S/M No. : FR4506K001

Service Manual

Model: FR-4506K
FR-4506N

✔ 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 (http://svc.dwe.co.kr).

DAEWOO ELECTRONICS CO., LTD.

http : //svc.dwe.co.kr Sep. 2001

SAFETY AND PRECAUTIONS

1) For starters, be sure to check any chances of the leakage of electricity.
2) You could handle a part in the vicinity of electricity after unplugging.
3) You should put on rubber gloves to prevent an electric shock on operation test.
4) Make sure the rated current, voltage, capacity before using an instrument.
5) Keep your wet hands away from the metal goods in the freezer compartment not to be frostbitten.
6) Be careful not to let water to permeate the electric part in the machine room.
7) With the door open during your repair, you might be hurt by that door.
8) You should give a tilt to the refrigerator for your safe after removing the breakable goods inside the refrigerator.
9) You'd better use gloves if you fix it up around the evaporator.

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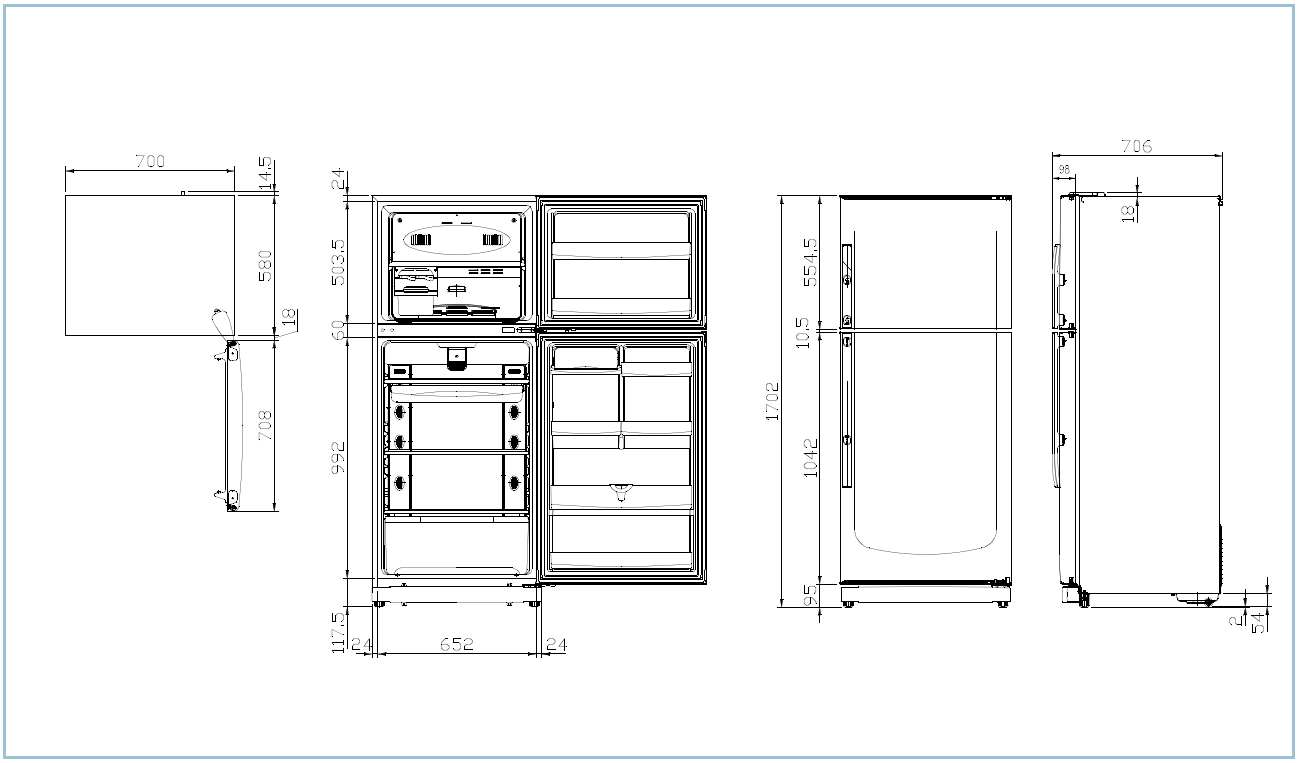
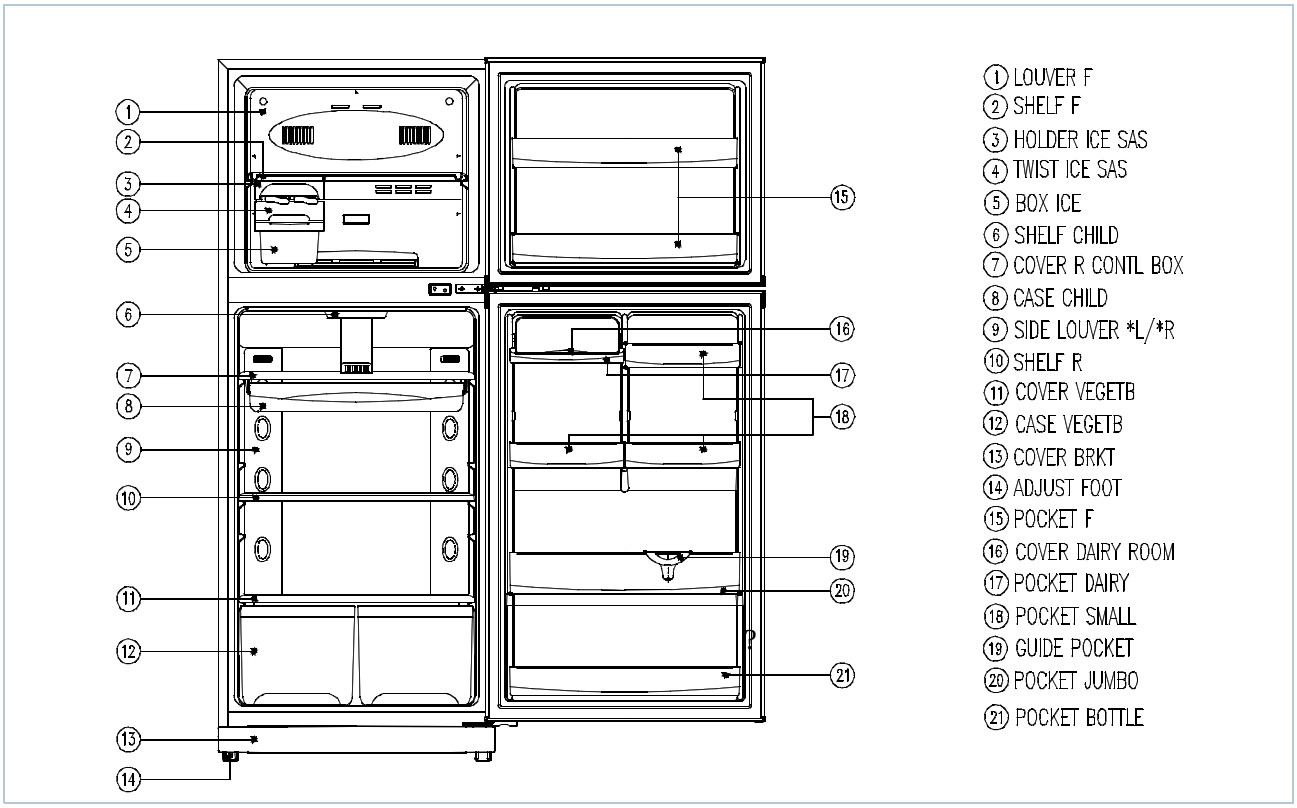
EXTERNAL VIEW

1. FR-4506K

1) EXTERNAL SIZE

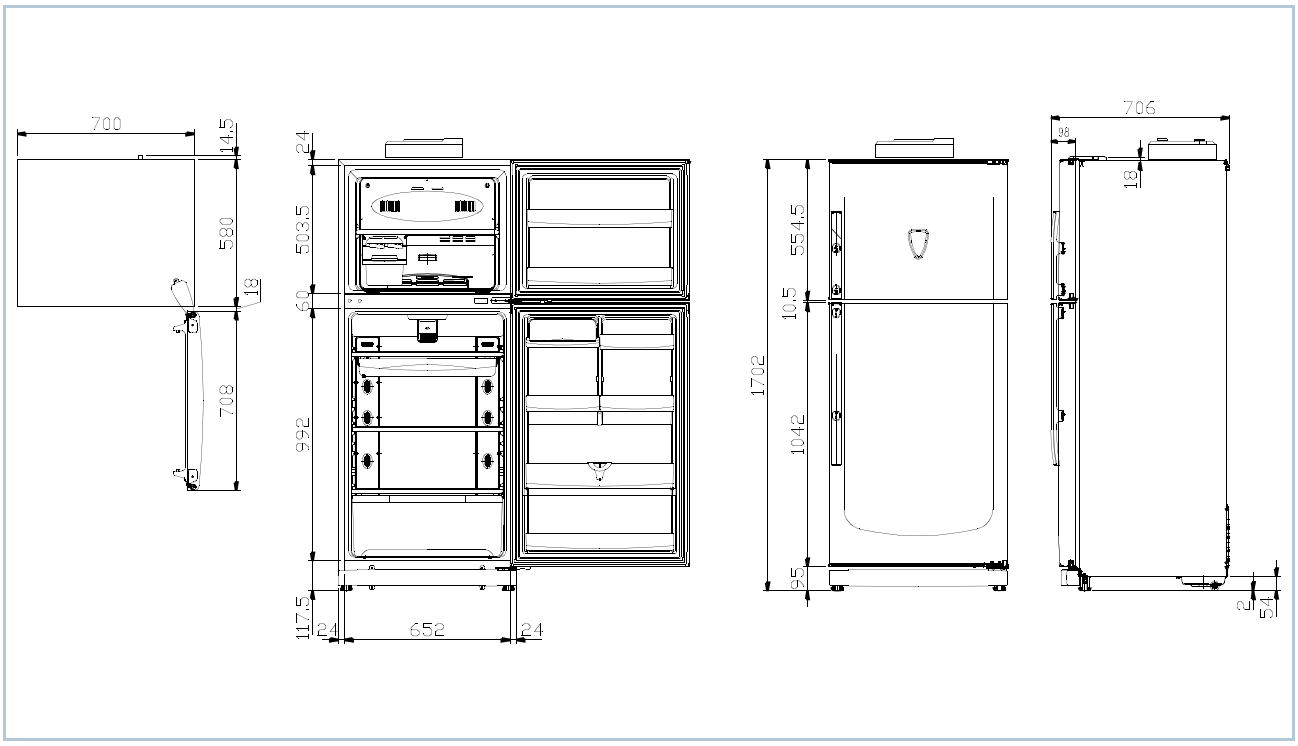


2) NAME OF PARTS

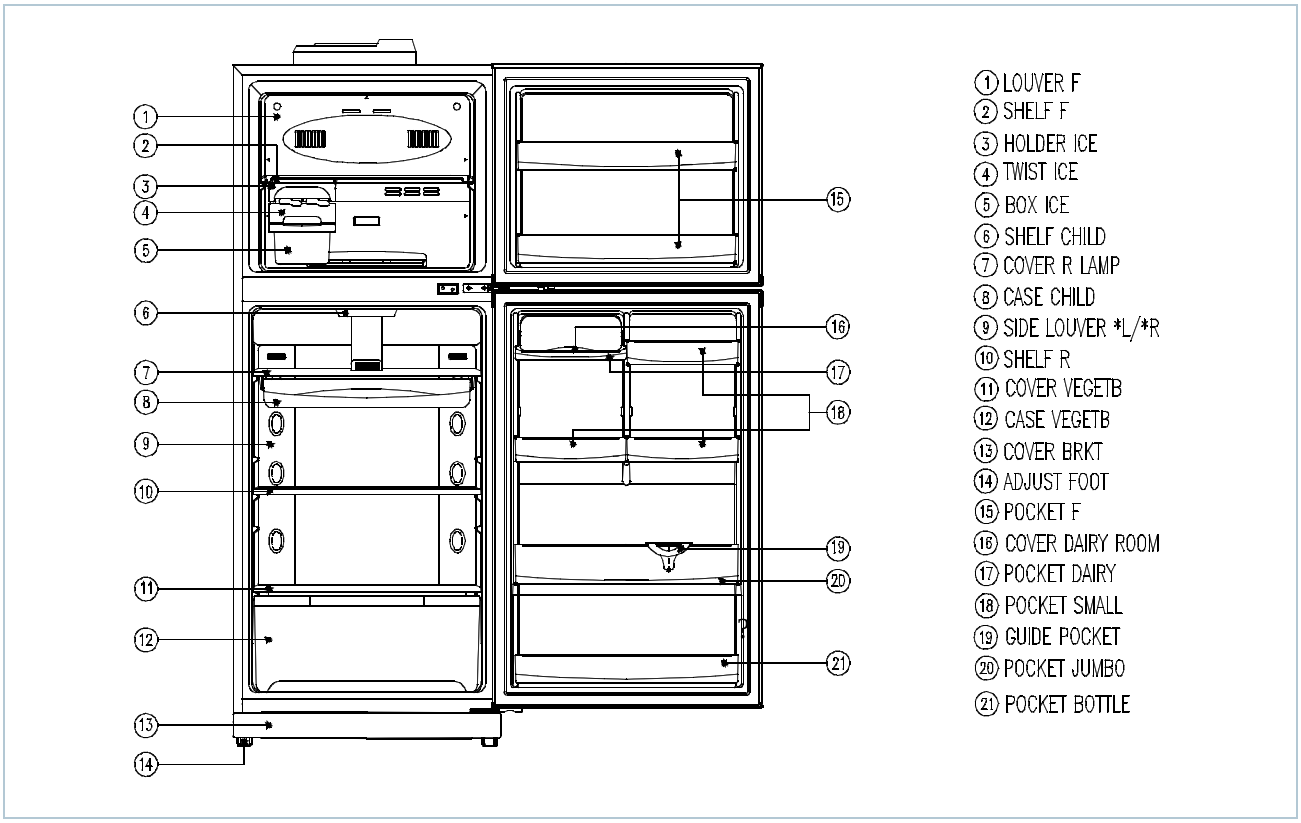


2. FR-4506N

1) EXTERNAL SIZE



2) NAME OF PARTS



SPECIFICATION

1. OUTLINE

DIVISION		CONTENTS
MODEL NAME		FR4506K/N
USABLE CAPACITY(*l*)	FREEZER	101
	REFRIGERATOR	273
	TOTAL	374
EXTERNAL DIMENSION	WIDTH	708mm
	DEPTH	706mm
	HEIGHT	1715/1759mm
REFRIGERANT	R134a	90g
COOLING & CONTROL SYSTEM	COOLING SYSTEM	Fan Cooling System
	DEFROST SYSTEM	Fin Evaporator Forced
	DEFROST CONTROL	Automatic Start & Stop
NET WEIGHT(Kg)		69kg

SPECIFICATIONS

2. ELECTRIC PARTS

1) COMPRESSOR

REFRIGERANT	R-12						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
COMP MODEL	X	X	CL23YE-2	PL21YE-4	SL27YE-5		
PART CODE	X	X	3957123A20	3956121A40	3954127A50		
STARTING TYPE	X	X	CSIR	RSCR	RSIR		

REFRIGERANT	R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
COMP MODEL	HEL18YH-1	<	HEL21YH-1	X	HPL23YH-5	<	<-
PART CODE	3953118S10	<-	3953121S10	X	3956123S50	<-	<-
STARTING TYPE	RSCR	<-	RSCR	X	RSCR	<-	<-

2) RELAY

REFRIGERANT		R-12						
VOLTAGE(V/Hz)		110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
ASSY	TYPE NAME	X	X	414THBYY-52	197SHBYY-52	232THBYY-52	<-	<-
	PART CODE	X	X	3018120700	3018118130	3018119970	<-	<-
PTC	RESISTANCE	X	X	S068	S330	S220	<-	<-
OVER LOAD	PART NAME	X	X	414THB	197SHB	232THB	<-	<-

REFRIGERANT		R-134a						
VOLTAGE(V/Hz)		110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
ASSY	TYPE NAME	308NHBYY-52	<-	317NHBYY-52	X	181SHBYY-52	<-	<-
	PART CODE	3018118110	<-	3018119950	X	3018116610	<-	<-
PTC	RESISTANCE	S068	<-	S068	X	S330	<-	<-
OVER LOAD	PART NAME	308NHB	<-	317NHB	X	181SHB	<-	<-

3) STARTING CAPACITOR

REFRIGERANT	R-12						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
PART CODE	X	X	3016400100	X	X	X	X
RATED VOLTAGE	X	X	200V	X	X	X	X
RATED CAPACITANCE	X	X	100ßF	X	X	X	X

REFRIGERANT	R134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
PART CODE	X	X	X	X	X	X	X
RATED VOLTAGE	X	X	X	X	X	X	X
RATED CAPACITANCE	X	X	X	X	X	X	X

4) RUNNING CAPACITOR

REFRIGERANT	R-12						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
PART CODE	X	X	X	400EL15110	X		<-
RATED VOLTAGE	X	X	X	350V	X	<-	<-
RATED CAPACITANCE	X	X	X	5βF	X	<-	<-

REFRIGERANT	R134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
PART CODE	3016801910	<-	400EL15130	X	3016401010	<-	<-
RATED VOLTAGE	200V	<-	230V	X	350V	<-	<-
RATED CAPACITANCE	12βF	<-	10βF	X	5βF	<-	<-

5) F-FAN MOTOR

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	S6111EDF01	<-	S6111EDF01	S6111EDF01	S6111WDF01	<-	<-
PART CODE	3015900741	<-	3015900750	3015900701	3015900731	<-	<-
REVOLUTION	2200 RPM	<-	<-	<-	<-	<-	<-

6) C-FAN MOTOR

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	RF111EAC03	<-			S6111CEC05	<-	<-
PART CODE	3015903921	<-	3015910100	3015910010	3015909800	<-	<-
REVOLUTION	2100 RPM	<-	<-	<-	<-	<-	<-

7) DEFROST HEATER

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
SPEC (W)	148W	<-	<-	148W	<-	<-	<-
PART CODE	3012807200	<-	<-	3012807100	<-	<-	<-

8) LAMP ASSEMBLY

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
SPEC (W)	15W	<-	<-	15W	<-	<-	<-
PART CODE	3013600050	<-	<-	3013600020	<-	<-	<-

9) TEMPERATURE FUSE

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
OPERATING TEMP	77˚C	←	<-	°	<-	<-	<-
PART CODE	3017201200	<-	<-	<-	°	<-	<-

10) DOOR S/W

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	DSD-5	<-	<-	<-	<-	<-	<-
PART CODE	3018100050	<-	<-	<-	<-	<-	<-

11) DRYER

REFRIGERANT	R-12						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
SPEC (gr)	10	<-	<-	<-	<-	<-	<-
PART CODE	3016805600	<-	<-	<-	<-	<-	<-

REFRIGERANT	R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
SPEC (gr)	15	<-	<-	<-	<-	<-	<-
PART CODE	3016805500	<-	<-	<-	<-	<-	<-

12) THERMOSTAT

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	BU276	<-	<-	<-	<-	GNF-175D-03	<-
PART CODE	3018302100	<-	<-	<-	<-	3018302100	<-

13) DEFROST TIMER

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	TMDEX09UD1	<-	<-	TMDE807UF1	<-	<-	<-
PART CODE	3018120030	<-	<-	3018120020	<-	<-	<-

14) BIMETAL THERMO

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	ST-3	<-	<-	<-	<-	<-	<-
PART CODE	3018120300	<-	<-	<-	<-	<-	<-

15) PCB TRANSFORMER

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	S-ETP	<-	<-	S-ETP	<-	<-	<-
PART CODE	5EPK048091	<-	<-	5EPK048090	<-	<-	<-

16) MAIN PCB ASSY

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
TYPE NAME	S-ETP	<-	<-	S-ETP	<-	<-	<-
PART CODE	3014302060	<-	<-	3014301060	<-	<-	<-

17) FUSE (PCB)

REFRIGERANT	R-12, R-134a						
VOLTAGE(V/Hz)	110/60	115,120/60	127/60	220/60	220/50	230/50	240/50
RATED CURRENT	1.6A	<-	<-	<-	<-	<-	<-
PART CODE	5F3GB1682R	<-	<-	<-	<-	<-	<-

2.1. DOOR COLOR

1) ASSEMBLY URETHAN FREEZER DOOR

NON-KEY TYPE & KEY TYPE

Refrigerant		R-12				Remark
		White	Light Gray	Bright Beige	Silver	
COLOR TYPE	Embo PCM	3010015100	X	3010015100	X	
	High-glossy Laminasheet					
	Normal PCM		X		X	

Refrigerant		R-134a				Remark
		White	Light Gray	Bright Beige	Silver	
COLOR TYPE	Embo PCM		X		X	
	High-glossy Laminasheet	3010015100	3010015100	3010015100	3010015100	
	Normal PCM		X		X	

2) ASSEMBLY URETHAN REFRIGERATOR DOOR

1. NON-KEY TYPE

Refrigerant		R-12				Remark
		White	Light Gray	Bright Beige	Silver	
COLOR TYPE	Embo PCM		X		X	
	High-glossy Laminasheet					
	Normal PCM		X		X	

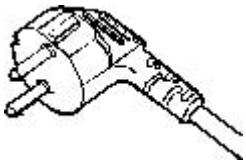
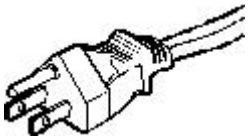
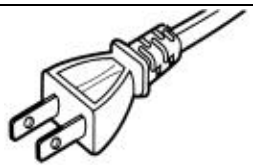
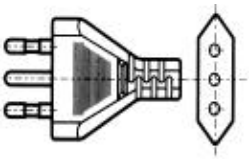
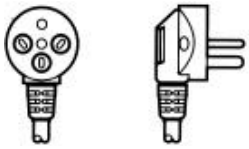
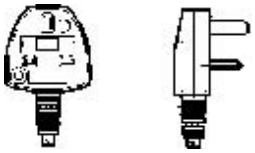
Refrigerant		R-134a				Remark
		White	Light Gray	Bright Beige	Silver	
COLOR TYPE	Embo PCM		X		X	
	High-glossy Laminasheet					
	Normal PCM		X		X	

2. KEY TYPE

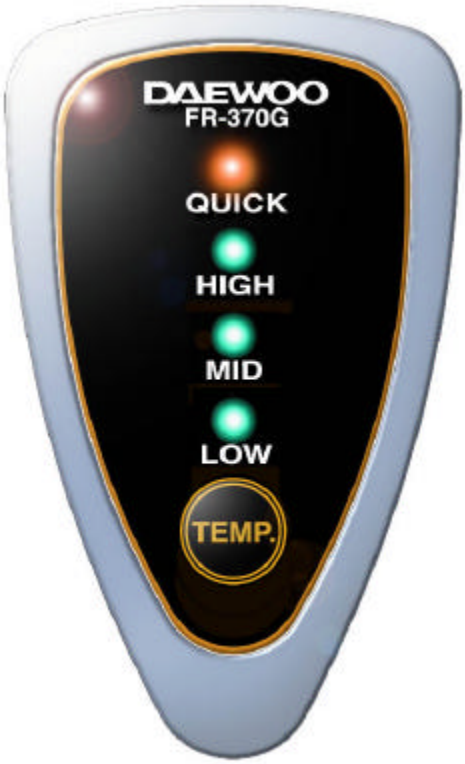
Refrigerant		R-12				Remark
		White	Light Gray	Bright Beige	Silver	
COLOR TYPE	Embo PCM		X		X	
	High-glossy Laminasheet					
	Normal PCM		X		X	

Refrigerant		R-134a				Remark
		White	Light Gray	Bright Beige	Silver	
COLOR TYPE	Embo PCM		X		X	
	High-glossy Laminasheet					
	Normal PCM		X		X	

3. POWER CORD

NO	SHAPE OF POWER CORD	PART CODE	DESCRIPTION	REMARK
1		3011315000	CP-2PIN	For european country
2		3010097000	CP-2PIN	For other country
3		4006D17101	KP-30	For America & El Salvador
4		3010096800	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 FUNCTIONS

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK
1	Display	LED	 1.TEMP BUTTON 1) Temperature of Refrigerator can be controlled as changin control mode according to customer's desire. 2) Initial mode is "Mid" and whenever pressing TEMP buton, control mode proceeds as follows. Low -> Mid -> High -> Quick -> Low 3) If TEMP.button is pressed, control mode is set in 3 Sec. 2.QUICK MODE 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.	

<table>
<tr><th>NO</th><th>CONTROL FUNCTION</th><th>CONTROL OBJECTS</th><th>CONTENTS</th><th>REMARK</th></tr>
<tr><td>2</td><td>Control of Temp</td><td>COMP
F-FAN</td><td>
1. How to control Temperature of Refrigerator
1) Whenever TEMP.button is pressed, control mode is circulated as follows:
LOW -> MID -> HIGH -> QUICK -> LOW

2) LEDs will indicate control mode according to TEMP.button.

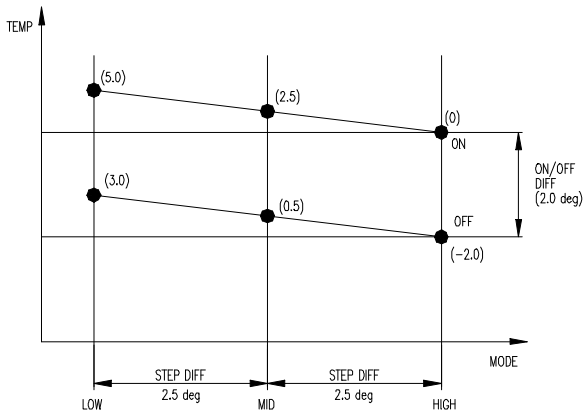
3) Comp and F-fan are controlled by R-Sensor.

2. ON/OFF point of each control mode
1) Comp and F-fan are controlled ON/OFF point of each control mode.
(ON/OFF point of R-SENSOR)

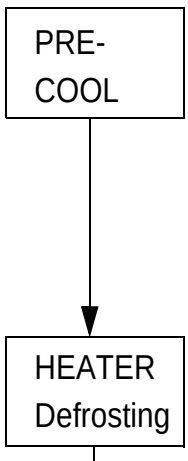
2) F-FAN is delayed for 1 min. after COMP is ON/OFF.

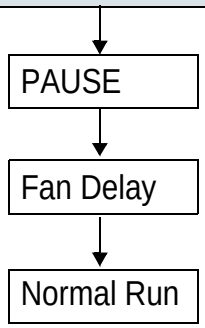
3) ON/OFF DIFF. Of Refrigerator = 2.0 deg.

4) STEP DIFF. Of Refrigerator = 2.5 deg.

<table>
<tr><th>구 분 \ CONTROL</th><th>LOW</th><th>MID</th><th>HIGH</th><th>QUICK</th><th>REMARK</th></tr>
<tr><td>ON (℃)</td><td>5.0</td><td>2.5</td><td>0</td><td></td><td></td></tr>
<tr><td>OFF (℃)</td><td>3.0</td><td>0.5</td><td>−2.0</td><td>−3.0 / 40 min.</td><td></td></tr>
</table>


</td><td></td></tr>
</table>

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK
3	Defrost Period	Defrost mode	1. Determination of Defrosting Period 1) Total Run-tim 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 2. Explanation 1) Derosting starts with the following conditions, in case total comp-run time passes 9 hours - 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 15hours 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	Defrosting Mode	Comp Fan Heater	1. Normal Defrosting 1) Starting by Defrosting Period 2) How to proceed : using heater 3) Defrosting mode and procedure  ç Proceeding time: 40min ê Control Object: Comp On FAN ON,Heater Off é Terminating Condition: if R-sensor temp. is below -4℃ even though it passes 40 min. ê Limit Proceeding time - 30 min.: D1 ERROR D-Sensor disconnection/ short-curcuit - 80 min.: F3 ERROR Normal Control state ë Control Object: Comp Off, FAN OFF,Heater On ì Terminating Condition: if D-sensor temp. is over 10℃	

<table>
<tr><th>NO</th><th>CONTROL FUNCTION</th><th>CONTROL OBJECTS</th><th>CONTENTS</th><th>REMARK</th></tr>
<tr><td></td><td></td><td></td><td>


ç Proceeding time: 4min
ê Control Object: Comp Off, FAN Off,Heater Off

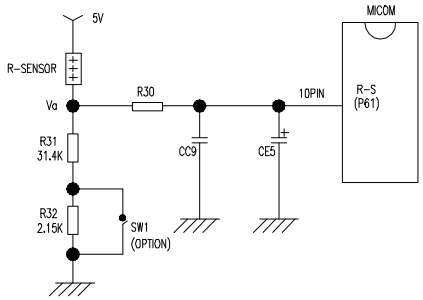
ç Proceeding time: 4min
ê Control Object: Comp On, FAN Off, Heater Off

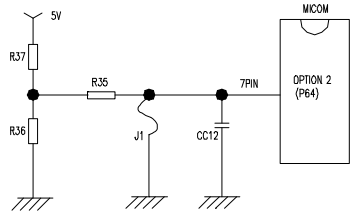
4) Output Control and Limit Time of each Defrosting mode
<table>
<tr><th>MODE</th><th>PRE-COOL</th><th>Heater Defrosting</th><th>Pause</th><th>Fan Delay</th><th>REMARK</th></tr>
<tr><td>COMP</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td></td></tr>
<tr><td>F-FAN</td><td>ON</td><td>OFF</td><td>OFF</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>
</table>
2.Forced Defrosting
1) Start: Defrosting starts by pressing Temp.control s/w five times in a row when door is open.
2) End : No function
3) Process: using Heater
4) Defrosting mode and procedure:
same as Normal Defrosting(Skip pre-cool mode)
5) Heater is On during initial 30 seconds without conserning D-sensor Temp.
</td><td></td></tr>
<tr><td>5</td><td>Initial Defrosting</td><td>COMP
F-FAN HTR</td><td>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)

2. Defrosting begins after doing Comp restart prevention function with dealy for six min. in initial defrosting mode.

3. Comp will be On imme diately if D-sensor temp. ≧3.5°C in initial power input.
(No dealy for six min.)</td><td></td></tr>
<tr><td>6</td><td>Prevention of Comp</td><td>COMP
F-FAN</td><td>1. In order to protect Comp after Comp ioff, it won t re-start for six min. though R-sensor becomes On.</td><td></td></tr>
</table>

NO	CONTROL FUNCTION	CONTROL OBJECTS	CONTENTS	REMARK
7	Error Display	LED	1. ERROR DISPLAY 1) How to start: Push Temp. control s/w for five secs. In Continuous -run mode. 2) How to end: It returns automatically after 20 secs in Error mode with out concering Error. 2. DISPLAY AND HOW TO CONTROL 1) D1 ERROR - Starting Condition: D-Sensor Disconneciton/Shortcircuit - Display: Flickering "LOW" LED - How to control: return to limit time (30min.) 2) R1 ERROR- Starting Condition: R-Sensor Discon-nection/Shortcir-cuit - Display: Flickering "MID" LED - How to control: control continuously Comp,F-fan to be On(30min.) and Off(30min.) 3) F3 ERROR - Starting Condition: Heater 80min. ends - Display: Flickering "HIGH" LED - How to control: impossible to control in case of Heater Defrostng,Temp.Fuse problem,HTR Disconnection 4) C1 ERROR- Starting Condition: Even if Comp has run for 120min. continuously,when D-sensor is Ã -5°C - Display: Flickering "QUICK" LED - How to control: impossible to contro in case of Cycle error 5) If there's no error when it enters Error mode, All LEDs will be OFF. HTR disconnection.	
8	Time Delay of Electric Devices		1. F-FAN time delay in Comp On/Off 1) During normal running: F-fan will be On/Off 1 min. after Comp On/Off 2) When initial power input: F-Fan will be ON 4 mins. After Comp On 2. F-FAN TIME DELAY BY DOOR S/W 1) After 6 mins.of initial power input OPEN DR S/W -> CLOSE : F-fan work delay for 20 secs. 2) Before 6 mins.of initial power input OPEN DR S/W -> CLOSE : F-fan work for 20 secs. immediately. 3) when it has nothing to do with Initial power input. OPEN DR S/W ->CLOSE: F-fan changes into be Off. immediately.	

<table>
<tr><th>NO</th><th>CONTROL FUNCTION</th><th>CONTROL OBJECTS</th><th>CONTENTS</th><th>REMARK</th></tr>
<tr><td>9</td><td>Option Circuit 1(Weak Refrigeration)</td><td></td><td>1. Option for Weak Refrigeration, Service Reference
1) When Weak Refrigeration occur, it's easy to find solution by this.
2) Regulation of R-Sensor Off point (-1.5 deg Down)
2. In case of Weak Refrigeration, take action as followings.
 

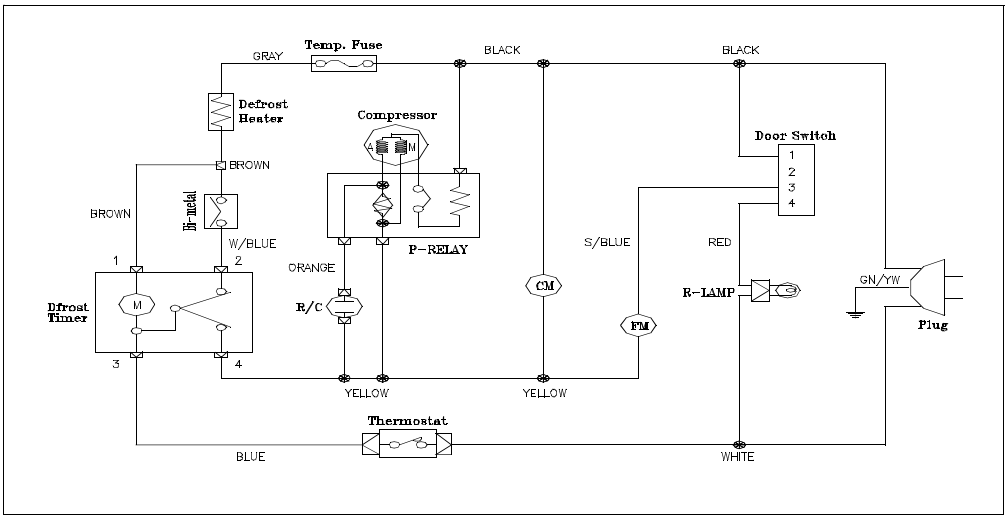
1) Resistance(R31) :Standard Resistance of R-Sensor middle-off point in case of Normal Run
(31.4kΩ = -10°C) (25.2kΩ = 4.0°C)
When change resistance 31.4kΩ into 25.2kΩ R-sensor middle-off point will be 5.0 deg
2) Resistance (R32): Standard resistance to make R-Sensor Off Point in case of Weak Refrigeration.
- R32 2.15kΩ : R-Sensor Off Point will be down by 1.5deg
- R32 6.19kΩ : R-Sensor Off Point will be down by 4.0deg
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: 0.5Ê (In Normal Run)
R31 + SW 1 OFF: Middle Off Point:-1.0Ê (In Weak Refrigeration)</td><td></td></tr>
<tr><td>10</td><td>Option Circuit 2 (Prevention Strong Refrigeration)</td><td></td><td>1. Prevention of Strong Refrigeration Option (change Middle - off point)
 

<table>
<tr><th rowspan="2">NO</th><th colspan="2">CONTROL</th><th rowspan="2">Application (MAIN PCB)</th><th rowspan="2">MICOM Input Votage</th><th rowspan="2">REMARK</th></tr>
<tr><th>Middle-On Point</th><th>Middle-Off Point</th></tr>
<tr><td>1</td><td>2.5℃</td><td>0.5℃</td><td>—</td><td>0 V</td><td></td></tr>
<tr><td>2</td><td>4.0℃</td><td>2.0℃</td><td>Remove J1</td><td>2.5 V</td><td></td></tr>
<tr><td>3</td><td>5.5℃</td><td>3.5℃</td><td>Remove J1,R36</td><td>5 V</td><td></td></tr>
</table></td><td></td></tr>
<tr><td>11</td><td>Continuous Run</td><td>Comp F-FAN Heater</td><td>1) How to start: If push the Temp. control s/w 30 times,it will start.
2) How to add one more run: Push Temp. control s/w 30 times in Continuous-run mode.
3) How to end: It will end automatically after 21 hours(Limit time: 21hour)
If it is added one more run and you you'd like to finish it , push Temp. control s/w 30 times.
4) Display : Let all the LEDs ON.
5) How to control: Comp/F-fan/C-fan ON,HTR OFF</td><td></td></tr>
</table>

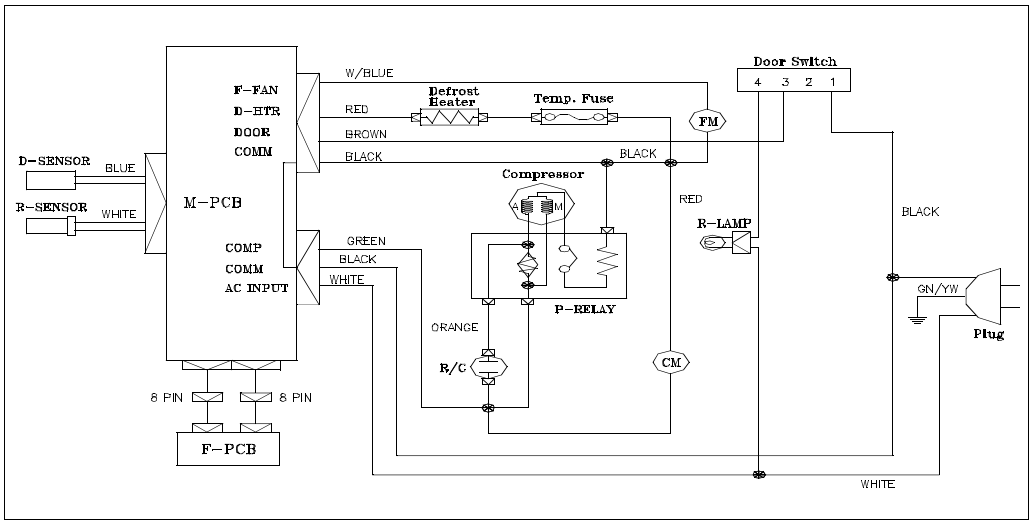
DIAGRAM

1. WIRING DIAGRAM

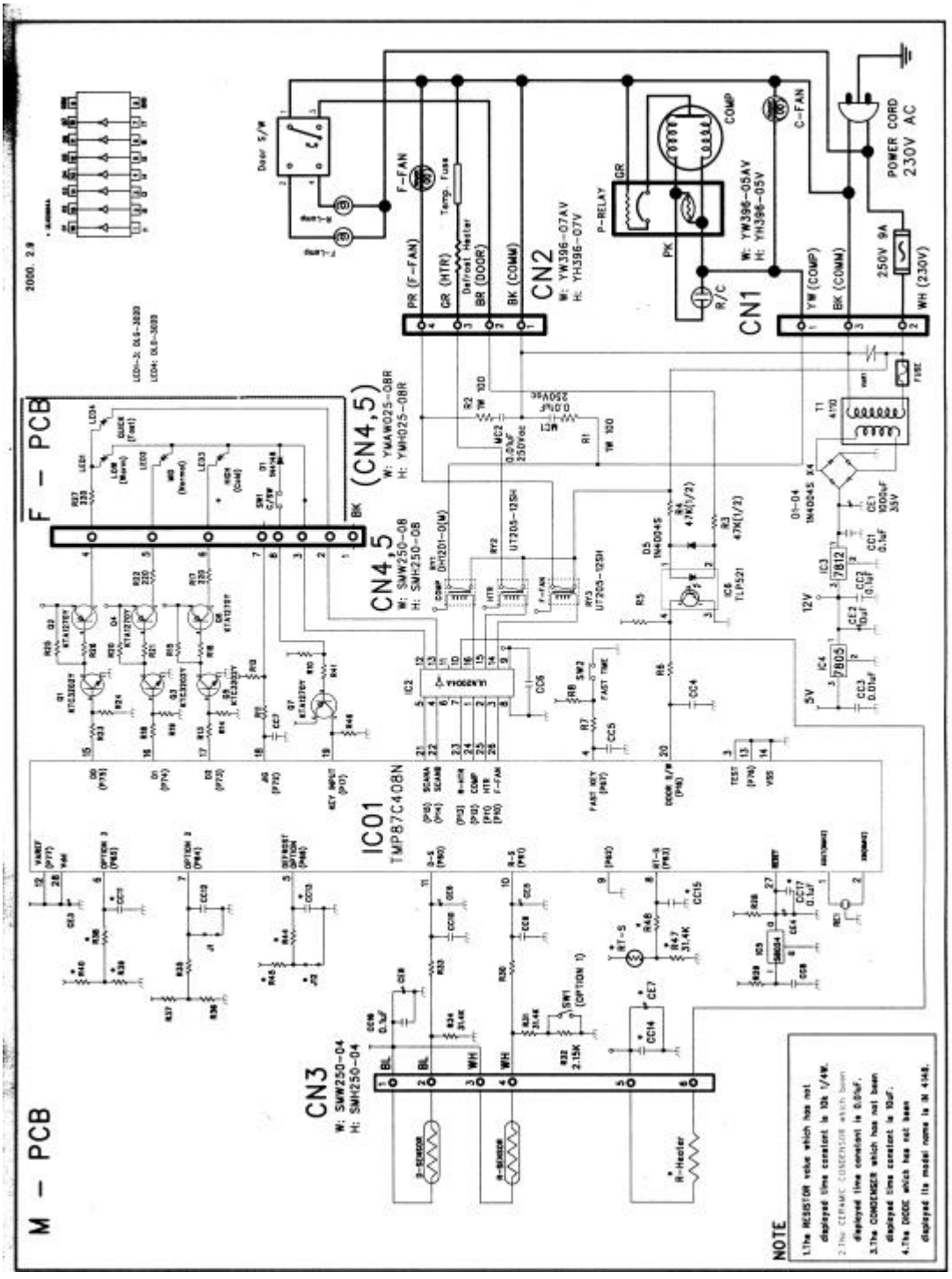
1) FR-4506K



2) FR-4506N



2. CIRCUIT WIRING DIAGRAM



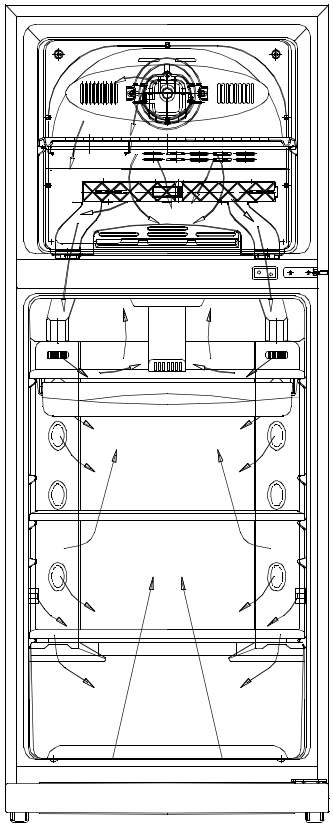
3. AIR FLOW DIAGRAM

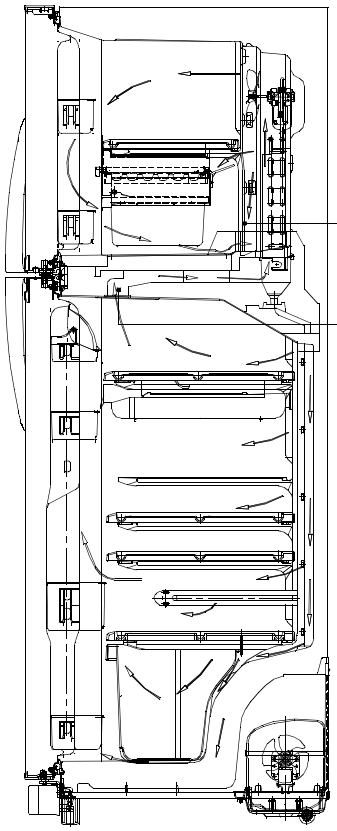
FREZER

Pleose don t put bottles

sucfh 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.

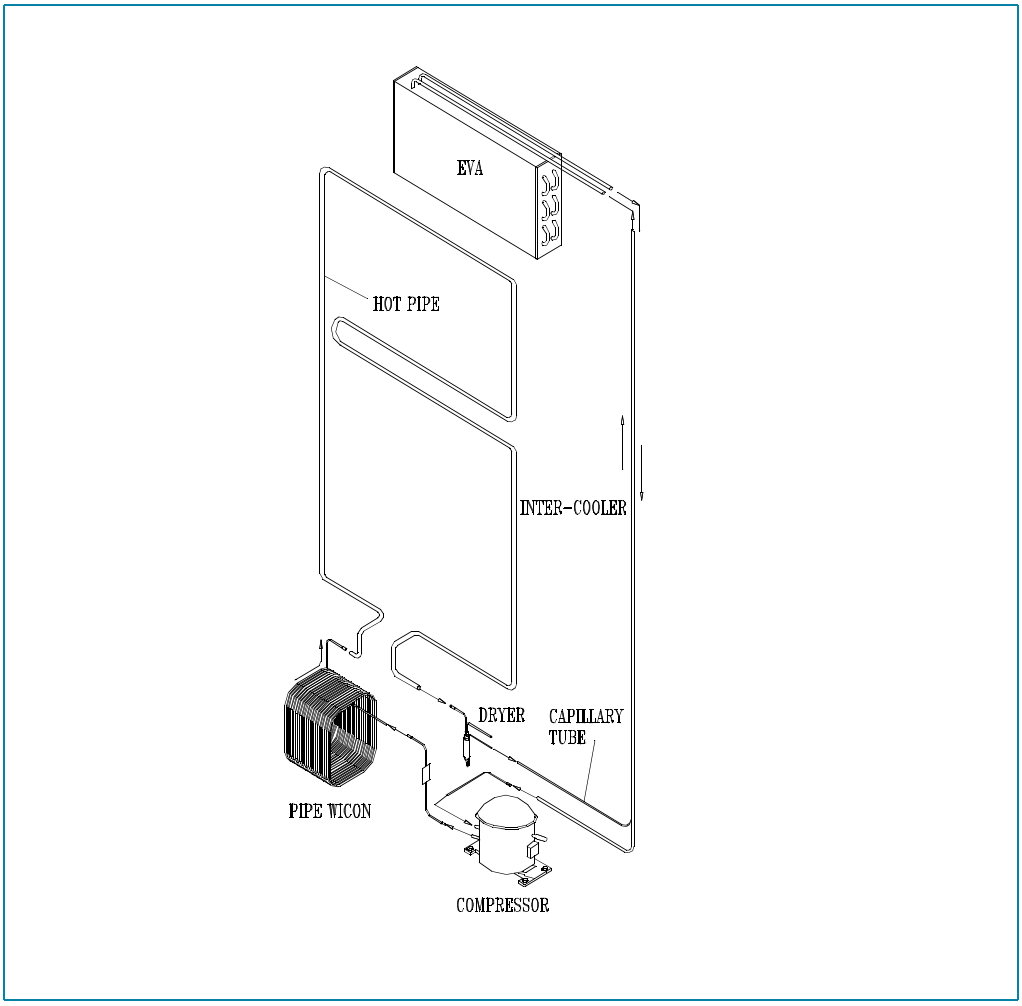
Multiple outlet of cooling air

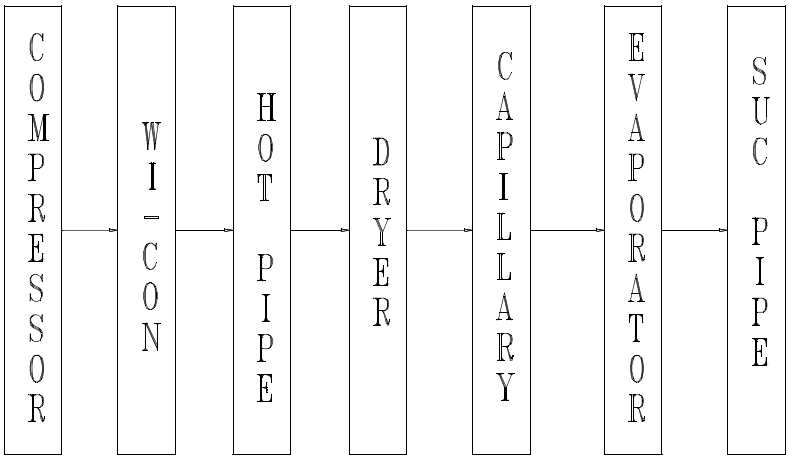
Please don t put in vegetable etc.

which contain moisture.

It might be frozen because of low temperature.

4. REFERFIGERANT CYCLE DIAGRAM





DISASSEMBLY AND ASSEMBLY

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

1) COVER F LAMP DISASSEMLY

ç At first, take off WINDOW LAMP.

è Turn the LAMP to the left and remove it.

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

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

2) LOUVER F DISASSEMBLY

ç Remove the hole cap on top left using your finger.

ê Using (+) type screw driver, unfasten the crew in the hole.

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

ê Remove the Louver F using screw driver as picture.

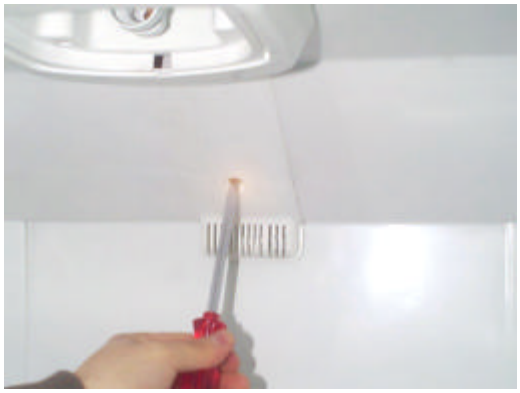
3) COVER R CONTL BOX DISASSEMBLY

ç Remove WINDOW LAMP at first.

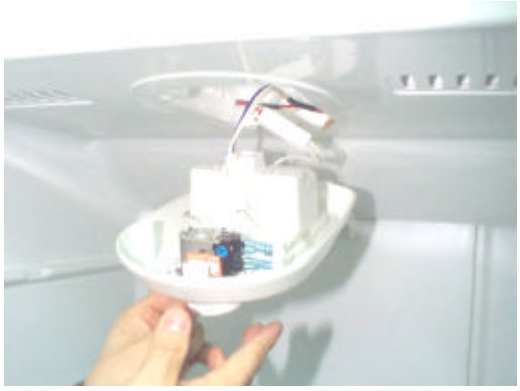
ê Turn the LAMP to the left and remove it.

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

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



ë With force, take off COVER R CONTL BOX downwards.



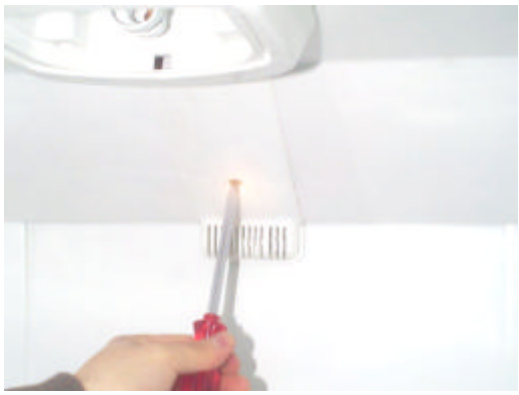
4) COVER R LAMP DISASSEMBLY

ç Remove WINDOW LAMP at first.

ê Turn the LAMP to the left and remove it.

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

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



ë With force, take off COVER R LAMP downwards.

5) FRONT CONTROL PANEL DISASSEMBLY

ç Place any sheet at bottom - left of panel to protect surface of it.

ê Insert small sharp tool into the gap to lift paner windows up.

é Pull window out smoothly.

ê Remove 2 screws.

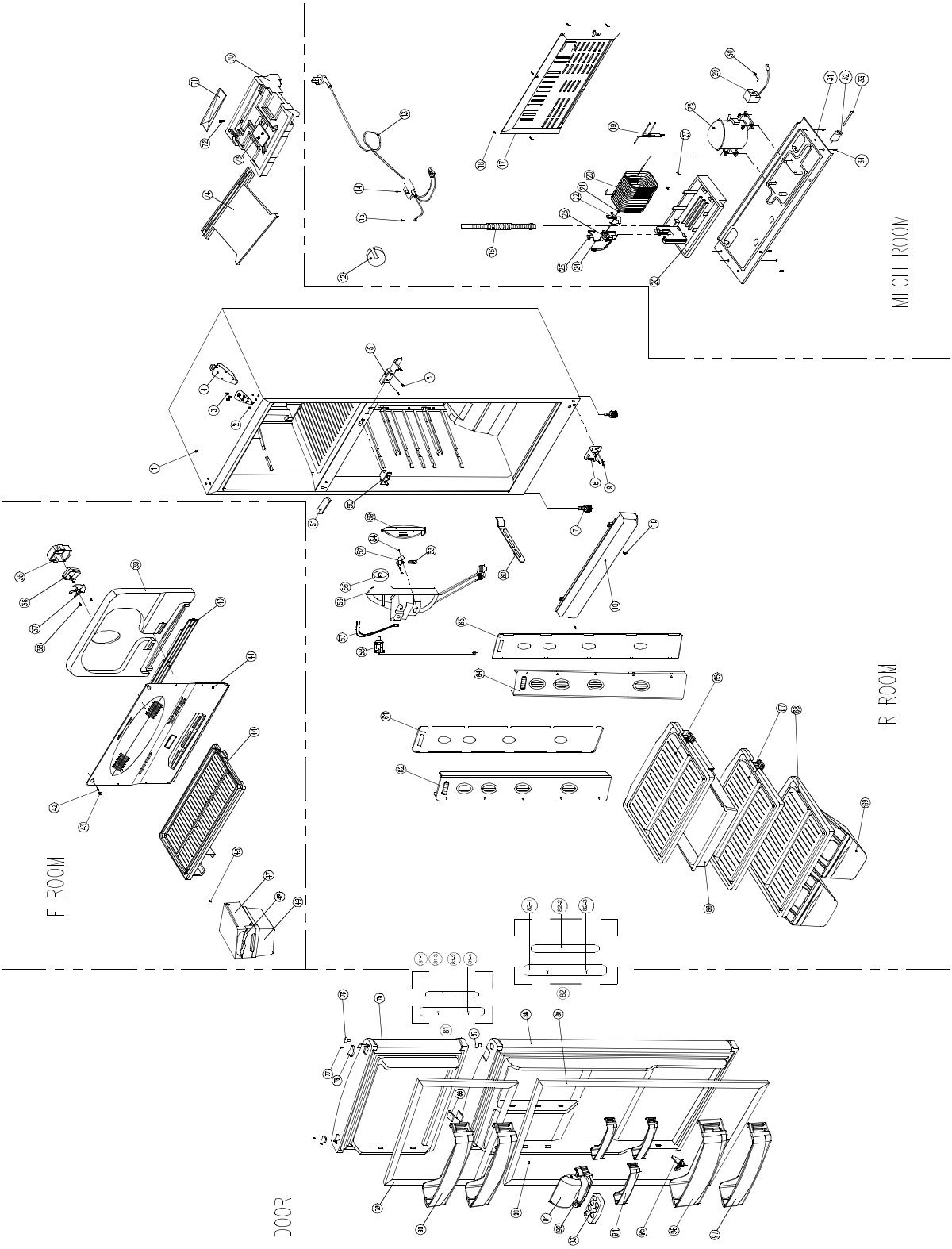
ë Lift up paner to remove

ï Remove connector.

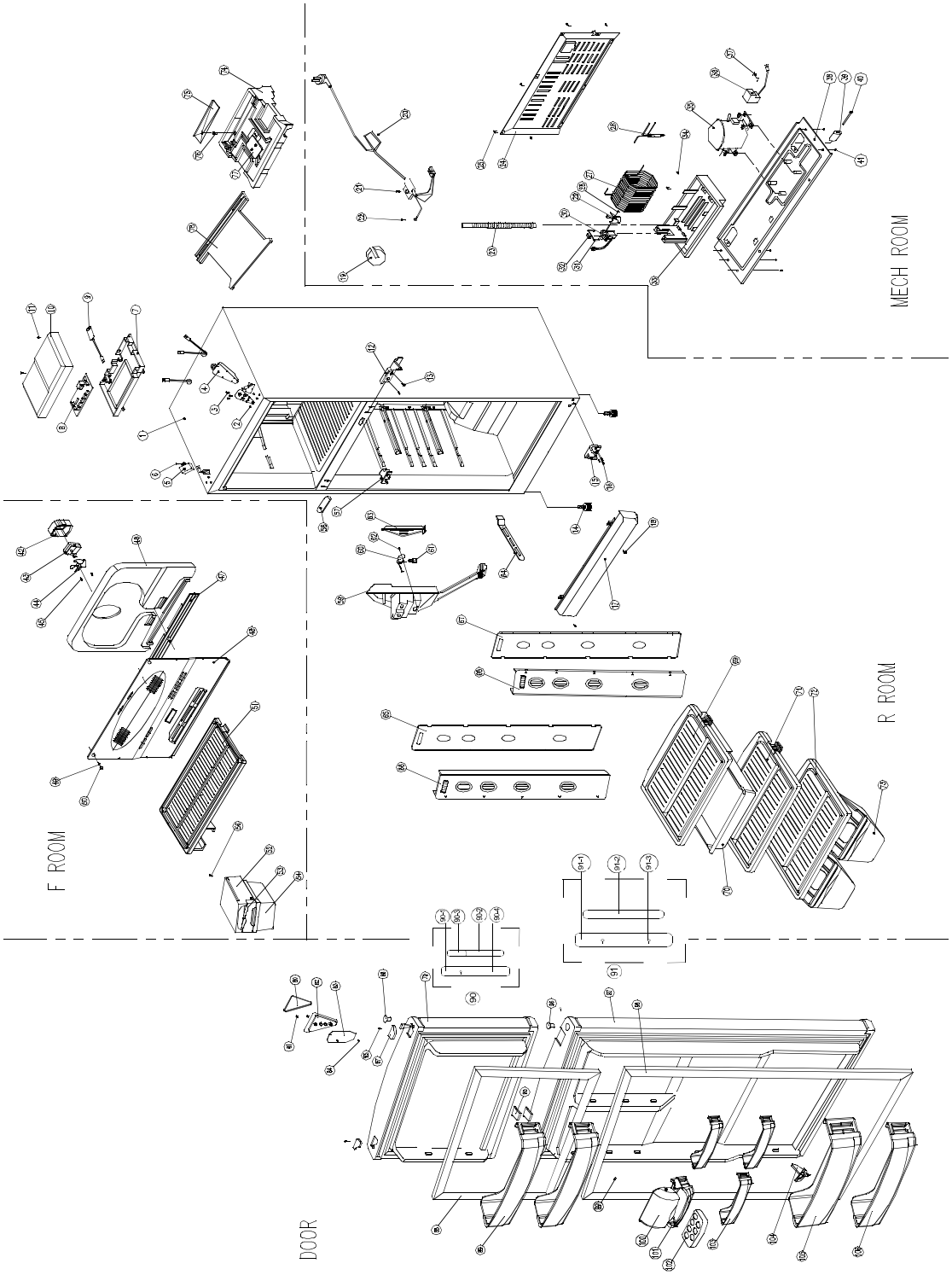
ï Remove screws on the back of panel.

EXPLODED VIEW AND PARTS LIST

1. FR-4506K



2. FR-4506N



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1. FR-4506K

NO	PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
1	3010031200	ASSY CAB URT	FRM(P)-371	1	
2	3012911500	HINGE*T	SPCC T2	1	
3	3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
4	3011449800	COVER *T HI	HIPS	1	
5	3012911400	HINGE *M AS	DC-2 ZN	1	
6	3016001220	SPECIAL BOLT M	6X20 SWCH22A(WH)	2	
7		FOOT ADJUST AS		2	
8	3012911300	HINGE *U AS	SPHC-H T4	1	
9	3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
10	3011450200	COVER CAB BRKT	PP	1	
11	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
12	3010103700	ABSORBER SUC P	NR	1	
13	3011302012	CORD POWER AS		1	250V/16A
14	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
15	7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
16	3013202700	HOSE DRN B	PP	1	
17	3012405800	GRILLE	SBHG1	1	
18	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
19	3016805500	DRYER AS		1	
20	3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
21	3011200400	CLAMP FAN	SUS304	1	
22	3011800400	FAN		1	
23		MOTOR C		1	
24	3012004400	FIXTURE C MOTR	SUS	1	
25	3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
26	3011161900	CASE VAPORI	PP	1	
27	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
28		COMPRESSOR		1	
29	3018116610	SWITCH P-RELAY AS		1	
30	3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
31	3010318400	BASE COMP	SBHG1	1	
32	3016500000	CASTER *B	PP OD36XL37	2	
33	3014902900	SHAFT CASTER *B	"SPH, T1, OD6XL51"	2	
34	3016003300	SPECIAL BOLT	T2 M6.5X20	4	
35	3012007900	FIXTURE MOTR B	PP	1	
36		MOTOR F		1	
37	3011802200	FAN	ABS(OD110)	1	
38	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
39	3013336310	INSU F LUVR	EPS	1	
40	3013402600	KNOB F CONTL	PP	1	
41	3018910400	LOUVER F	HIPS	1	
42	7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
43	3010924600	CAP F-LUVR	HIPS T2.3	2	
44	3017821600	SHELF F	HIPS T3.0	1	
45	7112401208	SCREW TAPPING	T1 TRS 4X10 SUS	1	
47	3013001420	HOLDER ICE AS	HIPS	1	
48	3012201900	FRAME ICE CASE SAS		1	
49	3010518900	BOX ICE		1	

NO	PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
50	3018100050	SWITCH DR	DSD-5(220V)	1	
51	3010936100	CAP DV *M HI HOLE	ABS	1	
52	3017903610	SOCKET R LAMP AS		1	
53	3013600080	LAMP AS	240V/15W	1	
54	7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
55	3013402500	KNOB R CONTL	ABS	1	
56	3011449900	COVER R CONTL BOX	HIPS	1	
57	3012733700	HARNESS R-THERMO		1	
58	3018302100	THERMOSTAT	GNF-175D-03	1	
59	3015505200	WINDOW LAMP	PP	1	
60	3011439500	COVER CUBIC	HIPS	2	
61	3017460900	INSU R *S *L	F-PS	1	
62	3018910200	LOUVER R *S *L	PP	1	
63	3017461000	INSU R *S *R	F-PS	1	
64	3018910300	LOUVER R *S *R	PP	1	
65	3017821800	SHELF CHILD	GPPS	1	
66	3011162300	CASE CHILD	GPPS	1	
67	3017822000	SHELF R	GPPS	1	
68	3011451400	COVER VEGETB	GPPS	1	
69	3011162500	CASE VEGETB	GPPS	2	
70	3013336000	INSULATOR F A	EPS	1	
71	3012509900	GUIDE DRN	AL 0.4T	1	
72	3014433400	PIPE DRN	AL 1.0T	1	
73	3012009400	FIXTURE R CONTL COVR	PP	1	
74	3013336100	INSULATOR F B	EPS	1	
75		ASSY F DR		1	
79	3012301420	GASKET F DR AS	PVC	1	
80	3019013500	POCKET F	HIPS	2	
81					
81-1	3012624300	HANDLE F	ABS	1	
81-2	3011611300	DECORATOR F HANDLE A	ABS	1	
81-3	3011611410	DECORATOR F HANDLE B	ABS	1	
81-4	7002501611	SCREW MACHINE	TRS 5X15 MFZN	2	
82		ASSY R HANDLE	ABS	1	
82-1	3012624400	HANDLE R	ABS	1	
82-2	3011611500	DECORATOR R HANDLE	ABS	1	
82-3	7002501611	SCREW MACHINE	TRS 5 X15 MFZN		
88		ASSY R DR		1	
89	3012301720	GASKET R DR AS	PVC	1	
90	3010936600	CAP DR SCREW HOLE	PP	1	
91	3011451300	COVER DARIY ROOM	GPPS	1	
92	3019013000	POCKET DAIRY	HIPS	1	
93	3011162100	CASE EGG	GPPS	1	
94	3019013100	POCKET SMALL	HIPS	3	
95	3012509600	GUIDE POCKET	HIPS	1	
96	3019013300	POCKET JUMBO	HIPS	1	
97	3019013400	POCKET BOTTLE	HIPS	1	

2. FR-4506N

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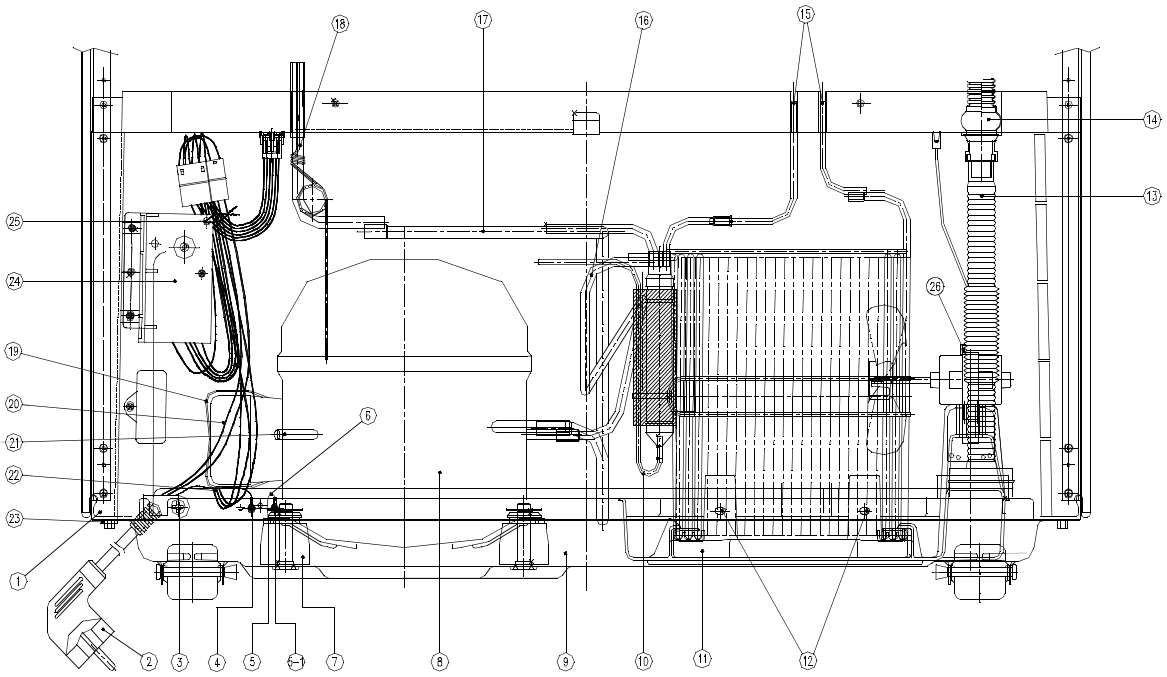
NO	PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
1	3010031200	ASSY CAB URT	FRM(P)-371	1	
2	3012911500	HINGE*T	SPCC T2	1	
3	3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
4	3011449800	COVER *T HI	HIPS	1	
5	3011449500	COVER GUIDE L/WIRE	PP	1	
6	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
7	3010519800	BOX MAIN POWER	PP	1	
8		PCB MAIN AS	PP	1	
9		HARNESS RUN CON		1	
10		COVER M-PCB BOX	PP	1	
11	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
12	3012911400	HINGE *M AS	DC-2 ZN	1	
13	3016001220	SPECIAL BOLT M	6X20 SWCH22A(WH)	2	
14		FOOT ADJUST AS		2	
15	3012911300	HINGE *U AS	SPHC-H T4	1	
16	3012905400	SPECIAL BOLT T/U	6X22 SWCH22A(WH)	3	
17	3011450200	COVER CAB BRKT	PP	1	
18	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
19	3010103700	ABSORBER SUC P	NR	1	
20	3011302012	CORD POWER AS		1	250V/16A
21	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	1	
22	7001400865	SCREW MACHINE	PAN 4X8 BSNI	1	
23	3013202700	HOSE DRN B	PP	1	
24	3012405800	GRILLE	SBHG1	1	
25	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	5	
26	3016805500	DRYER AS		1	
27	3014433500	PIPE WICON	TSW OD4.76XT0.7XL14560	1	
28	3011200400	CLAMP FAN	SUS304	1	
29	3011800400	FAN		1	
30		MOTOR C		1	
31	3012004400	FIXTURE C MOTR	SUS	1	
32	3010102100	ABSORBER C MOTR	NR,FRB-5350NT	1	
33	3011161900	CASE VAPORI	PP	1	
34	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
35		COMPRESSOR		1	
36	3018116610	SWITCH P-RELAY AS		1	
37	3012610000	CLAMP BRAND RELAY	SK-5 T0.7	1	
38	3010318400	BASE COMP	SBHG1	1	
39	3016500000	CASTER *B	PP OD36XL37	2	
40	3014902900	SHAFT CASTER *B	"SPH, T1, OD6XL51"	2	
41	3016003300	SPECIAL BOLT	T2 M6.5X20	4	
42	3012007900	FIXTURE MOTR B	PP	1	
43		MOTOR F		1	
44	3011802200	FAN	ABS(OD110)	1	
45	7112401211	SCREW TAPPING	T1TRS 4X12 MFZN	2	
46	3013336310	INSU F LUVR	EPS	1	
47	3013402600	KNOB F CONTL	PP	1	

NO	PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
48	3018910400	LOUVER F	HIPS	1	
49	7112401611	SCREW TAPPING	T1TRS 4X16 MFZN	2	
50	3010924600	CAP F-LUVR	HIPS T2.3	2	
51	3017821600	SHELF F	HIPS T3.0	1	
52	3013001420	HOLDER ICE AS	HIPS	1	
53	3012201900	FRAME ICE CASE SAS		1	
54	3010518900	BOX ICE		1	
56	7112401208	SCREW TAPPING	T1 TRS 4X10 SUS	1	
57	3018100050	SWITCH DR	DSD-5(220V)	1	
58	3010936100	CAP DV *M HI HOLE	ABS	1	
59	3011450100	COVER R LAMP	HIPS	1	
60	3017903610	SOCKET R LAMP AS		1	
61	3013600080	LAMP AS	240V/15W	1	
62	7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
63	3015505200	WINDOW LAMP	PP	1	
64	3011439500	COVER CUBIC	HIPS	2	
65	3017460900	INSU R *S *L	F-PS	1	
66	3018910200	LOUVER R *S *L	PP	1	
67	3017461000	INSU R *S *R	F-PS	1	
68	3018910300	LOUVER R *S *R	PP	1	
69	3017821800	SHELF CHILD	GPPS	1	
70	3011162300	CASE CHILD	GPPS	1	
71	3017822000	SHELF R	GPPS	1	
72	3011451400	COVER VEGETB	GPPS	1	
73	3011162500	CASE VEGETB	GPPS	2	
74	3013336000	INSULATOR F A	EPS	1	
75	3012509900	GUIDE DRN	AL 0.4T	1	
76	3014433400	PIPE DRN	AL 1.0T	1	
77	3012009400	FIXTURE R CONTL COVR	PP	1	
78	3013336100	INSULATOR F B	EPS	1	
79		ASSY F DR		1	
80	301550530	WINDOW FCP	GPPS	1	
81		SCREW TAPPING		1	
82	3014228600	PANEL CONTROL F	ABS	1	
83	3014228600	PCB FRONT AS	T1.6	1	
84	7121300811	SCREW TAPPING	T2 PAN 3X8 MFZN	1	
88	3012301420	GASKET F DR AS	PVC	1	
89	3019013500	POCKET F	HIPS	2	
90		ASSY F HANDLE	ABS	1	
90-1	3012624300	HANDLE F	ABS	1	
90-2	3011611300	DECORATOR F HANDLE A	ABS	1	
90-3	3011611410	DECORATOR F HANDLE B	ABS	1	
90-4	7002501611	SCREW MACHINE	TRS 5X15 MFZN	2	
91		ASSY R HANDLE	ABS	1	
91-1	3012624400	HANDLE R	ABS	1	
91-2	3011611500	DECORATOR R HANDLE	ABS	1	
91-3	7002501611	SCREW MACHINE	TRS 5X15 MFZN	2	

NO	PART CODE	PART NAME	PART DESCRIPTION	Q'TY	REMARK
97		ASSY R DR		1	
98	3012301720	GASKET R DR AS	PVC	1	
99	3010936600	CAP DR SCREW HOLE	PP	1	
100	3011451300	COVER DARIY ROOM	GPPS	1	
101	3019013000	POCKET DAIRY	HIPS	1	
102	3011162100	CASE EGG	GPPS	1	
103	3019013100	POCKET SMALL	HIPS	3	
104	3012509600	GUIDE POCKET	HIPS	1	
105	3019013300	POCKET JUMBO	HIPS	1	
106	3019013400	POCKET BOTTLE	HIPS	1	

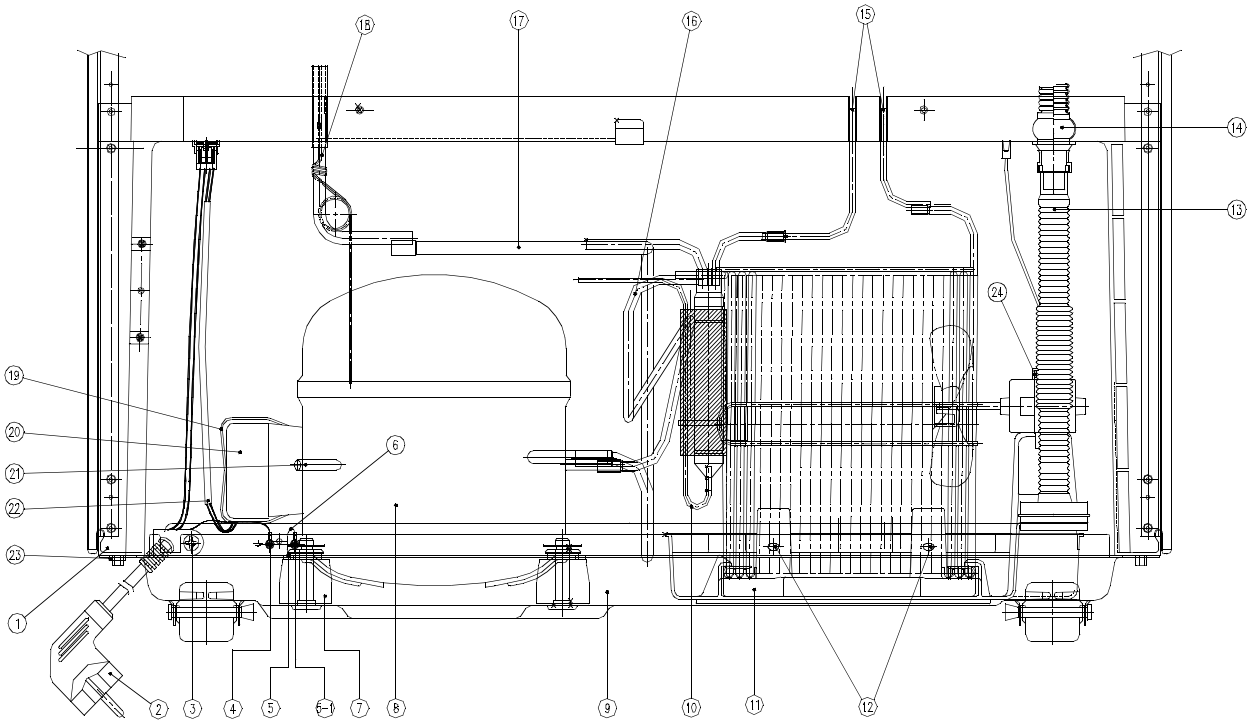
3. MACHINE ROOM EXPLODED VIEW AND PARTS LIST

1) FR-4506K



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	HARNESS 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		

2) FR-4506N



NO	PART NAME	NO	PART NAME	NO	PART NAME
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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	ABSORBER C MOTOR
5	WASHER TOOTH	14	HOSE DRN B		
5-1	SCREW MACHINE	15	PIPE HOT		
6	HARNESS EARTH	16	PIPE CONN A		
7	ABSORBER COMP	17	PIPE SUC CONN		
8	COMPRESSOR	18	PIPE SUCTION AS		
9	BASE COMP	19	BAND RELAY		