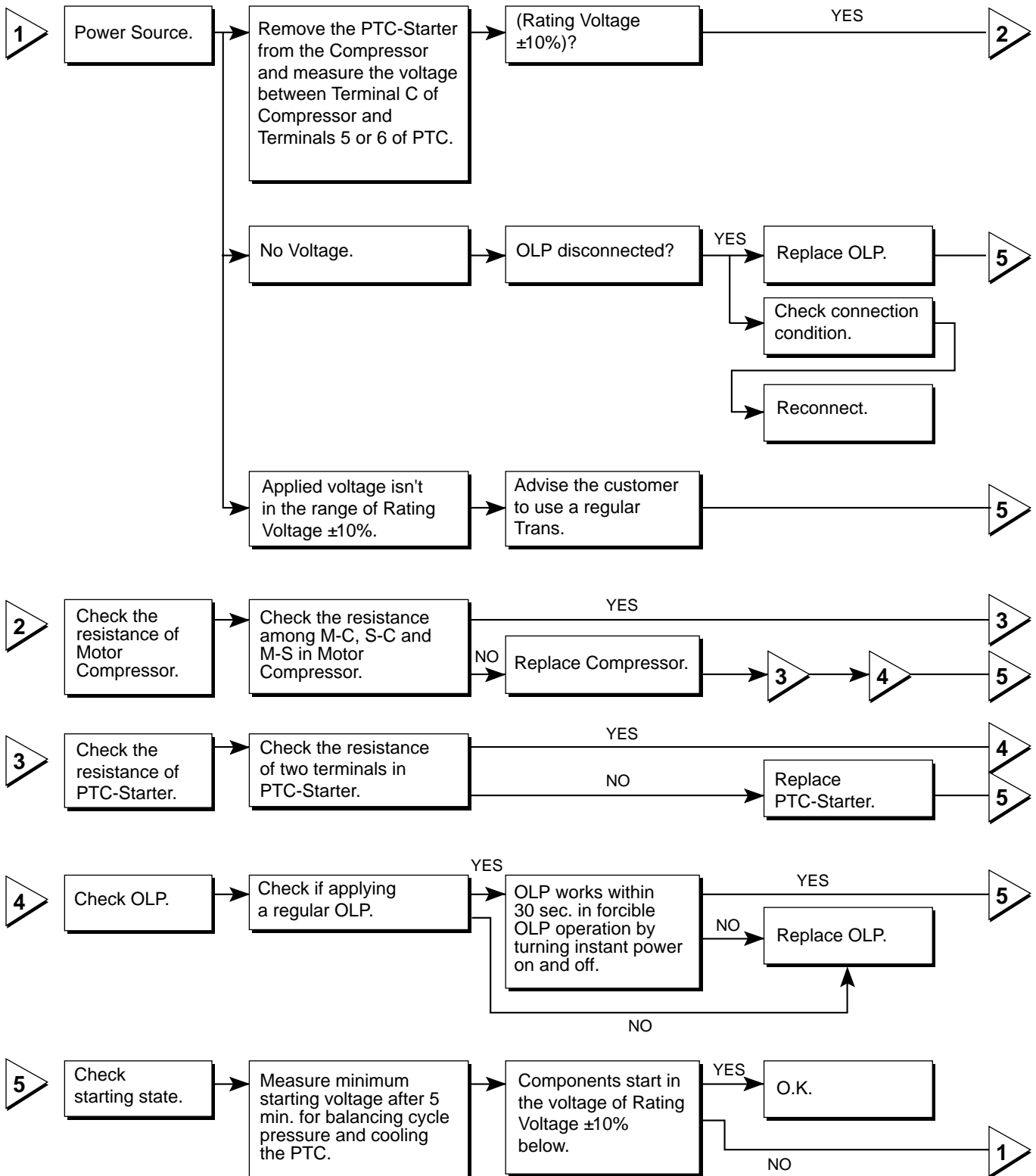


# 6. TROUBLESHOOTING

## 6-1 COMPRESSOR AND ELECTRIC COMPONENTS



## 6-2 PTC AND OLP

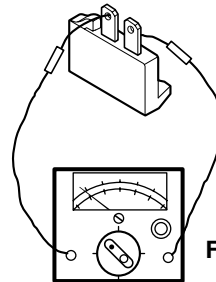
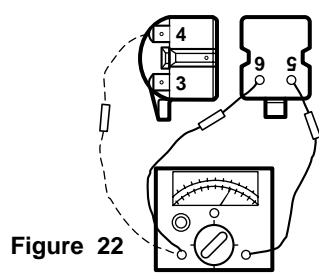
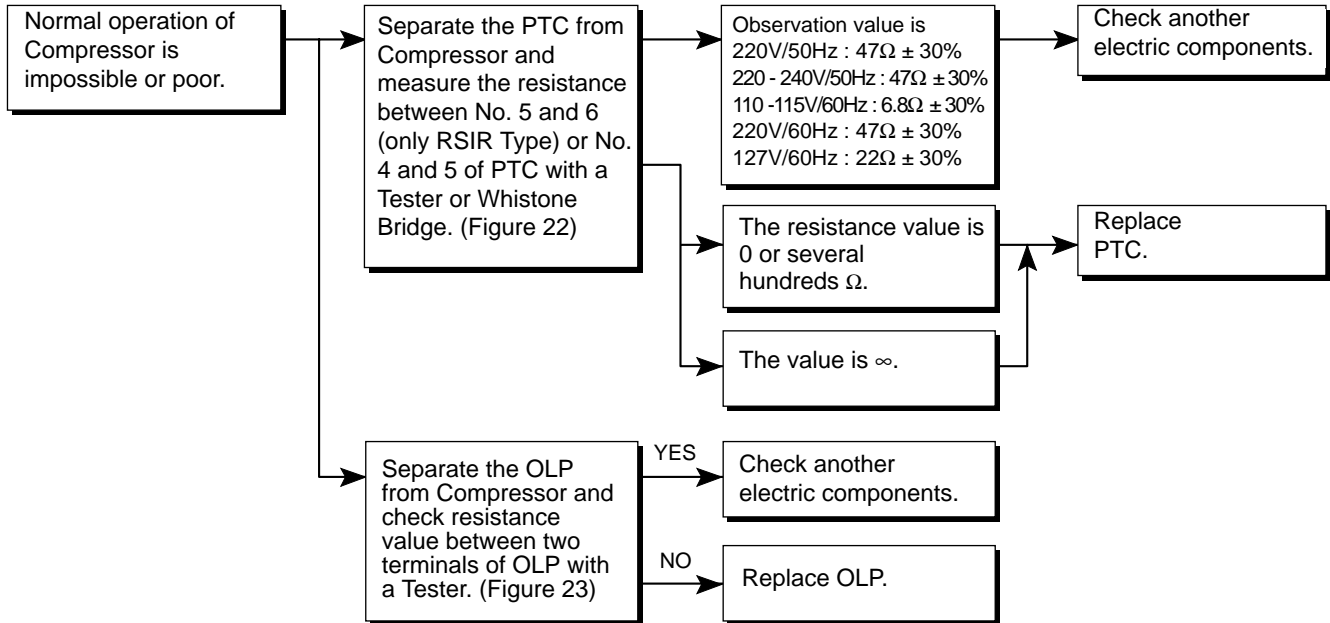
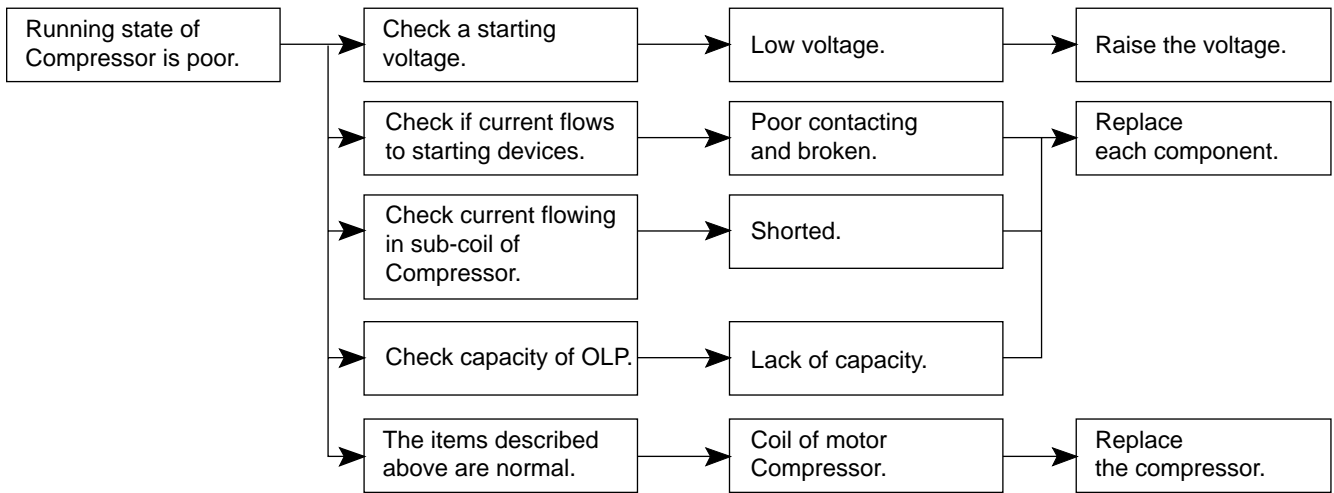
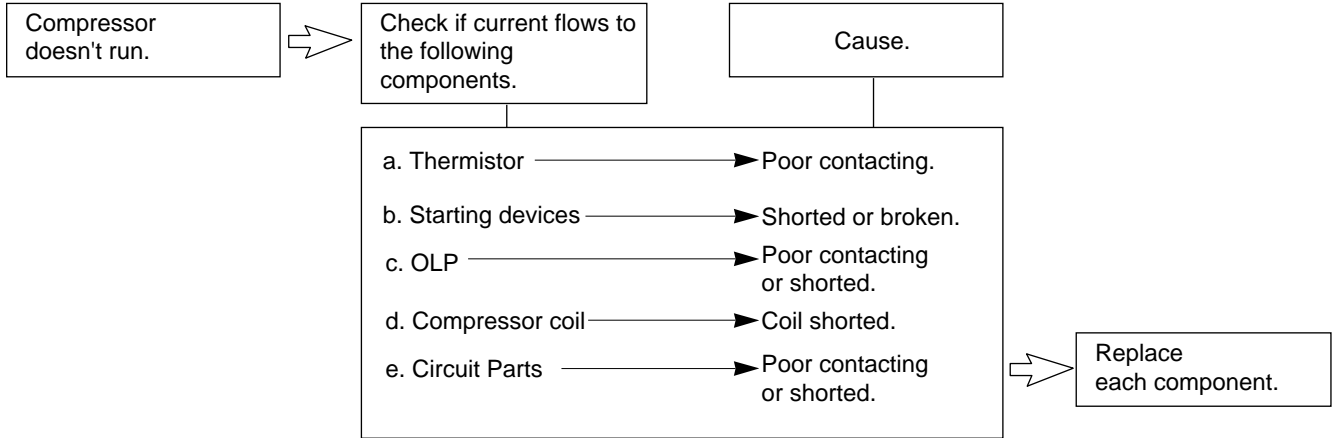


Figure 22

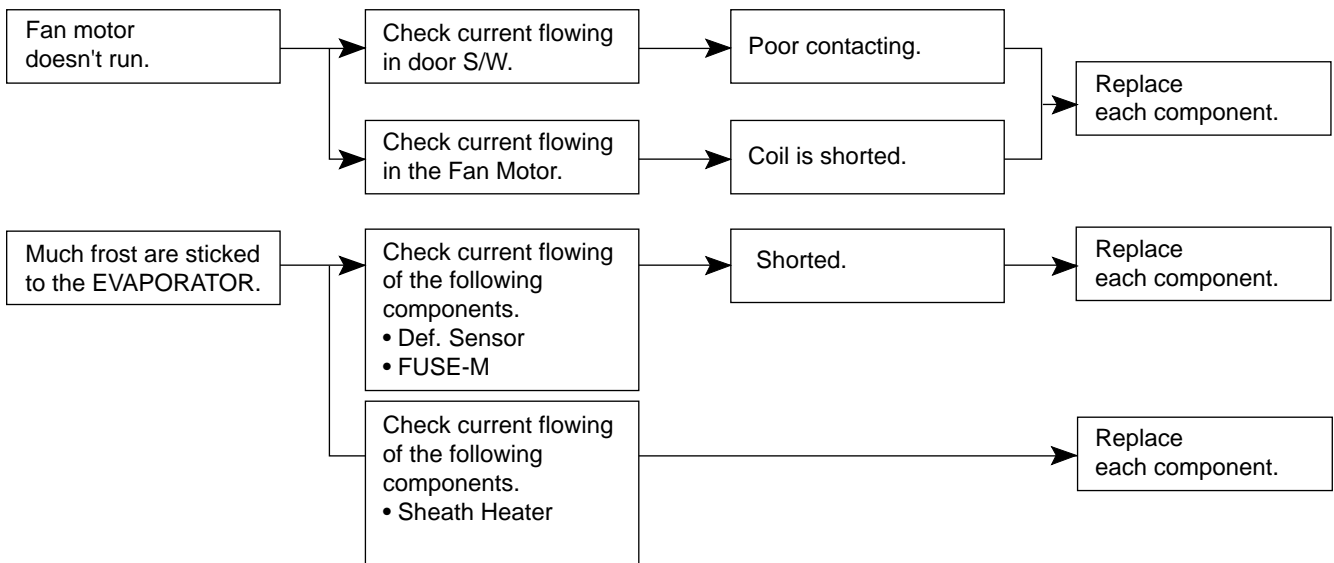
Figure 23

### 6-3 ANOTHER ELECTRIC COMPONENTS

#### ▼ Cooling is impossible



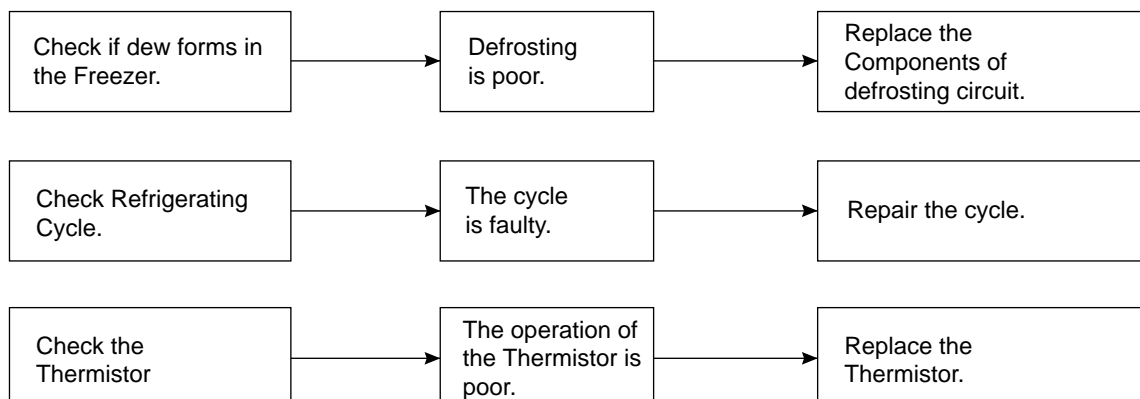
#### ▼ Cooling ability is poor



## 6-4 SERVICE DIAGNOSIS CHART

COMPLAINT	POINTS TO BE CHECKED	REMEDY
Cooling is impossible.	<ul style="list-style-type: none"> <li>• Is the power cord unplugged from the outlet?</li> <li>• Check if the power S/W is set to OFF.</li> <li>• Check if the fuse of power S/W is shorted.</li> <li>• Measure the voltage of power outlet.</li> </ul>	<ul style="list-style-type: none"> <li>• Plug to the outlet.</li> <li>• Set the switch to ON.</li> <li>• Replace a regular fuse.</li> <li>• If voltage is low, wire newly.</li> </ul>
Cooling ability is poor.	<ul style="list-style-type: none"> <li>• Check if the set is placed close to wall.</li> <li>• Check if the set is placed close to stove, gas cooker and direct rays.</li> <li>• Is the ambient temperature high or the room door closed?</li> <li>• Check if putting in hot foods.</li> <li>• Did you open the door of the set too often or check if the door is closed up?</li> <li>• Check if the Control is set to "Min".</li> </ul>	<ul style="list-style-type: none"> <li>• Place the set with the space of about 10cm.</li> <li>• Place the set apart from these heat appliances.</li> <li>• Make the ambient temperature below.</li> <li>• Put in foods after they get cold.</li> <li>• Don't open the door too often and close it firmly.</li> <li>• Set the control to mid-position.</li> </ul>
Foods in the Refrigerator are frozen.	<ul style="list-style-type: none"> <li>• Are foods placed in cooling air outlet?</li> <li>• Check if the Display LED is set to "Max".</li> <li>• Is the ambient temperature below 5°C?</li> </ul>	<ul style="list-style-type: none"> <li>• Place foods in high temperature section. (Front Part)</li> <li>• Set the Display LED to "Mid".</li> <li>• Set the Display LED to "Min".</li> </ul>
Dew or ice forms in the chamber of the set.	<ul style="list-style-type: none"> <li>• Is watery foods kept?</li> <li>• Check if putting in hot foods.</li> <li>• Did you open the door of the set too often or check if the door is closed up.</li> </ul>	<ul style="list-style-type: none"> <li>• Seal up watery foods with wrap.</li> <li>• Put in foods after they get cold.</li> <li>• Don't open the door too often and close it firmly.</li> </ul>
Dew forms in the Out Case.	<ul style="list-style-type: none"> <li>• Check if ambient temperature and humidity of surrounding air are high.</li> <li>• Is the gap in the door packed?</li> </ul>	<ul style="list-style-type: none"> <li>• Wipe dew with a dry cloth. This happening is solved in low temperature and humidity naturally.</li> <li>• Fill up the gap.</li> </ul>
Abnormal noise generates.	<ul style="list-style-type: none"> <li>• Is the set positioned in a firm and even place?</li> <li>• Does any unnecessary objects exist in the back side of the set?</li> <li>• Check if the Drip Tray is not firmly fixed.</li> <li>• Check if the cover of mechanical room in below and front side is taken out.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust the Adjust Screw, and position in the firm place.</li> <li>• Remove the objects.</li> <li>• Fix it firmly on an original position.</li> <li>• Place the cover at an original position.</li> </ul>
To close the door is not handy.	<ul style="list-style-type: none"> <li>• Check if the door packing becomes dirty by filth such as juice.</li> <li>• Is the set positioned in a firm and even place?</li> <li>• Is too much food putted in the set?</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the door packing.</li> <li>• Position in the firm place and adjust the Adjust Screw.</li> <li>• Keep foods not to reach the door.</li> </ul>
Ice and foods smell unpleasant.	<ul style="list-style-type: none"> <li>• Check if the inside of the set becomes dirty.</li> <li>• Did you keep smelly foods without wrapping?</li> <li>• It smells plastic.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the inside of the set.</li> <li>• Wrap smelly foods.</li> <li>• The new products smell plastic, but it is removed after 1-2 weeks.</li> </ul>

- In addition to the items described left, refer to the followings to solve the complaint.



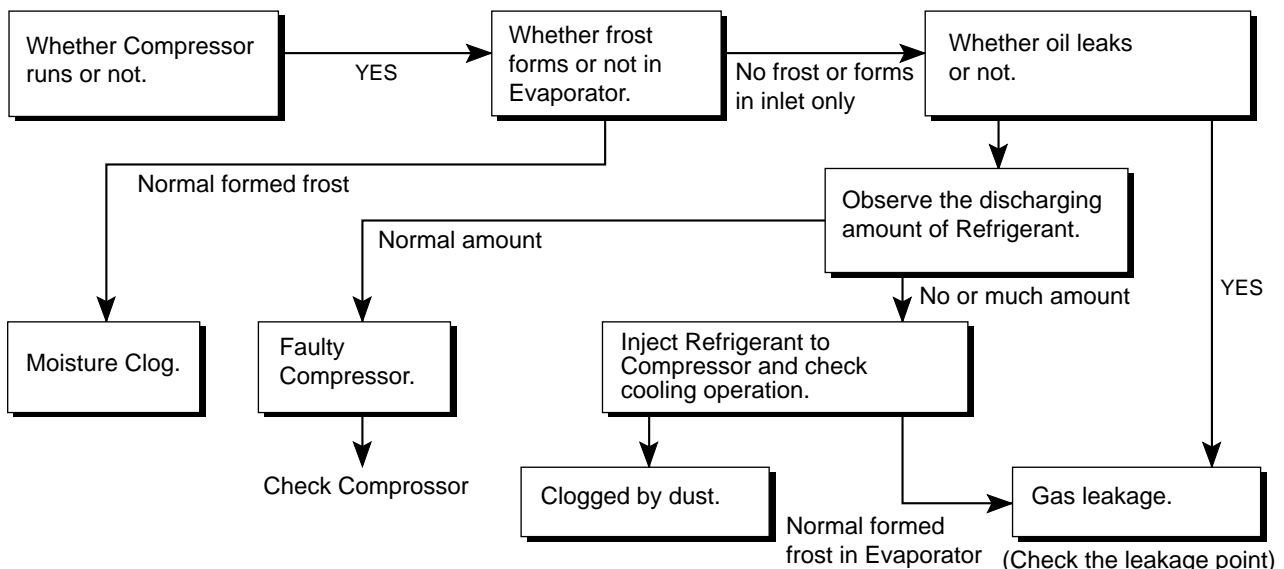
## 6-5 REFRIGERATING CYCLE

### ▼ Troubleshooting Chart

CAUSE		STATE OF THE SET	STATE OF THE EVAPORATOR	TEMPERATURE OF THE COMPRESSOR	REMARKS
LEAKAGE	PARTIAL LEAKAGE	Freezer and Refrigerator don't get cold normally.	Low flowing sound of Refrigerant is heard and frost forms in inlet only	A little high more than ambient temperature.	<ul style="list-style-type: none"> <li>A little Refrigerant discharges.</li> <li>Normal cooling is possible when injecting Refrigerant of regular amount.</li> </ul>
	WHOLE LEAKAGE	Freezer and Refrigerator don't get cold at all.	Flowing sound of Refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	<ul style="list-style-type: none"> <li>No discharging of Refrigerant.</li> <li>Normal cooling is possible when injecting Refrigerant of regular amount.</li> </ul>
CLOGGED BY DUST	PARTIAL CLOG	Freeze room and Refrigerator don't get cold normally.	Flowing sound of Refrigerant is heard and frost forms in inlet only.	A little high more than ambient temperature.	<ul style="list-style-type: none"> <li>Normal discharging of refrigerant.</li> <li>The capillary tube is faulty.</li> </ul>
	WHOLE CLOG	Freezer and Refrigerator don't get cold.	Flowing sound of Refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	<ul style="list-style-type: none"> <li>Normal discharging of Refrigerant.</li> </ul>
MOISTURE CLOG		Cooling operation stops periodically.	Flowing sound of Refrigerant is not heard and frost melts.	Low than ambient temperature	<ul style="list-style-type: none"> <li>Cooling operation restarts when heating the inlet of capillary tube.</li> </ul>
DEFECTIVE COMPRESSION	COMP-RESSION	Freezer and Refrigerator don't get cold.	Low flowing sound of Refrigerant is heard and frost forms in inlet only.	A little high than ambient temperature.	<ul style="list-style-type: none"> <li>The pressure of high pressure part in compressor is low.</li> </ul>
	NO COMP-RESSION	No compressing operation.	Flowing sound of Refrigerant is not heard and no frost.	Equal to ambient temperature.	<ul style="list-style-type: none"> <li>No pressure of high pressure part in compressor.</li> </ul>

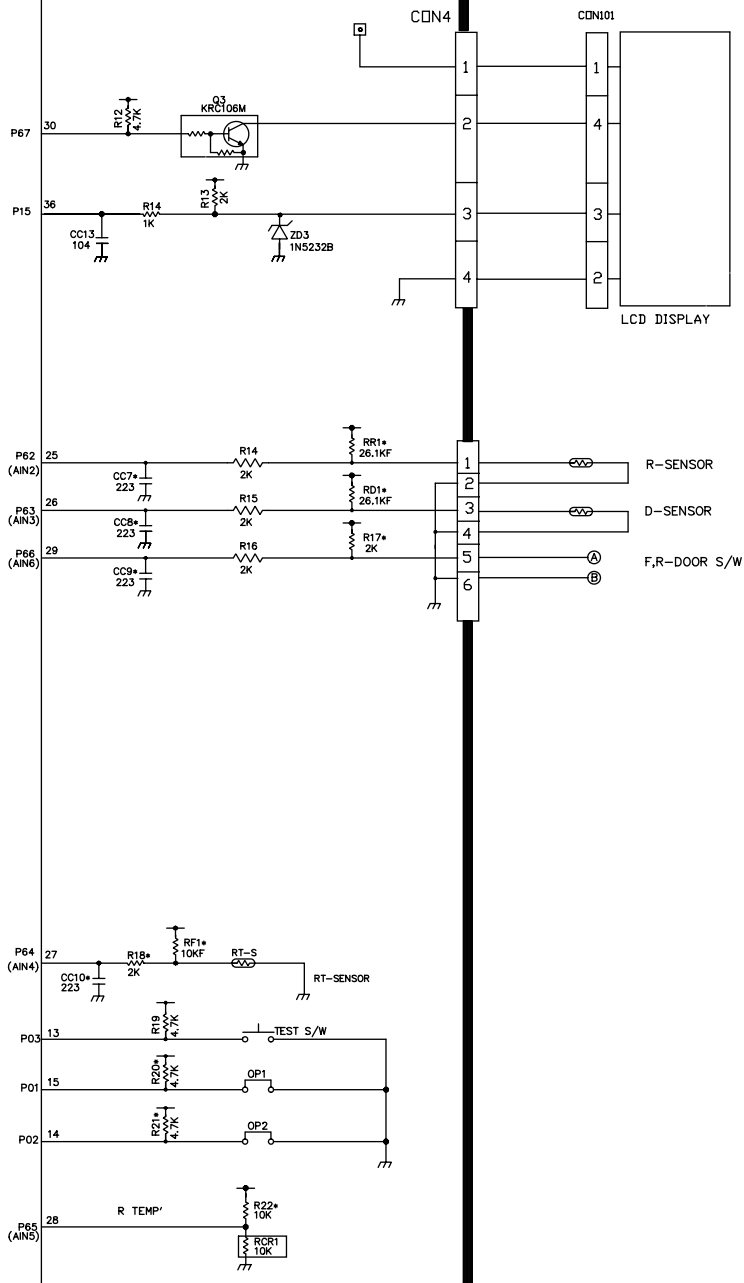
### ▼ Leakage Detection

Observe discharging point of refrigerant which may be in oil discharging part in compressor and hole of evaporator.



▼ General Control of Refrigerating Cycle

NO.	ITEMS	CONTENTS AND SPECIFICATIONS	REMARKS
1	WELDING ROD	(1) H 30 <ul style="list-style-type: none"> <li>• Chemical Ingredients Ag: 30%, Cu: 27%, Zn: 23%, Cd: 20%</li> <li>• Brazing Temperature: 710~840°C</li> </ul> (2) Bcup-2 <ul style="list-style-type: none"> <li>• Chemical Ingredients Cu: About 93%</li> <li>P: 6.8~7.5%</li> <li>The rest: within 0.2%</li> <li>• Brazing Temperature: 735~840°C</li> </ul>	<ul style="list-style-type: none"> <li>• Recommend H34 containing 34% Ag in the Service Center.</li> </ul>
2	FLUX	<ul style="list-style-type: none"> <li>• Ingredients and how to make Borax 30%</li> <li>Borax 35%</li> <li>Fluoridation kalium: 35%</li> <li>Water: 4%</li> <li>Mix the above ingredients and boil until they are transformed into liquid.</li> </ul>	<ul style="list-style-type: none"> <li>• Make amount for only a day. Holding period: 1 day</li> <li>• Close the cover of container to prevent dust putting in the FLUX.</li> <li>• Keep it in a stainless steel container.</li> </ul>
3	DRIER ASM	(1) Assemble the drier within 30min. after unpacking. (2) Keep the unpacked drier at the temperature of 80~100°C.	<ul style="list-style-type: none"> <li>• Don't keep the drier in a outdoor because humidity damages to it.</li> </ul>
4	VACUUM	(1) When measuring with pirant Vacuum gauge of charging M/C, vacuum degree is within 1 Torr. (2) If the vacuum degree of the cycle inside is 10 Torr. below for low pressure and 20 Torr. for high pressure, it says no vacuum leakage state. (3) Vacuum degree of vacuum pump must be 0.05 Torr. below after 5 min. (4) Vacuum degree must be same to the value described item (2) above for more than 20 min.	<ul style="list-style-type: none"> <li>• Apply M/C Vacuum Gauge without fail.</li> <li>• Perform vacuum operation until a proper vacuum degree is built up.</li> <li>• If a proper vacuum degree isn't built up, check the leakage from the Cycle Pipe line part and Quick Coupler Connecting part.</li> </ul>
5	DRY AND AIR NITROGEN GAS	(1) The pressure of dry air must be more than 12~16Kg/cm <sup>2</sup> (2) Temperature must be more than -20~-70°C. (3) Keep the pressure to 12~6Kg/cm <sup>2</sup> also when substituting dry air for Nitrogen Gas.	
6	NIPPLE AND COUPLER	(1) Check if gas leaks with soapy water. (2) Replace Quick Coupler in case of leakage.	<ul style="list-style-type: none"> <li>• Check if gas leaks from connecting part of Coupler.</li> </ul>
7	PIPE	<ul style="list-style-type: none"> <li>• Put all Joint Pipe in a clean box and cover tightly with the lid so that dust or humidity is not inserted.</li> </ul>	



7-6-3 PWB ASSEMBLY, DISPLAY(LCD DISPLAY)

