound will be made, which is normal.

	5.8 The motor operation sound in the compressor is appears to be louder at night or begin starting , which is a normal phenomenon; also the uneven placing would lead to too much running noise.
There is a peculiar smell in the units	6.1 Is the food with special smell sealed tight? 6.2 Does it have long time storing food or degenerated food? 6.3 Whether the internal cabinet needs cleaning.
the forefront or the middle cabinet heats	7.1 As fridge Anti-condensation tube is placed here and caused the above phenomenon, which is normal.
Refrigerator’s two sides or the back heat	8.1 As condensation tube is placed here and caused the above phenomenon, which is normal.
the cabinet surface condensation	9.1 Air humidity is too large.

■ The solution for the common problem.

1.Cooling is not enough good (Many reasons might cause that cooling not enough good, as blow:)		
Reason	analysis	resolvent
1) Leakage of Gas	If some Gas leaked unit will work not well. Phenomenon of failure: a, lower pressure of liquid cycle system b, high temperature of copper tube of discharging gas, hand feels very hot. C, much noise, sounds like “ZZZZZ”, comes from outlet of capillary. d, there is no or less ice on the evaporator.	Solutions: First find out the point of leaking on tube, and then sealed it, vacuuming it, finally recharge with Gas. Attention please on that below: If you find oil on somewhere, it is possible that leakage point is there.
2) The quantity of Gas is too much	If too much Gas was charged into the cycle system, the extra Gas will occupy some space of evaporator, so that the area of heat exchange becomes less, unit will work not well. Phenomenon of failure: a, higher pressure of liquid cycle system than norm. b, higher temperature of condenser. c, larger electric current of compressor d, there is less ice on evaporator, but there is ice on the absorbing tube. e, when Gas is too much, some Gas liquid might goes back into compressor, compressor will be damaged by liquid.	Solutions: First stop unit for several minutes, and then open charging tube, discharge all of Gas. Change a new filter, and then recharge Gas, finally sealed the system.
3) There is air in the liquid cycle system	The air in system will cause lower efficiency of cooling. Phenomenon of failure: a, higher pressure of liquid cycle system	Solutions: First stop unit for several minutes, and then open charging tube, discharge all of Gas.

	than norm, but the pressure is not over the limit. b, higher temperature of discharging tube. C, much noise	Change a new filter, and then recharge Gas, finally sealed the system.
4)Low working efficiency of compressor	General when a compressor works for many years, some parts of compressor were wear, so that compressor discharge less gas out, unit does not work strongly. Phenomenon of failure: a, lower pressure of discharging, check the pressure of system with pressure meter to see if it is normal. b, higher temperature of compressor surface. C, cut off the discharging tube, to see if you can block the gas coming out of the tube when compressor is working.	Solutions: Change a new compressor.
5) There is thick ice on the evaporator	For defrost refrigerator you need to defrost ice termly	Solutions: Turn off the unit and working, open doors for defrosting
6) There is something that blocked the liquid cycle system	Some time there is something blocked the filter of liquid cycle system, so that unit is not cold Phenomenon of failure: a, lower pressure of discharging b, lower temperature of discharging.	Solutions: Change a new filter

2.NO COOL

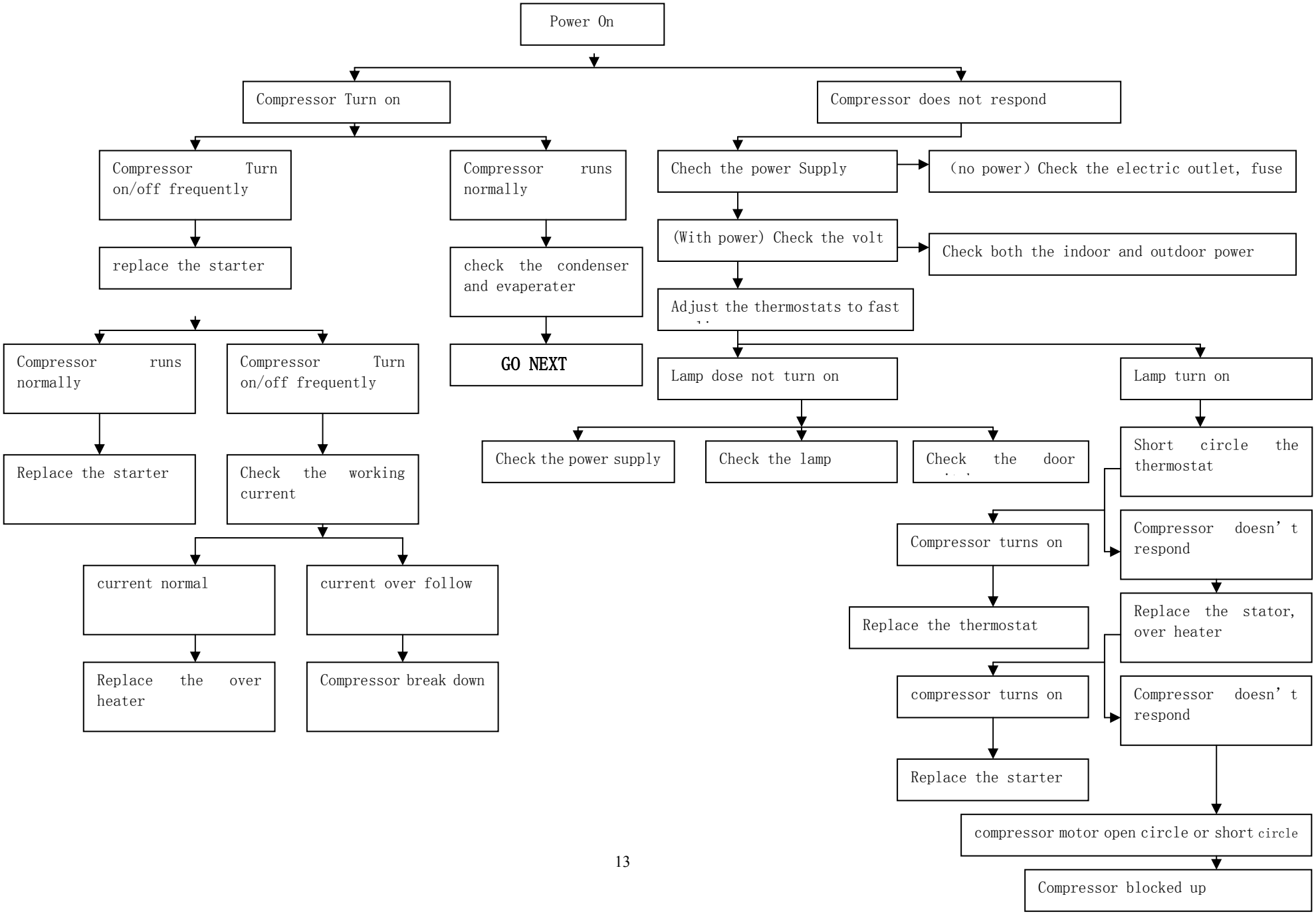
(Popular failure reasons are below):

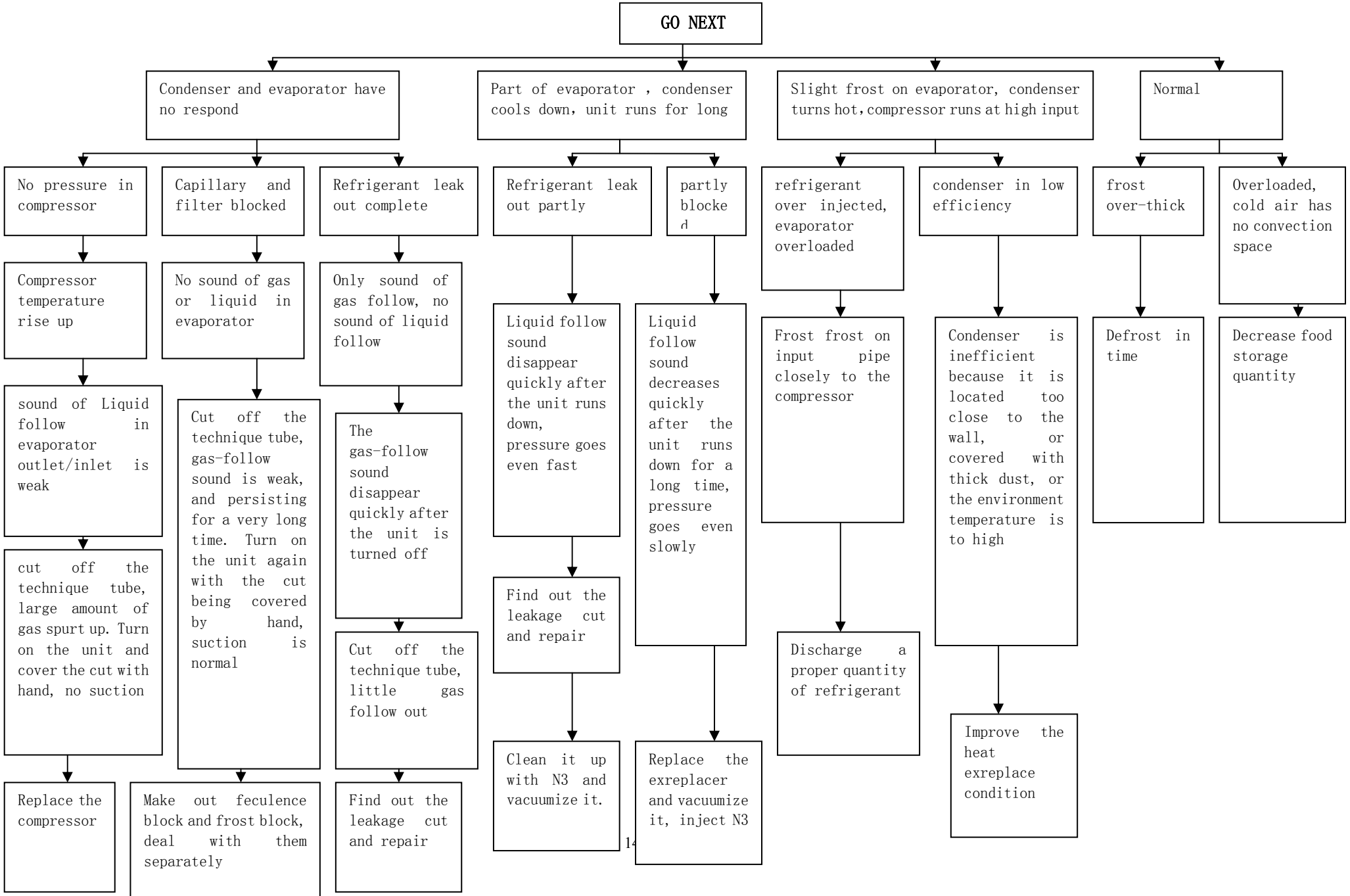
Reason	analysis	resolvent
1) Leakage of Gas	Phenomenon of failure: a, leaking fast b, leaking slowly c, no voice of liquid flowing d, cut off charging tube, no gas goes out.	Solution: First find out the point of leaking on tube, and then sealed it, vacuuming it, finally recharge with Gas. Attention please on that below: If you find oil on somewhere, it is possible that leakage point is there.
2)There is some thing that blocked the liquid cycle system	A,Ice blocking Sometime because unknown reason water comes into liquid cycle system, the capillary will be blocked by water after unit runs for period of time. Phenomenon of failure: The unit works well in the inception, after period of time	Solution: First stop unit for several minutes, and then open charging tube, discharge all of Gas. Blow the cycle system with gas of nitrogen, and then recharge Gas, finally sealed the system.

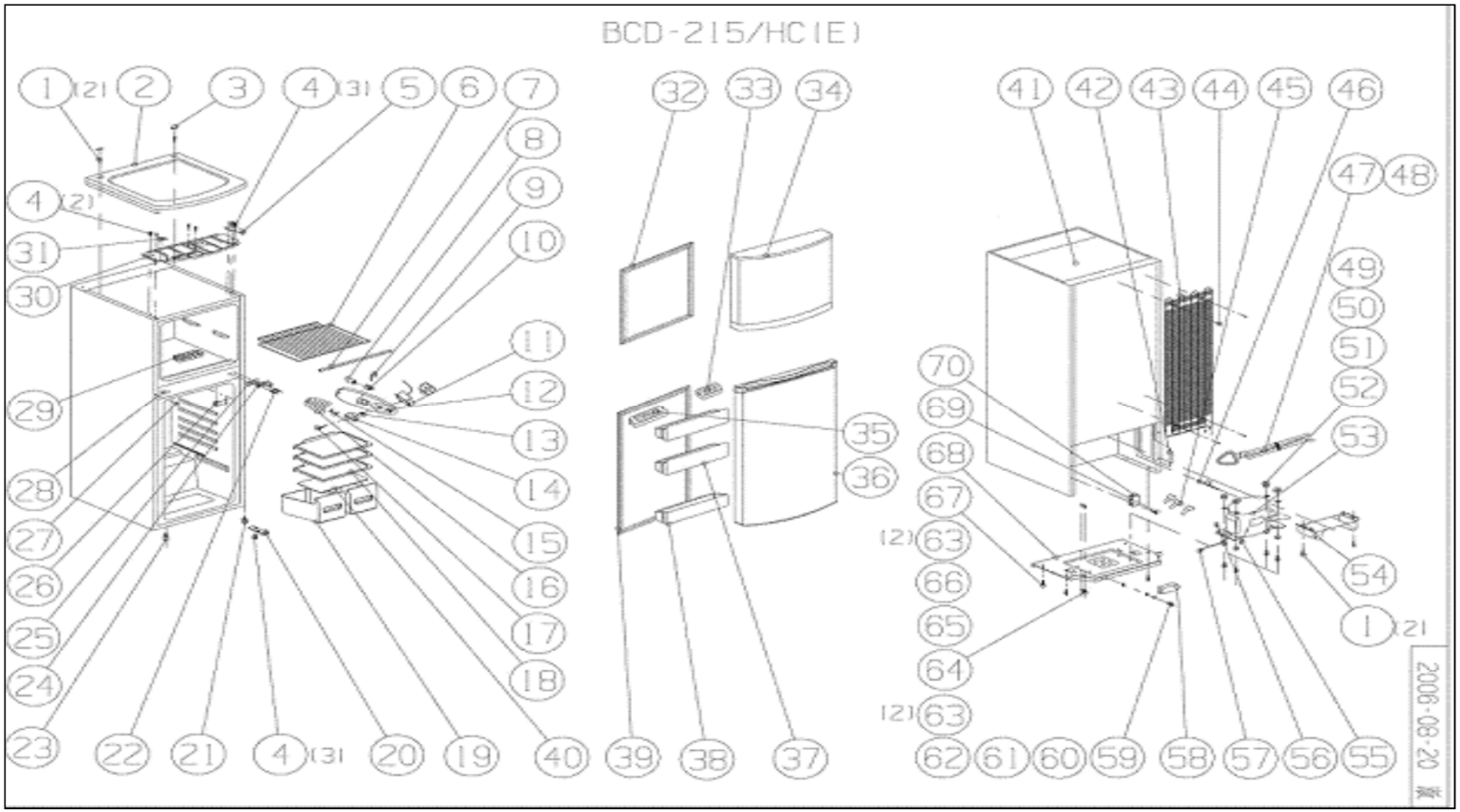
	the ice appears in the capillary and becomes more and more, till blocks the hole of capillary completely. In the moment you can find the ice on the evaporator defrosts. The noise of liquid flow disappears. The pressure of absorbing becomes negative. The phenomenon above will appear again and again. The way to check ice blocking: Warm the capillary with a hot towel, after a while the ice in the capillary melt, you can hear a sound of gas flow comes from the capillary abruptly. The pressure of absorbing becomes higher. It is Ice blocking.	
	B, there is offal block the capillary Phenomenon of failure: If the capillary is blocked by something such as offal etc., the sound of liquid flow disappears. The ice on the evaporator defrosts The pressure of absorbing becomes negative. Higher temperature of discharging tube The way to check offal blocking: If you warm capillary with the way of checking ice blocking, there is no change. It must be offal blocking.	Solution: First stop unit for several minutes, and then open charging tube, discharge all of Gas. Blow the cycle system with gas of nitrogen. Change a new capillary and filter, and then recharge Gas, finally sealed the system.

COMPRESSOR NEVER STOPS	
Reason	Resolvent
1)The setting temperature is not reasonable.	Readjust the Thermostat
2)Thermostat is broken.	Replace the Thermostat
3)Seal of door is damaged.	Replace the gasket
4)Too much food in the refrigerator	Please put the food properly.
5)Wind door is broken.	Replace wind door.
6)Fan motor is broken.	Replace fan motor

■The common repairing flow process chart.


Power On
Compressor Turn on
Compressor does not respond
Compressor Turn on/off frequently
Compressor runs normally
Chech the power Supply
(no power) Check the electric outlet, fuse
replace the starter
check the condenser and evaperater
(With power) Check the volt
Check both the indoor and outdoor power
Adjust the thermostats to fast
Compressor runs normally
Compressor Turn on/off frequently
GO NEXT
Lamp dose not turn on
Lamp turn on
Check the power supply
Check the lamp
Check the door
Short circle the thermostat
Replace the starter
Check the working current
Compressor turns on
Compressor doesn't respond
current normal
current over follow
Replace the thermostat
Replace the stator, over heater
Replace the over heater
Compressor break down
compressor turns on
Compressor doesn't respond
Replace the starter
compressor motor open circle or short circle
Compressor blocked up


GO NEXT
Condenser and evaporator have no respond
Part of evaporator , condenser cools down, unit runs for long
Slight frost on evaporator, condenser turns hot,compressor runs at high input
Normal
No pressure in compressor
Capillary and filter blocked
Refrigerant leak out complete
Refrigerant leak out partly
partly blocke d
refrigerant over injected, evaporator overloaded
condenser in low efficiency
frost over-thick
Overloaded, cold air has no convection space
Compressor temperature rise up
No sound of gas or liquid in evaporator
Only sound of gas follow, no sound of liquid follow
Liquid follow sound disappear quickly after the unit runs down, pressure goes even fast
Liquid follow sound decreases quickly after the unit runs down for a long time, pressure goes even slowly
Frost frost on input pipe closely to the compressor
Condenser is inefficient because it is located too close to the wall, or covered with thick dust, or the environment temperature is to high
Defrost in time
Decrease food storage quantity
sound of Liquid follow in evaporator outlet/inlet is weak
Cut off the technique tube, gas-follow sound is weak, and persisting for a very long time. Turn on the unit again with the cut being covered by hand, suction is normal
The gas-follow sound disappear quickly after the unit is turned off
Find out the leakage cut and repair
Discharge a proper quantity of refrigerant
Improve the heat exreplace condition
cut off the technique tube, large amount of gas spurt up. Turn on the unit and cover the cut with hand, no suction
Cut off the technique tube, little gas follow out
Clean it up with N3 and vacuumize it.
Replace the exreplacer and vacuumize it, inject N3
Replace the compressor
Make out feculence block and frost block, deal with them separately
Find out the leakage cut and repair



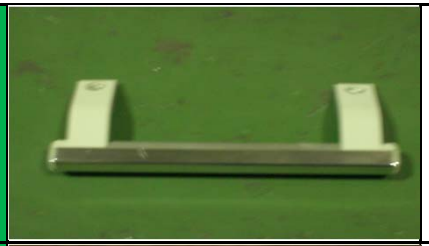
FRA280WP part list					
No	**CODIGO RECIBIDO**	**FOTO**	**FOTO2**	Part name	Qty
1	NO DISPONIBLE			Screw nail ST4.2×13	11
2	**1055467**			Top cover	1
3	NO DISPONIBLE			Screw cover of top cover	2
4	NO DISPONIBLE			Flange screw M5x16	7

5	NO DISPONIBLE			Upper hinge parts	1
6	**1375571**			Metal shelve of freezer	1
7	NO DISPONIBLE			Decoration rod for shelve of freezer	1
8	**1050074**			BOMBILLA	1
9	NO DISPONIBLE			Reflecting batten	1
10	**1064752**			Anti-explode lamp hold assembly	1
11	**1063597**			THERMOSTAT / TERMOSTATO	1
12	NO DISPONIBLE			Controller cover	1
13	NO DISPONIBLE			Block loop	1
14	**1051747**			Temperature control knob	1
15	NO DISPONIBLE			Square screw cover	1

16	NO DISPONIBLE			Lamp cover	1
17	NO DISPONIBLE			Screw nail 4×12	1
18	**1370361**			Shelve of cold-storing chamber	3
19	**1349718**			Crisper box	2
20	NO DISPONIBLE			Low hinge parts	1
21	**1065091**			Low front leg	1
22	NO DISPONIBLE			Flange Screw M5x30	2
23	**1056893**			High front leg	1
24	NO DISPONIBLE			Mid-hinge	1
25	NO DISPONIBLE			Mid-hinge bottom plate	1
26	**1055831**			Door switch	1
27	NO DISPONIBLE			Screw cover	1
28	NO DISPONIBLE			Mid-hinge bottom hole cover	2
29	**1051965**			Ice tray	1
30	NO DISPONIBLE			Top cover support	1
31	NO DISPONIBLE			Support paneling	1

32	**1055023**			GASKET F DOOR AS / BURLETE CONGELADOR	1
33	**1055804**			Small egg tray	1
34	**1366275**			Upper door	1
35	**1055804**			Egg tray	1
36	**1366282**			Lower Door	1
37	**1348963**			Upper shelve for lower door	2
38	**1349883**			Lower shelve for lower door	1
39	**1051601**			GASKET R DOOR AS / BURLETE REFRIGERADOR	1
40	**1370394**			Cover of Crisper box	1
41	NO DISPONIBLE			Body of refrigerator	1
42	1051109			Drier filter	1

43	NO DISPONIBLE			Backside condensator	1
44	NO DISPONIBLE			Circuit diagram nameplate	1
45	NO DISPONIBLE			N case	3
46	NO DISPONIBLE			Connecting tube	1
47	NO DISPONIBLE			Power supply cord with plug	1
48	NO DISPONIBLE				1
49	NO DISPONIBLE			Screw bolt M6×30	4
50	NO DISPONIBLE			Screw nut M6	4
51	NO DISPONIBLE			Round-pad 6	4
52	NO DISPONIBLE			Round-pad 6	4
53	**1100216**			COMPRESSOR(R600) + RELE+TERMICO+CONDENSADOR DE ARRANQUE+KIT MONTAJE	1
54	**1414053**			Back cover of compressor	1
55	NO DISPONIBLE			Process tube	2
56				Compressor ground wire	1
57				Compressor connecting wire	1
58				Ground wire cover	1
59	NO DISPONIBLE			Screw M5×12	3
60	NO DISPONIBLE			Screw nut M5	3
61	NO DISPONIBLE			Round-pad M5	5
62	NO DISPONIBLE			Round-pad M5	3
63	NO DISPONIBLE			Round-pad M5	3
64	NO DISPONIBLE			Screw M5×14	2
65	NO DISPONIBLE			Screw nut M5	2
66	NO DISPONIBLE			Round-pad M6	2
67	NO DISPONIBLE			Assembled bolt M6×16	4
68	NO DISPONIBLE			Compressor base	1
69	NO DISPONIBLE			Screw nail	1
70				Junction box	1

	SPFRAHANDLE			ASA REFRIGERADOR Y CONGELADOR	2
	1099078			TORNILLO ASA	4
	1118834			COVER SCREW HANDLEFRA280/350WH	4