

DAEWOO

Service Manual

Refrigerator

Model : FR-4501K / FR-4501N / FR-4502K
FR-4502N / FR-4503N / FR-4504K
FR-4505K



DAEWOO ELECTRONICS CO., LTD

<http://svc.dwe.co.kr>

Jul,2000

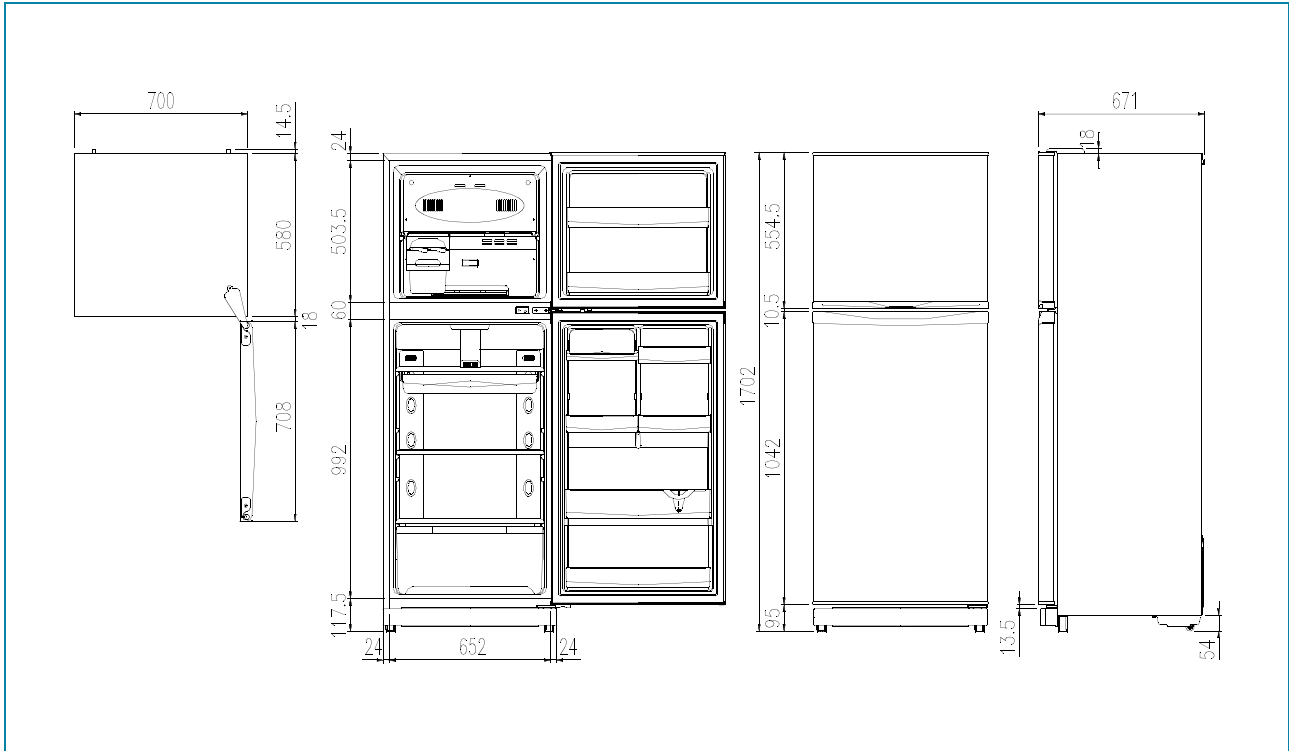
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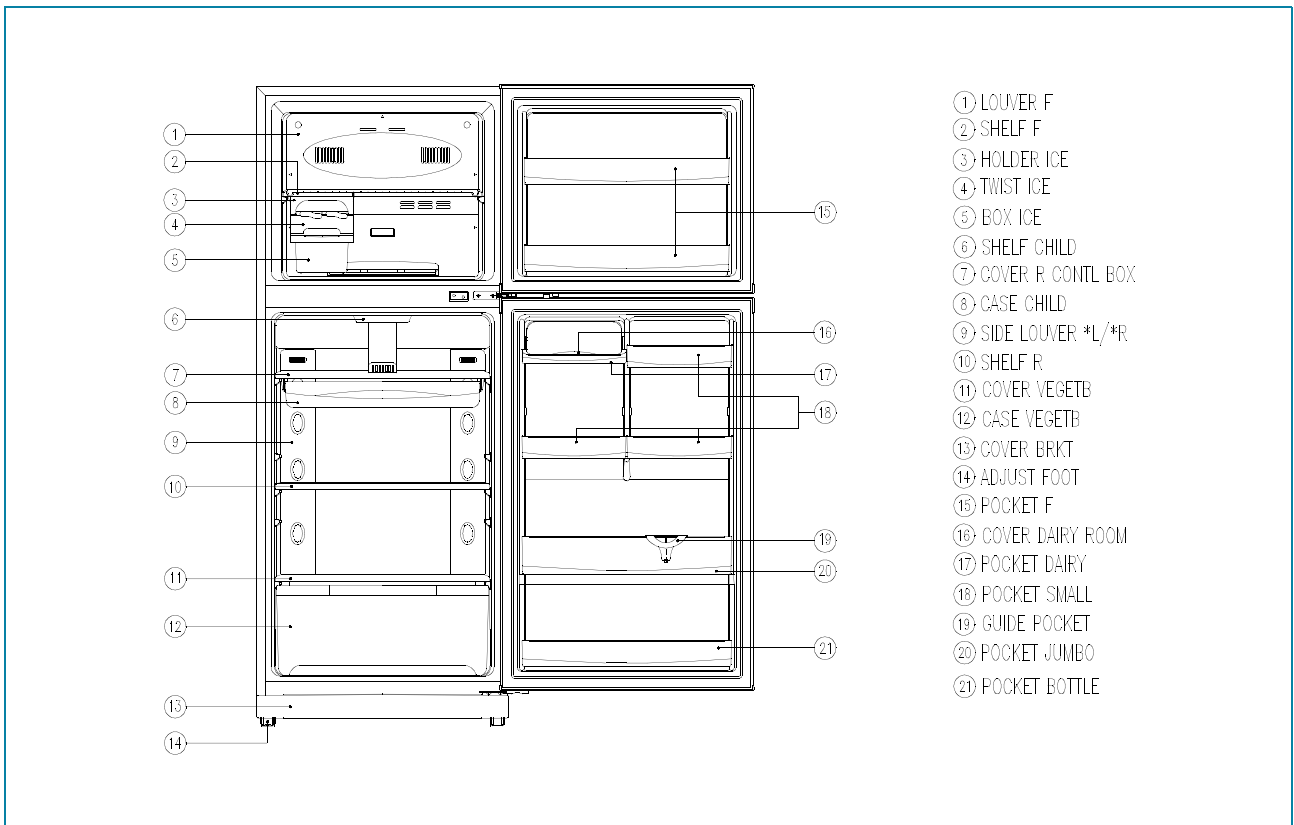
EXTERNAL VIEWS

1. FR-4501K

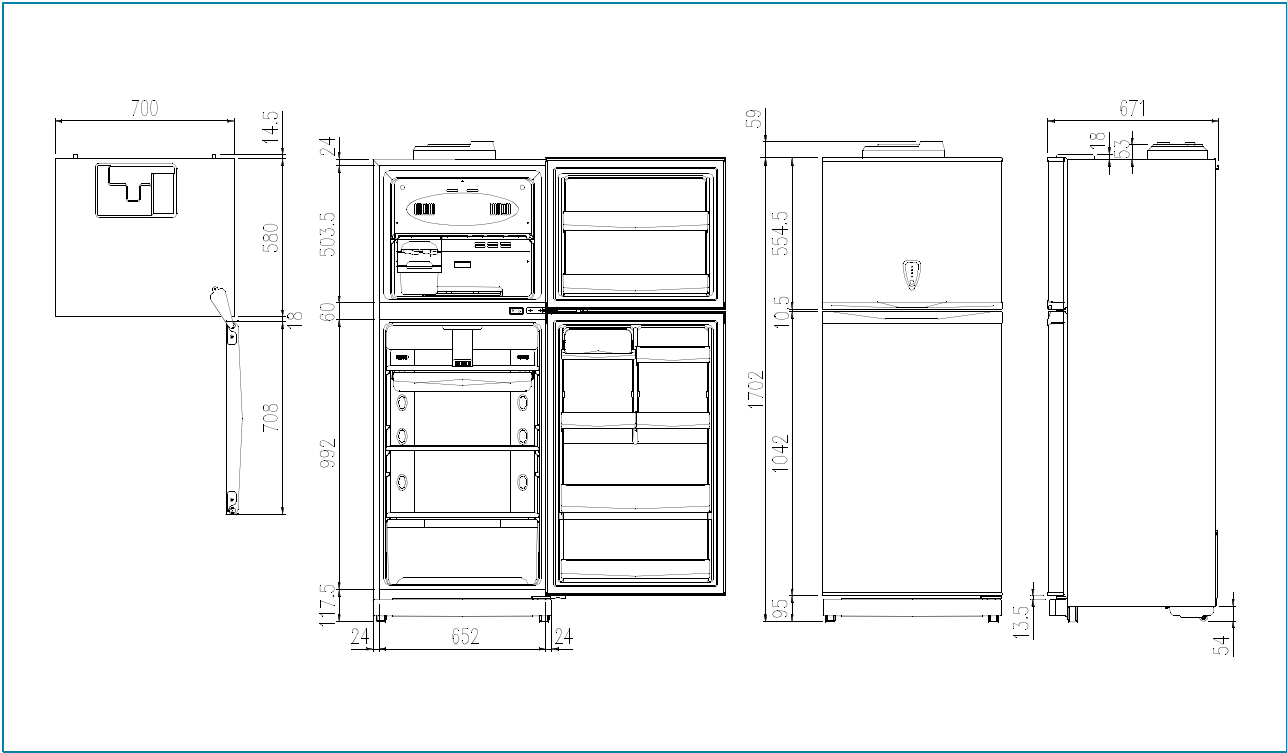
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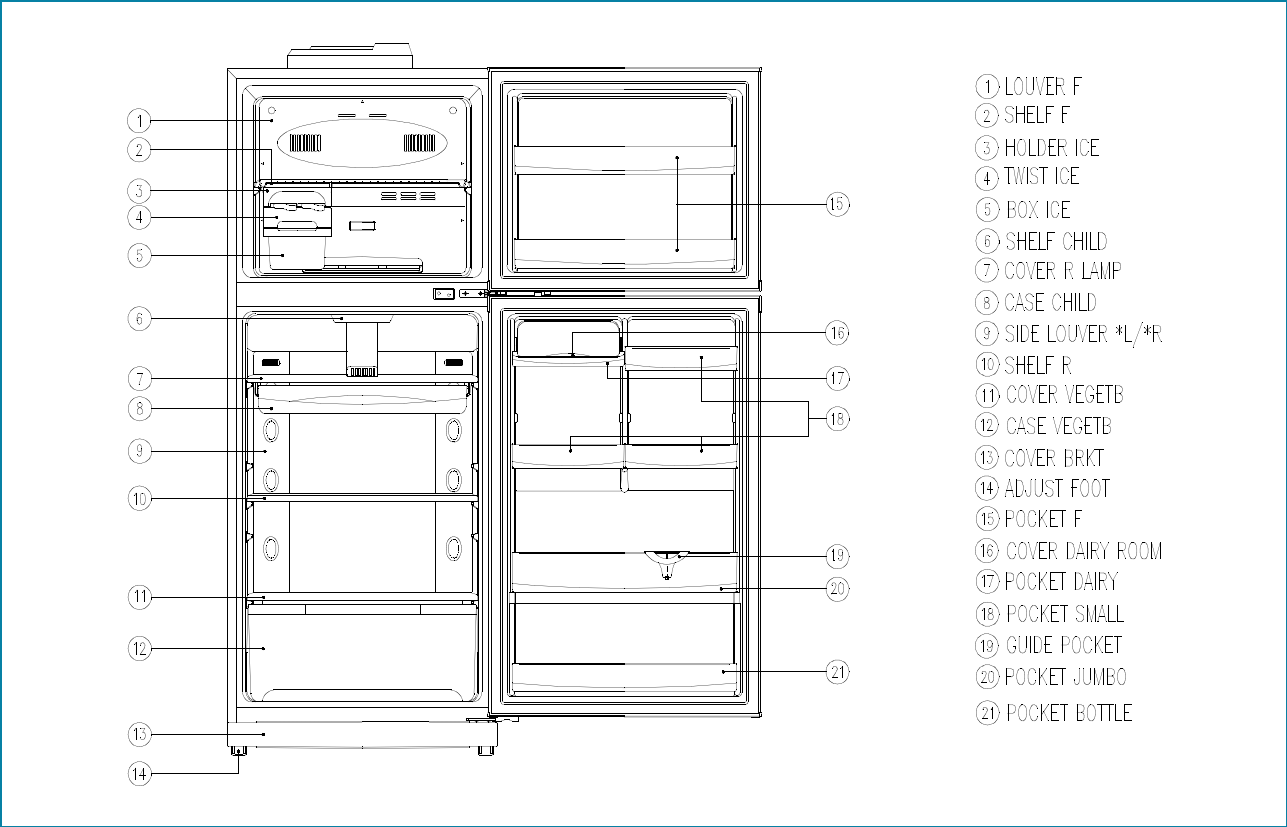
2) NAME OF PARTS



2. FR-4501N
1) EXTERNAL SIZE



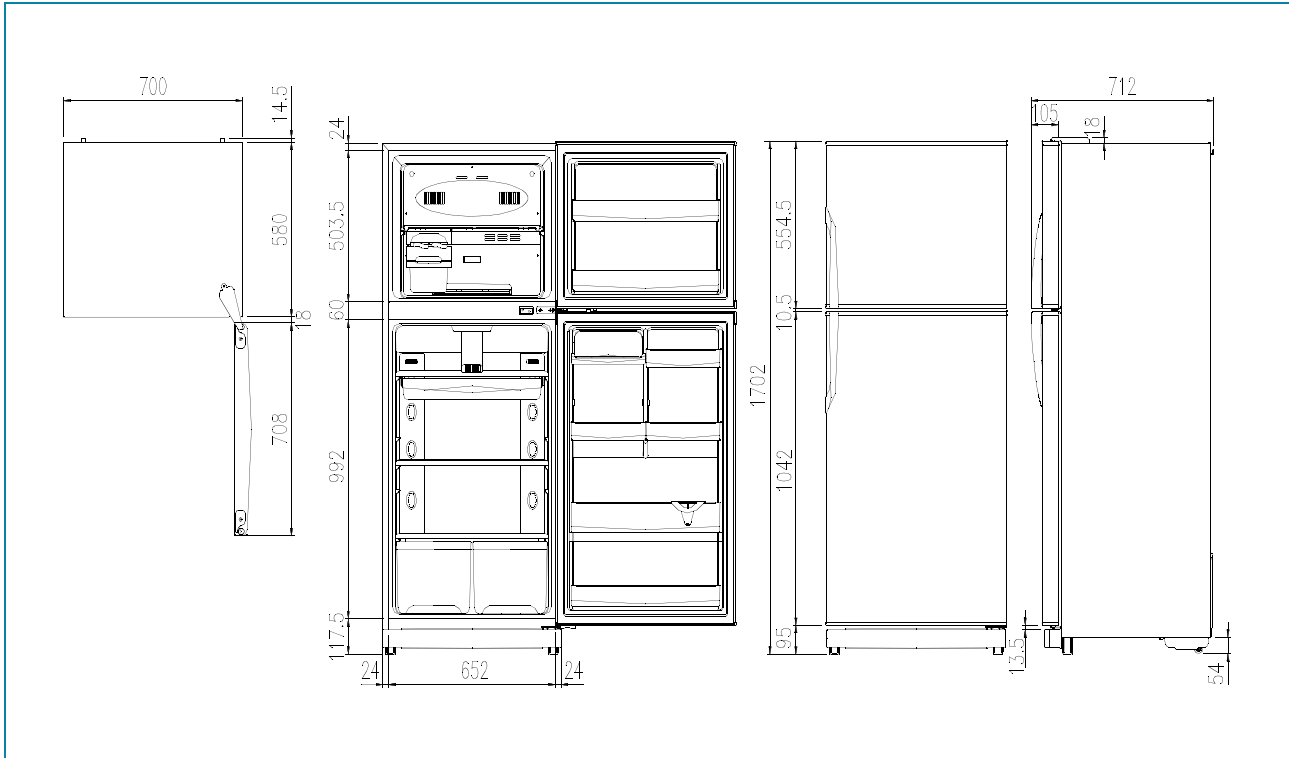
2) NAME OF PARTS



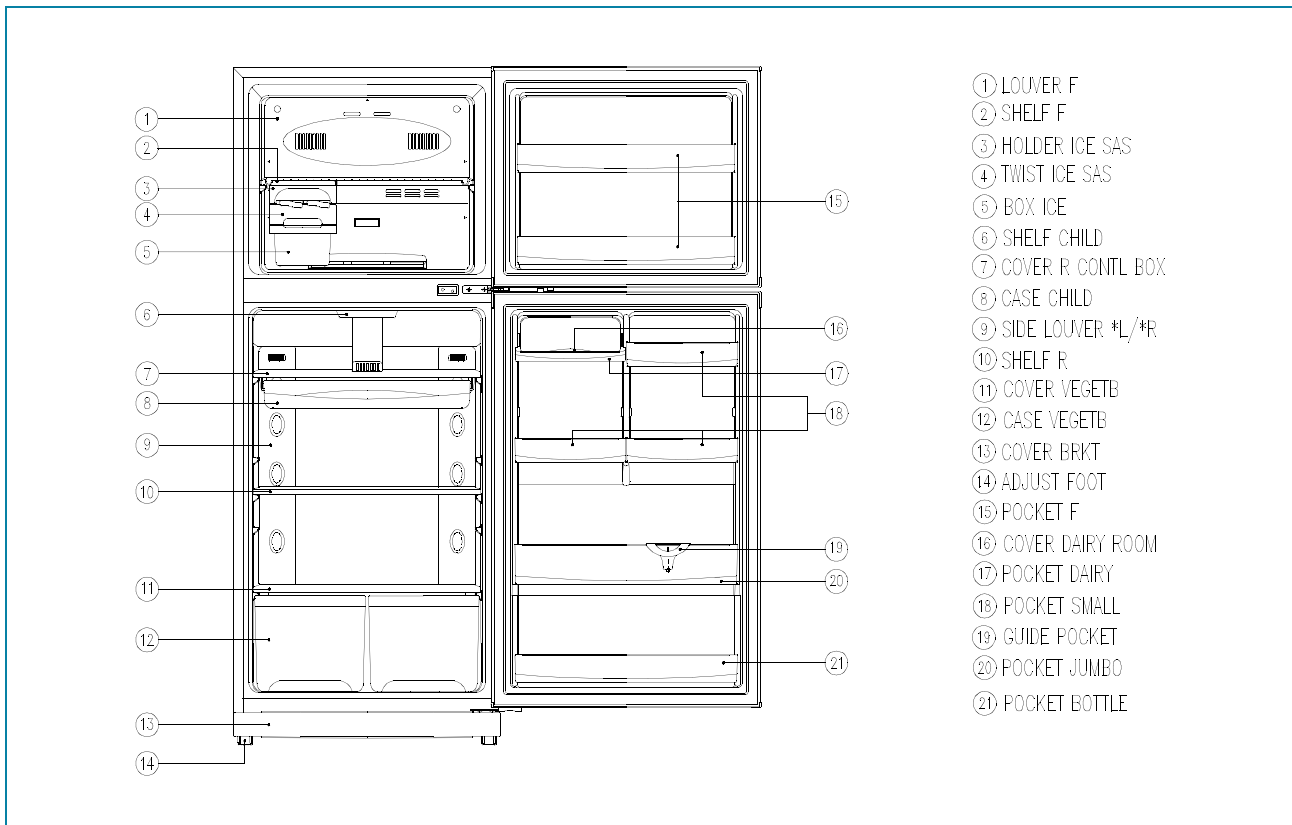
EXTERNAL VIEWS

3. FR-4502K

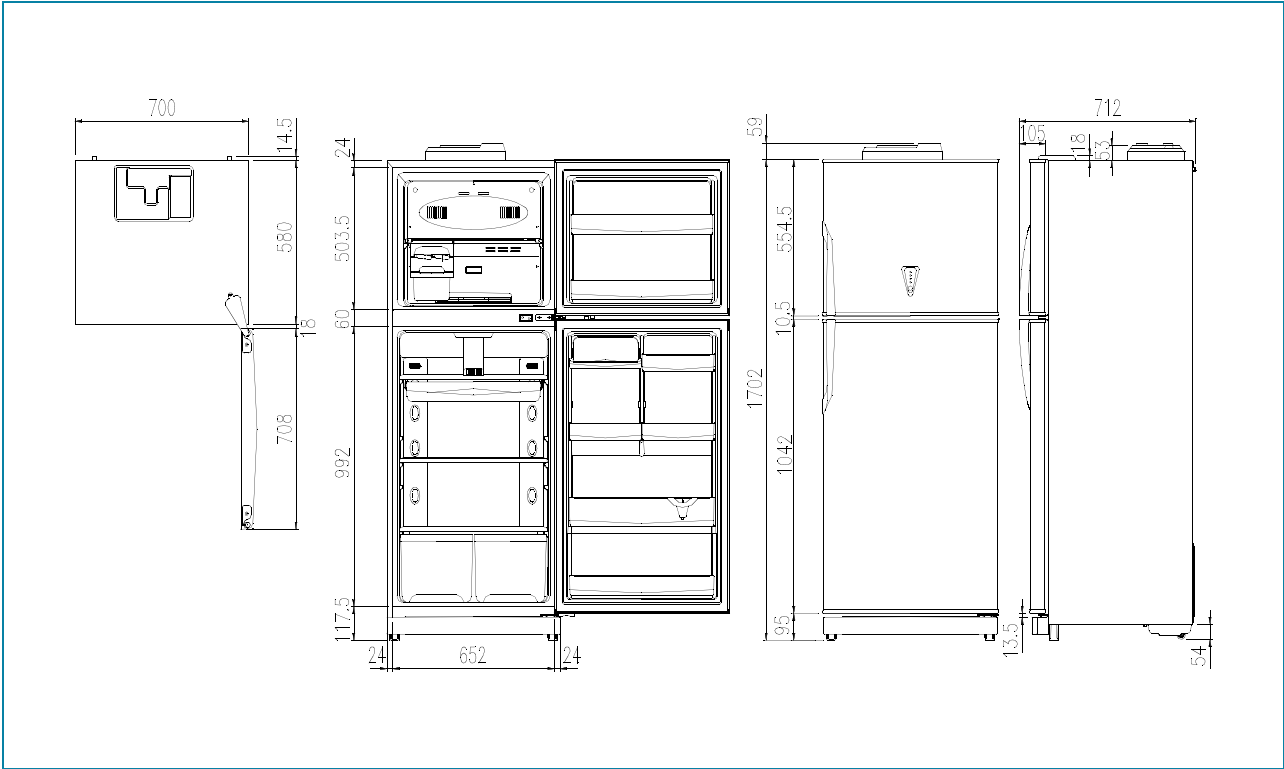
1) EXTERNAL SIZE



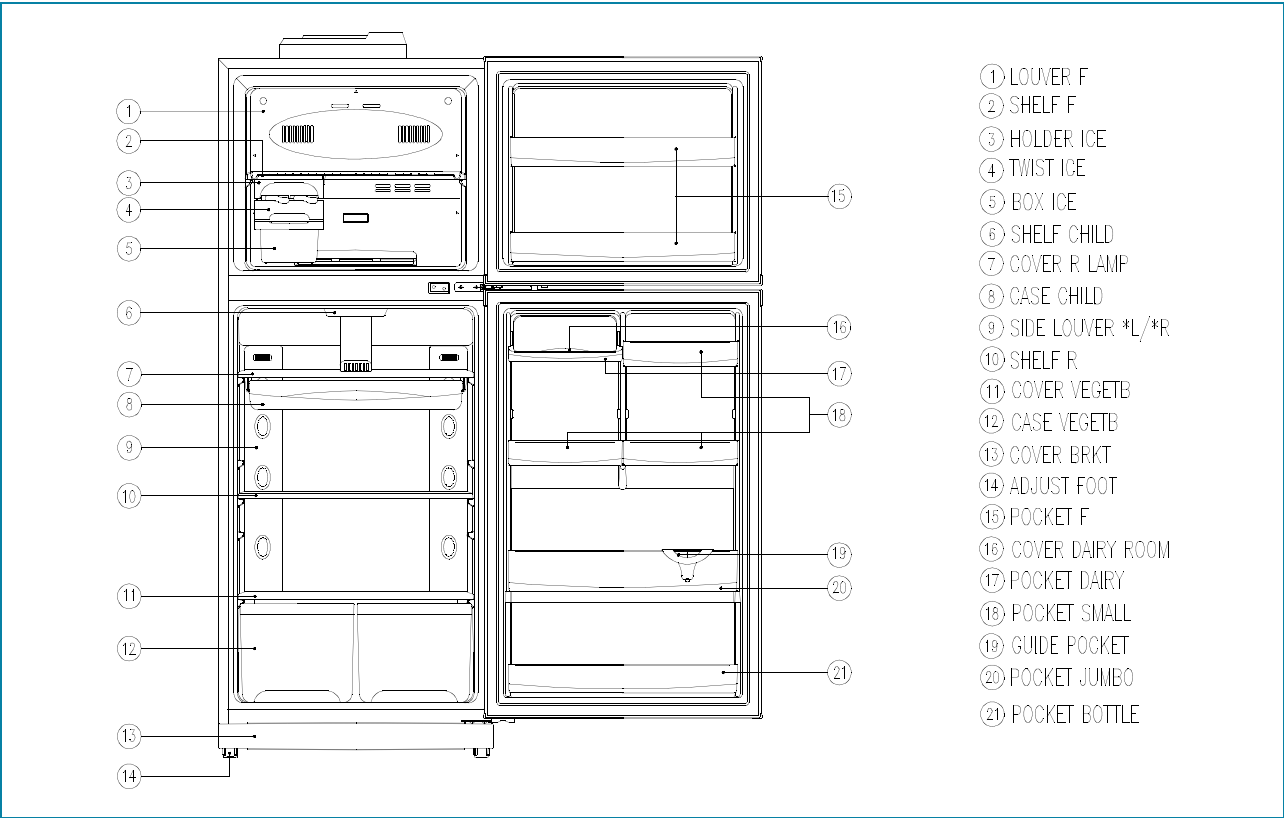
2) NAME OF PARTS



4. FR-4502N
 1) EXTERNAL SIZE



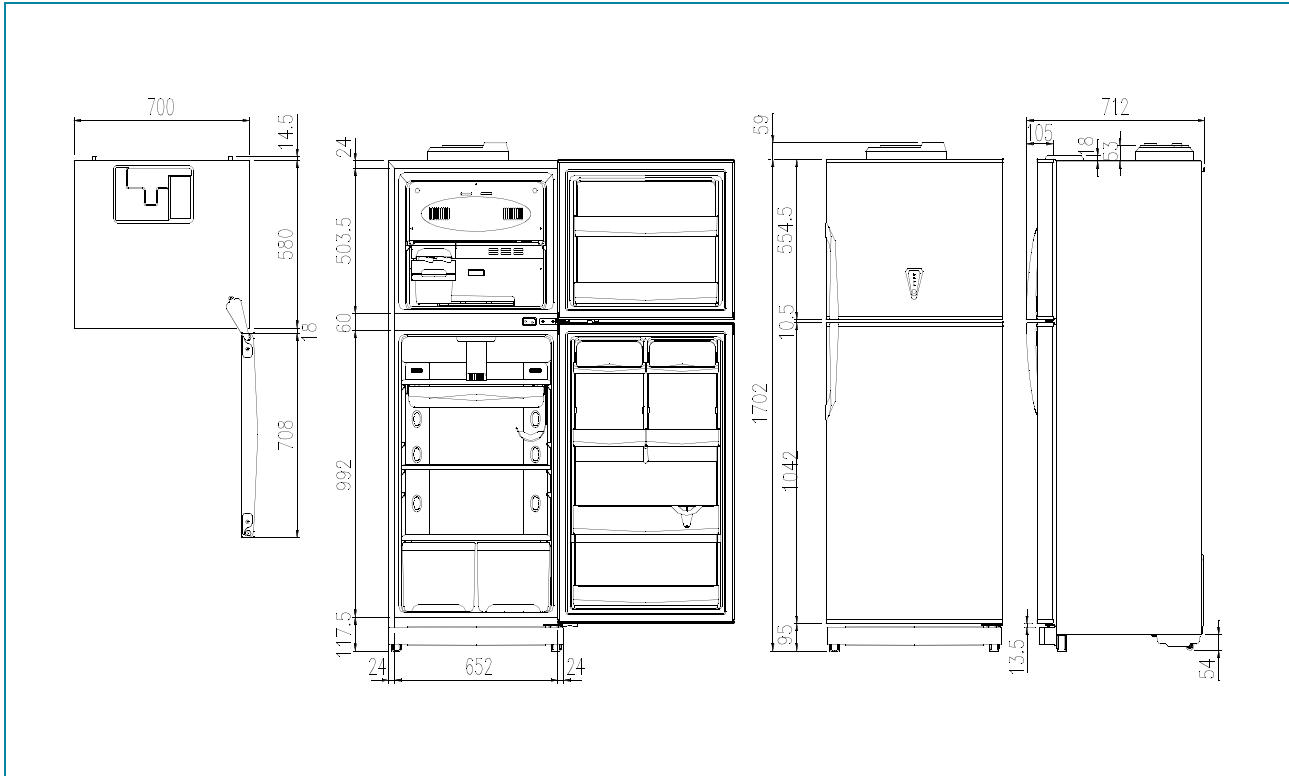
2) NAME OF PARTS



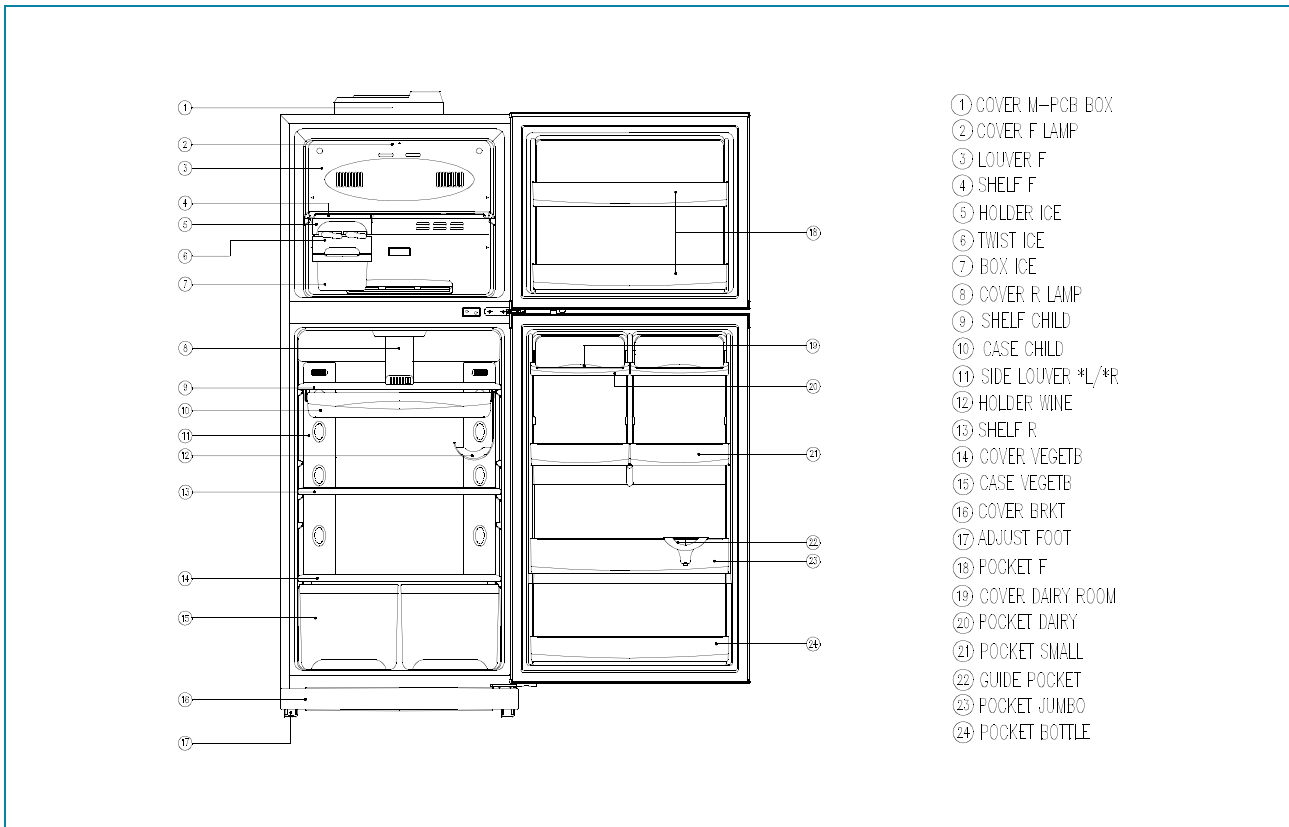
EXTERNAL VIEWS

5. FR-4503N

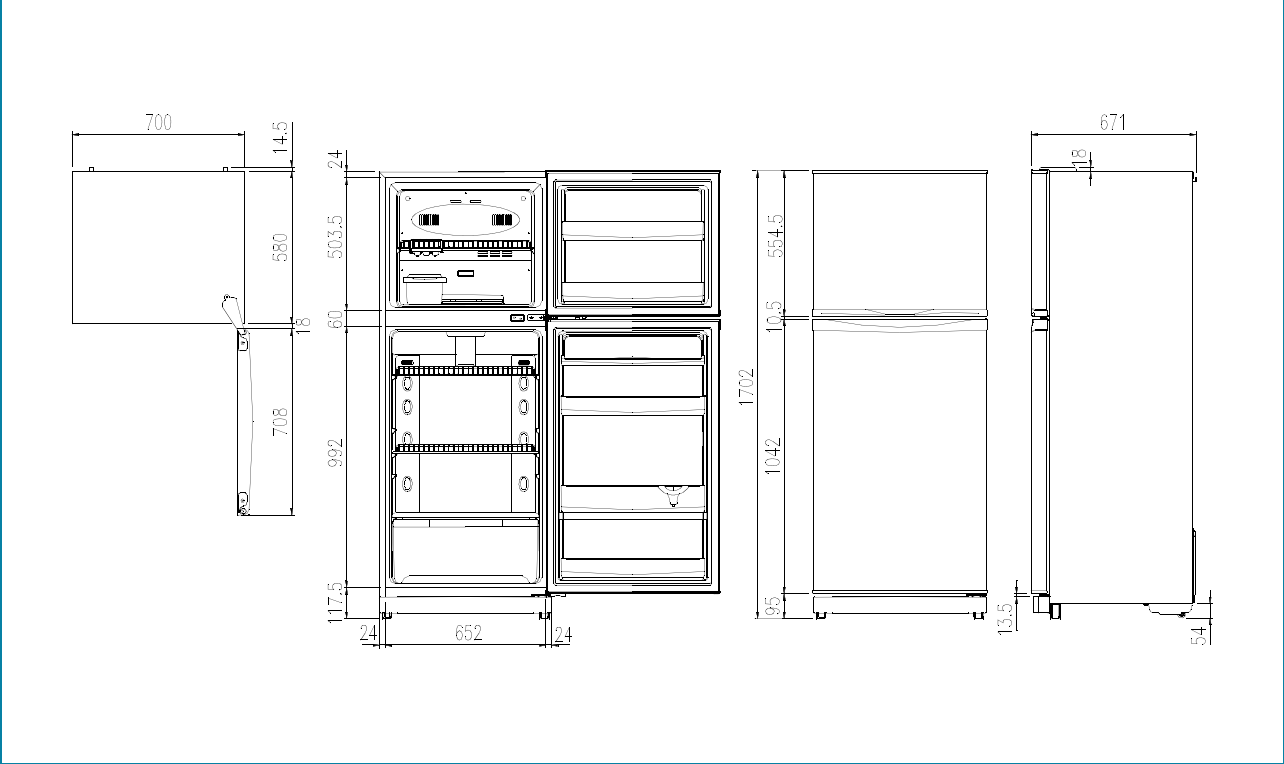
1) EXTERNAL SIZE



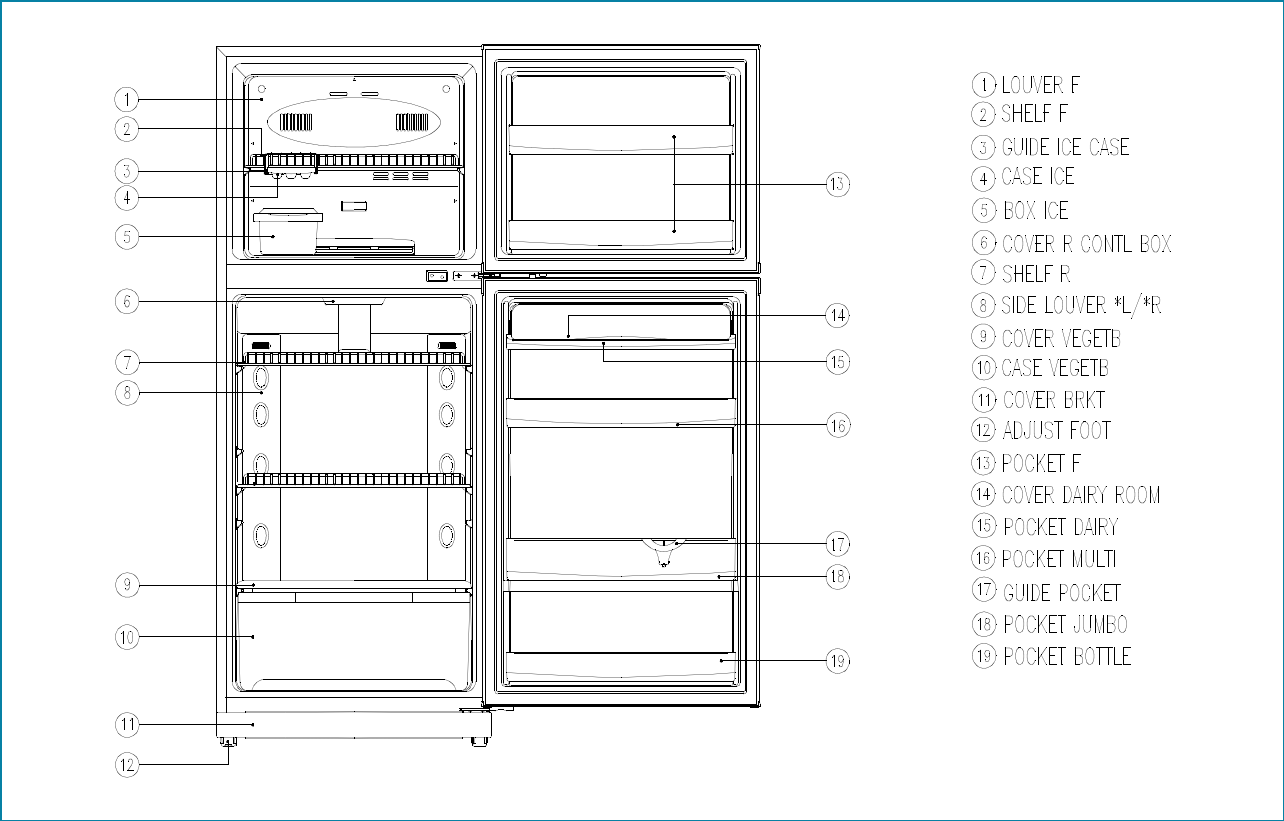
2) NAME OF PARTS



6. FR-4504K
 1) EXTERNAL SIZE



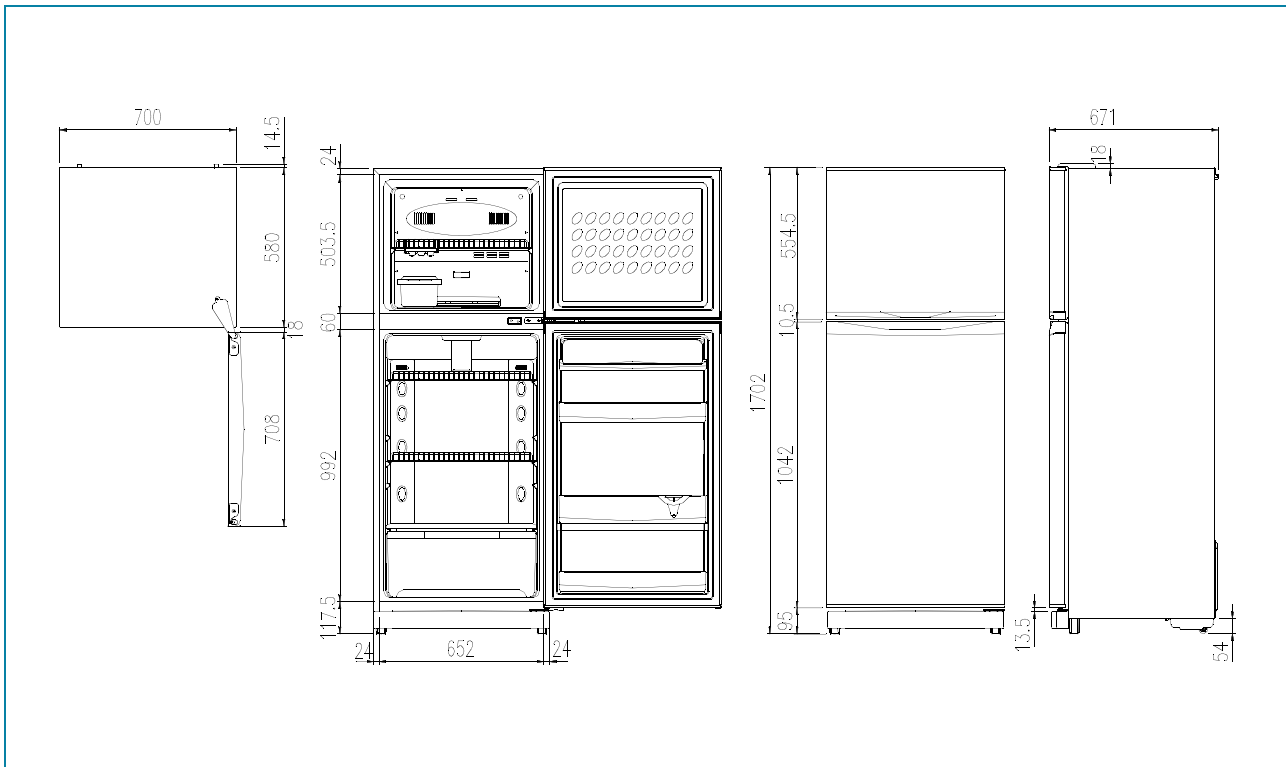
2) NAME OF PARTS



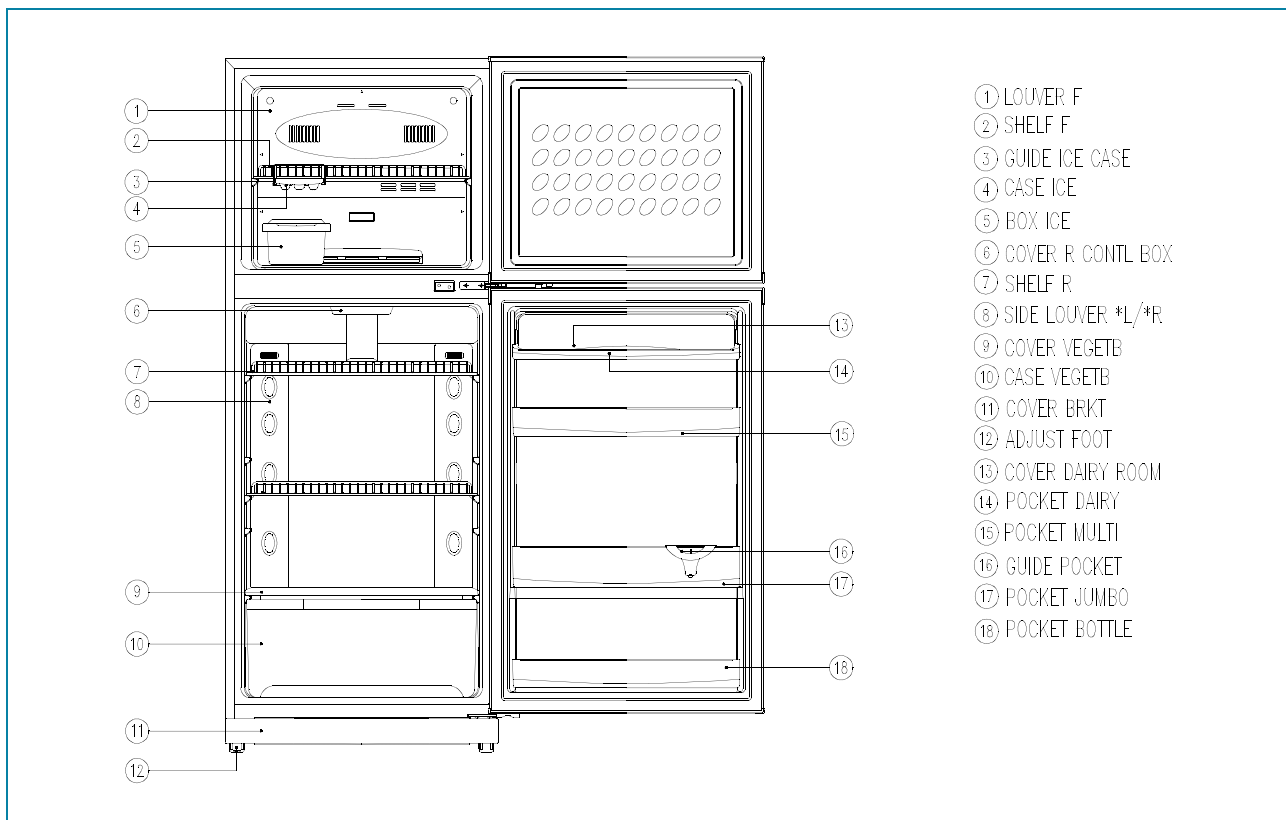
EXTERNAL VIEWS

7. FR-4501K

1) EXTERNAL SIZE



2) NAME OF PARTS



SPECIFICATIONS

1. OUTLINE

DIVISION		CONTENTS		
MODEL NAME		FR-4501K,FR-4502K FR-4504K,FR-4505K	FR-4501N,FR-4502N	FR-4503N
USABLE CAPACITY	FREEZER	101L	101L	101L
	REFRIGERATOR	273L	273L	273L
	TOTAL	374L	374L	374L
EXTERNAL DIMENSION	WIDHT	708mm	710.5mm	710.5mm
	DEPTH	671mm	671mm	712mm
	HEIGHT	1715mm	1759mm	1759mm
REFRIGERANT	R134a	90g	90g	90g
COOLING & CONTROL SYSTEM	COOLING SYSTEM	Fan Cooling System	Fan Cooling System	Fan Cooling System
	DEFROST SYSTEM	Fin Evaporator Forced	Fin Evaporator Forced	Fin Evaporator Forced
	DEFROST CONTROL	Automatic Start & Stop	Automatic Start & Stop	Automatic Start & Stop
NET WEIGHT (kg)				

2. ELECTRIC PARTS

1) COMPRESSOR

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
COMP MODEL	HEL18YH-1	←	HPL23YH-5	←	←
PART CODE	X	X	X	←	←
STARTING TYPE	RSCR	←	RSCR	←	←

2) RELAY

REFRIGERANT		R134a				
VOLTAGE(V/Hz)		100/60	115,120/60	220/50	230/50	240/50
ASSY	TYPE NAME	308NHBYY-52	←	181SHBYY-52	←	←
	PART CODE	3018118110	←	3018116610	←	←
PTC	RESISTANCE	S068	←	S330	←	←
	PART CODE	X	X	X	X	X
OVER LOAD	PART NAME	308NHB	←	181SHB	←	←

SPECIFICATIONS

3) RUNNING CAPACITOR

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
PART CODE	3016801910	←	400EL15110	←	←
RATED VOLTAGE	200V	←	350V	←	←
RATED CAPACITANCE	12uF	←	5uF	←	←

4) F-FAN MOTOR

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	S6111EDF01	←	S6111WDF01	←	←
PART CODE	3015900741	←	3015900731	←	←
REVOLUTION	2200 RPM	←	2200 RPM	←	←

5) C-FAN MOTOR

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	RF111EAC03	←	S6111WEC01	←	←
PART CODE	3015903921	←	3015903981	←	←
REVOLUTION	2200 RPM	←	2200 RPM	←	←

6) DEFROST HEATER

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
SPEC (W)	148W	←	148W	←	←
PART CODE	3012807200	←	3012807100	←	←

7) LAMP ASSEMBLY

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
SPEC (W)	15W	←	15W	←	←
PART CODE	3013600010	←	3013600080	←	←

8) TEMPERATURE FUSE

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
OPERATING TEMP	77?	←	77?	←	←
PART CODE	3017201200	←	3017201200	←	←

9) DOOR SW

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	DSD-5	←	DSD-5	←	←
PART CODE	3018100050	←	3018100050	←	←

10) DRYER

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
SPEC (gr)	15	←	15	←	←
PART CODE	3016805600	←	3016805600	←	←

FOR FR-4501K,FR-4502K,FR-4504K,FR-4505K

11) THERMOSTAT

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	GNF-175D-03	←	GNF-175D-03	←	←
PART CODE	X	←	X	←	←

12) DEFROST TIMER

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	TMDEX09UD1	←	TMDE807UF1	←	←
PART CODE	3018120030	←	3018120020	←	←

SPECIFICATIONS

13) BIMETAL THERMO

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	ST-3	←	ST-3	←	←
PART CODE	3018120300	←	3018120300	←	←

FOR FR-4501N,FR-4502N,FR-4503N

14) PCB TRANSFORMER

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	S-ETP	←	S-ETP	←	←
PART CODE	X	←	X	←	←

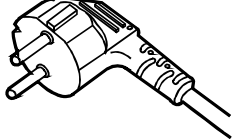
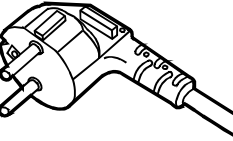
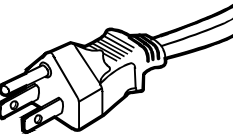
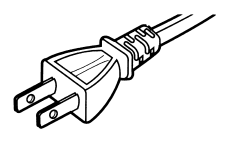
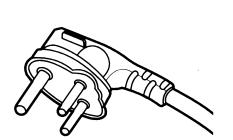
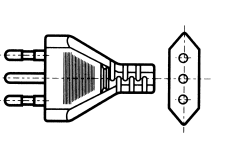
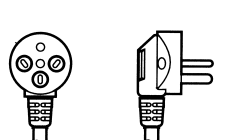
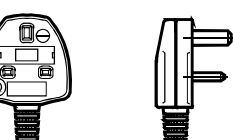
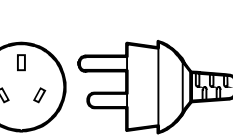
15) MAIN PCB ASSY

REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
TYPE NAME	S-ETP	←	S-ETP	←	←
PART CODE	X	←	X	←	←

16) FUSE (PCB)

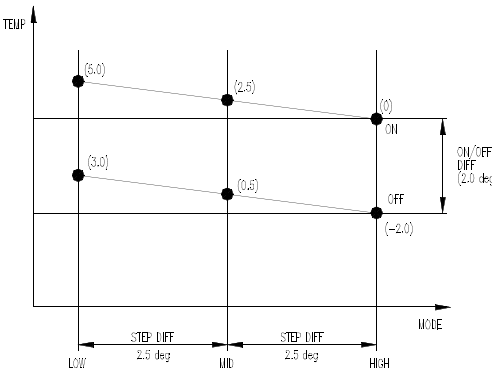
REFRIGERANT	R134a				
VOLTAGE(V/Hz)	100/60	115,120/60	220/50	230/50	240/50
RATED CURRENT	1.6A	←	1.6A	←	←
PART CODE	X	←	X	←	←

3. POWER CORD

NO	SHAPE OF POWER CORD	PART CODE	DESCRIPTION	REMARK
1		3011315000	CP-2PIN	For european country
2		401RA17200	CP-2PIN	For other country
3		4006D17101	KP-30	For America & El Salvador
4		401PD17101	KP-211	For Japan & Taiwan
5		3011300801	BP-3PIN	
6		3011303010	# 267	For Chile
7		3011315310		For Israel
8		3011303050	BS-1363A	For U.K, Middle Asia Singapore & Malaysia
9		3011301200	KP-551/550	For China & Australia

OPERATION AND FUCTIONLNS

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK
1	DISPLAY	LED	<div data-bbox="798 414 1125 952" data-label="Image"> </div> <p data-bbox="678 1064 853 1086">1. TEMP BUTTON</p> <ol data-bbox="694 1093 1157 1344" style="list-style-type: none"> 1) Temperature of Refrigerator can be controlled as changing control mode according to customer's desire. 2) Initial mode is "Mid" and whenever pressing TEMP button, control mode proceeds as follows. Low -> Mid -> High -> Quick -> Low 3) If TEMP.button is pressed, control mode is set in 3 Sec. <p data-bbox="678 1384 829 1406">2. QUICK MODE</p> <ol data-bbox="694 1413 1189 1668" style="list-style-type: none"> 1) If QUICK mode is set by TEMP.button, QUICK LED is on. 2) Maximum time of QUICK mode is 40 min. 3) If Refrigerator sensor (R-S) is below -3.0°C in QUICK mode, QUICK mode can be finished immediately within 40min. 4) If QUICK mode is finished, it returns to the dial mode before QUICK mode. 	

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK																		
2	CONTROL OF TEMP.	COMP F-FAN	<p>1. How to control Temperature of Refrigerator</p> <p>1) Whenever TEMP.button is pressed, control mode is circulated as follows: LOW -> MID -> HIGH -> QUICK -> LOW</p> <p>2) LEDs will indicate control mode according to TEMP.button.</p> <p>3) Comp and F-fan are controlled by R-Sensor.</p> <p>2. ON/OFF point of each control mode</p> <p>1) Comp and F-fan are controlled ON/OFF point of each control mode. (ON/OFF point of R-SENSOR)</p> <p>2) F-FAN is delayed for 1 min. after COMP is ON/OFF.</p> <p>3) ON/OFF DIFF. Of Refrigerator = 2.0 deg.</p> <p>4) STEP DIFF. Of Refrigerator = 2.5 deg.</p> <table border="1" data-bbox="707 1108 1217 1205"> <thead> <tr> <th>CONTROL</th> <th>LOW</th> <th>MID</th> <th>HIGH</th> <th>QUICK</th> <th>REMARK</th> </tr> </thead> <tbody> <tr> <td>ON (°C)</td> <td>5.0</td> <td>2.5</td> <td>0</td> <td></td> <td></td> </tr> <tr> <td>OFF (°C)</td> <td>3.0</td> <td>0.5</td> <td>-2.0</td> <td>-3.0 / 40 min.</td> <td></td> </tr> </tbody> </table> 	CONTROL	LOW	MID	HIGH	QUICK	REMARK	ON (°C)	5.0	2.5	0			OFF (°C)	3.0	0.5	-2.0	-3.0 / 40 min.		
CONTROL	LOW	MID	HIGH	QUICK	REMARK																	
ON (°C)	5.0	2.5	0																			
OFF (°C)	3.0	0.5	-2.0	-3.0 / 40 min.																		

OPERATION AND FUNCTIONALS

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK
3	Defrost Period	Defrost mode	<p>1. Determination of Defrosting Period</p> <ol style="list-style-type: none"> 1) Total Run-time of Comp: 10, 11, 12, 13, 14, 15 hours 2) Run-ratio of Comp: over 80% 3) Total times of Door opening: over 3 times 4) Total time (Comp On + Comp Off): 60 hours <p>2. Explanation</p> <ol style="list-style-type: none"> 1) Defrosting starts with the following conditions, in case total comp-run time passes 9 hours <ul style="list-style-type: none"> - when an Error occurs - when running-rate of Comp is more than 80% - when total Door-opening times is more than 3 times 2) Defrosting starts unconditionally at each hour after total Comp-run time passes 9 hours if terms of 1) is occurred. 3) Defrosting starts immediately when Total run-time is more than 15 hours under the condition of 1), 2) is not satisfied. 4) Defrosting starts immediately when Total time is more than 15 hours under the condition of 1), 2), 3) is not satisfied. 	
4			<p>1. Normal Defrosting</p> <ol style="list-style-type: none"> 1) Starting by Defrosting Period 2) How to proceed : using heater 3) Defrosting mode and procedure <div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 5px auto;">Pre-cool</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 5px auto;">Heater Defrosting</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 5px auto;">Fan-delay</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 5px auto;">Pause</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div style="border: 1px solid black; padding: 5px; width: 100px; margin: 5px auto;">Normal Run</div> </div> <div style="margin-left: 20px;"> <p>① Proceeding time: 40min</p> <p>② Control Object: Comp On, FAN ON, Heater Off</p> <p>③ Terminating Condition: if R-sensor temp. is below even though it passes 40 min.</p> <p>① Limit Proceeding time - 30 min.: D1 ERROR D-Sensor disconnection/ short-circuit - 80 min.: F3 ERROR Normal Control state</p> <p>② Control Object: Comp Off, FAN OFF, Heater On</p> <p>③ Terminating Condition: if D-sensor temp. is over 10.</p> <p>① Proceeding time: 4min</p> <p>② Control Object: Comp Off, FAN Off, Heater Off</p> <p>① Proceeding time: 4min</p> <p>② Control Object: Comp On, FAN Off, Heater Off</p> </div> </div>	

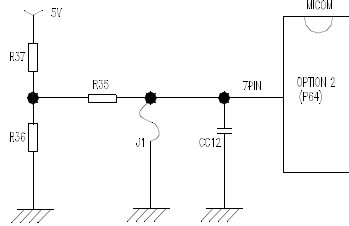
NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK																														
			<p>4) Output Control and Limit Time of each Defrosting mode</p> <table border="1"> <thead> <tr> <th>MODE</th> <th>PRE-COOL</th> <th>Heater Defrosting</th> <th>Pause</th> <th>Fan Delay</th> <th>REMARK</th> </tr> </thead> <tbody> <tr> <td>COMP</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>ON</td> <td></td> </tr> <tr> <td>F-FAN</td> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td></td> </tr> <tr> <td>HTR</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> <td></td> </tr> <tr> <td>Limit Time</td> <td>40 min.</td> <td>1) 30 SECONDS 2) 30 MINUTES 3) 80 MINUTES</td> <td>4 min.</td> <td>4 min.</td> <td></td> </tr> </tbody> </table> <p>2. Forced Defrosting</p> <p>1) Start : Defrosting starts by pressing Temp. control s/w five times in a row when door is open.</p> <p>2) End : No function</p> <p>3) Process : using Heater</p> <p>4) Defrosting mode and procedure : same as Normal Defrosting (Skip pre-cool mode)</p> <p>5) Heater is On during initial 30 seconds without concerning D-sensor Temp.</p>	MODE	PRE-COOL	Heater Defrosting	Pause	Fan Delay	REMARK	COMP	ON	OFF	OFF	ON		F-FAN	ON	OFF	OFF	OFF		HTR	OFF	OFF	OFF	OFF		Limit Time	40 min.	1) 30 SECONDS 2) 30 MINUTES 3) 80 MINUTES	4 min.	4 min.		
MODE	PRE-COOL	Heater Defrosting	Pause	Fan Delay	REMARK																													
COMP	ON	OFF	OFF	ON																														
F-FAN	ON	OFF	OFF	OFF																														
HTR	OFF	OFF	OFF	OFF																														
Limit Time	40 min.	1) 30 SECONDS 2) 30 MINUTES 3) 80 MINUTES	4 min.	4 min.																														
5	Initial Defrosting	COMP F-FAN HTR	<p>1. If D-sensor temp. = 3.5°C in the initial power input, normal defrosting mode begins without concerning Comp run-time (include Pre-cool mode)</p> <p>2. Defrosting begins after doing Comp restart-prevention function with dealy for six min. in initial defrosting mode.</p> <p>3. Comp will be On immediately if D-sensor temp. =3.5°C in initial power input. (No dealy for six min.)</p>																															
6	Prevention of Comp	COMP F-FAN	<p>1. In order to protect Comp after Comp off, it won't re-start for six min. though R-sensor becomes On.</p>																															

OPERATION AND FUNCTIONALS

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK
7	Error Display	LED	<p>1. ERROR DISPLAY</p> <p>1) How to start: Push Temp. control s/w for five secs. In Continuous - run mode.</p> <p>2) How to end : It returns automatically after 20 secs in Error mode without concerning Error.</p> <p>2. DISPLAY AND HOW TO CONTROL</p> <p>1) D1 ERROR</p> <ul style="list-style-type: none"> - Starting Condition: D-Sensor Disconnection/Short-circuit - Display: Flickering "LOW" LED - How to control : return to limit time(30min.) <p>2) R1 ERROR</p> <ul style="list-style-type: none"> - Starting Condition: R-Sensor Disconnection/Short-circuit - Display: Flickering "MID" LED - How to control : control continuously Comp,F-fan to be On(30min.) and Off(30min.) <p>3) F3 ERROR</p> <ul style="list-style-type: none"> - Starting Condition : Heater 80min. ends - Display : Flickering "HIGH" LED - How to control : impossible to control in case of Heater Defrosting,Temp. Fuse problem, HTR Disconnection <p>4) C1 ERROR</p> <ul style="list-style-type: none"> - Starting Condition: Even if Comp has run for 120 min. continuously, when D-sensor is $\geq -5^{\circ}\text{C}$. - Display: Flickering "QUICK" LED - How to control : impossible to control in case of Cycle error <p>5) If there's no error when it enters Error mode, All LEDs will be OFF.</p>	

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK
8	Time Delay of Electric Devices		<p>1. F-FAN time delay in Comp On/Off</p> <p>1) During normal running : F-fan will be On/Off for five secs. In Continuous 1 min. after Comp On/Off</p> <p>2) When initial power input : F-Fan will be ON 4 mins. After Comp On</p> <p>2. F-FAN TIME DELAY BY DOOR S/W</p> <p>1) After 6 mins.of initial power input. OPEN DR S/W -> CLOSE : F-fan work delay for 20 secs.</p> <p>2) Before 6 mins. of initial power input. OPEN DR S/W -> CLOSE : F-fan work for 20 secs. immediately.</p> <p>3) when it has nothing to do with Initial power input. OPEN DR S/W -> CLOSE : F-fan changes into be Off. immediately.</p>	
9	Option Circuit 1 (Weak Refrigeration)		<p>1. Option for Weak Refrigeration,Service Reference</p> <p>1) When Weak Refrigeration occur,it's easy to find solution by this.</p> <p>2) Regulation of R-Sensor Off point (-1.5 deg Down)</p> <p>2.In case of Weak Refrigeration, take action as followings.</p> <div data-bbox="718 1052 1157 1377" data-label="Diagram"> </div> <p>1) Resistance (R31): Standard Resistance of R-Sensor middle-off point in case of Normal Run $(31.4k\Omega = -1.0^{\circ}\text{C})$ $(25.2k\Omega = 4.0^{\circ}\text{C})$ When change resistance 31.4 kΩ into 25.2 kΩ, R-sensor middle-off point will be 5.0 deg</p> <p>2) Resistance (R32) : Standard resistance to make R-Sensor Off Point in case of Weak Refrigeration. - R32 2.15 kΩ: R-Sensor Off Point will be down by 1.5deg - R32 6.19 kΩ : R-Sensor Off Point will be down by 4.0deg</p> <p>3) SW 1 : If SW1 is off in Service, R Sensor Off Point will be down by 1.5deg. R31 + SW 1 ON: Middle Off Point: 0.5 $^{\circ}\text{C}$ (In Normal Run) R31 + SW 1 OFF: Middle Off Point:-1.0 $^{\circ}\text{C}$ (In Weak Refrigeration)</p>	

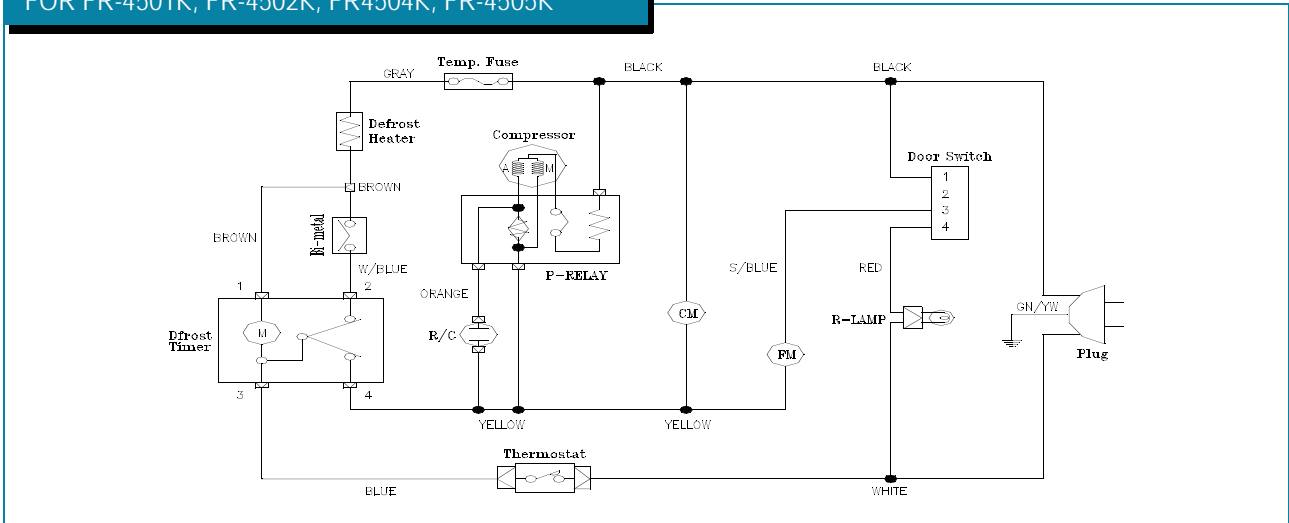
OPERATION AND FUNCTION

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK																										
10	Option Circuit 2 (Prevention Strong Refrigeration)		<p>1. Prevention of Strong Refrigeration Option (change Middle-off point)</p>  <table border="1" data-bbox="750 705 1165 840"> <thead> <tr> <th rowspan="2">NO</th> <th colspan="2">CONTROL</th> <th rowspan="2">Application (MIDDLE)</th> <th rowspan="2">MCOM Input Voltage</th> <th rowspan="2">REMARK</th> </tr> <tr> <th>Middle-On Point</th> <th>Middle-Off Point</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2.5℃</td> <td>0.5℃</td> <td>—</td> <td>0V</td> <td></td> </tr> <tr> <td>2</td> <td>4.0℃</td> <td>2.0℃</td> <td>Remove J1</td> <td>2.5V</td> <td></td> </tr> <tr> <td>3</td> <td>5.5℃</td> <td>3.5℃</td> <td>Remove R356</td> <td>5V</td> <td></td> </tr> </tbody> </table>	NO	CONTROL		Application (MIDDLE)	MCOM Input Voltage	REMARK	Middle-On Point	Middle-Off Point	1	2.5℃	0.5℃	—	0V		2	4.0℃	2.0℃	Remove J1	2.5V		3	5.5℃	3.5℃	Remove R356	5V		
NO	CONTROL		Application (MIDDLE)		MCOM Input Voltage	REMARK																								
	Middle-On Point	Middle-Off Point																												
1	2.5℃	0.5℃	—	0V																										
2	4.0℃	2.0℃	Remove J1	2.5V																										
3	5.5℃	3.5℃	Remove R356	5V																										
11	Continuous Run	Comp F-Fan Heater	<p>1) How to start : If push the Temp. control s/w 30 times,it will start.</p> <p>2) How to add one more run : Push Temp. control s/w 30 times in Continuous-run mode.</p> <p>3) How to end : It will end automatically after 21 hours (Limit time: 21 hours) If it is added one more run and you you'd like to finish it , push Temp. control s/w 30 times.</p> <p>4) Display : Let all the LEDs ON.</p> <p>5) How to control : Comp/F-fan/C-fan ON, HTR OFF</p>																											

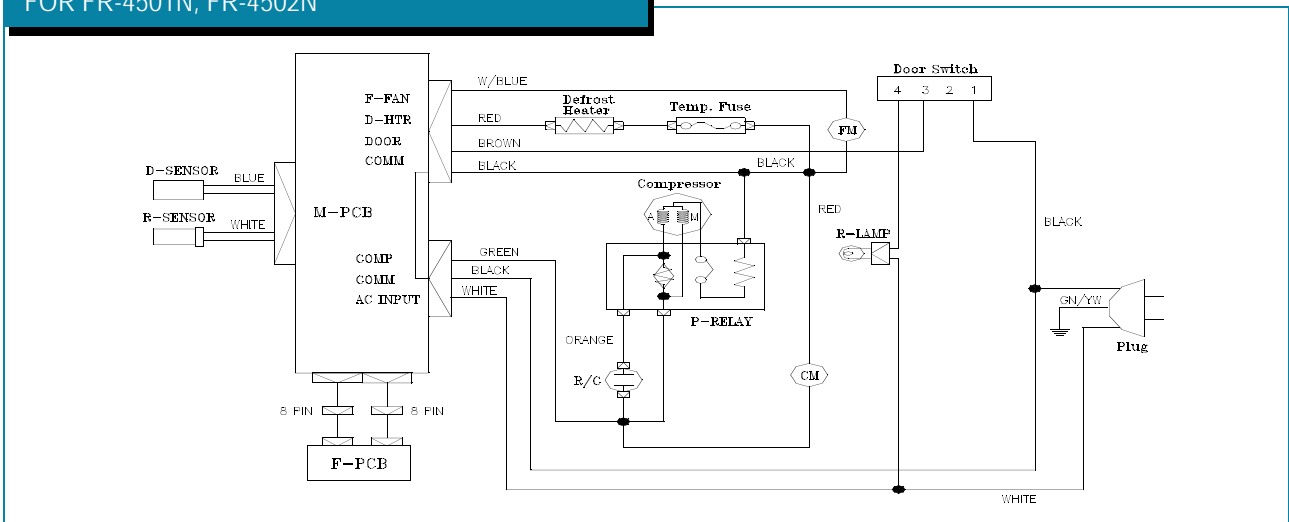
DIAGRAM

1. WIRING DIAGRAM

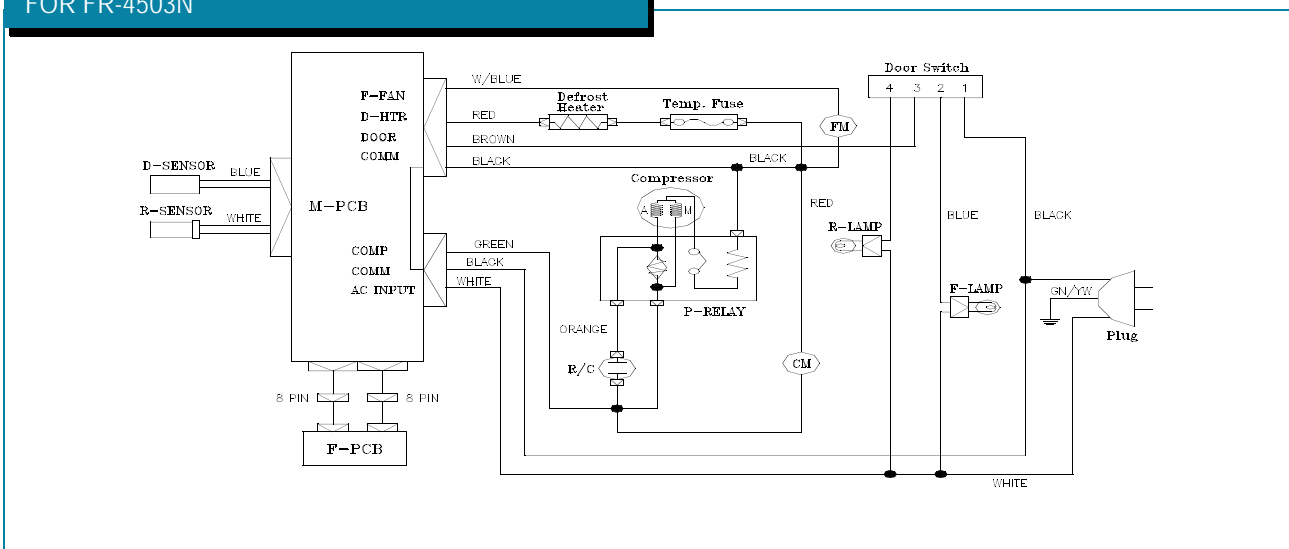
FOR FR-4501K, FR-4502K, FR4504K, FR-4505K



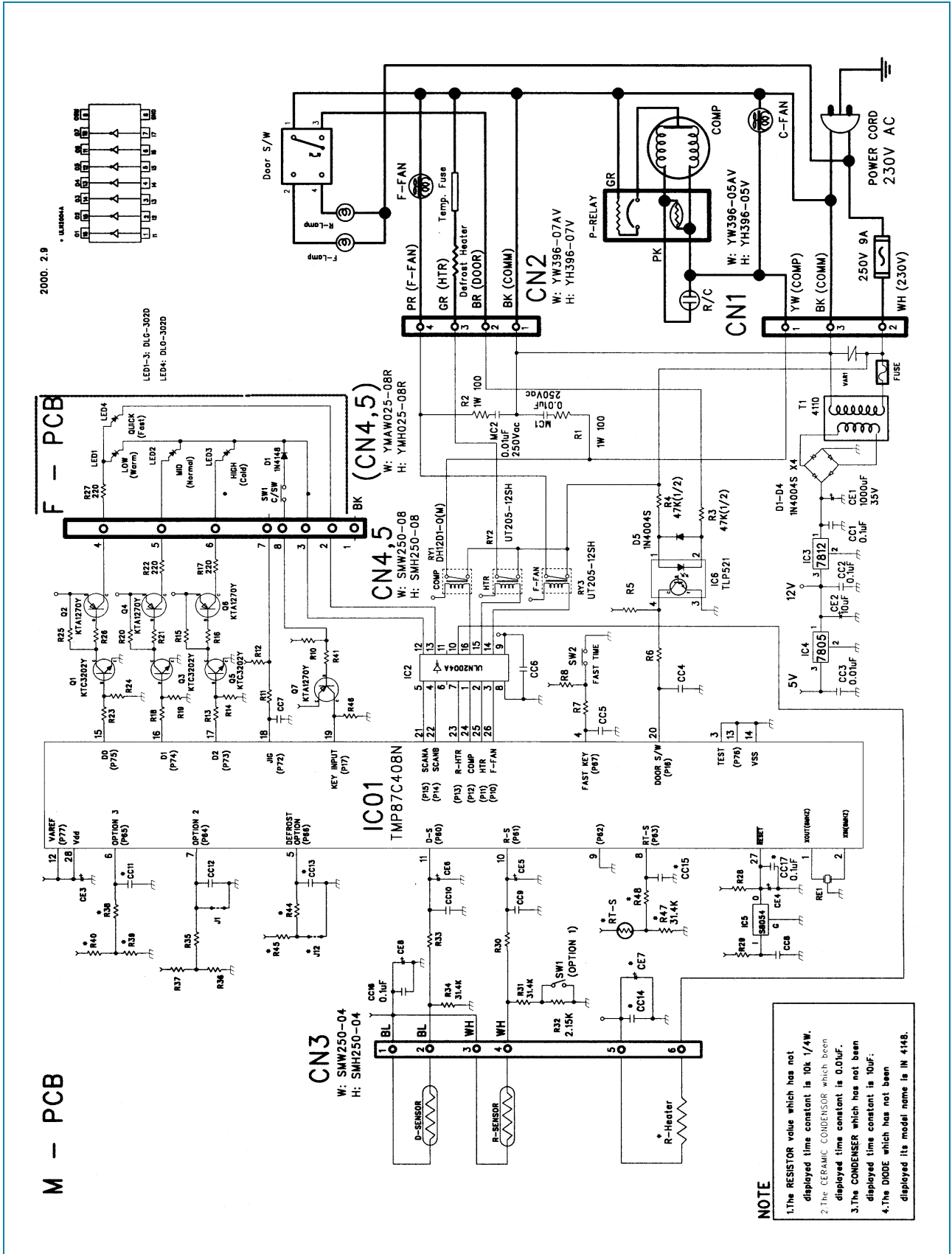
FOR FR-4501N, FR-4502N



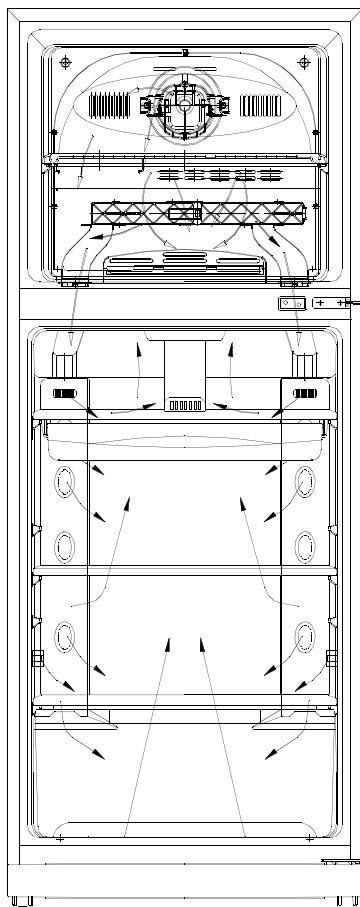
FOR FR-4503N



2. CIRCUIT DIAGRAM

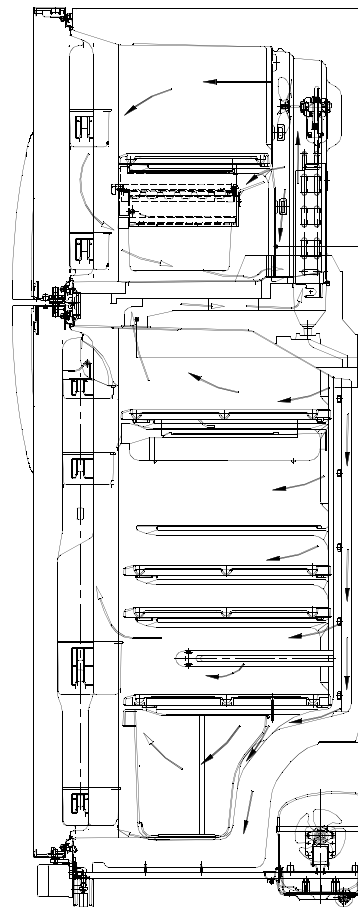


3. AIR FLOW DIAGRAM



FREEZER

Please don't put bottles
such as beer, beverage etc.
It might be blown out because of freezing.

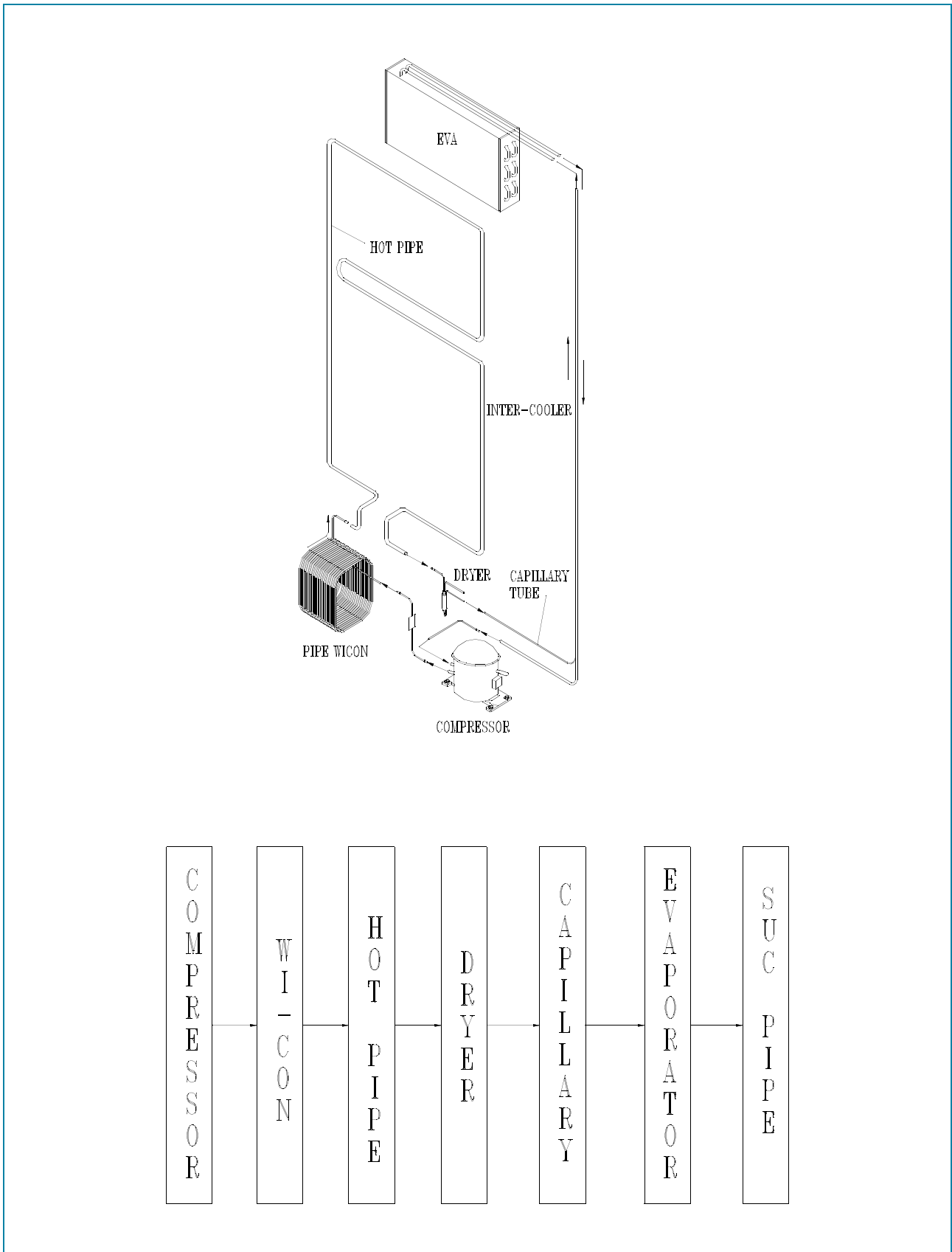


Inlet of cooling air
It should not be blocked with
food etc. as it is the inlet
where cooling air returns.

Multiple outlet of cooling air

Please don't put in vegetable etc.
which contain moisture.
It might be frozen because of
low temperature.

4. REFRIGERANT CYCLE DIAGRAM



DISASSEMBLY AND ASSEMBLY

If there is COVER F LAMP on the ceiling, you must take off it first. In case there's NOT, you should follow how to remove LOUVER F section.

1) COVER F LAMP DISASSEMBLY

① At first, take off WINDOW LAMP.



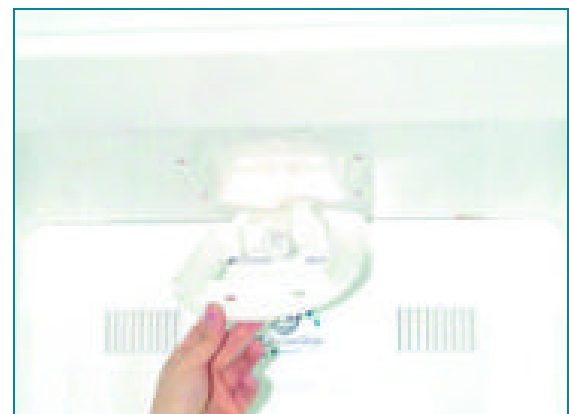
② Turn the LAMP to the left and remove it.



③ Using (+) screw driver, unfasten the screw in the center of COVER F LAMP.



④ With force, pull the COVER downwards to remove it.



2) LOUVER F DISASSEMBLY

- ① Remove the hole cap on top left using your finger.

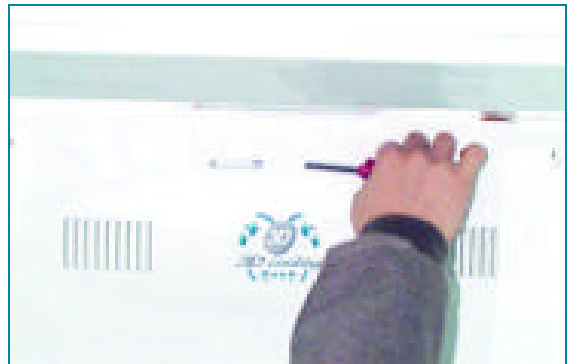


- ② Using (+) type screw driver, unfasten the screw in the hole.



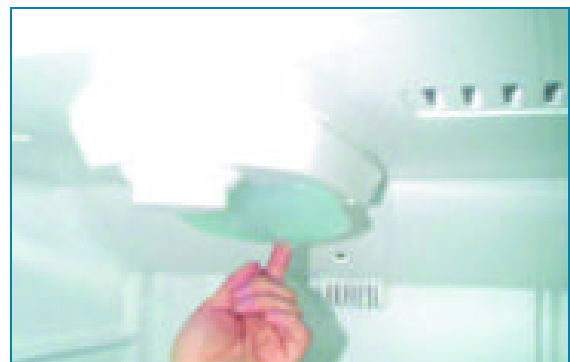
- ③ Do the same job at another hole cap, screw on top right.

- ④ Remove the Louver F using screw driver as picture.



3) COVER R CONTL BOX DISASSEMBLY

- ① Remove WINDOW LAMP at first.



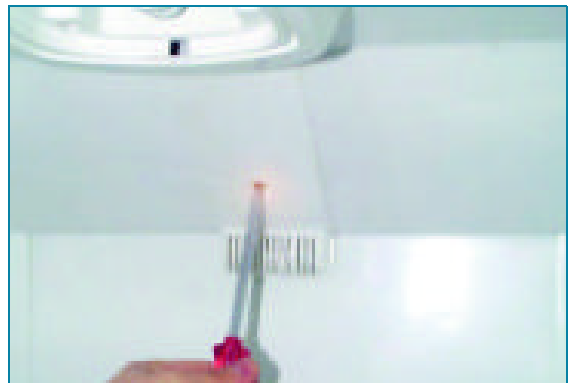
- ② Turn the LAMP to the left and remove it.



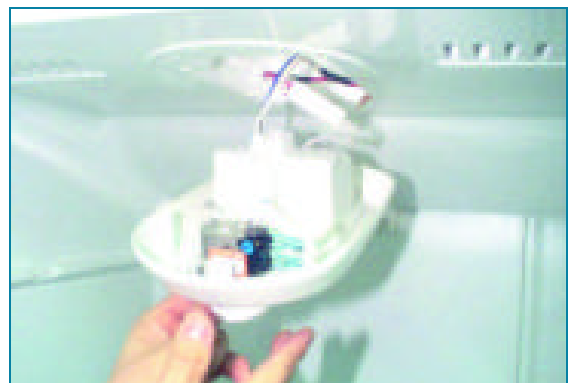
- ③ Using (+) screw driver, unfasten the screw in the center of COVER R CONTL BOX.



- ④ Using (+) screw driver, unfasten the screw in the back of LINER.



- ⑤ With force, take off COVER R CONTL BOX downwards.



4) COVER R LAMP DISASSEMBLY

① Remove WINDOW LAMP at first.



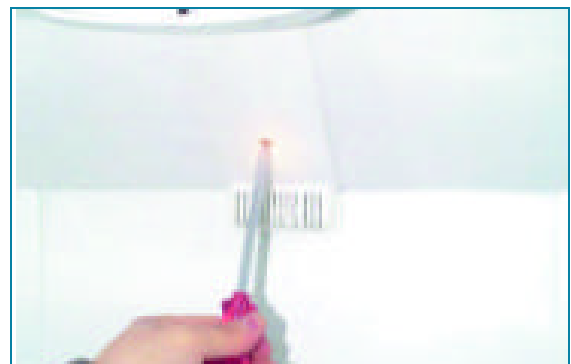
② Turn the LAMP to the left and remove it.



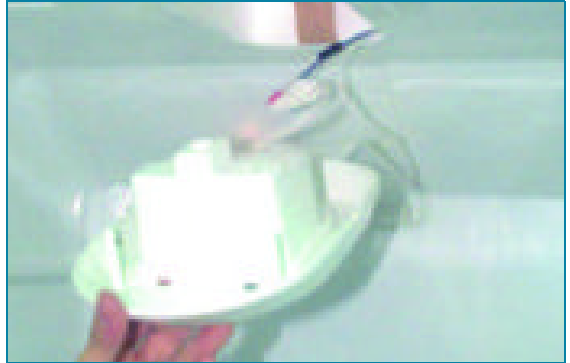
③ Using (+) screw driver, unfasten the screw in the center of COVER R CONTL BOX.



④ Using (+) screw driver, unfasten the screw in the back of LINER.

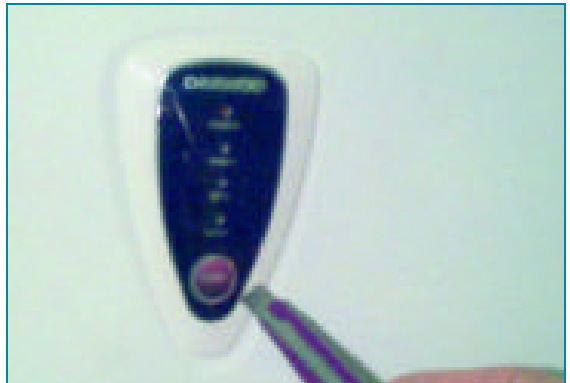


- ⑤ With force, take off COVER R LAMP downwards.



5) FRONT CONTROL PANEL DISASSEMBLY

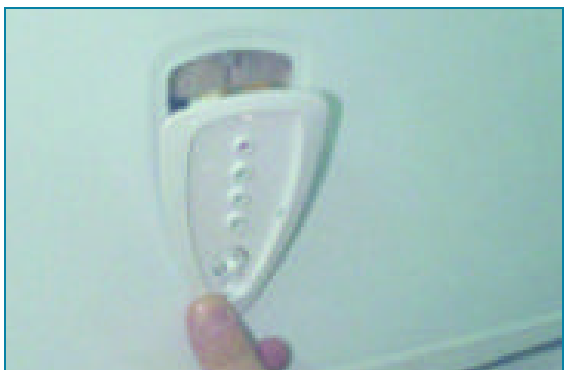
- ① Place any sheet at bottom-left of panel to protect surface of it.
- ② Insert small sharp tool into the gap to lift panel windows up.
- ③ Pull window out smoothly.



- ④ Remove 2 screws.



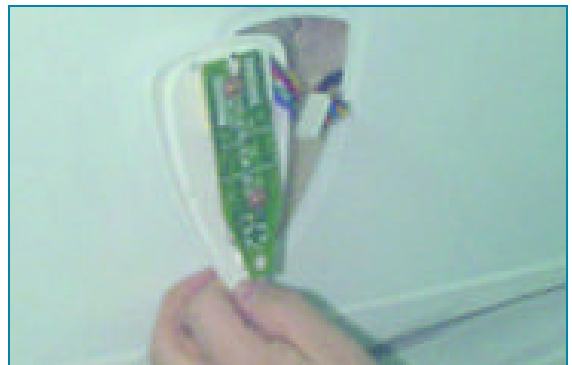
- ⑤ Lift up panel to remove.



⑥ Remove connector.

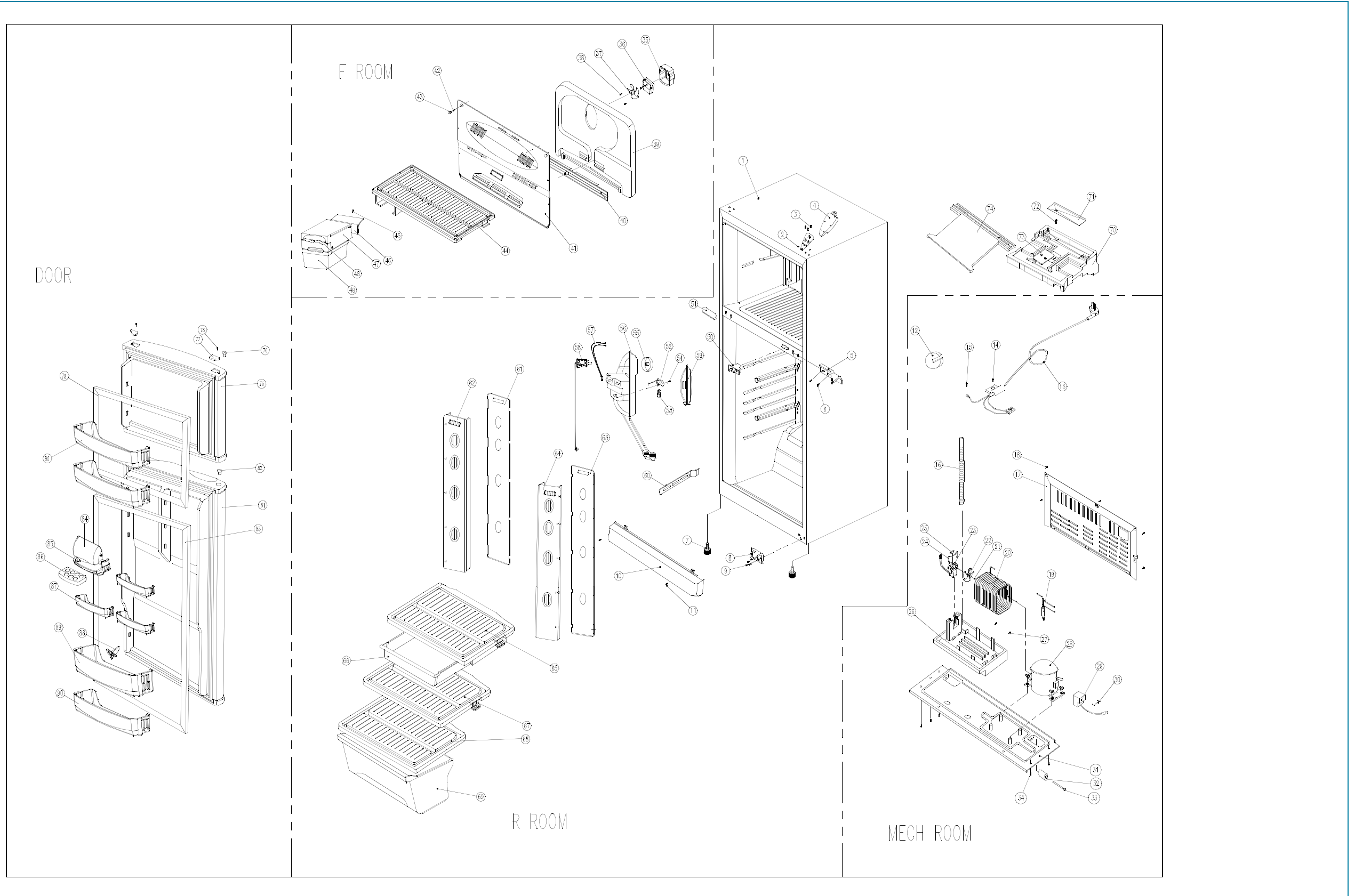


⑦ Remove screws on the back of panel.



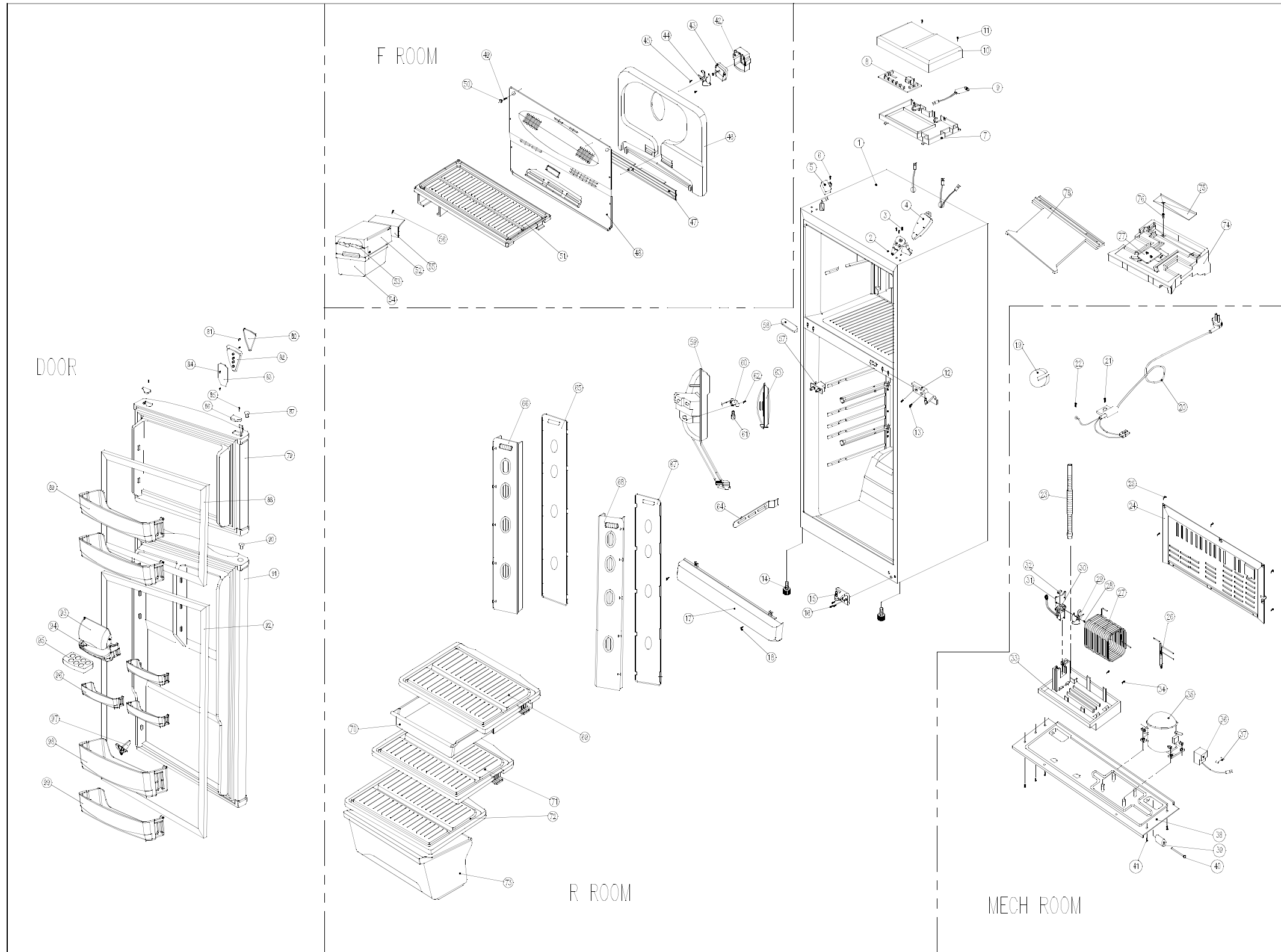
EXPLODED VIEW AND PARTS LIST

1. FR-4501K



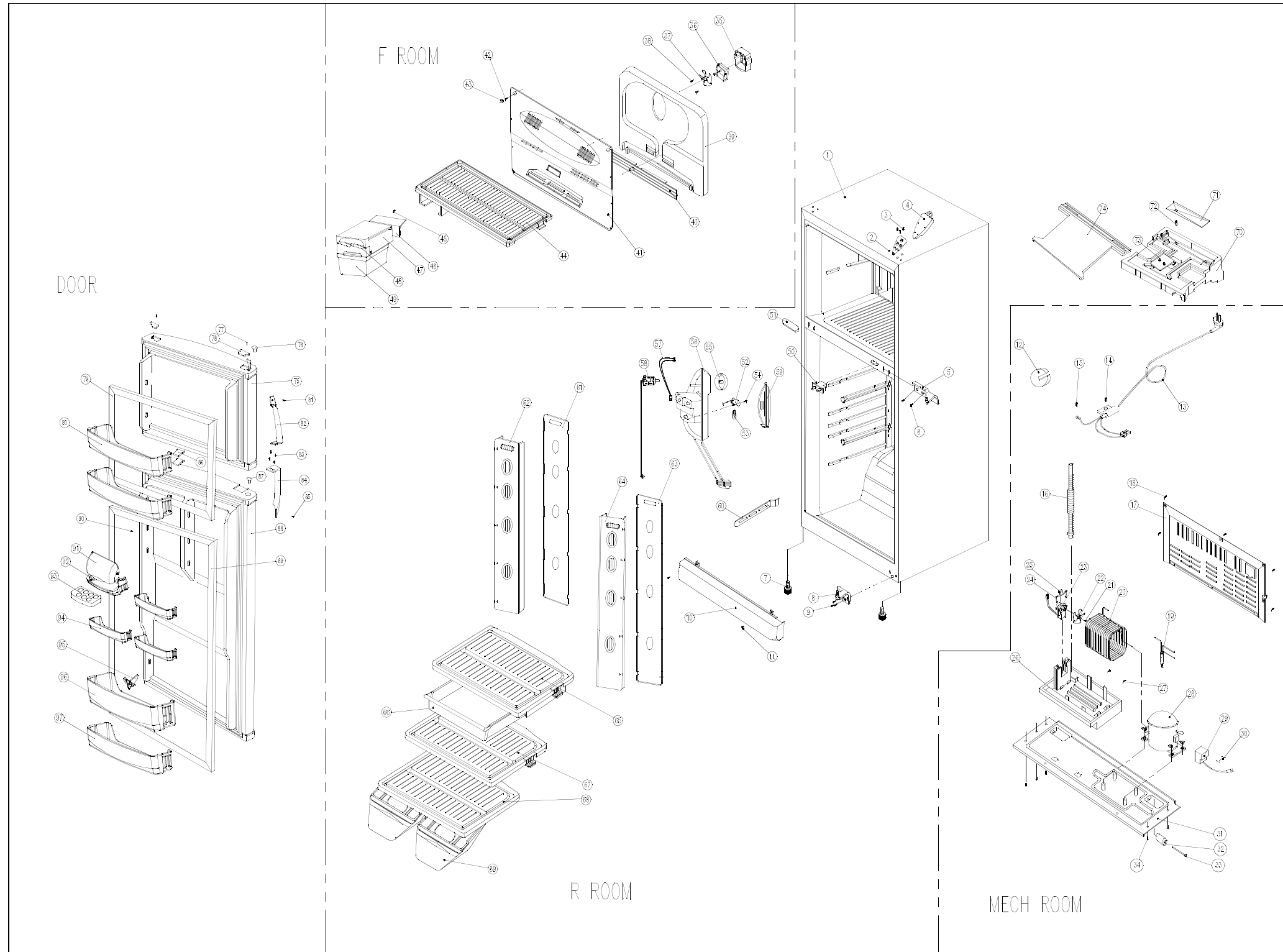
EXPLODED VIEW AND PARTS LIST

2. FR-4501N



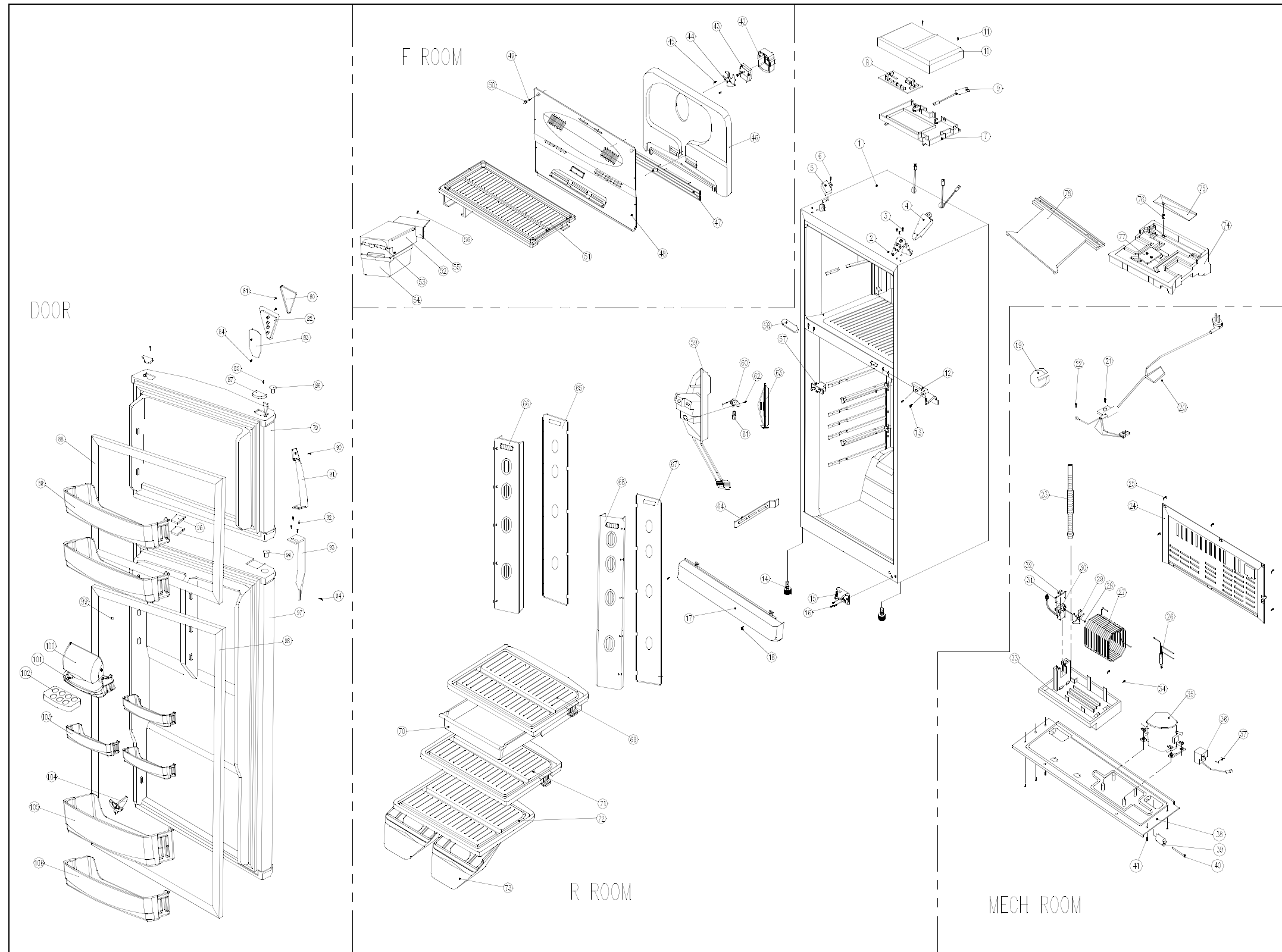
EXPLODED VIEW AND PARTS LIST

3. FR-4502K



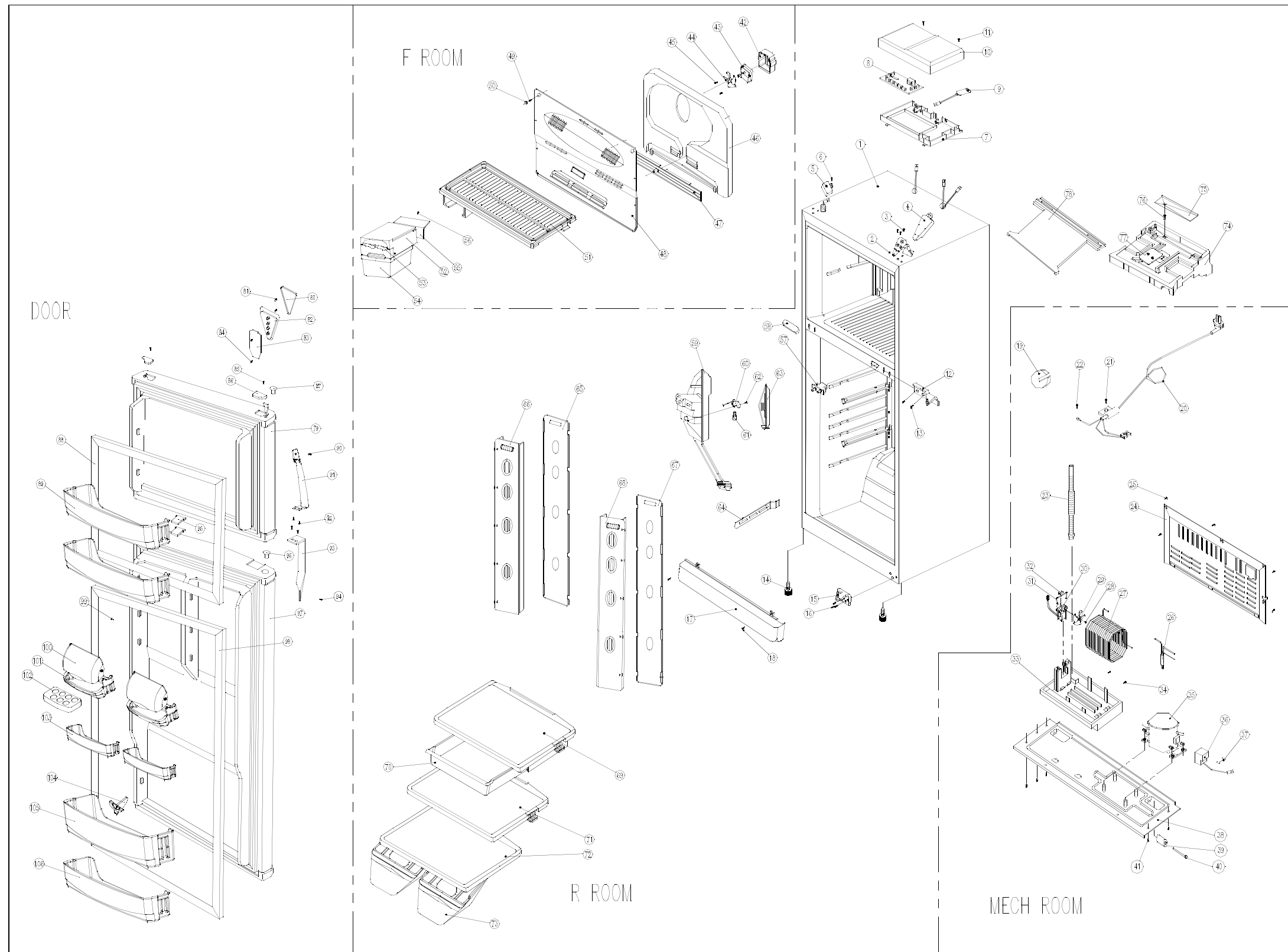
EXPLODED VIEW AND PARTS LIST

4. FR-4502N



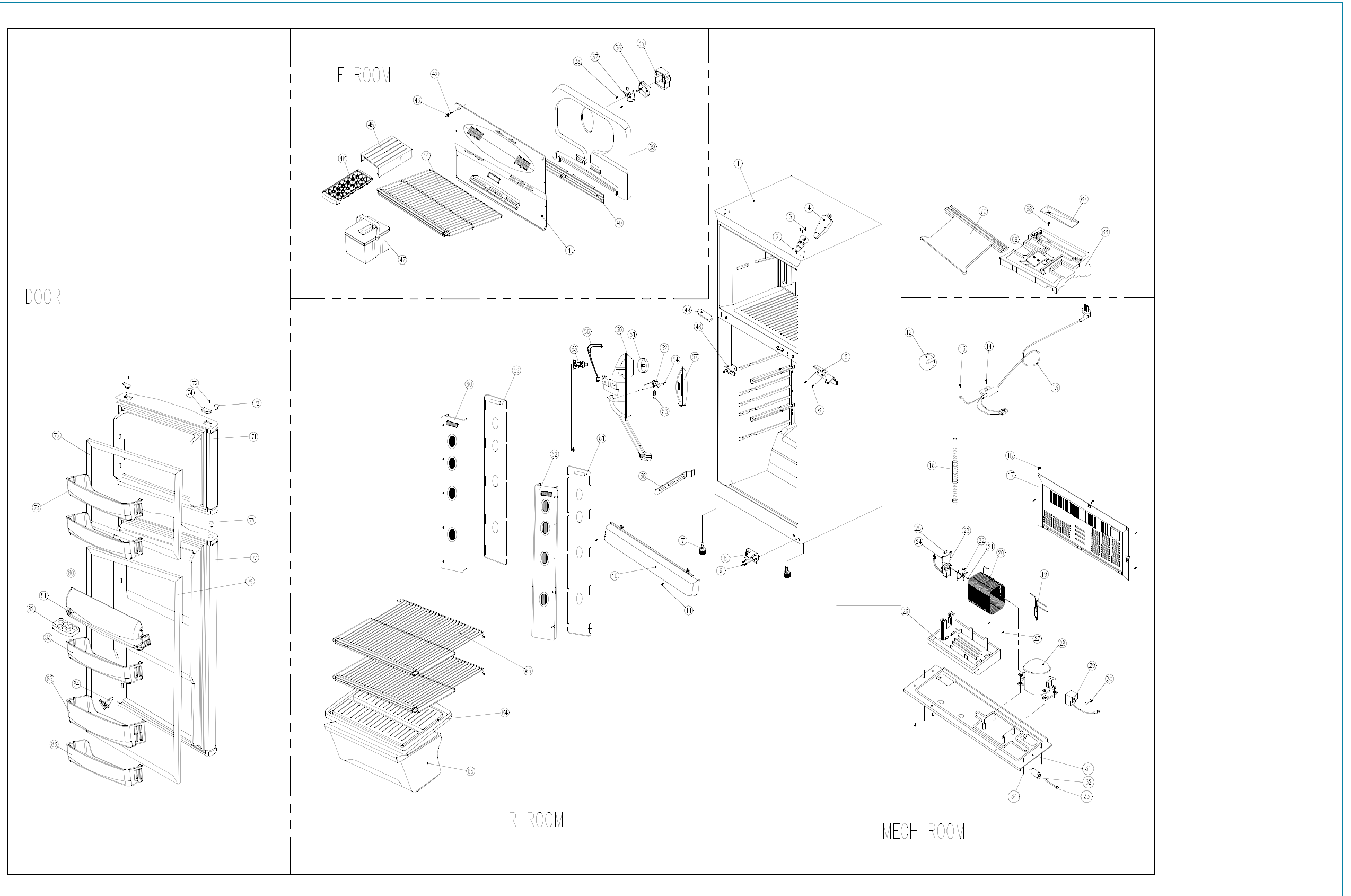
EXPLODED VIEW AND PARTS LIST

5. FR-4503N



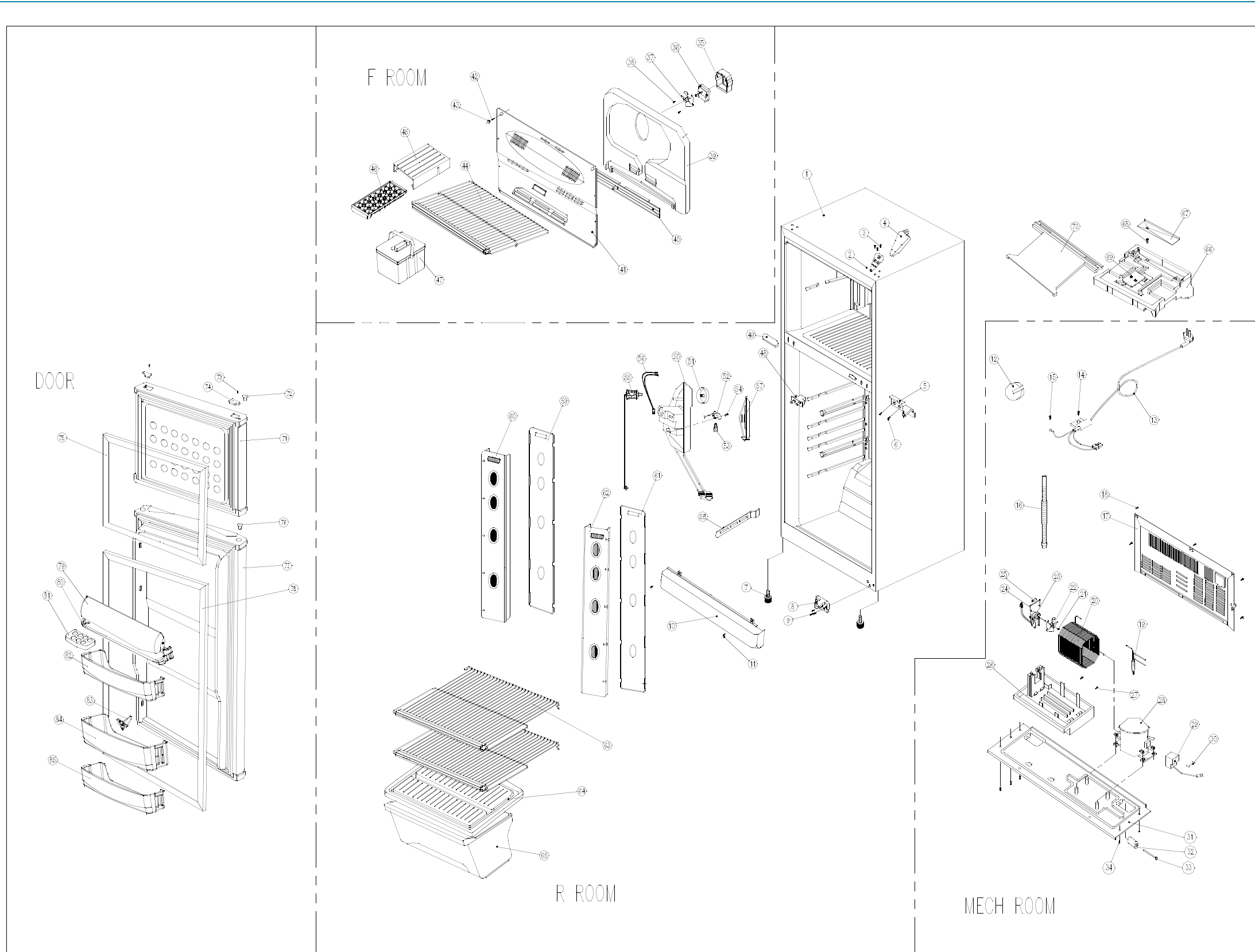
EXPLODED VIEW AND PARTS LIST

6. FR 4504K



EXPLODED VIEW AND PARTS LIST

7. FR-4505K



EXPLODED VIEW AND PARTS LIST

1. TOTAL PARTS LIST (FR-4501K)

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3010031200	ASSY CAB URT	FRM(P)-371	1	
3012911500	HINGE*T	SPCC T2	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011449800	COVER *T HI	HIPS	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3012911400	HINGE *M AS	DC-2 ZN	1	
	FOOT ADJUST AS		2	
3012911300	HINGE *U AS	SPHC-H T4	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011450200	COVER CAB BRKT	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3010103700	ABSORBER SUC P	NR	1	
3011302012	CORD POWER AS		1	250V/16A
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
3013202700	HOSE DRN B	PP	1	
3012405800	GRILLE	SBHG1	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
3016805500	DRYER AS		1	
3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
3011200400	CLAMP FAN	SUS304	1	
3011800400	FAN		1	
	MOTOR C		1	
3012004400	FIXTURE C MOTR	SUS	1	
3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
3011161900	CASE VAPORI	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
	COMPRESSOR		1	
3018116610	SWITCH P-RELAY AS		1	
3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
3010318400	BASE COMP	SBHG1	1	
3016500000	CASTER *B	PP OD36XL37	2	
3014902900	SHAFT CASTER *B	SPH, T1, OD6XL51	2	
3016003300	SPECIAL BOLT	T2 M6.5X20	4	
3012007900	FIXTURE MOTR B	PP	1	
	MOTOR F		1	
3011802200	FAN	ABS(OD110)	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3013336310	INSU F LUVR	EPS	1	
3013402600	KNOB F CONTL	PP	1	
3018910400	LOUVER F	HIPS	1	
7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
3010924600	CAP F-LUVR	HIPS T2.3	2	
3017821600	SHELF F	HIPS T3.0	1	

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
7112401208	SCREW TAPPING	T1 TRS 4X10 SUS	1	
3012509800	GUIDE TWIST ICE	HIPS	1	
3013002300	HOLDER ICE SAS	HIPS	1	
3012201900	FRAME ICE CASE SAS		1	
PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
	BOX ICE		1	
3018100050	SWITCH DR	DSD-5(220V)	1	
3010936100	CAP DV *M HI HOLE	ABS	1	
3017903610	SOCKET R LAMP AS	ii	1	
3013600080	LAMP AS	240V/15W	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3013402500	KNOB R CONTL	ABS	1	
3011449900	COVER R CONTL BOX	HIPS	1	
3012733700	HARNESS R-THERMO AS		1	
3018301500	THERMOSTAT	GNF-175D	1	
3015505200	WINDOW LAMP	PP	1	
3011439500	COVER CUBIC	HIPS	4	
3017460900	INSU R *S *L	F-PS	1	
3018910200	LOUVER R *S *L	PP	1	
3017461000	INSU R *S *R	F-PS	1	
3018910300	LOUVER R *S *R	PP	1	
3017821800	SHELF CHILD	GPPS	1	
3011162300	CASE CHILD	GPPS	1	
3017822000	SHELF R	GPPS	1	
3011451400	COVER VEGETB	GPPS	1	
3011162400	CASE VEGETB	GPPS	1	
3013336000	INSULATOR F A	EPS	1	
3012509900	GUIDE DRN	AL 0.4T	1	
3014433400	PIPE DRN	AL 1.0T	1	
3012009400	FIXTURE R CONTL COVR	PP	1	
3013336100	INSULATOR F B	EPS	1	
	ASSY F DR		1	
3011450400	COVER CAP HOLE B	PP	1	
3011450500	COVER T HI HRNS *L	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3012301420	GASKET F DR AS	PVC	1	
3019013500	POCKET F	HIPS	2	
	ASSY R DR		1	
3011450300	COVER CAP HOLE A	PP	1	
3012301720	GASKET R DR AS	PVC	1	
3011451200	COVER DARIY ROOM	GPPS	1	
3019012900	POCKET DAIRY	HIPS	1	
3011162100	CASE EGG	GPPS	1	

EXPLODED VIEW AND PARTS LIST

2. TOTAL PARTS LIST (FR-4501N)

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3019013100	POCKET SMALL	HIPS	3	
3012509600	GUIDE POCKET	HIPS	1	
3019013300	POCKET JUMBO	HIPS	1	
3019013400	POCKET BOTTLE	HIPS	1	

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3010031200	ASSY CAB URT	FRM(P)-371	1	
3012911500	HINGE*T	SPCC T2	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011449800	COVER *T HI	HIPS	1	
3011449500	COVER GUIDE L/WIRE	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3010519800	BOX MAIN POWER	PP	1	
	PCB MAIN AS	PP	1	
	HARNESS RUN CON		1	
	COVER M-PCB BOX	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3012911400	HINGE *M AS	DC-2 ZN	1	
3016001220	SPECIAL BOLT M	6X20 SWCH22A(WH)	2	
	FOOT ADJUST AS		2	
3012911300	HINGE *U AS	SPHC-H T4	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011450200	COVER CAB BRKT	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3010103700	ABSORBER SUC P	NR	1	
3011302012	CORD POWER AS		1	250V/16A
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
3013202700	HOSE DRN B	PP	1	
3012405800	GRILLE	SBHG1	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
3016805500	DRYER AS		1	
3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
3011200400	CLAMP FAN	SUS304	1	
3011800400	FAN		1	
	MOTOR C		1	
3012004400	FIXTURE C MOTR	SUS	1	
3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
3011161900	CASE VAPORI	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
	COMPRESSOR		1	
3018116610	SWITCH P-RELAY AS		1	
3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
3010318400	BASE COMP	SBHG1	1	
3016500000	CASTER *B	PP OD36XL37	2	
3014902900	SHAFT CASTER *B	SPH, T1, OD6XL51	2	
3016003300	SPECIAL BOLT	T2 M6.5X20	4	
3012007900	FIXTURE MOTR B	PP	1	
	MOTOR F		1	
3011802200	FAN	ABS(OD110)	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	

RXPLODED VIEW AND PARTS LIST

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3013336310	INSU F LUVR	EPS	1	
3013402600	KNOB F CONTL	PP	1	
3018910400	LOUVER F	HIPS	1	
7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
3010924600	CAP F-LUVR	HIPS T2.3	2	
3017821600	SHELF F	HIPS T3.0	1	
3013002300	HOLDER ICE SAS	HIPS	1	
3012201900	FRAME ICE CASE SAS		1	
	BOX ICE		1	
3012509800	GUIDE TWIST ICE	HIPS	1	
7112401208	SCREW TAPPING	T1 TRS 4X10 SUS	1	
3018100050	SWITCH DR	DSD-5(220V)	1	
3010936100	CAP DV *M HI HOLE	ABS	1	
3011450100	COVER R LAMP	HIPS	1	
3017903610	SOCKET R LAMP AS		1	
3013600080	LAMP AS	240V/15W	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3015505200	WINDOW LAMP	PP	1	
3011439500	COVER CUBIC	HIPS	2	
3017460900	INSU R *S *L	F-PS	1	
3018910200	LOUVER R *S *L	PP	1	
3017461000	INSU R *S *R	F-PS	1	
3018910300	LOUVER R *S *R	PP	1	
3017821800	SHELF CHILD	GPPS	1	
3011162300	CASE CHILD	GPPS	1	
3017822000	SHELF R	GPPS	1	
3011451400	COVER VEGETB	GPPS	1	
3011162500	CASE VEGETB	GPPS	2	
3013336000	INSULATOR F A	EPS	1	
3012509900	GUIDE DRN	AL 0.4T	1	
3014433400	PIPE DRN	AL 1.0T	1	
3012009400	FIXTURE R CONTL COVR	PP	1	
3013336100	INSULATOR F B	EPS	1	
	ASSY F DR		1	
301550530	WINDOW FCP	GPPS	1	
	SCREW TAPPING		1	
3014228600	PANEL CONTROL F	ABS	1	
3014228600	PCB FRONT AS	T1.6	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3011450400	COVER CAP HOLE B	PP	1	
3011450500	COVER T HI HRNS *L	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3012301420	GASKET F DR AS	PVC	1	
3019013500	POCKET F	HIPS	2	
3011450300	COVER CAP HOLE A	PP	1	

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
	ASSY R DR		1	
3012301720	GASKET R DR AS	PVC	1	
3011451300	COVER DARIY ROOM	GPPS	1	
3019013000	POCKET DAIRY	HIPS	1	
3011162100	CASE EGG	GPPS	1	
3019013100	POCKET SMALL	HIPS	3	
3012509600	GUIDE POCKET	HIPS	1	
3019013300	POCKET JUMBO	HIPS	1	
3019013400	POCKET BOTTLE	HIPS	1	

3. TOTAL PARTS LIST (FR-4501N)

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3010031200	ASSY CAB URT	FRM(P)-371	1	
3012911500	HINGE *T	SPCC T2	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011449800	COVER *T HI	HIPS	1	
3012911400	HINGE *M AS	DC-2 ZN	1	
3016001220	SPECIAL BOLT M	6X20 SWCH22A(WH)	2	
	FOOT ADJUST AS		2	
3012911300	HINGE *U AS	SPHC-H T4	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011450200	COVER CAB BRKT	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3010103700	ABSORBER SUC P	NR	1	
3011302012	CORD POWER AS		1	250V/16A
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
3013202700	HOSE DRN B	PP	1	
3012405800	GRILLE	SBHG1	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
3016805500	DRYER AS		1	
3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
3011200400	CLAMP FAN	SUS304	1	
3011800400	FAN		1	
	MOTOR C		1	
3012004400	FIXTURE C MOTR	SUS	1	
3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
3011161900	CASE VAPORI	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
	COMPRESSOR		1	
3018116610	SWITCH P-RELAY AS		1	
3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
3010318400	BASE COMP	SBHG1	1	
3016500000	CASTER *B	PP OD36XL37	2	
3014902900	SHAFT CASTER *B	SPH, T1, OD6XL51	2	
3016003300	SPECIAL BOLT	T2 M6.5X20	4	
3012007900	FIXTURE MOTR B	PP	1	
	MOTOR F		1	
3011802200	FAN	ABS(OD110)	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3013336310	INSU F LUVR	EPS	1	
3013402600	KNOB F CONTL	PP	1	
3018910400	LOUVER F	HIPS	1	
7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
3010924600	CAP F-LUVR	HIPS T2.3	2	
3017821600	SHELF F	HIPS T3.0	1	
3013002300	HOLDER ICE SAS	HIPS	1	

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3012201900	FRAME ICE CASE SAS		1	
	BOX ICE		1	
3012509800	GUIDE TWIST ICE	HIPS	1	
7112401208	SCREW TAPPING	T1 TRS 4X10 SUS	1	
3018100050	SWITCH DR	DSD-5(220V)	1	
3010936100	CAP DV *M HI HOLE	ABS	1	
3017903610	SOCKET R LAMP AS		1	
3013600080	LAMP AS	240V/15W	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3013402500	KNOB R CONTL	ABS	1	
3011449900	COVER R CONTL BOX	HIPS	1	
3012733700	HARNES R-THERMO		1	
3018301500	THERMOSTAT	GNF-175D	1	
3015505200	WINDOW LAMP	PP	1	
3011439500	COVER CUBIC	HIPS	2	
3017460900	INSU R *S *L	F-PS	1	
3018910200	LOUVER R *S *L	PP	1	
3017461000	INSU R *S *R	F-PS	1	
3018910300	LOUVER R *S *R	PP	1	
3017821800	SHELF CHILD	GPSS	1	
3011162300	CASE CHILD	GPSS	1	
3017822000	SHELF R	GPSS	1	
3011451400	COVER VEGETB	GPSS	1	
3011162500	CASE VEGETB	GPSS	2	
3013336000	INSULATOR F A	EPS	1	
3012509900	GUIDE DRN	AL 0.4T	1	
3014433400	PIPE DRN	AL 1.0T	1	
3012009400	FIXTURE R CONTL COVR	PP	1	
3013336100	INSULATOR F B	EPS	1	
	ASSY F DR		1	
3011450400	COVER CAP HOLE B	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3011450500	COVER T HI HRNS *L	PP	1	
3012301420	GASKET F DR AS	PVC	1	
3019013500	POCKET F	HIPS	2	
	SCREW TAPPING	T1 FLT 4X12 MFZN	1	
	HANDLE F	ABS	1	
	SCREW TAPPING	T1 FLT 4X12 MFZN	4	
	HANDLE R	ABS	1	
	SCREW TAPPING	T1 FLT 4X12 MFZN	1	
3011450800	COVER CAP HNDL *L	ABS	1	
3011450300	COVER CAP HOLE A	PP	1	
	ASSY R DR		1	
3012301720	GASKET R DR AS	PVC	1	
3010936600	CAP DR SCREW HOLE	PP	1	

RXPLODED VIEW AND PARTS LIST

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3011451300	COVER DARIY ROOM	GPPS	1	
3019013000	POCKET DAIRY	HIPS	1	
3011162100	CASE EGG	GPPS	1	
3019013100	POCKET SMALL	HIPS	3	
3012509600	GUIDE POCKET	HIPS	1	
3019013300	POCKET JUMBO	HIPS	1	
3019013400	POCKET BOTTLE	HIPS	1	

4. TOTAL PARTS LIST (FR-4502N)

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3010031200	ASSY CAB URT	FRM(P)-371	1	
3012911500	HINGE*T	SPCC T2	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011449800	COVER *T HI	HIPS	1	
3011449500	COVER GUIDE L/WIRE	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3010519800	BOX MAIN POWER	PP	1	
	PCB MAIN AS	PP	1	
	HARNES RUN CON		1	
	COVER M-PCB BOX	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3012911400	HINGE *M AS	DC-2 ZN	1	
3016001220	SPECIAL BOLT M	6X20 SWCH22A(WH)	2	
	FOOT ADJUST AS		2	
3012911300	HINGE *U AS	SPHC-H T4	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011450200	COVER CAB BRKT	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3010103700	ABSORBER SUC P	NR	1	
3011302012	CORD POWER AS		1	250V/16A
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
3013202700	HOSE DRN B	PP	1	
3012405800	GRILLE	SBHG1	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
3016805500	DRYER AS		1	
3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
3011200400	CLAMP FAN	SUS304	1	
3011800400	FAN		1	
	MOTOR C		1	
3012004400	FIXTURE C MOTR	SUS	1	
3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
3011161900	CASE VAPORI	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
	COMPRESSOR		1	
3018116610	SWITCH P-RELAY AS		1	
3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
3010318400	BASE COMP	SBHG1	1	
3016500000	CASTER *B	PP OD36XL37	2	
3014902900	SHAFT CASTER *B	SPH, T1, OD6XL51	2	
3016003300	SPECIAL BOLT	T2 M6.5X20	4	
3012007900	FIXTURE MOTR B	PP	1	
	MOTOR F		1	
3011802200	FAN	ABS(OD110)	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	

EXPLODED VIEW AND PARTS LIST

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3013336310	INSU F LUVR	EPS	1	
3013402600	KNOB F CONTL	PP	1	
3018910400	LOUVER F	HIPS	1	
7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
3010924600	CAP F-LUVR	HIPS T2.3	2	
3017821600	SHELF F	HIPS T3.0	1	
3013002300	HOLDER ICE SAS	HIPS	1	
3012201900	FRAME ICE CASE SAS		1	
	BOX ICE		1	
3012509800	GUIDE TWIST ICE	HIPS	1	
7112401208	SCREW TAPPING	T1 TRS 4X10 SUS	1	
3018100050	SWITCH DR	DSD-5(220V)	1	
3010936100	CAP DV *M HI HOLE	ABS	1	
3011450100	COVER R LAMP	HIPS	1	
3017903610	SOCKET R LAMP AS		1	
3013600080	LAMP AS	240V/15W	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3015505200	WINDOW LAMP	PP	1	
3011439500	COVER CUBIC	HIPS	2	
3017460900	INSU R *S *L	F-PS	1	
3018910200	LOUVER R *S *L	PP	1	
3017461000	INSU R *S *R	F-PS	1	
3018910300	LOUVER R *S *R	PP	1	
3017821800	SHELF CHILD	GPPS	1	
3011162300	CASE CHILD	GPPS	1	
3017822000	SHELF R	GPPS	1	
3011451400	COVER VEGETB	GPPS	1	
3011162500	CASE VEGETB	GPPS	2	
3013336000	INSULATOR F A	EPS	1	
3012509900	GUIDE DRN	AL 0.4T	1	
3014433400	PIPE DRN	AL 1.0T	1	
3012009400	FIXTURE R CONTL COVR	PP	1	
3013336100	INSULATOR F B	EPS	1	
	ASSY F DR		1	
301550530	WINDOW FCP	GPPS	1	
	SCREW TAPPING		1	
3014228600	PANEL CONTROL F	ABS	1	
3014228600	PCB FRONT AS	T1.6	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3011450400	COVER CAP HOLE B	PP	1	
3011450500	COVER T HI HRNS *L	PP	1	
3012301420	GASKET F DR AS	PVC	1	
3019013500	POCKET F	HIPS	2	
	SCREW TAPPING	T1 FLT 4X12 MFZN	1	

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
	HANDLE F	ABS	1	
	SCREW TAPPING	T1 FLT 4X12 MFZN	4	
	HANDLE R	ABS	1	
	SCREW TAPPING	T1 FLT 4X12 MFZN	1	
3011450800	COVER CAP HNDL *L	ABS	1	
3011450300	COVER CAP HOLE A	PP	1	
	ASSY R DR		1	
3012301720	GASKET R DR AS	PVC	1	
3010936600	CAP DR SCREW HOLE	PP	1	
3011451300	COVER DARIY ROOM	GPPS	1	
3019013000	POCKET DAIRY	HIPS	1	
3011162100	CASE EGG	GPPS	1	
3019013100	POCKET SMALL	HIPS	3	
3012509600	GUIDE POCKET	HIPS	1	
3019013300	POCKET JUMBO	HIPS	1	
3019013400	POCKET BOTTLE	HIPS	1	

EXPLODED VIEW AND PARTS LIST

5. TOTAL PARTS LIST (FR-4503N)

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3010031200	ASSY CAB URT	FRM(P)-371	1	
3012911500	HINGE*T	SPCC T2	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011449800	COVER *T HI	HIPS	1	
3011449500	COVER GUIDE LWIRE	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3010519800	BOX MAIN POWER	PP	1	
	PCB MAIN AS	PP	1	
	HARNESS RUN CON		1	
	COVER M-PCB BOX	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3012911400	HINGE *M AS	DC-2 ZN	1	
3016001220	SPECIAL BOLT M	6X20 SWCH22A(WH)	2	
	FOOT ADJUST AS		2	
3012911300	HINGE *U AS	SPHC-H T4	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011450200	COVER CAB BRKT	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3010103700	ABSORBER SUC P	NR	1	
3011302012	CORD POWER AS		1	250V/16A
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
3013202700	HOSE DRN B	PP	1	
3012405800	GRILLE	SBHG1	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
3016805500	DRYER AS		1	
3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
3011200400	CLAMP FAN	SUS304	1	
3011800400	FAN		1	
	MOTOR C		1	
3012004400	FIXTURE C MOTR	SUS	1	
3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
3011161900	CASE VAPORI	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
	COMPRESSOR		1	
3018116610	SWITCH P-RELAY AS		1	
3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
3010318400	BASE COMP	SBHG1	1	
3016500000	CASTER *B	PP OD36XL37	2	
3014902900	SHAFT CASTER *B	SPH, T1, OD6XL51	2	
3016003300	SPECIAL BOLT	T2 M6.5X20	4	
3012007900	FIXTURE MOTR B	PP	1	
	MOTOR F		1	
3011802200	FAN	ABS(OD110)	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3013336310	INSU F LUVR	EPS	1	
3013402600	KNOB F CONTL	PP	1	
3018910400	LOUVER F	HIPS	1	
PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
3010924600	CAP F-LUVR	HIPS T2.3	2	
3017821600	SHELF F	HIPS T3.0	1	
3013002300	HOLDER ICE SAS	HIPS	1	
3012201900	FRAME ICE CASE SAS		1	
	BOX ICE		1	
3012509800	GUIDE TWIST ICE	HIPS	1	
7112401208	SCREW TAPPING	T1 TRS 4X10 SUS	1	
3018100050	SWITCH DR	DSD-5(220V)	1	
3010936100	CAP DV *M HI HOLE	ABS	1	
3011450100	COVER R LAMP	HIPS	1	
3017903610	SOCKET R LAMP AS		1	
3013600080	LAMP AS	240V/15W	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3015505200	WINDOW LAMP	PP	1	
3011439500	COVER CUBIC	HIPS	2	
3017460900	INSU R *S *L	F-PS	1	
3018910200	LOUVER R *S *L	PP	1	
3017461000	INSU R *S *R	F-PS	1	
3018910300	LOUVER R *S *R	PP	1	
3017821900	SHELF CHILD	HIPS	1	
3011162300	CASE CHILD	GPSS	1	
3017822100	SHELF R	HIPS	1	
3011451400	COVER VEGETB	GPSS	1	
3011162500	CASE VEGETB	GPSS	2	
3013336000	INSULATOR F A	EPS	1	
3012509900	GUIDE DRN	AL 0.4T	1	
3014433400	PIPE DRN	AL 1.0T	1	
3012009400	FIXTURE R CONTL	PP	1	
	COVR			
3013336100	INSULATOR F B	EPS	1	
	ASSY F DR		1	
301550530	WINDOW FCP	GPSS	1	
	SCREW TAPPING		1	
3014228600	PANEL CONTROL F	ABS	1	
3014228600	PCB FRONT AS	T1.6	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3011450400	COVER CAP HOLE B	PP	1	
3011450500	COVER T HI HRNS *L	PP	1	
3012301420	GASKET F DR AS	PVC	1	
3019013500	POCKET F	HIPS	2	

6. TOTAL PARTS LIST (FR-4504K)

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
	SCREW TAPPING	T1 FLT 4X12 MFZN	1	
	HANDLE F	ABS	1	
	SCREW TAPPING	T1 FLT 4X12 MFZN	4	
	HANDLE R	ABS	1	
	SCREW TAPPING	T1 FLT 4X12 MFZN	1	
3011450800	COVER CAP HNDL *L	ABS	1	
3011450300	COVER CAP HOLE A	PP	1	
	ASSY R DR		1	
3012301720	GASKET R DR AS	PVC	1	
3010936600	CAP DR SCREW HOLE	PP	1	
3011451300	COVER DARIY ROOM	GPSS	2	
3019013000	POCKET DAIRY	HIPS	2	
3011162100	CASE EGG	GPSS	1	
3019013100	POCKET SMALL	HIPS	2	
3012509600	GUIDE POCKET	HIPS	1	
3019013300	POCKET JUMBO	HIPS	1	
3019013400	POCKET BOTTLE	HIPS	1	

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3010031200	ASSY CAB URT	FRM(P)-371	1	
3012911500	HINGE*T	SPCC T2	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011449800	COVER *T HI	HIPS	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3012911400	HINGE *M AS	DC-2 ZN	1	
	FOOT ADJUST AS		2	
3012911300	HINGE *U AS	SPHC-H T4	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011450200	COVER CAB BRKT	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3010103700	ABSORBER SUC P	NR	1	
3011302012	CORD POWER AS		1	250V/16A
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
3013202700	HOSE DRN B	PP	1	
3012405800	GRILLE	SBHG1	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
3016805500	DRYER AS		1	
3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
3011200400	CLAMP FAN	SUS304	1	
3011800400	FAN		1	
	MOTOR C		1	
3012004400	FIXTURE C MOTR	SUS	1	
3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
3011161900	CASE VAPORI	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
	COMPRESSOR		1	
3018116610	SWITCH P-RELAY AS		1	
3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
3010318400	BASE COMP	SBHG1	1	
3016500000	CASTER *B	PP OD36XL37	2	
3014902900	SHAFT CASTER *B	SPH, T1, OD6XL51	2	
3016003300	SPECIAL BOLT	T2 M6.5X20	4	
3012007900	FIXTURE MOTR B	PP	1	
	MOTOR F		1	
3011802200	FAN	ABS(OD110)	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3013336310	INSU F LUVR	EPS	1	
3013402600	KNOB F CONTL	PP	1	
3018910400	LOUVER F	HIPS	1	
7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
3010924600	CAP F-LUVR	HIPS T2.3	2	
3017821500	SHELF F	SWRM-B	1	
3012509700	GUIDE ICE CASE	HIPS	1	

RXPLODED VIEW AND PARTS LIST

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3011162200	CASE ICE	PP	1	
	BOX ICE		1	
PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3018100050	SWITCH DR	DSD-5(220V)	1	
3010936100	CAP DV *M HI HOLE	ABS	1	
3017903610	SOCKET R LAMP AS		1	
3013600080	LAMP AS	240V/15W	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3013402500	KNOB R CONTL	ABS	1	
3011449900	COVER R CONTL BOX	HIPS	1	
3012733700	HARNES R-THERMO		1	
3018301500	THERMOSTAT	GNF-175D	1	
3015505200	WINDOW LAMP	PP	1	
3011439500	COVER CUBIC	HIPS	2	
3017460900	INSU R *S *L	F-PS	1	
3018910200	LOUVER R *S *L	PP	1	
3017461000	INSU R *S *R	F-PS	1	
3018910300	LOUVER R *S *R	PP	1	
3017821700	SHELF R	SWRM-B	2	
3011451400	COVER VEGETB	GPSS	1	
3011162400	CASE VEGETB	GPSS	1	
3013336000	INSULATOR F A	EPS	1	
3012509900	GUIDE DRN	AL 0.4T	1	
3014433400	PIPE DRN	AL 1.0T	1	
3012009400	FIXTURE R CONTL COVR	PP	1	
3013336100	INSULATOR F B	EPS	1	
	ASSY F DR		1	
3011450400	COVER CAP HOLE B	PP	1	
3011450500	COVER T HI HRNS *L	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3012301420	GASKET F DR AS	PVC	1	
3019013500	POCKET F	HIPS	2	
	ASSY R DR		1	
3011450300	COVER CAP HOLE A	PP	1	
3012301720	GASKET R DR AS	PVC	1	
3011451200	COVER DARIY ROOM	GPSS	1	
3019012900	POCKET DAIRY	HIPS	1	
3011162100	CASE EGG	GPSS	1	
3019013200	POCKET MULTI	HIPS	1	
3012509600	GUIDE POCKET	HIPS	1	
3019013300	POCKET JUMBO	HIPS	1	
3019013400	POCKET BOTTLE	HIPS	1	

7. TOTAL PARTS LIST (FR-4505K)

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3010031200	ASSY CAB URT	FRM(P)-371	1	
3012911500	HINGE *T	SPCC T2	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011449800	COVER *T HI	HIPS	1	
3012911400	HINGE *M AS	DC-2 ZN	1	
3016001220	SPECIAL BOLT M	6X20 SWCH22A(WH)	2	
	FOOT ADJUST AS		2	
3012911300	HINGE *U AS	SPHC-H T4	1	
3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
3011450200	COVER CAB BRKT	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3010103700	ABSORBER SUC P	NR	1	
3011302012	CORD POWER AS		1	250V/16A
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
3013202700	HOSE DRN B	PP	1	
3012405800	GRILLE	SBHG1	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
3016805500	DRYER AS		1	
3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
3011200400	CLAMP FAN	SUS304	1	
3011800400	FAN		1	
	MOTOR C		1	
3012004400	FIXTURE C MOTR	SUS	1	
3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
3011161900	CASE VAPORI	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
	COMPRESSOR		1	
3018116610	SWITCH P-RELAY AS		1	
3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
3010318400	BASE COMP	SBHG1	1	
3016500000	CASTER *B	PP OD36XL37	2	
3014902900	SHAFT CASTER *B	SPH, T1, OD6XL51	2	
3016003300	SPECIAL BOLT	T2 M6.5X20	4	
3012007900	FIXTURE MOTR B	PP	1	
	MOTOR F		1	
3011802200	FAN	ABS(OD110)	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
3013336310	INSU F LUVR	EPS	1	
3013402600	KNOB F CONTL	PP	1	
3018910400	LOUVER F	HIPS	1	
7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
3010924600	CAP F-LUVR	HIPS T2.3	2	
3017821600	SHELF F	HIPS T3.0	1	
3012509700	GUIDE ICE CASE	HIPS	1	

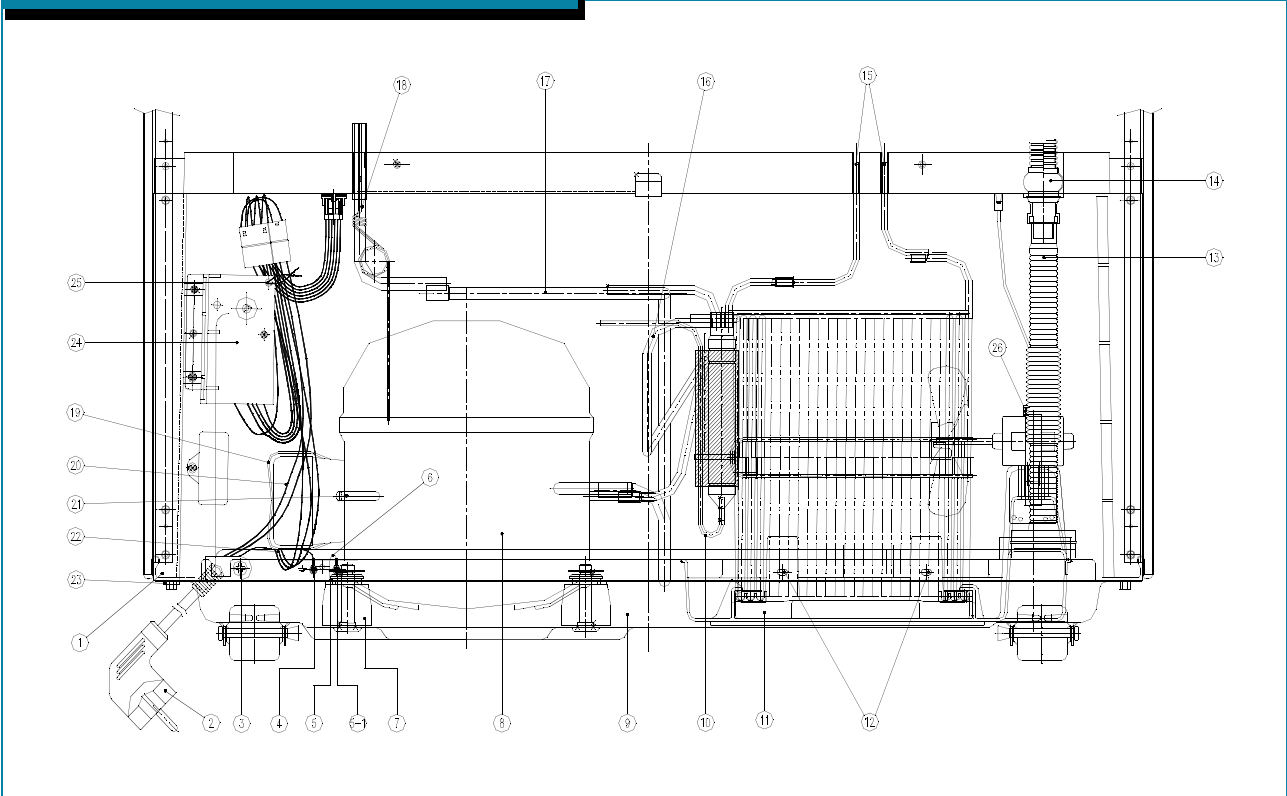
EXPLODED VIEW AND PARTS LIST

PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
3011162200	CASE ICE	PP	1	
	BOX ICE		1	
3018100050	SWITCH DR	DSD-5(220V)	1	
3010936100	CAP DV *M HI HOLE	ABS	1	
3011449900	COVER R CONTL BOX	HIPS	1	
3013402500	KNOB R CONTL	ABS	1	
3017903610	SOCKET R LAMP AS		1	
3013600080	LAMP AS	240V/15W	1	
7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
3012733700	HARNESS R-THERMO		1	
3018301500	THERMOSTAT	GNF-175D	1	
3015505200	WINDOW LAMP	PP	1	
3011439500	COVER CUBIC	HIPS	2	
3017460900	INSU R *S *L	F-PS	1	
3018910200	LOUVER R *S *L	PP	1	
3017461000	INSU R *S *R	F-PS	1	
3018910300	LOUVER R *S *R	PP	1	
3017821700	SHELF R	SWRM-B	2	
3011451400	COVER VEGETB	GPPS	1	
3011162400	CASE VEGETB	GPPS	1	
3013336000	INSULATOR F A	EPS	1	
3012509900	GUIDE DRN	AL 0.4T	1	
3014433400	PIPE DRN	AL 1.0T	1	
3012009400	FIXTURE R CONTL COVR	PP	1	
3013336100	INSULATOR F B	EPS	1	
	ASSY F DR		1	
3011450400	COVER CAP HOLE B	PP	1	
3011450500	COVER T HI HRNS *L	PP	1	
7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
3012301420	GASKET F DR AS	PVC	1	
3011450300	COVER CAP HOLE A	PP	1	
	ASSY R DR		1	
3012301720	GASKET R DR AS	PVC	1	
3011451300	COVER DARIY ROOM	GPPS	1	
3019013000	POCKET DAIRY	HIPS	1	
3011162100	CASE EGG	GPPS	1	
3019013200	POCKET MULTI	HIPS	1	
3012509600	GUIDE POCKET	HIPS	1	
3019013300	POCKET JUMBO	HIPS	1	
3019013400	POCKET BOTTLE	HIPS	1	

EXPLODED VIEW AND PARTS LIST

3. MACHINE ROOM EXPLODED VIEW AND PARTS LIST

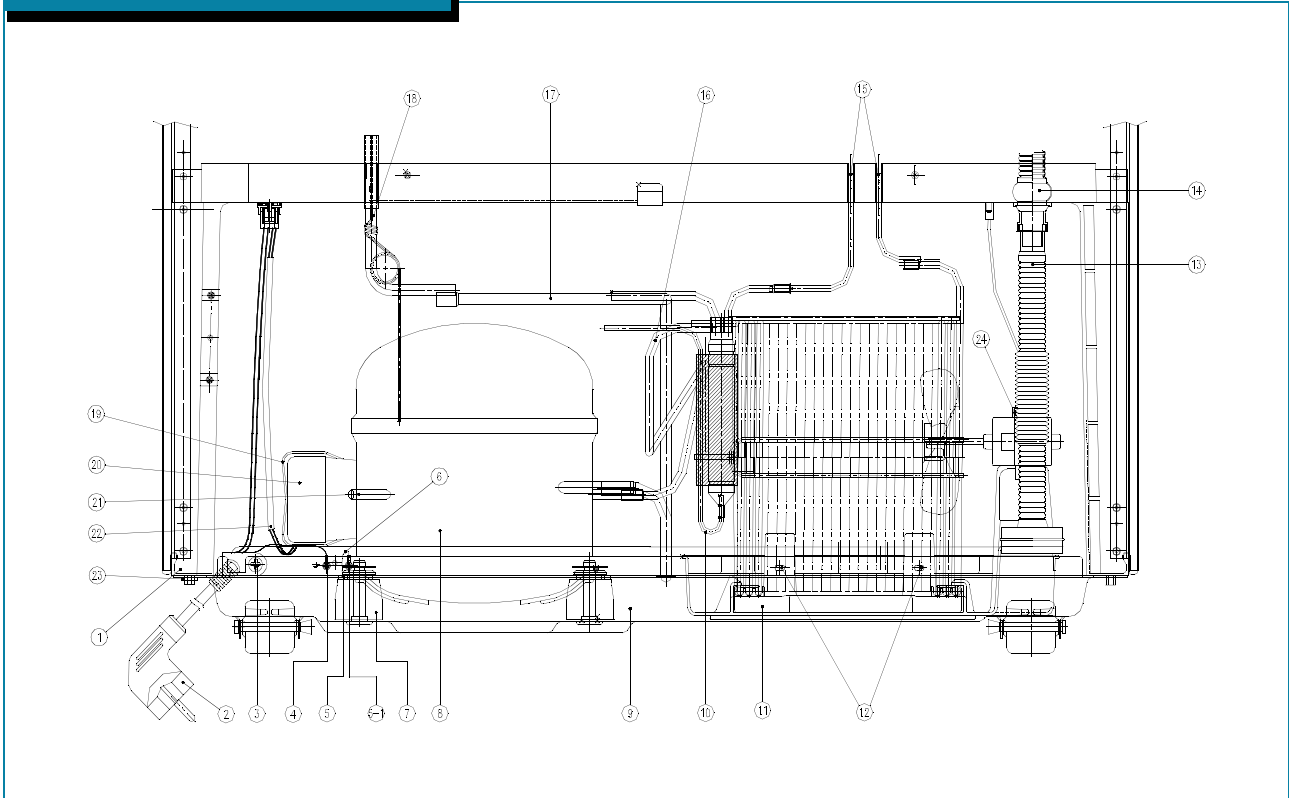
FOR FR-4501K, FR-4502K, FR-4504K, FR4505K



NO	PART NAME	NO	PART NAME	NO	PART NAME
1	BASE CAB	10	DRYER AS	20	COVER RELAY
2	CORD POWER	11	CASE VAPORI AS	21	PIPE SERVICE
3	SCREW TAPPING	12	SCREW TAPPING	22	SWITH P-RELAY AS
4	SCREW MACHINE	13	HOSE DRN A	23	SCREW SPECIAL
5	WASHER TOOTH	14	HOSE DRN B	24	BOX POWER AS
5-1	SCREW MACHINE	15	PIPE HOT	25	WIRE BIND BAND
6	HARNES EARTH	16	PIPE CONN A	26	ABSORBER C MOTOR
7	ABSORBER COMP	17	PIPE SUC CONN		
8	COMPRESSOR	18	PIPE SUCTION AS		
9	BASE COMP	19	BAND RELAY		

3. MACHINE ROOM EXPLODED VIEW AND PARTS LIST

FOR FR-4501N, FR-4502N, FR-4503N



NO	PART NAME	NO	PART NAME	NO
1	BASE CAB	10	DRYER AS	20
2	CORD POWER	11	CASE VAPORI AS	21
3	SCREW TAPPING	12	SCREW TAPPING	22
4	SCREW MACHINE	13	HOSE DRN A	23
5	WASHER TOOTH	14	HOSE DRN B	
5-1	SCREW MACHINE	15	PIPE HOT	
6	HARNES EARTH	16	PIPE CONN A	
7	ABSORBER COMP	17	PIPE SUC CONN	
8	COMPRESSOR	18	PIPE SUCTION AS	
9	BASE COMP	19	BAND RELAY	

DAEWOO

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