S/M No:FRS20BD001

Service Manual

Refrigerator

Model : FRS-20BD (FRS-584B*)
FRS-20DD (FRS-554D*)
FRS-20FD (FRS-554F*)
FRS-24BD (FRS-694B*)
FRS-24DD (FRS-664D*)
FRS-24FD (FRS-664F*)

✔ 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

http://svc.dwe.co.kr

Nov . 2005

CONTENTS

1. WARNINGS AND PRECAUTIONS FOR SAFETY

Please observe the following safety precautions in order to use safely and correctly the refrigerator and to prevent accident and danger during repair.

1. Be care of an electric shock. Disconnect power cord from wall outlet and wait for more than three minutes before replacing PCB parts.
   Shut off the power whenever replacing and repairing electric components.

2. When connecting power cord, please wait for more than five minutes after power cord was disconnected from the wall outlet.

3. Please check if the power plug is pressed down by the refrigerator against the wall.
   If the power plug was damaged, it may cause fire or electric shock.

4. If the wall outlet is over loaded, it may cause fire.
   Please use its own individual electrical outlet for the refrigerator.

5. Please make sure the outlet is properly earthed, particularly in wet or damp area.

6. Use standard electrical components when replacing them.

7. Make sure the hook is correctly engaged.
   Remove dust and foreign materials from the housing and connecting parts.

8. Do not fray, damage, machine, heavily bend, pull out or twist the power cord.

9. Please check the evidence of moisture intrusion in the electrical components.
   Replace the parts or mask it with insulation tapes if moisture intrusion was confirmed.

10. Do not touch the icemaker with hands or tools to confirm the operation of geared motor.

11. Do not let the customers repair, disassemble and reconstruct the refrigerator for themselves.
    It may cause accident, electric shock, or fire.

12. Do not store flammable materials such as ether, benzene, alcohol, chemicals, gas, or medicine in the refrigerator.

13. Do not put flower vase, cup, cosmetics, chemicals, etc., or container with full of water on the top of the refrigerator.

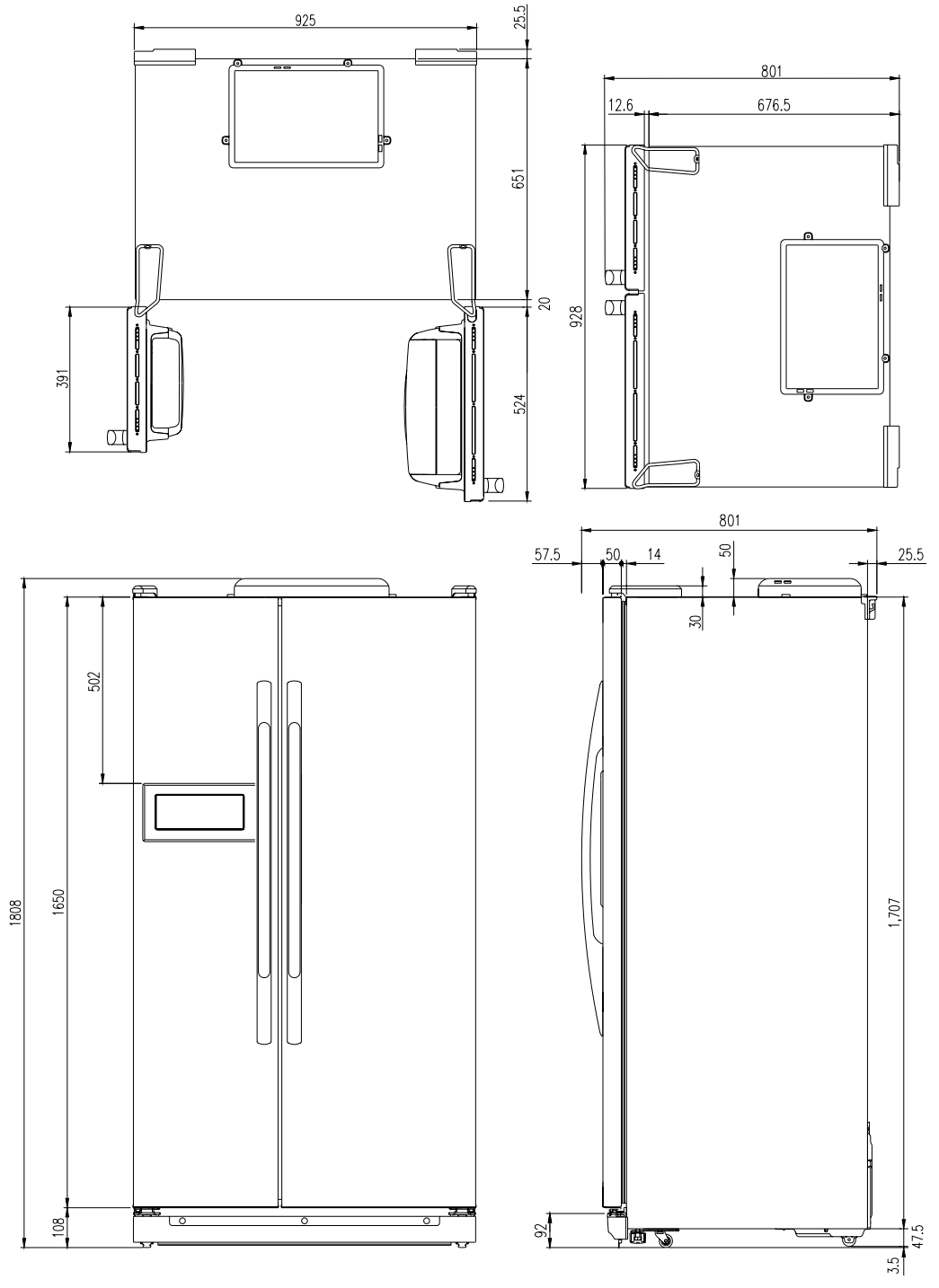
14. Do not put glass bottles with full of water into the freezer.
    The contents shall freeze and break the glass bottles.

15. When you scrap the refrigerator, please disconnect the door gasket first and scrap it where children are not accessible.

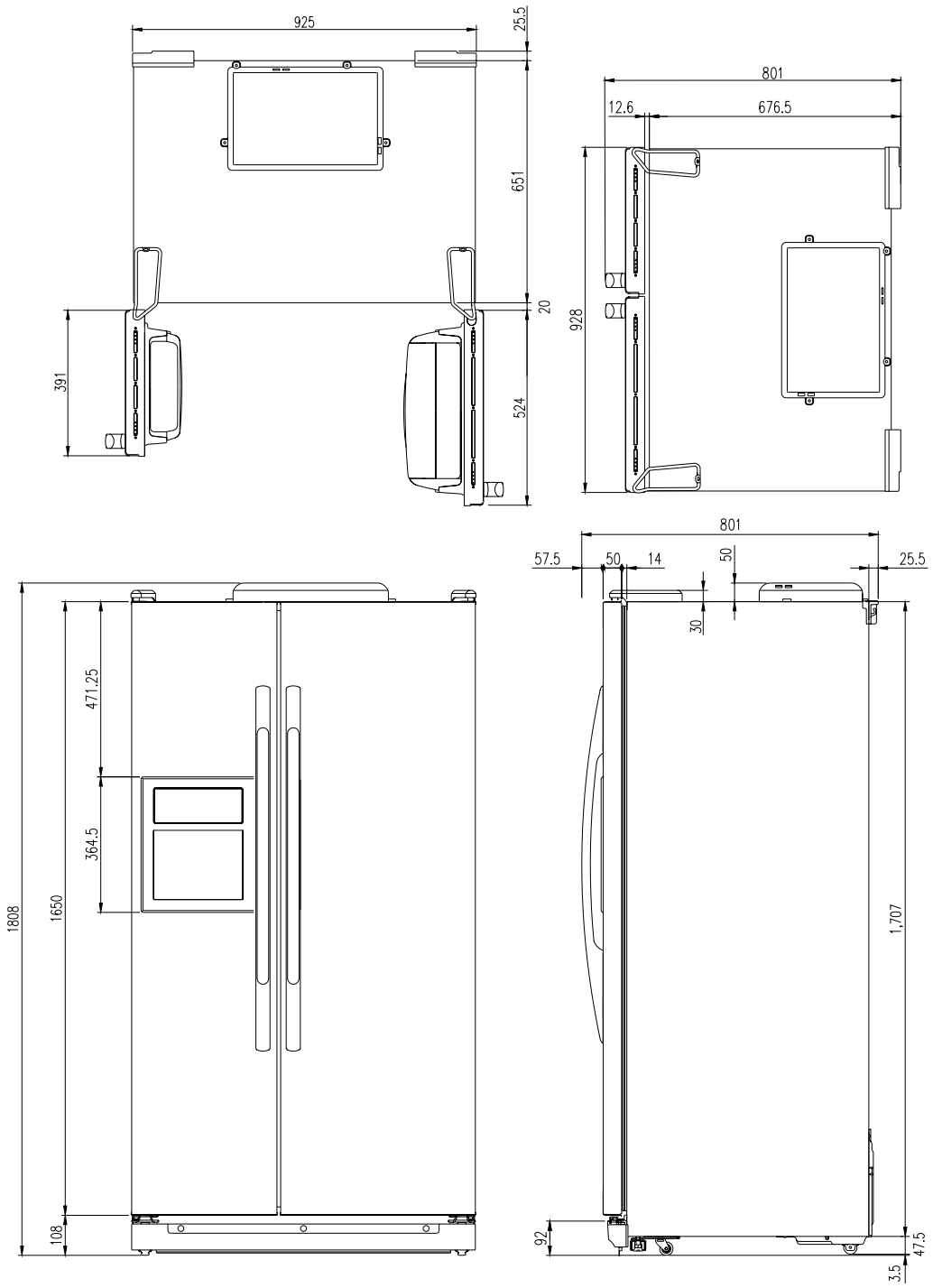
2. EXTERNAL VIEWS

2-1. External Size

■ FRS-20BD



■ FRS-20DD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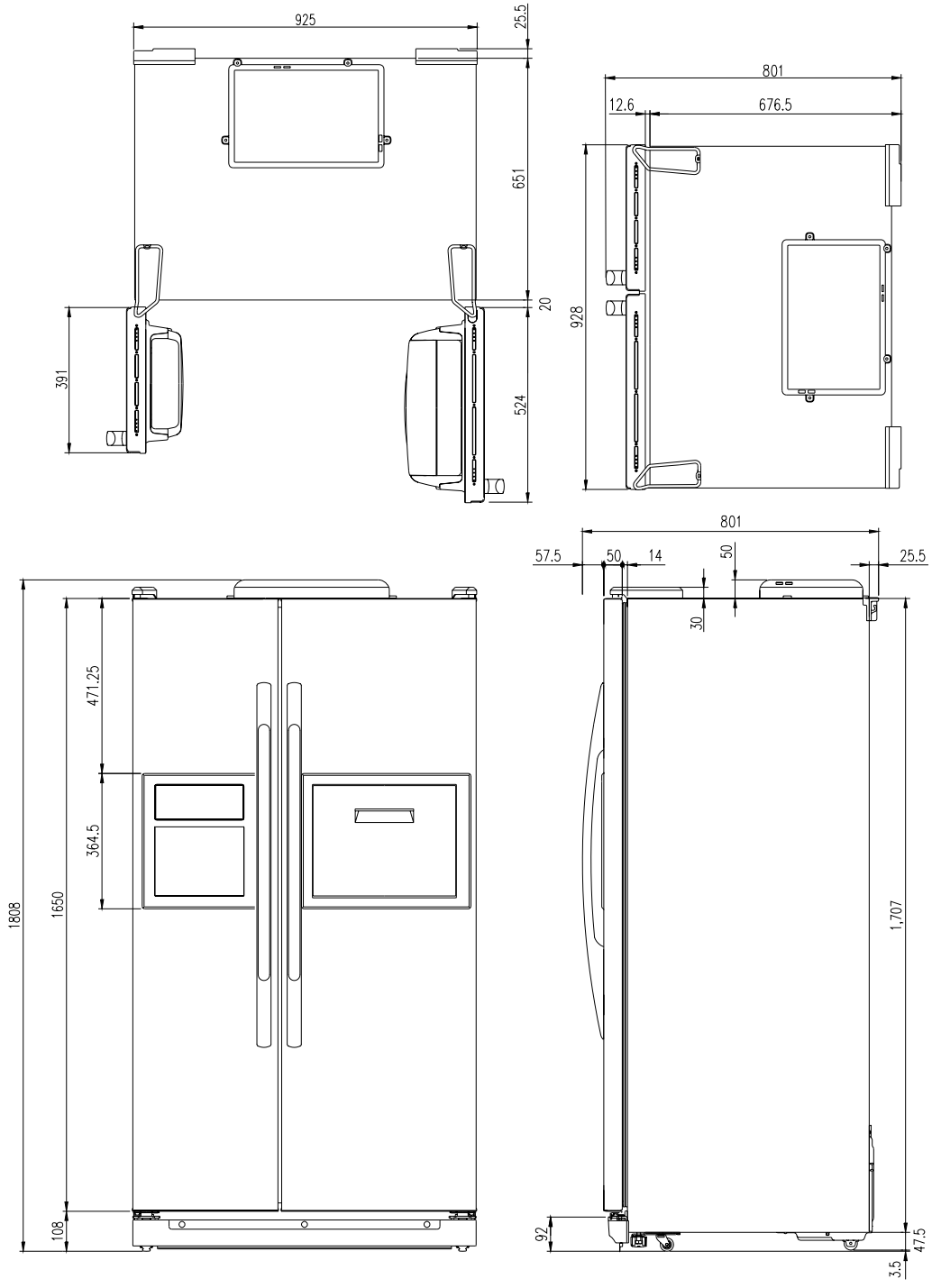
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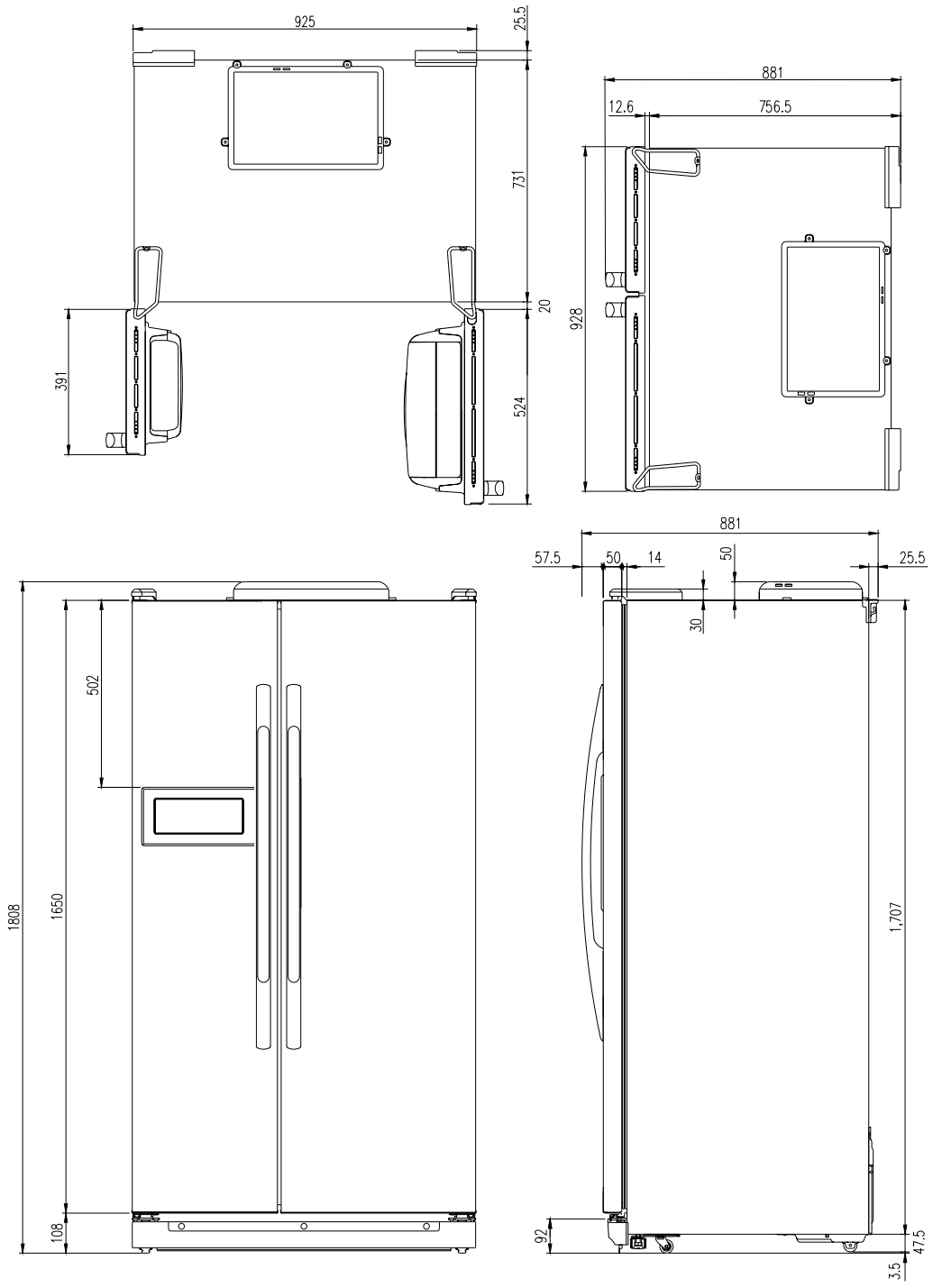
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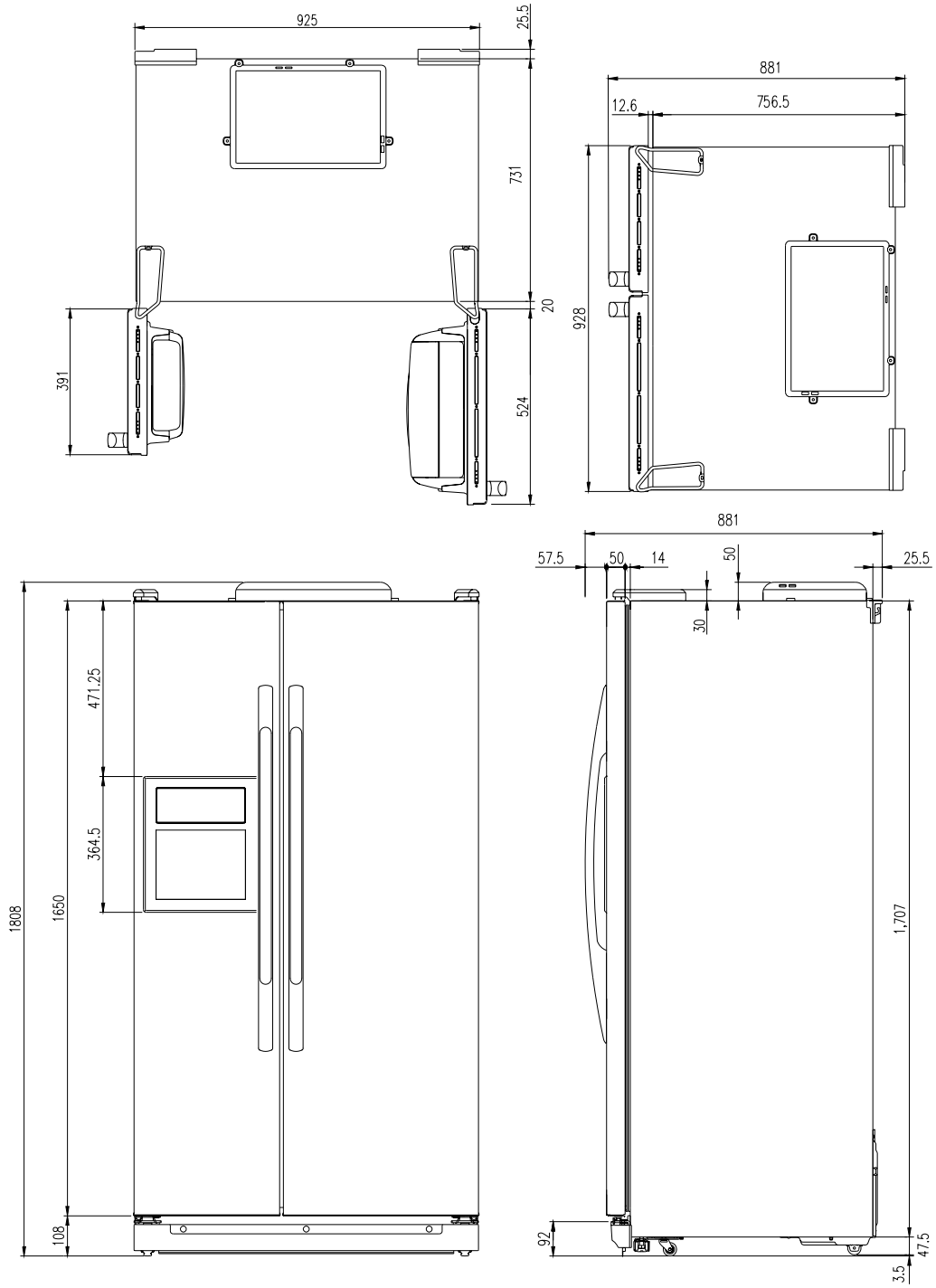
■ FRS-24DD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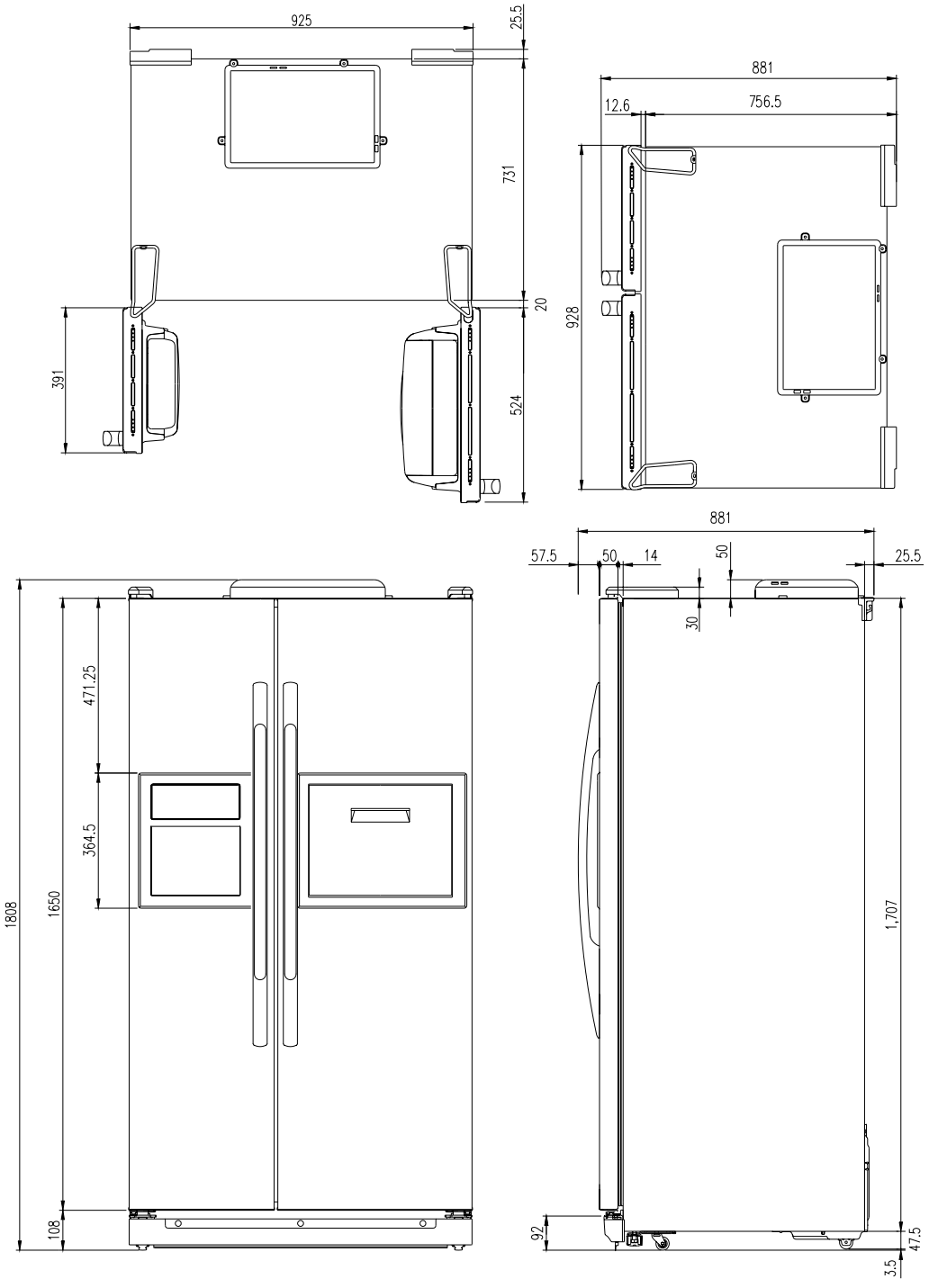
■ FRS-24FD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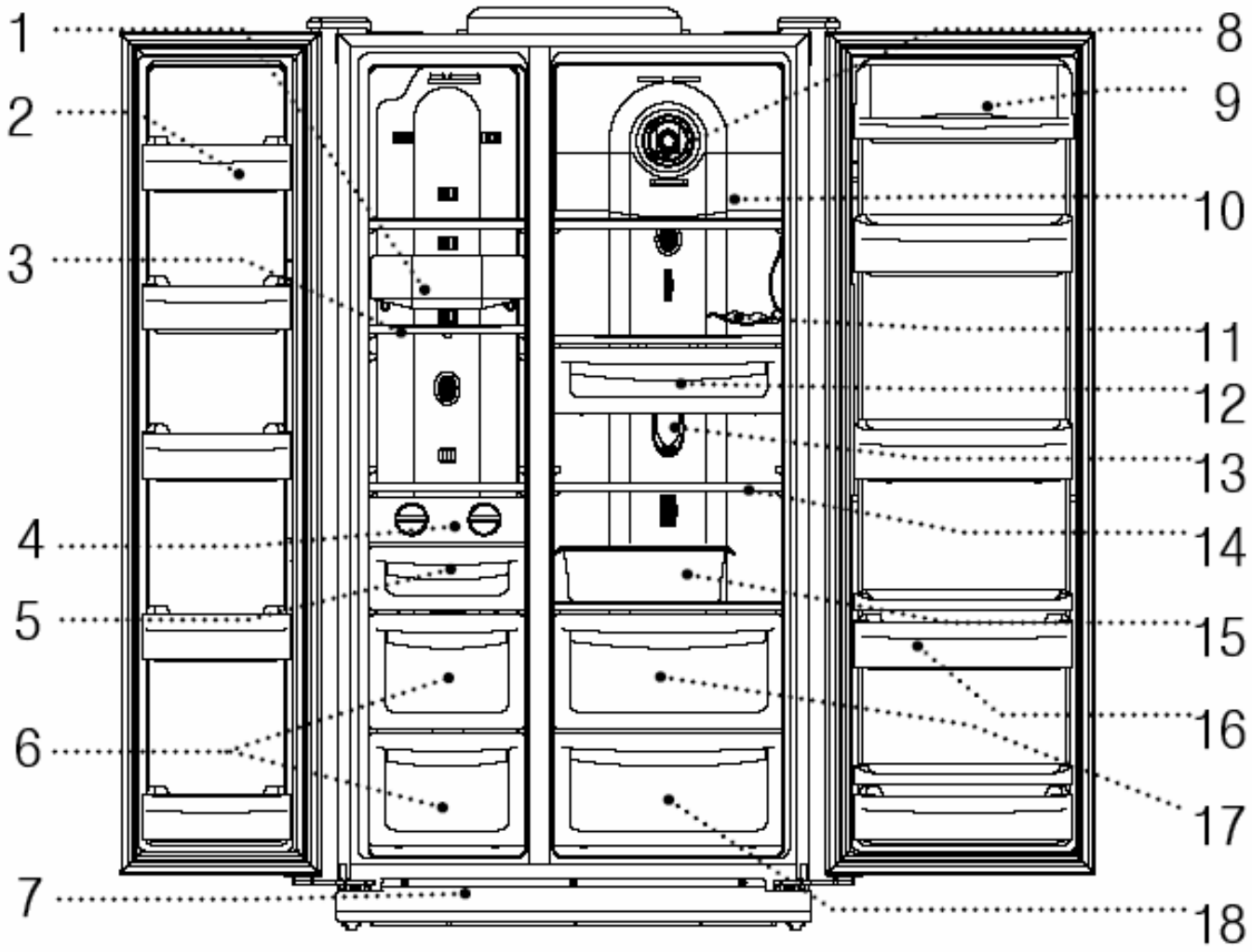
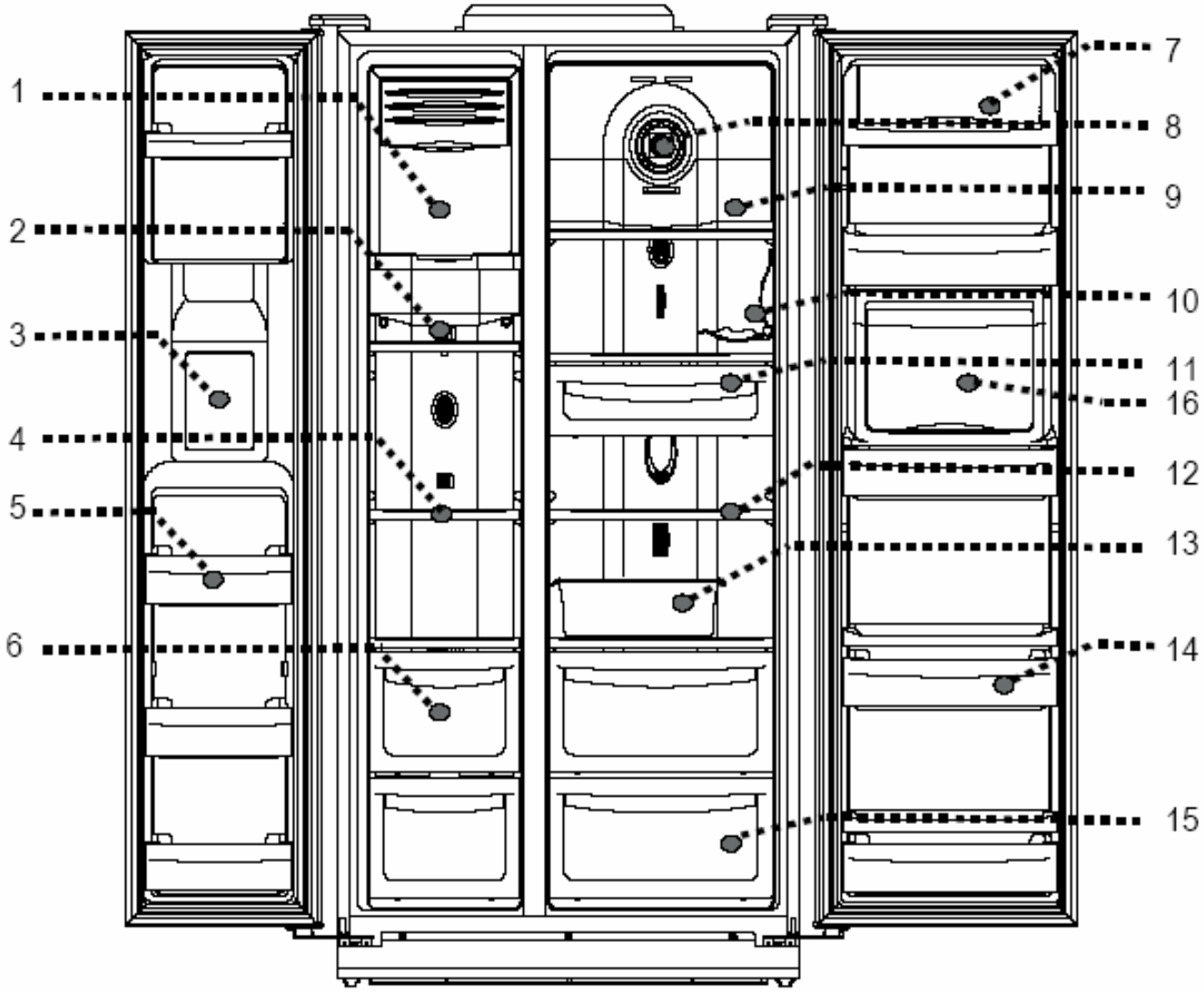
2-2. Name of Each Parts

■ Basic Model



Freezer Compartment	Refrigerator Compartment
1. Freezer Light	8. Deodorizer
2. Freezer Pockets	9. Dairy Pocket
3. Freezer Shelves	10. Refrigerator Top Light
4. Ice Cubes Maker*	11. Wine Holder
5. Ice Cubes Case	12. Chilled Case
6. Freezer Case	13. Refrigerator Bottom Light
7. Front Cover	14. Refrigerator Shelves
	15. Egg Case
	16. Refrigerator Pockets
	17. Vegetables Case
	18. Fruits Case

■ Dispenser Model



Freezer Compartment	Refrigerator Compartment
1. Ice cubes storage case	7. Dairy pocket
2. Freezer light	8. Deodorizer
3. Water/Ice Dispenser	9. Refrigerator light(A)
4. Freezer shelf	10. Wine holder
5. Freezer pocket	11. Chilled case
6. Freezer case	12. Refrigerator shelf
	13. Movable Egg case
	14. Refrigerator pocket
	15. Refrigerator case
	16. Refreshment room (option)*

3. SPECIFICATION

3-1. Specification

Item		Specification					
Model Name		**FRS-20BD**	**FRS-20DD**	**FRS-20FD**	**FRS-24BD**	**FRS-24DD**	**FRS-24FD**
ISO Gross Volume (Li)	Total	215	191	191	256	231	231
	Freezer	370	365	365	430	425	425
	Refrigerator	585	556	556	686	656	656
ISO Storage Volume (Li)	Total	195	174	174	230	209	209
	Freezer	339	339	339	394	394	394
	Refrigerator	534	513	513	624	603	603
Weight		112 kg	119 kg	121 kg	120 kg	127 kg	129 kg
Cooling & Control System	Cooling	Fan Cooling System					
	Defrost	Automatic Start & Stop					
Refrigerant (g)		R-134a (150 or 190)			R-134a (150 or 190)		
External Dimension (Width x Depth x Height)		925 mm x 801mm x 1808 mm			925 mm x 881mm x 1808 mm		

Compressor	Description	**HPL30YG-5**	**MK183Q-L2U**	**DK190Q-L2U**
	Part Code	395S130R50	3956183D50	3956190D50
SWITCH P RELAY AS	Description	**308NHB, S330**	**265RHB, S330**	
	Part Code	3018129810	3011402100	

CORD POWER AS	**ISRAEL**	**CP-2PIN (EUROPE)**	**KP-550 (AUSTRALIA)**	**CP-2PIN (Other Country)**	**KP-550 (CHINA)**	**BS-1363**
	3011301270	3011346700	3011301080	3011347400	3011301030	3011347300

※ Compressor & Cord Power As are model dependent.

4. OPERATION AND FUNCTIONS

4-1. Display

4-1-1. FRS-20BD / FRS-24BD (Basic Model)

INPUT	CONTROL OBJECT
'FREEZER / REFRIGERATOR SET' button	FCP LED

CONTENTS

1. "FREEZER.SET" Button
   1) Temperature control of Freezer compartment
   2) 5 step mode of successive temperature mode.
   3) Initial mode by power input : "MID"
   ※Whenever pressing button, setting is repeated in the order of
   -19C → -21C → -25C → -15C → -17C

Temperature Chang	LOW	LOW MID	MID	MID HIGH	HIGH
Temp indication	-15	-17	-19	-21	-25

2. "REFRIGERATOR SET" button.
   1) Temperature control of Refrigerator compartment
   2) 5 step mode of successive temperature mode.
   3) Initial mode by power input : "MID"
   ※Whenever pressing button, setting is repeated in the order of
   2C → 1C → 0C → 4C → 3C.

Temperature Change	Min	Medium Min	Mid	Medium Max	Max
Temp indication	4	3	2	1	0

※ The actual inner temperature varies depending on the food status, as the indicated setting temperature is a target temperature, not actual temperature within refrigerator.
※ Refrigeration function is weak in the initial time.
Please adjust temperature as above after using refrigerator for minimum2~3 days.
※ Above temperature steps are model dependent.
※ C means 'centigrade.

4-1-2. FRS-20DD / 20FD / 24DD / 24FD (Dispenser Model)

INPUT	CONTROL OBJECT
Front PCB button FREEZER SET, REFRIGERATOR SET SUPER FREEZER, SUPER REFRIGERATOR RESET FILTER, WATER / ICE, ICE MAKER LOCK ,LOCK	FCP LED

CONTENTS

1. Display control

FCP-LED	Control
88 DISPLAY (SET TEMP.)	Initial mode : Freezer & Refrigerator set→ Medium (-19C/2C)
SUPER FREEZER,SUPER REFRIGERATOR LED	Dial
FUZZY, DEODORIZER LED	Always ON
WATER / CUBED ICE/ CRUSHED ICE LED	Dial
FILTER CHANGE LED	After six month, LED ON

2. “FREEZER SET” Button
 1) Temperature control of freezer compartment
 2) 5 step mode of successive temperature mode.
 3) Initial mode by power input : “Medium(-19C)”
  ※Whenever pressing button, setting is repeated in the order of
  -19C → -21C → -25C → -15C → -17C

Temperature Chang	LOW	LOW MID	MID	MID HIGH	HIGH
Temp indication	-15	-17	-19	-21	-25

3. “SUPER FREEZER” Button
 When this mode is chosen, the LED is ON.

CONTENTS	REMARKS

4. “REFRIGERATOR SET” button.
   1) Temperature control of Refrigerator compartment
   2) 5 step mode of successive temperature mode.
   3) Initial mode by power input : “Medium (2C)”
   ※Whenever pressing button, setting is repeated in the order of
   2C → 1C → 0C → 4C → 3C.

Temperature Change	Min	Medium Min	Mid	Medium Max	Max
Temp indication	4	3	2	1	0

5. “SUPER REFRIGERATOR” button.
   When this mode is chosen, the LED is ON.

6. “WATER / ICE” button
   1) Select Water / Cubed Ice / Crushed Ice.
   2) LED lights up to show your selection is on.
   Initial mode by power input : “Water” mode.

7. “ICE MAKER LOCK” button
   1) Start by pushing “ICE MAKER LOCK” button.
   ① “ICE MAKER LOCK” LED is on.
   ② “WATER” LED is always on.
   2) Stop by pushing “ICE MAKER LOCK” button again.
   ① “ICE MAKER LOCK” LED is off.
   ② “WATER” icon is on.

8. “RESET WATER FILTER” button
   1) The normal (LED OFF) is on for 6 month after are first power input.
   2) After six months, red LED is ON.
   3) How to reset Filter information
   Push the “RESET WATER FILTER” button for 5 seconds after change.

※ The actual inner temperature varies depending on the food status, as the indicated setting temperature is a target temperature, not actual temperature within refrigerator.
※ Refrigeration function is weak in the initial time.
Please adjust temperature as above after using refrigerator for minimum2~3 days.
※ Temperature steps are model dependent.
※ C means ‘centigrade

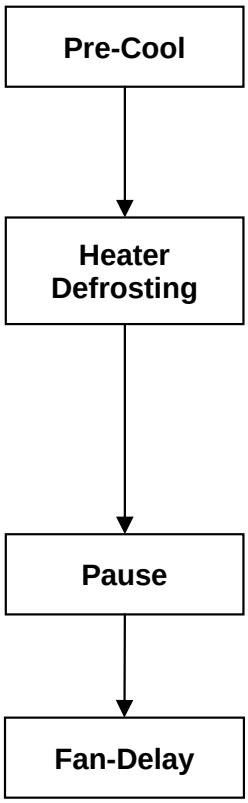
REFERENCE : Please wait for 2-3 seconds in order to take final ice or drops of water when taking out cup from the pressing switches after taking ice or water.

4-2. Defrost Mode

INPUT	CONTROL OBJECT
1. Defrosting Cycle	1. Comp 2. F-Fan 3. R-Fan 4. D-Heater

CONTENTS	REMARKS

1. Defrost Mode



Pre-Cool
1) Time : 50 minutes
2) Comp , F-fan : ON
R-fan : Control
D-HTR : OFF
3) If F-sensor ≤ -27C, then Pre-Cool becomes OFF.

Heater Defrosting
1) Comp, F-fan, R-fan : OFF, D-HTR : ON
2) Time limit
30 seconds : Heater is ON regardless of D-sensor temperature right after defrosting start.
30 minutes : in case of D1- Error
80 minutes : in normal control state
3) If D-sensor ≥10C, Heater Defrosting is OFF

Pause
Time : 7 minutes
Comp, F-fan, R-fan, Heater etc. : OFF

Fan-Delay
Time : 5 minutes
Comp : ON and F-fan, R-fan, Heater : OFF

2.The defrost mode start with the following conditions

1) Total operation time of comp. becomes : 6,8,10,……. 24 hours.
① Total door open time : 3 minutes
(Any door, F or R open time is over 3 minutes.)
② Any error mode : R1, F1, D1, F3, RT/S, Door-switch etc.)

2) Defrosting mode starts unconditionally as long as total comp. work time is 24 hours, even if the above conditions (①~ ②) are not satisfied.

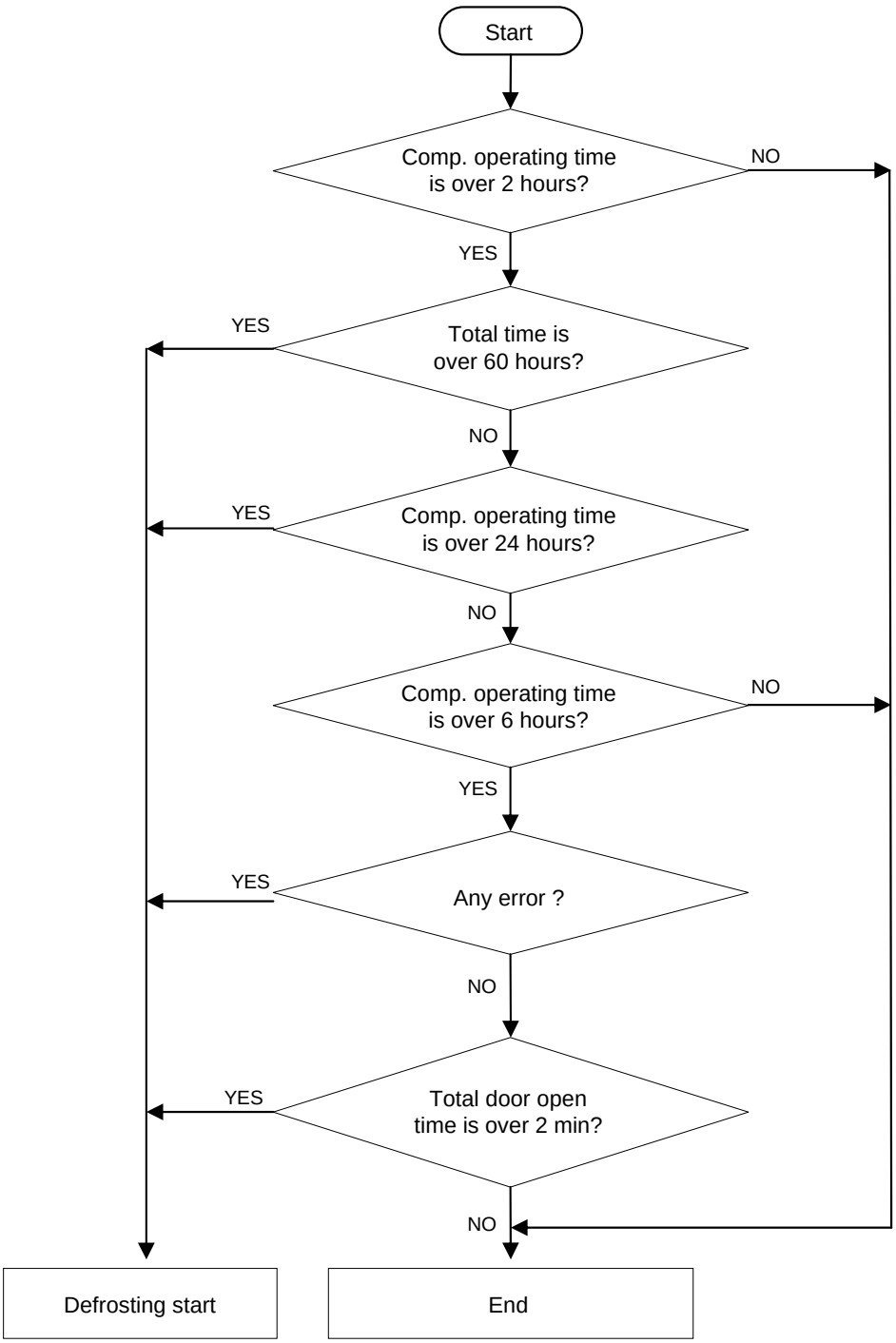
3) Defrosting mode starts immediately as long as total time of [comp. ON + comp. OFF] is over 60 hours, even if the above ① and ② conditions are not satisfied.

3. In providing initial power (or returning power failure)

If D-sensor temp. ≤ 3.5℃, defrosting mode starts .

CONTENTS	REMARKS

4. Flow Chart of Defrosting Start

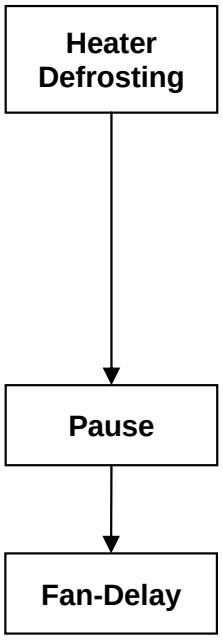


4-3. (Forced Defrosting) Mode

INPUT	CONTROL OBJECT
1. Defrosting Cycle	1. Comp 2. F-Fan 3. R-Fan 4. D-Heater

CONTENTS	REMARKS

1. A/S Defrosting Mode (Heater defrost → Pause → Fan Delay)



Heater Defrosting
1) Comp, F-fan, R-fan : OFF
D-HTR : ON
2) Time limit
30 seconds : Heater is ON regardless of D-sensor temperature right after defrosting start
30 minutes : in case of D1-Error
80 minutes : in normal control state
3) If D-sensor ≥10C, Heater Defrosting is OFF

Pause
Time : 7 minutes
Comp, F-fan, R-fan, Heater etc. : OFF

Fan-Delay
1) Time : 5 minutes
Comp : ON
F-fan, R-fan, Heater : OFF

2. How to start
: Push “REFRIGERATOR SET” button 5 times while pushing “FREEZER SET” button simultaneously.

3. How to proceed
1) Delete Pre-cool mode. (Others are same as normal defrosting)
2) Heater is ON regardless of D-sensor temp. at first 30 seconds.
(Check of defrosting current)

4-4. Buzzer or Alarm Control

INPUT	CONTROL OBJECT
1. Control F-PCB buttons 2. Door Switch 3. Initial Power Input	Buzzer

CONTENTS	REMARKS

1. Buzzer sounds if any button of F-PCB is pushed.

2. Buzzer sounds 4 times 3 seconds after initial power input.

3. Buzzer sounds for 3 or 1 times in case of A/S forced defrosting and short (pull down) operation or explanation mode.

4. If door is open, buzzer sounds after every 1 minutes for 5 minutes (Door open alarm)

4-5. Control of Interior Lights

INPUT	CONTROL OBJECT
1. Refrigerator door switch 2. Freezer door switch 3. Dispenser switch	88 Display CLED

CONTENTS	REMARKS
1. Control refrigerator compartment lights R-Lights turn ON/OFF by R-door switch ON/OFF. (※ For 10 minutes after sensing door open, the lights turn off automatically through door close is not sensed.) 2. Control of freezer compartment lights. F-Light turn ON/OFF by F-door switch ON/OFF. (※ For 10 minutes after sensing door open, the lights turn off automatically through door close is not sensed.) 3. Dispenser lamp control (for only model with water/ice dispenser) Dispenser lamp turns ON/OFF by Dispenser switch. Dispenser lamp turns ON for 4 seconds after sensing switch close.	

4-6. Demonstration

INPUT	CONTROL OBJECT
1. REFRIGERATOR SET 2. WATER button 3. Door switch	Comp F/R-Fan Heater

CONTENTS	REMARKS
1. Start Push “WATER” button 5 times while pushing “REFRIGERATOR SET” button simultaneously.. 2. Control 1) All other electrical components are OFF except for F-fan / R-fan 2) Fan Control Door open → Fan ON / Door close → Fan OFF. 3. Stop 1) During Demo mode, push “WATER” button 5 times while pushing “REFRIGERATOR SET” button simultaneously. 2) Power in again	

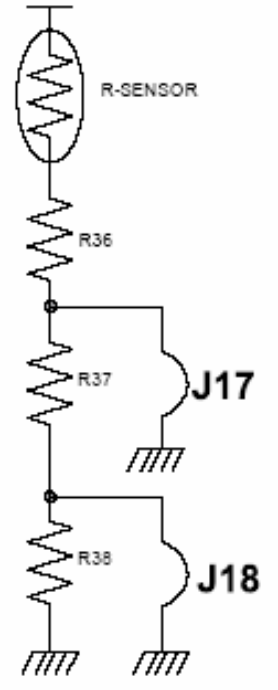
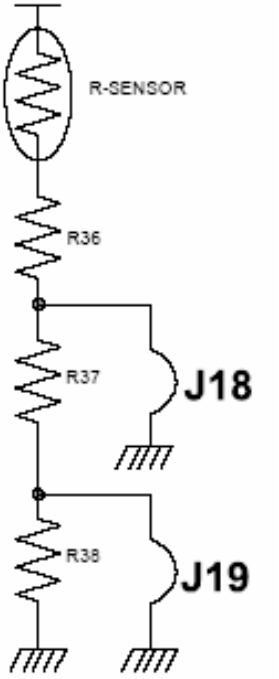
4-7. Compensation of R-sensor ON/OFF Point

INPUT	CONTROL OBJECT
Main PCB	Resistance of R-sensor Mid ON/OFF Point

CONTENTS	REMARKS

Compensation of R-sensor ON/OFF temp. (down)

In case temperature of refrigerator compartment is weak or insufficient,
take the following action.

FRS-2*BD (Basic Model)	FRS-2*DD/FD (Dispenser Model)
	

R36 : R-SENSOR standard resistance in normal mode (31.4K)
R37 : In case of weak ref., cut J17 (or J18) to down the standard resistance by 1.5deg (2K)
R38 : In case of weak ref., cut J18 (or J19) to down the standard resistance by 1.5deg (2K)

BASIC MODEL	J17	-	cut	cut
	J18	-	-	cut
	Temperature compensation	0C	-1.5C	3C
DISPENSER MODEL	J18	-	cut	cut
	J19	-	-	cut
	Temperature compensation	0C	-1.5C	3C

4-8. Error Display

4-8-1. FRS-20BD / 24BD (Basic Model)

INPUT	CONTROL OBJECT
Temperature Control Buttons	LED

CONTENTS

1. How to start
 : Push “SUPER FREEZER” button 5 times while pushing “FREEZER SET” button at the same time.

2. How to stop
 1) Push “FREEZER SET” button 1 time.
 2) It stops automatically in 4 minutes from the start.

3. All the error codes are reset if they turn to be normal.

4. Error display

CONTENTS	Display
F1	F-sensor : disconnection, short.
r1	R-sensor : disconnection, short.
rt	RT-sensor : disconnection, short.
d1	D-sensor : disconnection, short.
dr	R-Door switch : defective.
dF	F-Door switch : defective.
c1	Cycle : abnormal or defective.
F3	Return after defrosting : abnormal or defective.
Co	Display Full-Down mode.
d2	Display forced defrost mode for A/S.

REMARKS

CONTENTS	REMARKS

5. Control way of Errors (if any)

1) “F-sensor” error ***[F1]***
Cause : F-sensor open or short
Control : Condition of ambient temperature
How to reset : If F-sensor is normal, the error is terminal temperature.

RT-S	~ 7C	~ 13C	~ 19C	~ 29C	Over 29C
ON/OFF (min)	14 / 50	16 / 41	27 / 45	26 / 22	35 / 20

2) “R-sensor” error ***[r1]***
Cause : R-sensor open or short
Control : Condition of ambient temperature
How to reset : If R-sensor is normal, the error is terminal temperature.

RT-S	~ 7C	~ 13C	~ 19C	~ 29C	~ 39C	Over 39C
ON/OFF (min)	OFF	3 / 50	2 / 10	3 / 7	4 / 6	6 / 4

3) “RT-sensor” error ***[rt]***
Cause : RT-sensor open or short (full down)
Control : Normal operation, deletion of control by RT-sensor
If RT-sensor is normal, the error is terminated automatically.

4) “D-sensor” error ***[d1]***
Cause : D-sensor open or short (full down)
Control : Time limit (30 min) of defrosting return
If D-sensor is normal, the error is terminated automatically.

5) “Door” error ***[dr]*** or ***[dF]***
Cause : in case it senses that door is open for more than 1 hour.
Control : Deletion of function related door switch sensing
If door switch (open & close) is sensed, the error is terminated automatically.

6) “Cycle” error ***[C1]***
Cause : in case comp. works for over 3 hours when D-sensor temp. is over -5℃
Control : normal operation
When D-sensor temp. is below -5℃ in comp. off it is terminated.

7) “Return after defrosting” error ***[F3]***
Cause : in case defrosting return is done by time limit of 80 min
Control : Deletion of Pre-cool mode in defrosting mode
If defrosting return is done by D-sensor, it is terminated.

8) A/S forced defrosting mode ***[d2]***
Push “REFRIGERATOR SET” button 5 times while pushing “FREEZER SET” button Simultaneously.
Control : A/S forced defrosting control (Pre-cool is deleted)
If D-sensor temp. is over 10℃, the mode is terminated automatically.

When all error code is normal, the Refrigerator reset .

4-8-2. FRS-20DD / FD, FRS-24DD / FD

INPUT	CONTROL OBJECT
Temperature Control Buttons	88 Display CLED

CONTENTS	REMARKS

1. How to start
   1) Press “CRUSHED ICE” button 5 times while pressing “WATER” button.
   2) Push “SUPER FREEZER” button while pressing “FREEZER SET” button at the same time.

2. Display
   : Error code is displayed on 88 display LED.

3. How to stop
   1) Push “RESET WATER FILTER” button 1 time.
   2) It stops automatically in 4 minutes from the start.

4. All the error Codes are reset if they turn to be normal.

5. Error code

ERROR CODE	CONTENTS
F1	F-sensor : disconnection (“Lo”), short (“Hi”)
r1	R-sensor : disconnection (“Lo”), short (“Hi”)
rt	RT-sensor : disconnection (“Lo”), short (“Hi”)
d1	D-sensor : disconnection (“Lo”), short (“Hi”)
dr	R-Door Switch : defective
dF	F-Door Switch : defective
dH	Home bar Door Switch : defective
E1	I-sensor : disconnection (“Lo”), short (“Hi”)
EF	Flow sensor : defective
Et	Horizontal switch : error
E9	Water supply : error
ES	Micro switch : error
EA	Drop the ice while Et
Eu	Full ice switch : error
C1	Cycle : abnormal or defective
F3	Return after defrosting : abnormal or defective
Co	Display Full Down mode
D2	Display forced defrost mode for A/S

CONTENTS	REMARKS

6. Control way of Errors (if any)

1) “F-sensor” error ***[F1]***
Cause : F-sensor open or short
Control : Condition of ambient temperature
How to reset : If F-sensor is normal, the error is terminal temperature.

RT-S	~ 7C	~ 13C	~ 19C	~ 29C	Over 29C
ON/OFF (min)	14 / 50	16 / 41	27 / 45	26 / 22	35 / 20

2) “R-sensor” error ***[r1]***
Cause : R-sensor open or short
Control : Condition of ambient temperature
How to reset : If R-sensor is normal, the error is terminal temperature.

RT-S	~ 7C	~ 13C	~ 19C	~ 29C	~ 39C	Over 39C
ON/OFF (min)	OFF	3 / 50	2 / 10	3 / 7	4 / 6	6 / 4

3) “RT-sensor” error ***[rt]***
Cause : RT-sensor open or short (full down)
Control : Normal operation, deletion of control by RT-sensor
If RT-sensor is normal, the error is terminated automatically.

4) “D-sensor” error ***[d1]***
Cause : D-sensor open or short (full down)
Control : Time limit (30 min) of defrosting return
If D-sensor is normal, the error is terminated automatically.

5) “Door” error ***[dr]*** or ***[dF]*** or ***[dH]***
Cause : in case it senses that door is open for more than 1 hour.
Control : Deletion of function related door switch sensing
If door switch (open & close) is sensed, the error is terminated automatically.

6) “Cycle” error ***[C1]***
Cause : in case comp. works for over 3 hours when D-sensor temp. is over -5℃
Control : normal operation
When D-sensor temp. is below -5℃ in comp. off it is terminated.

7) “Return after defrosting” error ***[F3]***
Cause : in case defrosting return is done by time limit of 80 min
Control : Deletion of Pre-cool mode in defrosting mode
If defrosting return is done by D-sensor, it is terminated.

8) A/S forced defrosting mode ***[d2]***
Push “REFRIGERATOR SET” button 5 times while pushing “FREEZER SET” button Simultaneously.
Control : A/S forced defrosting control (Pre-cool is deleted)
If D-sensor temp. is over 10℃, the mode is terminated automatically.

CONTENTS	REMARKS
9) “I-sensor” error ***[E1]*** Cause : I-SENSOR disconnection / short Check point : Measure the resistance between both terminals after separating CN11 of the Main PCB. (Refer to the 5-2.) If F-sensor is disconnected or shorted , change the I-sensor in the automatic ice maker. 10) “Flow sensor” error ***[EF]*** Cause : When Flow-sensor ERROR (There is no Pulse during some time) The number of pulse signal is below 10 by 1 sec during water supply. Check point : Water supply line 11) “Water supply” error ***[E9]*** Cause : I-sensor temp (5min after water supply) doesn’t go up. Check the I-sensor or water supply line. 12) “Micro-switch” error ***[ES]*** Cause : When it senses 1min continuously Check the MICRO switch of the dispenser. 13) “Drop motor” error ***[EA]*** Cause : Malfunction of ice drop motor. Check the motor by pushing test switch. 14) “Full ice switch” error ***[Eu]*** Cause : Switch (which senses if the ice is full or not) is in error. Control : When dropping the ice, the motor just rotates 90 degree. Termination : When the switch is in normal. 15)“Horizontal switch” error ***[Et]*** Cause : Level switch error (No pulse is sensed for some time) Control : By time (Supply mode is skipped) Termination : Normal condition. *** When all ERROR CODE is normal, the Refrigerator reset**	

4-9. Summary of Function

4-9-1. FRS-20BD / 24BD (Basic Model)

CONTENTS	REMARKS

Element A/S Function

Forced Defrosting	“FREEZER SET” + “REFRIGERATOR SET” 5 times.
Explanation after delivery	“REFRIGERATOR SET” button 3 seconds after first power input.
Pull Down	“REFRIGERATOR SET” + “SUPER FREEZER” 5 times.
Demo function	“REFRIGERATOR SET” + “SUPER REFRIGERATOR” 5 times
Error display	“FREEZER SET” + “SUPER FREEZER”

4-9-2. FRS-20DD / FD, FRS-24DD / FD (Dispenser Model)

CONTENTS	REMARKS

1. Element A/S Function

Forced Defrosting	“FREEZER SET” + “REFRIGERATOR SET” 5 times.
Explanation after delivery	“REFRIGERATOR SET” button 3 seconds after first power input.
Reset water filter information	Push “RESET WATER FILTER” for 5 seconds.
Demo function	“REFRIGERATOR SET” + “SUPER REFRIGERATOR” 5 times

2. Special Function
- All the mode are started under test mode.
- Test Mode : Press “CRUSHED ICE” button 5 times while pushing “WATER” button at the same time.

Pull down	“FREEZER SET” + “REFRIGERATOR SET” + “WATER” 5 times.
Error Display Function	“FREEZER SET” + “SUPER FREEZER” 5 times.
EEPROM Clear	“WATER” + “RESET WATER FILTER” 5 times.
Ice Maker Test	“WATER” + “RESET WATER FILTER” 5 times.

4-10. Filter information & Function to adjust the amount of water
(Dispenser Models Only)

INPUT	CONTROL OBJECT
Temperature Control Buttons	88 Display Custom LED

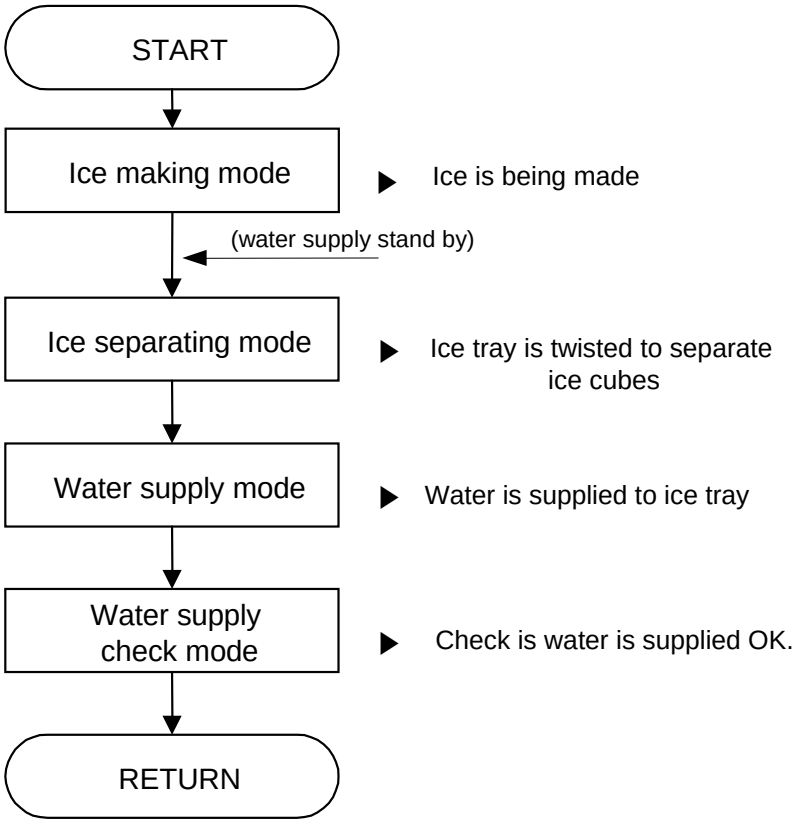
CONTENTS	REMARKS
Filter information 1. Filter Exchange Information : Record a real-time from the point of power input. - The filter is normal for 6 months after the first installation. - When the time comes to change or reset, press the WATER FILTER RESET button for 5 seconds. 2. Function of display of filter change time. [step1] Press CRUSHED ICE button 5 times while pushing WATER button at the same time. [step2] Press SUPER FREEZER button 5 times while pushing FREEZER SET button. [step3] Press FREEZER SET button 6 times successively. (Fi-Lt is display) [step4] Remaining time is display if DISPENSER button press. (ex, 40 12 means that 4012minutes remains until the filter exchange.) [END] Push RESET WATER FILTER or it is reset after 4 minutes.	
Adjust the amount of Water [step1] Press CRUSHED ICE button 5 times while pushing WATER button at the same time . [step2] Press SUPER FREEZER button 5 times while pushing FREEZER SET button. [step3] Press FREEZER SET button 5 times successively. (P100 is display.) - Initial setting P100 means 86cc water supply. [step4] Adjust the amount of water - If the amount is less than P100, press SUPER REFRIGERATOR button. : P101 (87cc), P102 (88cc), P103 (89cc)… - If the amount is more than P100, press REFRIGERATOR SET button. : P99 (85cc), P98 (84cc), P97 (83cc)… [END] Push RESET WATER FILTER or it is reset after 4 minutes.	

4-11. Automatic Icemaker (Dispenser Models Only)

INPUT	CONTROL OBJECT
Full ice sensing switch Ice Maker Lock Sensors	Ice separating motor

CONTENTS	REMARKS

1. Flow of ice making



1) Press TEST switch under the Icemaker for more than 1 second and test starts.
   * Test mode starts from ice separating mode.
   * In case test switch has an error of short, test is done only once.

CONTENTS	REMARKS

2) With the initial power input, Ice tray turns to be horizontal and ice making mode starts.

3) Control of water hose heater

* Heater is always ON if RT-sensor has an error or RT is below 15 degree.
* Heater is always ON for 60 minutes (max. Limit time) if Flow-sensor has an error

4) Water supply stand-by

Condition : if ice is sensed full

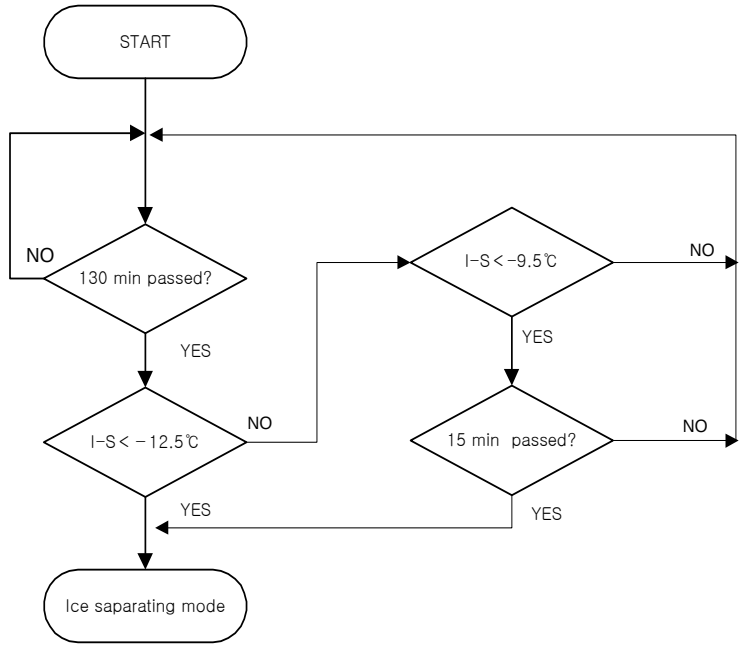
Operation : proceeds to Ice making mode (Ice separating and water supply Modes stop)

5) Crusher Function

It stops operation when freezer door is open

It operates if freezer door is closed.

2 Ice making mode



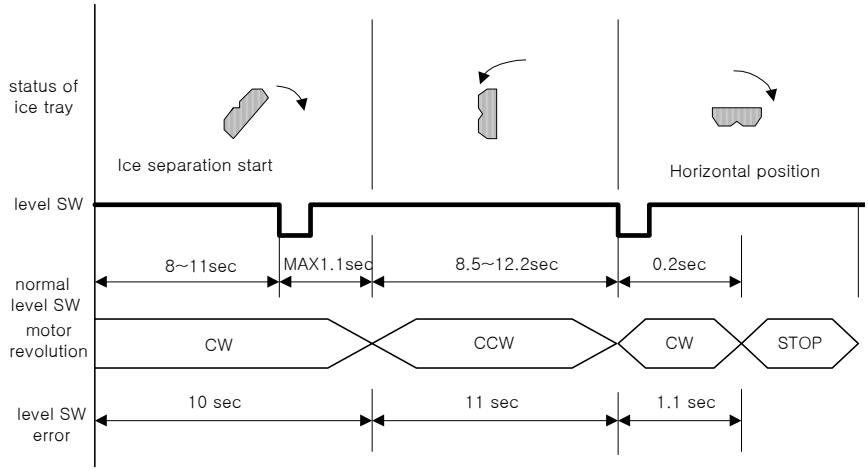
1) Ice making stops if ice-sensor is below -12.5℃ after 130 minutes.

2) Ice making also stops if ice-sensor is below -9.5℃ for 15 minutes, though ice-sensor is not below -12.5℃ after 130 minutes.

3) In case of ice sensor, ice making stops after 4.8 hours.

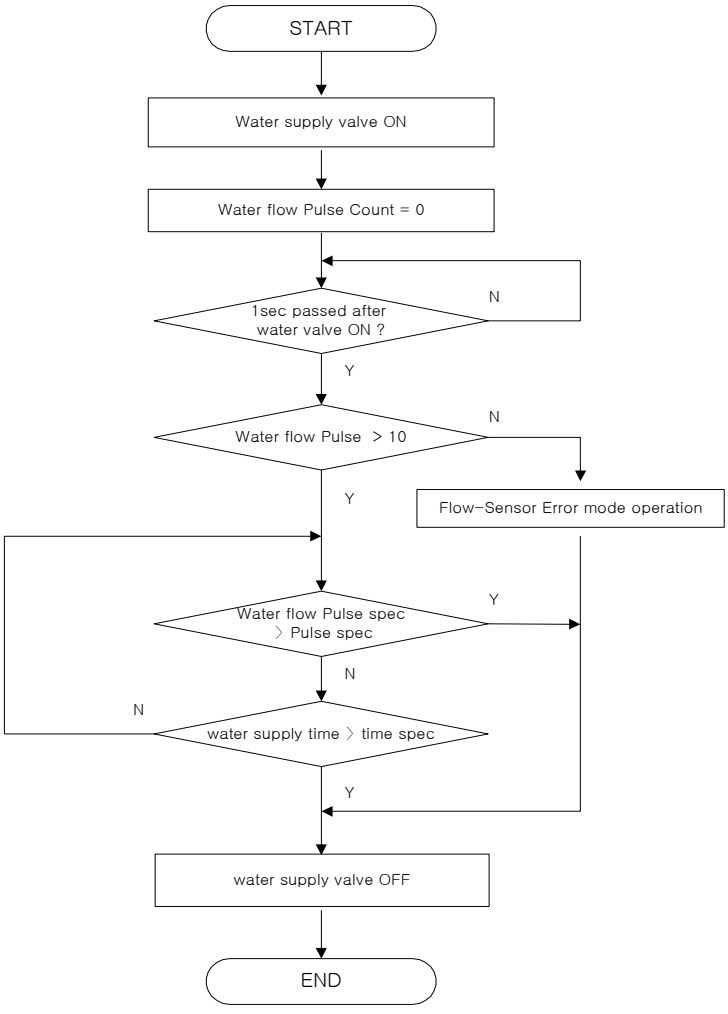
CONTENTS	REMARKS

3. Ice separating (drop) mode



1) Time of each zone used to verify level switch error
2) The rotation of motor is sensed at each zone
3) In case of level switch error, ice separation is done by time.
4) If ice separating motor has error, the mode stop.

4. Water supply mode



CONTENTS	REMARKS
1) Water supply valve is open when water supply mode starts after separation of ices. 2) Water is supplied by time in case sensor has error. 3) Factor valve is variable which can be useful in AS action ① Water flow pulse is set to 238 if flow sensor is in normal condition. (If water is supplied by time, maximum water supply time 165 seconds) ② In case water flow sensor has error, water time is 5.5 seconds. 5. Water supply check mode 5 minutes after water supply the status can be checked by RT-sensor and increase of temp. Ice sensor.	

RT-S	9℃ ↓	~15℃	~21℃	~31℃	~41℃	41℃ ↑
I-S	-10℃	-9℃	-8℃	-7℃	-6℃	-5℃

4-12. Dispenser Control Function

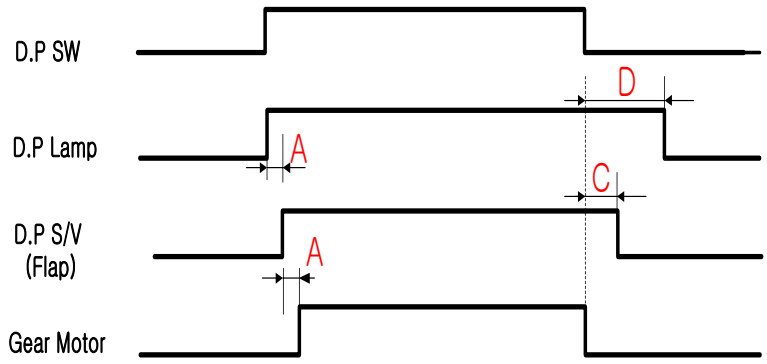
INPUT	CONTROL OBJECT
Dispenser switch WATER/ICE Button ICE MAKER LOCK Button Freezer Door Switch	Dispenser Lamp Crusher Motor Flap Solenoid Crusher Solenoid Dispenser Water Valve

CONTENTS	REMARKS
1) Initial mode : water (Mode change : Water → Cubed ice → Crushed ice) - Selected icon LED turns ON and others are OFF. 2) ICE MAKER LOCK Button Icemaker Lock function and its ICON Turn ON/OFF by pressing the button. 3) Display ① Water ICON turns ON as default mode ② The ICON of each mode turns ON by pressing its button. (If display switch makes error during operation of a mode, its ICON turns OFF) ③ When Icemaker Lock ICON turns ON. - ICE MAKER LOCK ICON turns ON - If it is in the mode of Cubed Ice or Crushed Ice, the mode is changed to Water and Water ICON turns ON - If there is no button input for 1 hour after selecting Cubed Ice or Crushed Ice the mode turns to Water (default)	

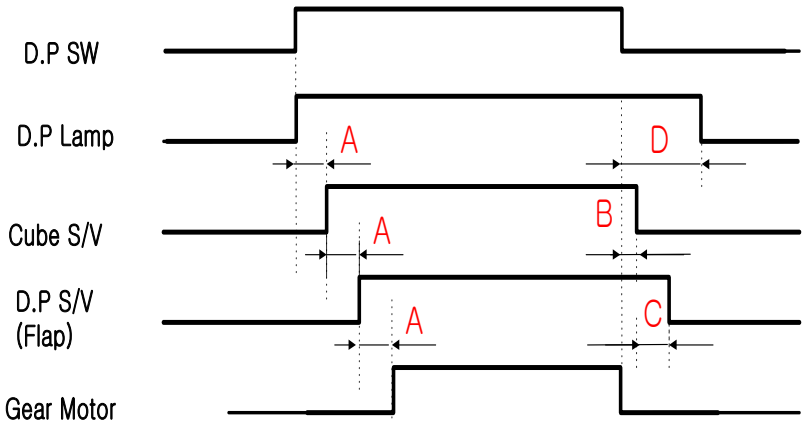
CONTENTS	REMARKS

4) Control Flow & Timing Chart

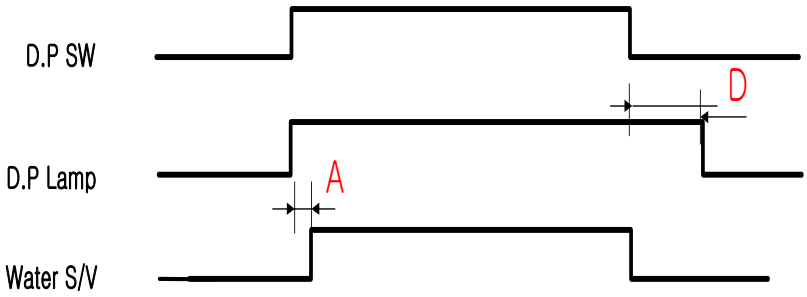
① Crushed Ice



② Cubed Ice



③ Water

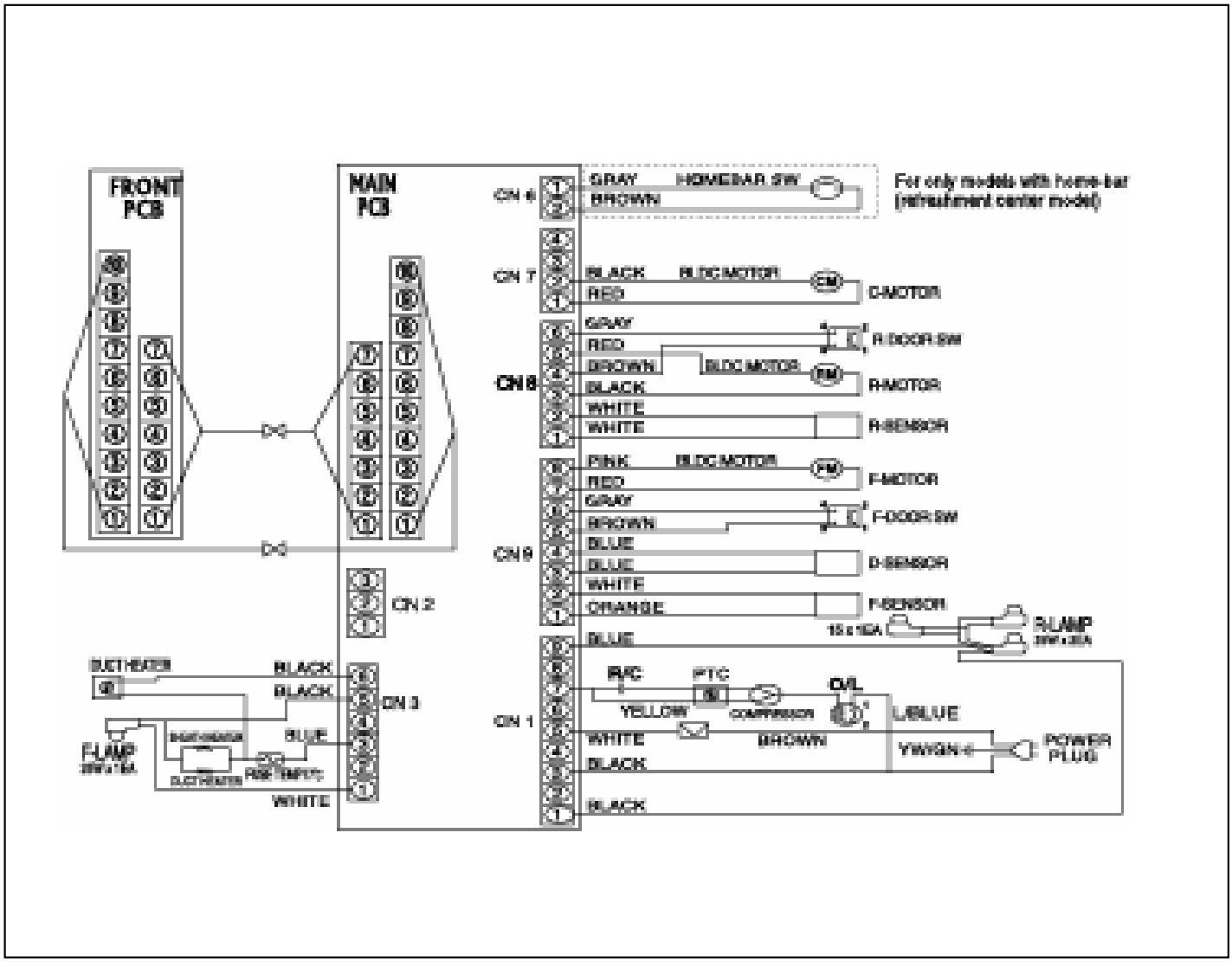


Delay time : A = 500ms, B = 500ms, C = 2.0s, D = 5.0s

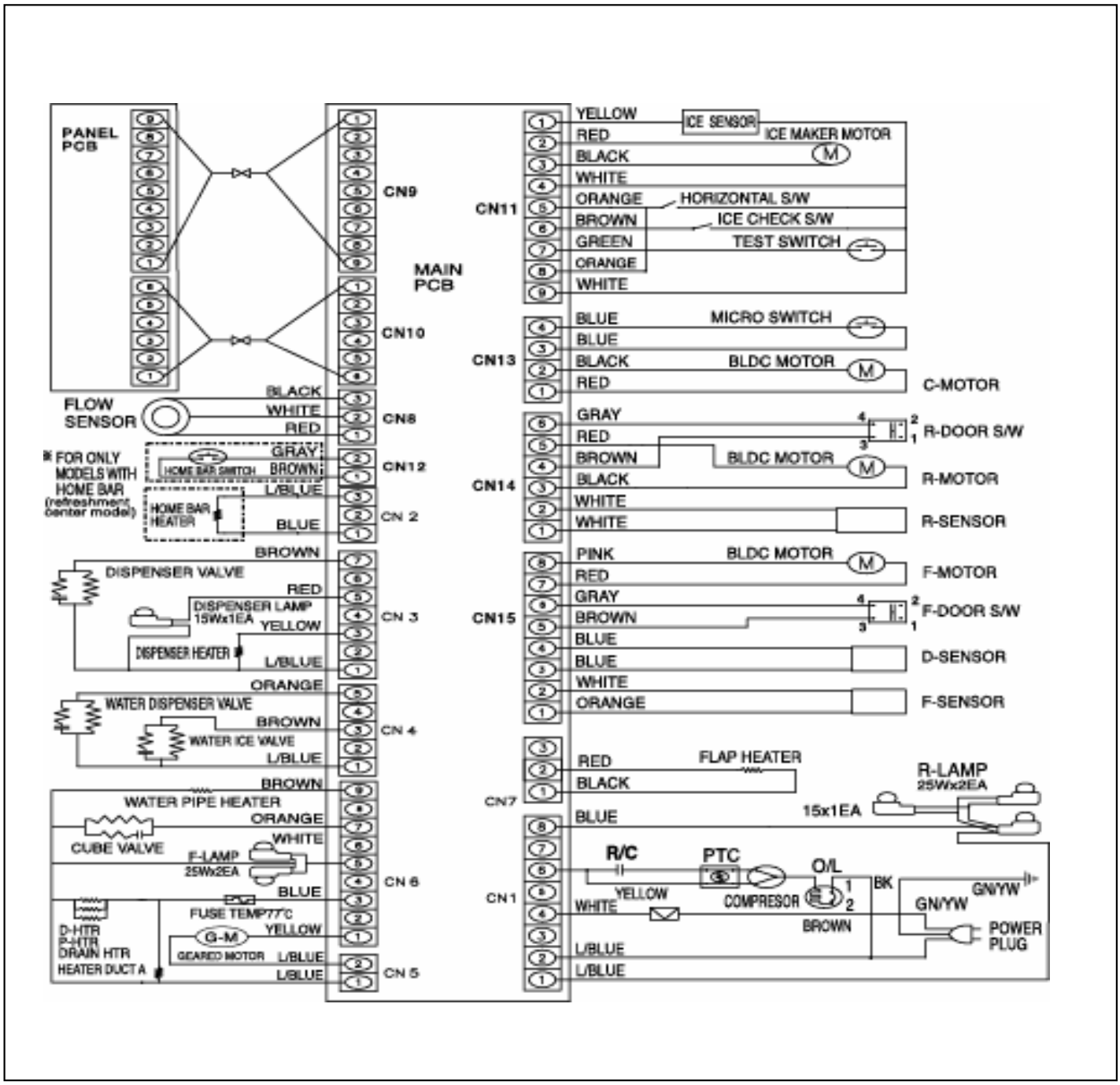
5. DIAGRAM

5-1. Wiring Diagram

■ FRS-20BD / 24BD
(Basic Model)



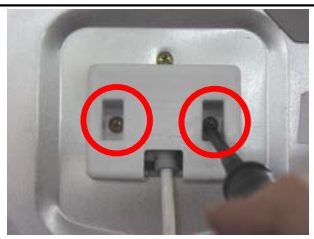
■ FRS-20DD / FD, 24DD / FD (Dispenser Model)



6. HOW TO CHECK EACH PARTS

6-1. Hose Ice Maker Tube Assembly

1) Disassembling Procedure

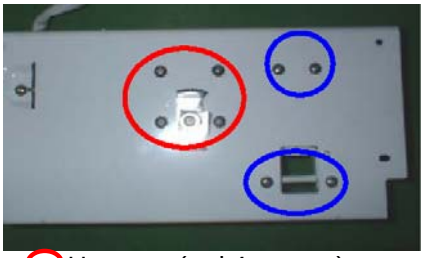
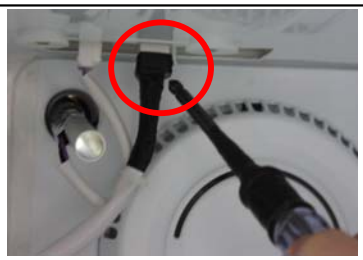
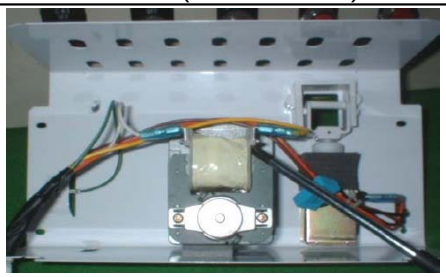
NO	DISASSEMBLING PROCEDURE	NO	DISASSEMBLING PROCEDURE
1	 ▷Pull forward Ice Storage Case	5	 ▷Remove 2 screws at the Cove Guide Cab W/Tube A.
2	 ▷Remove 2 screws.	6	 ▷Disassemble Cover Guide Cab W/Tube A
3	 ▷Pull forward Ice Maker.	7	 ▷Pull forward Hose Ice Maker Tube As.
4	 ▷Remove Water Hose Heater's 2P housing.	8	 ▷Check Hose Ice Maker Tube As.

2) How to check Hose Ice Maker Tube As.

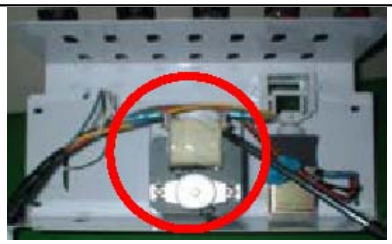
How to check	CRITERION
 ▷Measure the resistance of two wire	▷Good: 9680Ω(±8%) (8900 ~ 10456Ω) ▷If defective, change

6-2. Bracket Geared Motor Assembly

1) Disassembling Procedure

NO	DISASSEMBLING PROCEDURE	NO	DISASSEMBLING PROCEDURE
1	 ▷Remove 2 screws.	4	 ▷Pull forward Bracket Geared Motor.
2	 ▷Unscrew (4 points).	5	 Unscrew (red 4 screws). Unscrew (blue 4 screws).
3	 ▷Separate 6 pin housing of Bracket Geared Motor from the top connector.	6	 ▷Check Solenoid Valve and Geared Motor.

2) How to Check Hose Ice Maker Tube Assembly

PARTS	SPEC.	HOW TO CHECK	CRITERION
Geared Motor	▷SPEC. NAME :DAG-6502DEC ▷VOLTAGE :220/240V,50Hz	 ▷Check resistance value of 2 terminals with a Multi Tester.	▷GOOD : 11.3Ω(±10%) (10.8 ~ 12.7Ω) ▷DEFECTIVE ; Change the Geared Motor.
Cube Sol Valve	▷SPEC. NAME :Cube SN8 ▷VOLTAGE :220/240V,50Hz	 ▷Check resistance value of 2 terminals with a Multi Tester.	▷GOOD : 145Ω(±8%) (133 ~ 156Ω) ▷DEFECTIVE ; Change the Cube Sol Valve.

6-3. Dispenser Micro Switch

1) Disassembling Procedure

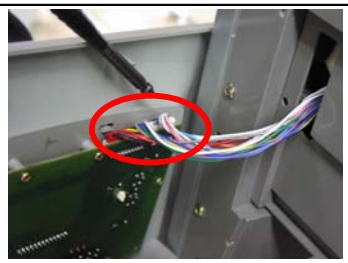
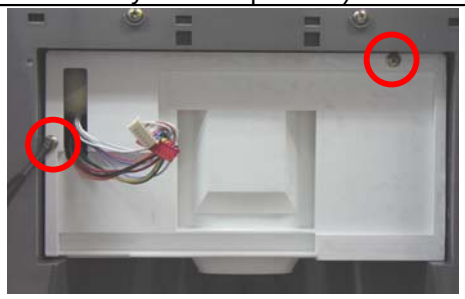
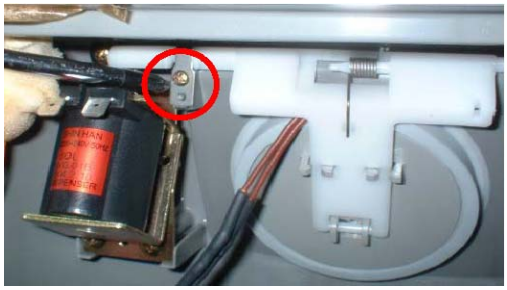
NO	DISASSEMBLING PROCEDURE	NO	DISASSEMBLING PROCEDURE
1	 ▷ Insert (-) screw driver into bottom hole of Dispenser Button Guide. Pull up forward to remove the guide. (Be careful not to damage guide surface.)	3	 ▷Separate wire connectors from Micro Switch.
2	 ▷ Remove Micro switch.	4	 ▷Check Micro Switch.

2) How to Check Micro Switch

PARTS	HOW TO CHECK	CRITERION
SPEC. NAME : VP333A-OD-8 VOLTAGE :125V,3A	 ▷Check both terminals (red circle) with a Multi Tester (Tester Mode : Resistance (Ω).	▷GOOD : Tact Switch (Blue Circle) / Terminals (Red circle) / Tester Result (Resistance Mode) ON (Close) / Connected / Some Value OFF (Open) / Disconnected / No value (0) ▷DEFECTIVE : Change Micro Switch.

6-4. Dispenser Solenoid Valve

1) Disassembling Procedure

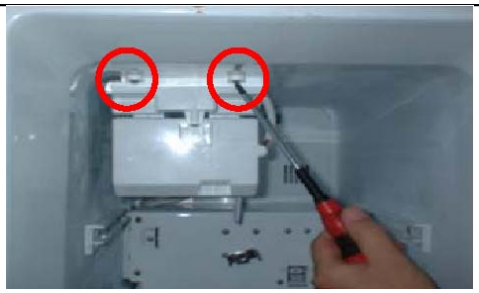
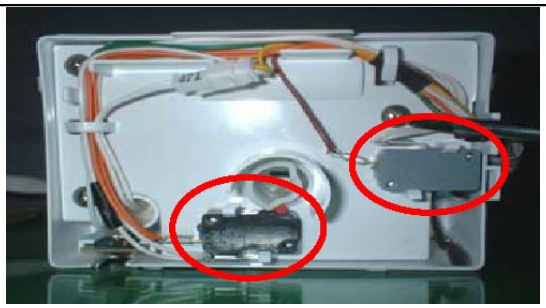
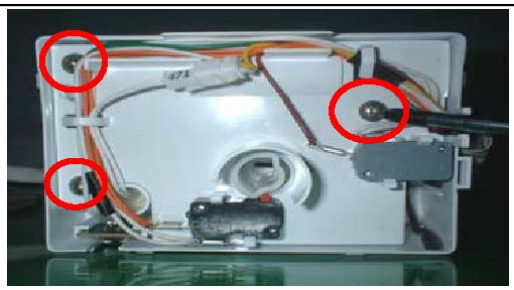
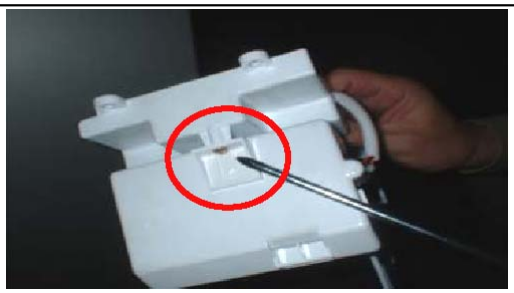
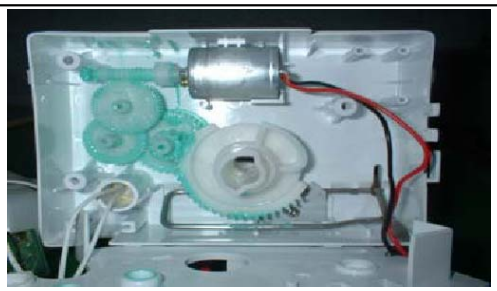
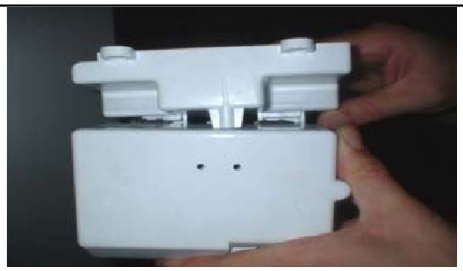
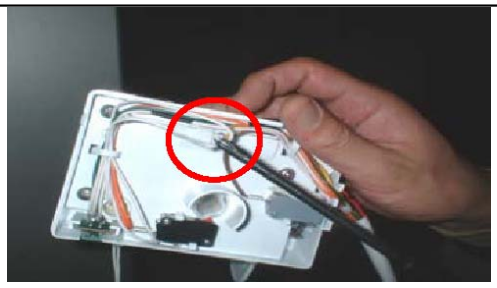
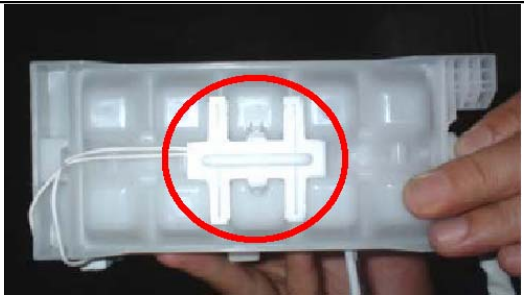
NO	DISASSEMBLING PROCEDURE	NO	DISASSEMBLING PROCEDURE
1	 ▷ Insert (-) screw driver into bottom left groove of Cover Dispenser Box. Pull forward with a snap.(Be careful not to damage cover and door surface.)	4	  ▷Separate 2 terminals from Sol Valve and 2P Housings from Cover Ice Flap.
2	 ▷ Separate 2 housings of 10P / 7P from Front PCB. (Do not hold only wires to pull out.)	5	 ▷Unscrew (3 points) to remove Sol Valve.
3	 ▷Unscrew (2 points) to remove Box Dispenser Shut.	6	 ▷Unscrew (1 point) to remove Cover Ice Flap.

2) How to Check Micro Switch

PARTS	SPEC.	HOW TO CHECK	CRITERION
Dispenser Sol Valve	▷SPEC. NAME :SOL2003-01B ▷VOLTAGE :220/240V,50Hz	 ▷Check resistance value of both terminals with a tester.	▷ Good : 215Ω(±10%) (193 ~ 236Ω) ▷DEFECTIVE : 0 Change Sol Valve.
Flap Heater Assembly	▷VOLTAGE :DC 12V,1.5W	 ▷Check resistance value of both terminals with a tester.	▷GOOD : 96Ω(±8%) (88 ~ 104Ω) ▷DEFECTIVE ; Change Flap Heater AS.

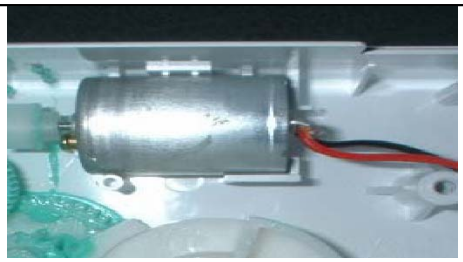
6-5. Ice Maker

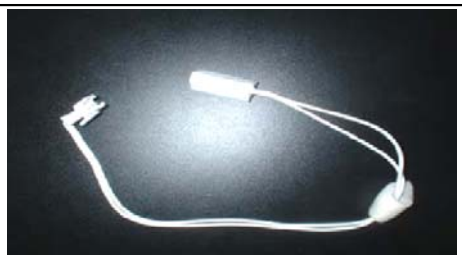
1) Disassembling Procedure

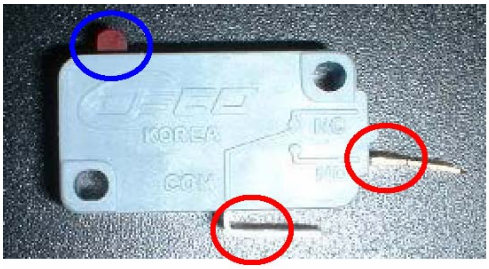
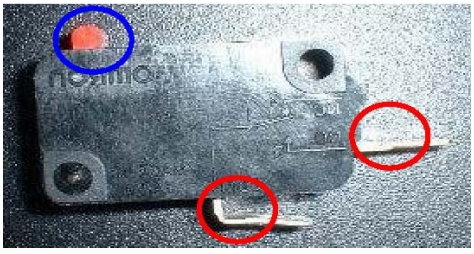
NO	DISASSEMBLING PROCEDURE	NO	DISASSEMBLING PROCEDURE
1	 ▷ Remove 2 screws on top front of ice maker.	6	 ▷Remove full ice sensing switch and level switch.
2	 ▷ Pull forward ice maker.	7	 ▷Unscrew (3 points) Plate Gear Fixture.
3	 ▷Unscrew Fixture of Frame Ice Maker.	8	 ▷ Check if ice dropping motor is normal (OK).
4	 ▷Separate Ice Maker Assembly from Frame Ice Maker.	9	 ▷Remove 2 pin housing from Plate Gear Fixture.
5	 ▷ Separate Cover I/M (A) from Cover I/M (B) with a (-) screw driver.	10	 ▷ Remove I-sensor (ice sensor) from Case Icing As.

* Follow the reverse order when assembling.

2) How to Check Ice Maker

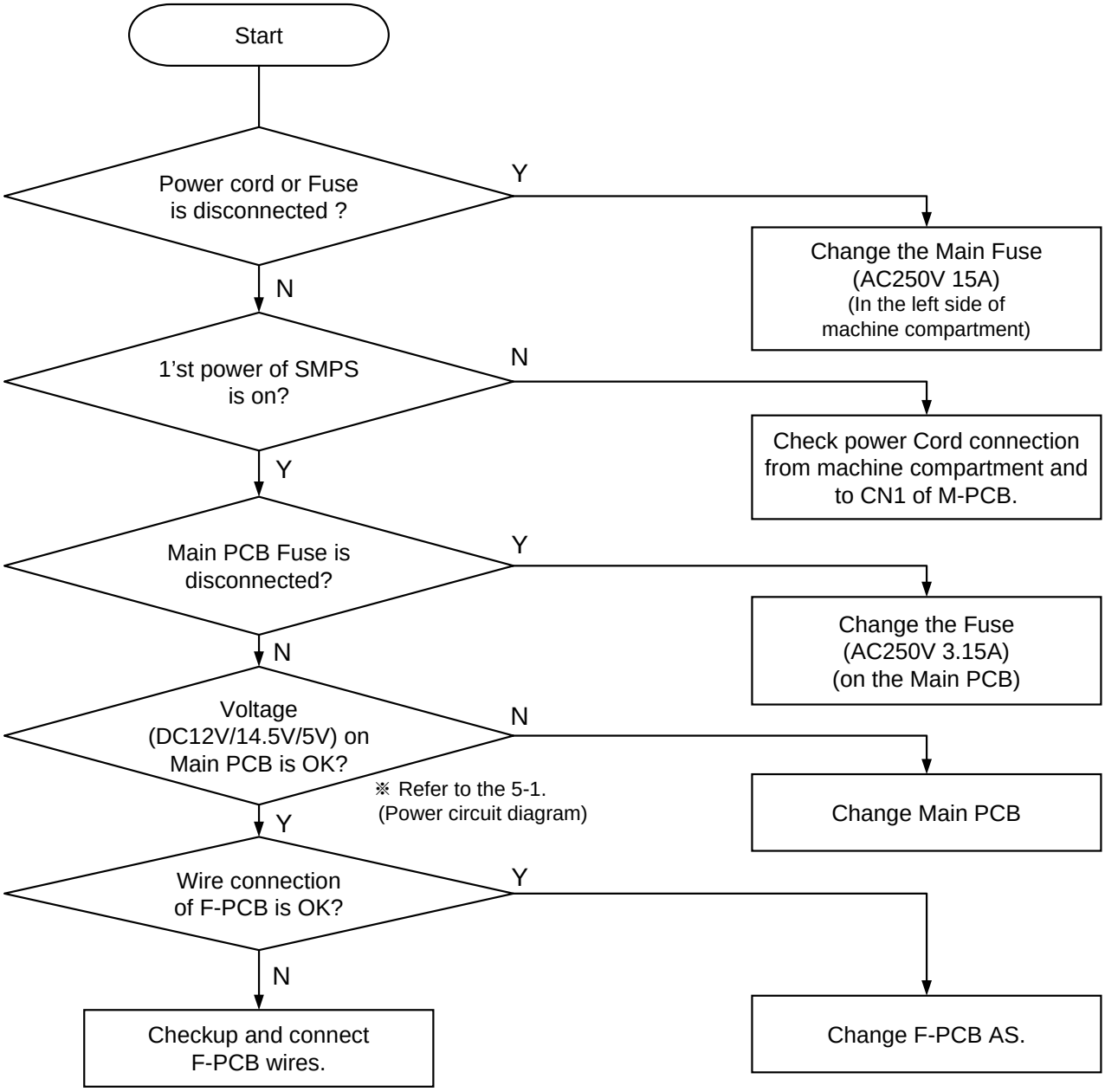
<table>
<tr><th>PARTS</th><th>HOW TO CHECK</th><th>CRITERION</th></tr>
<tr><td>Ice Dropping Motor</td><td> 
▷ Check resistance value of 2 wires with a Multi Tester.</td><td>▷ GOOD : RS-360RH-14250
: 6 ~ 14Ω

▷ DEFECTIVE :
Change the motor.</td></tr>
<tr><td>I-Sensor
(Ice Sensor)</td><td> 
▷ Check resistance value of 2 wires with a Multi Tester.</td><td>▷ GOOD : 4.4 ~ 50kΩ
(It depends on surround temp.)

▷ DEFECTIVE :
Change the sensor.</td></tr>
<tr><td>Full Ice
Sensing Switch</td><td> 
▷ Check resistance value of 2 terminals with a Multi Tester.</td><td>▷ GOOD :
<table><tr><th>Tact Switch (Blue Circle)</th><th>Terminals (Red circle)</th><th>Tester Result (Resistance Mode)</th></tr><tr><td>ON (Close)</td><td>Connected</td><td>Some Value</td></tr><tr><td>OFF (Open)</td><td>Disconnected</td><td>No value (0)</td></tr></table>▷ DEFECTIVE :
Change the switch.</td></tr>
<tr><td>Level Switch</td><td> 
▷ Check resistance value of 2 terminals with a Multi Tester.</td><td>▷ GOOD :
<table><tr><th>Tact Switch (Blue Circle)</th><th>Terminals (Red circle)</th><th>Tester Result (Resistance Mode)</th></tr><tr><td>ON (Close)</td><td>Connected</td><td>Some Value</td></tr><tr><td>OFF (Open)</td><td>Disconnected</td><td>No value (0)</td></tr></table>▷ DEFECTIVE :
Change the switch.</td></tr>
</table>

7. TROUBLE DIAGNOSIS

7-1. Faulty Start (F/R lights OFF , F-PCB Power OFF)

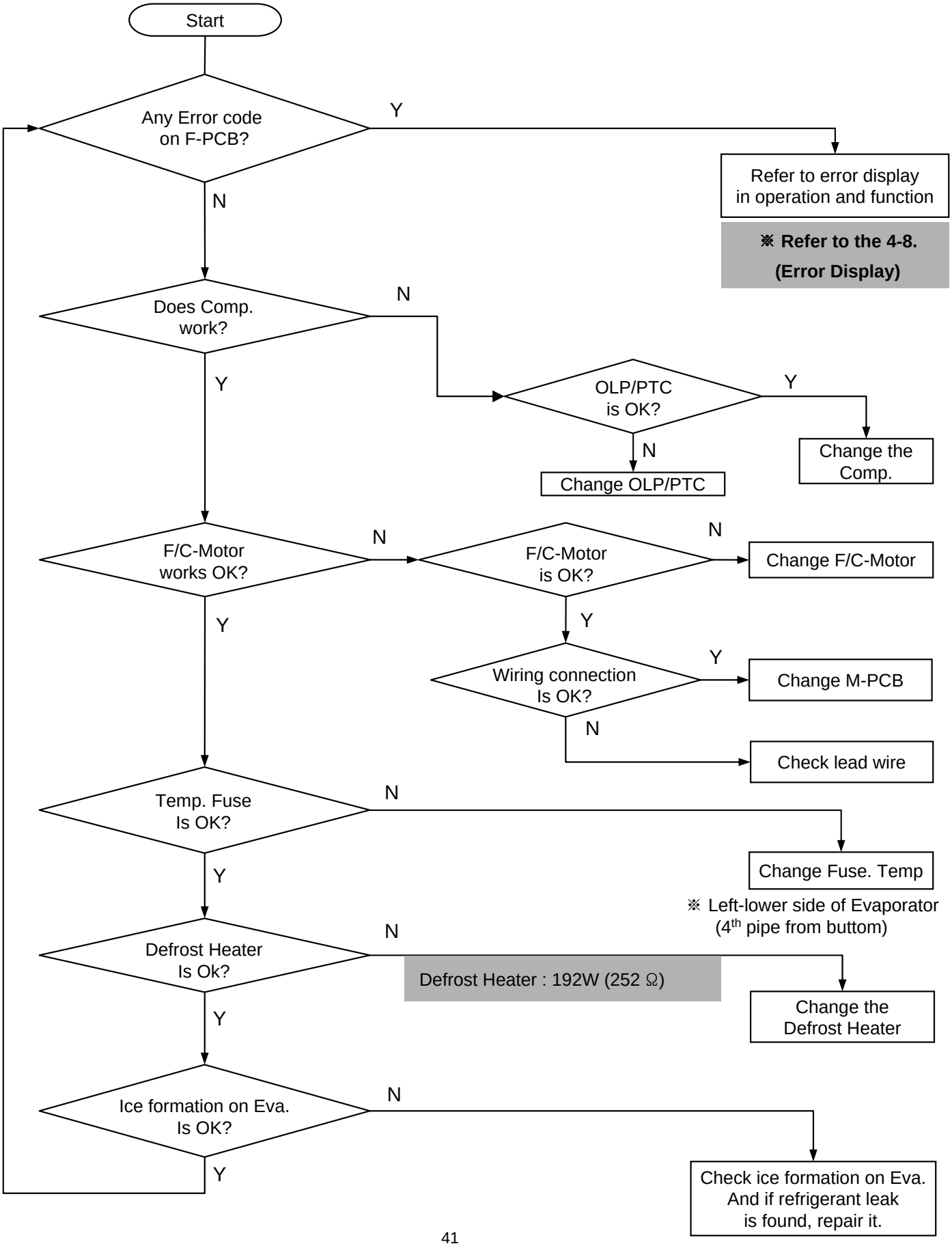


※ How to replace Front PCB (Dispenser Mode)

1) Insert a flat tip driver into the left down groove of panel frame and snap it out smoothly.
2) Separate 2 housings of 10P / 7P from Front PCB. (Do not hold only wires to pull out.)
3) Unscrew (7 points) to remove Front PCB.
* Follow the reverse order when assembling.

7-2. Freezer Compartment

7-2-1. Freezing failure . (Foods are not frozen / cold.)



Removing and replacing Freezer parts

(1)

1) Remove foods.
2) Remove Ice Bucket, shelves and cases in Freezer compartment.

(2)

* Remove 2 screws of Ice Maker.

(3)

* Remove the Housing of Ice Maker AS. (Right side)

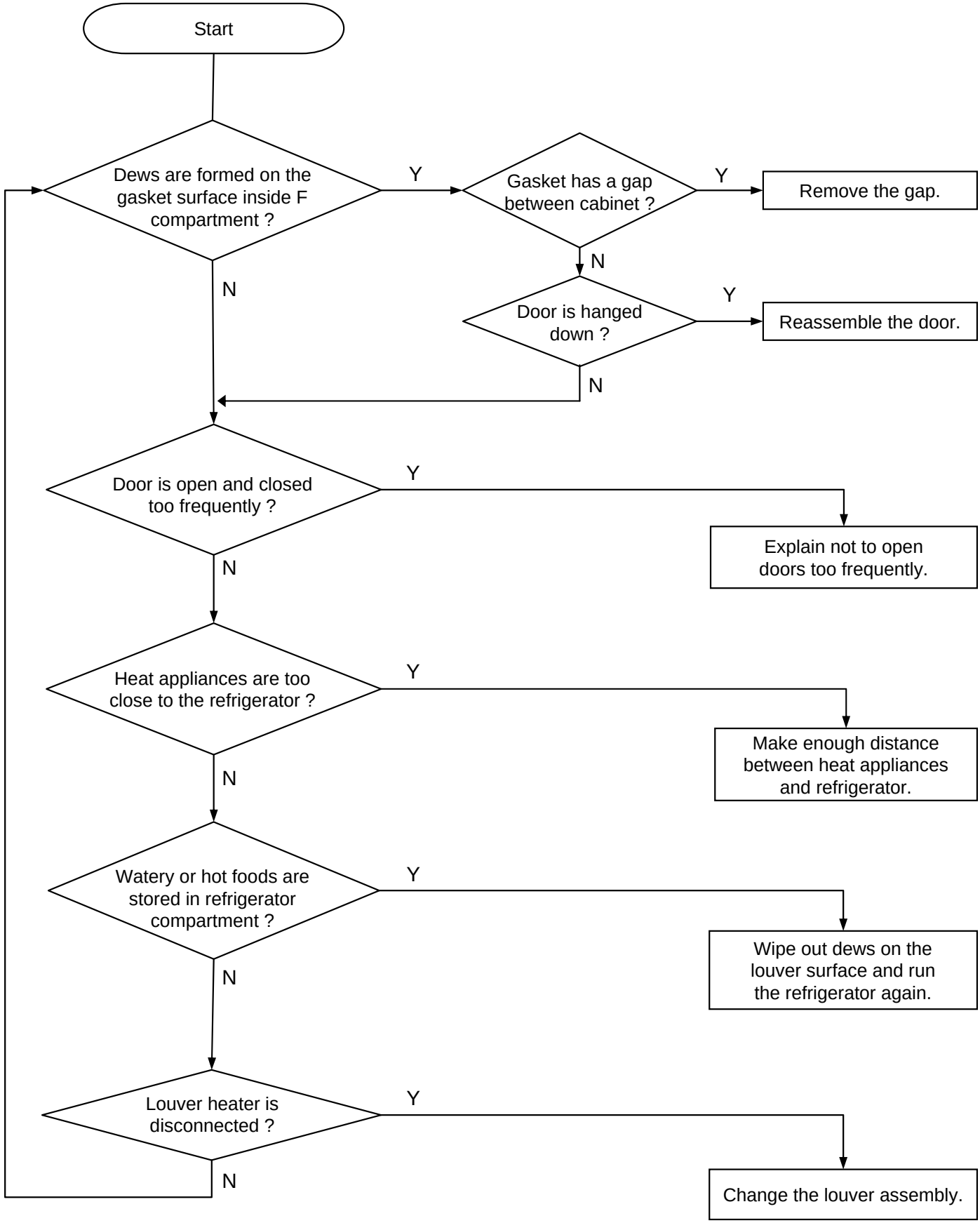
(4)

* Remove 4 screws of Geared Motor.

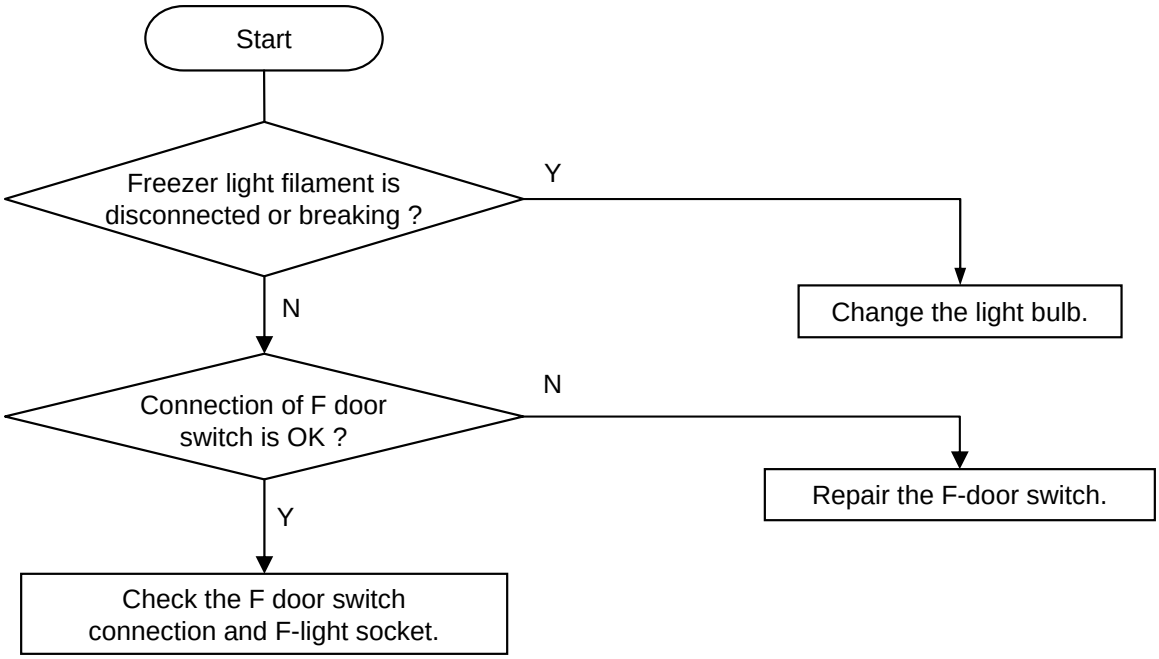
(5)

* Remove the Housing of Geared Motor AS. (Center)

7-2-2. Ice Formation on F-Louver



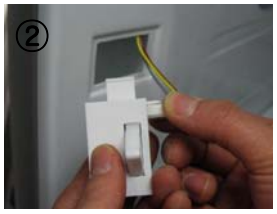
7-2-3. Disconnection / breaking of Freezer Lights Wires



Change of F Door Switch

* Insert a flat tip screw driver Into a gap of door switch to pull forward.

▼



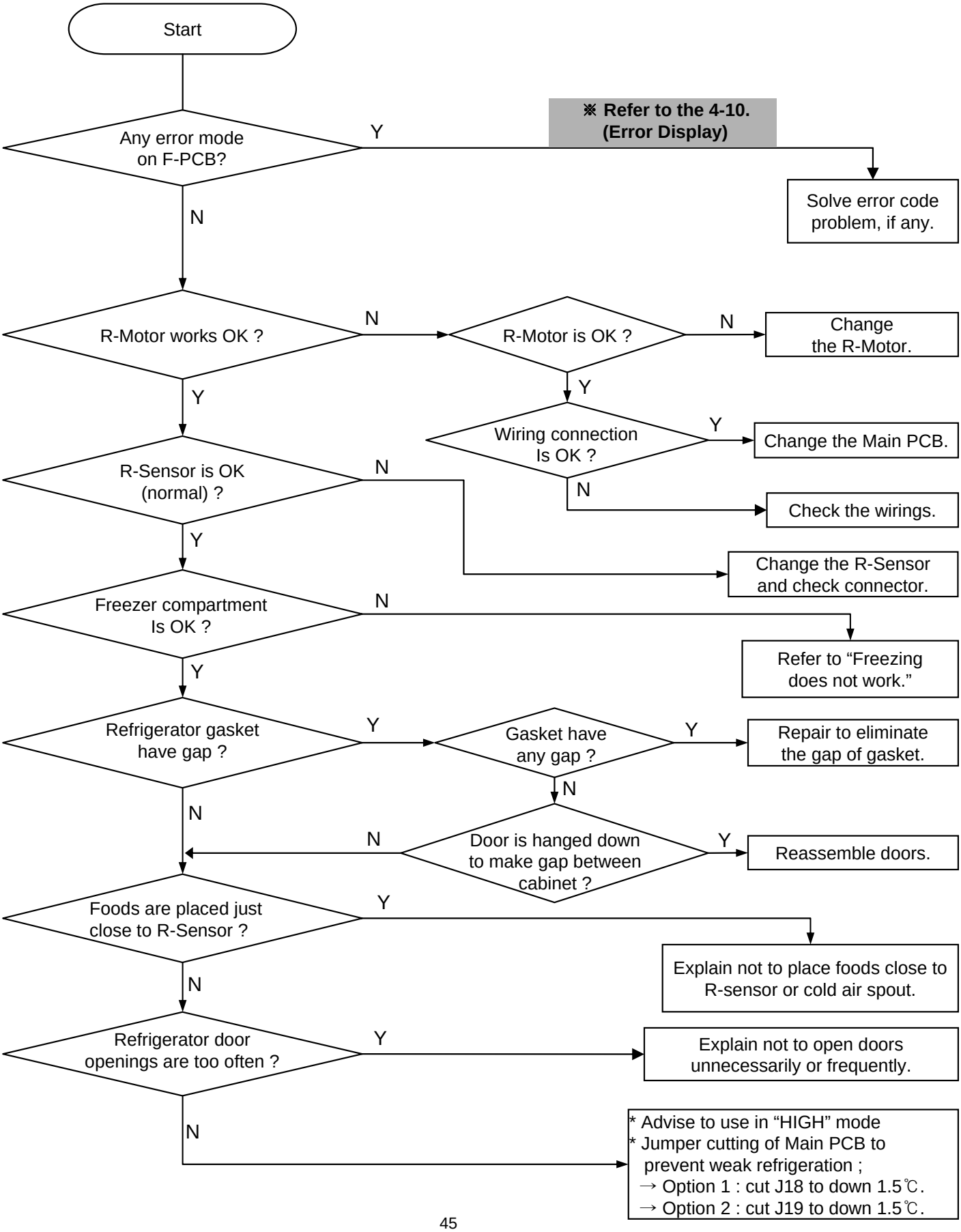
* Disconnect the housing and change the switch for a new one.

※ Be careful when changing the switch. F and R door switch are different in type and shape.

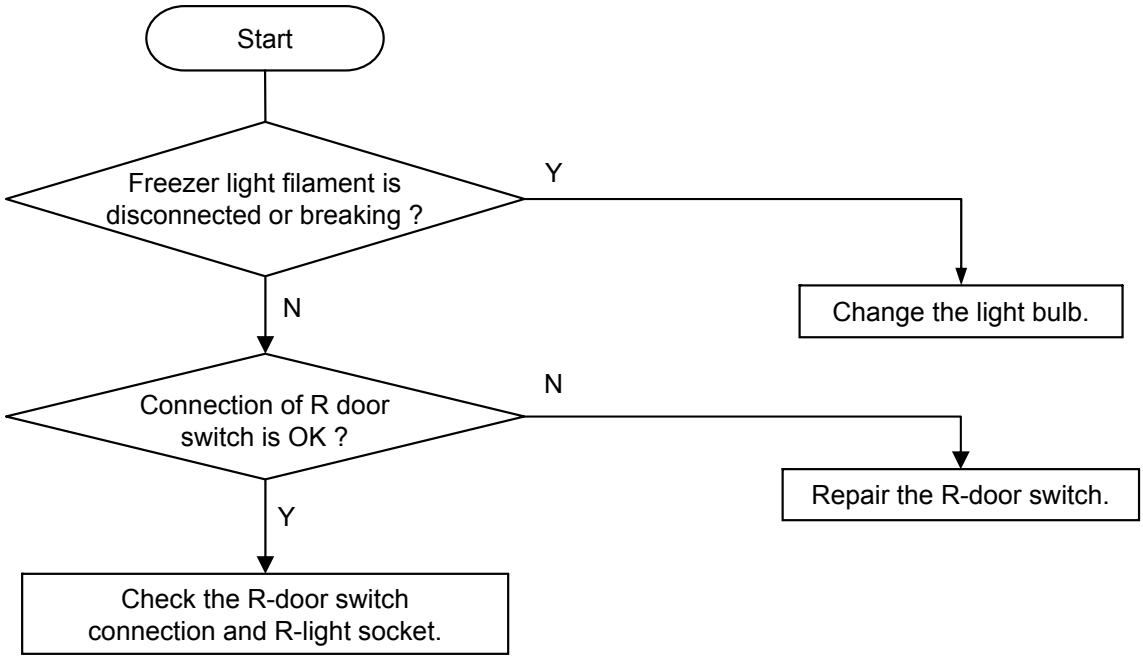
※ Follow the reverse order of disassembling after changing the switch.

7-3. Refrigerator Compartment

7-3-1. Refrigeration failure (Foods does not get cool or cold soon.)



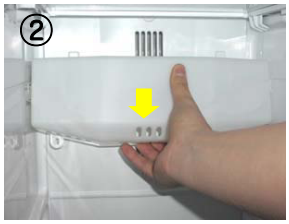
7-3-2. Disconnection / Breaking of Refrigerator Lights Wires



Change of F Lights

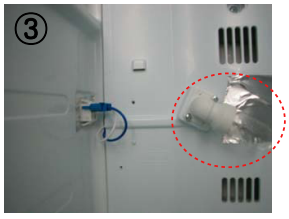
* Remove screws of light cover.

▼



* Hold the bottom of cover and pull forward to remove.

▼



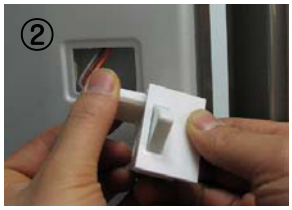
* Change the light bulbs.

※ Follow the reverse order of disassembling after changing the light.

Change of Door Switch

* Insert a flat tip screw driver into a gap of door switch to pull forward.

▼

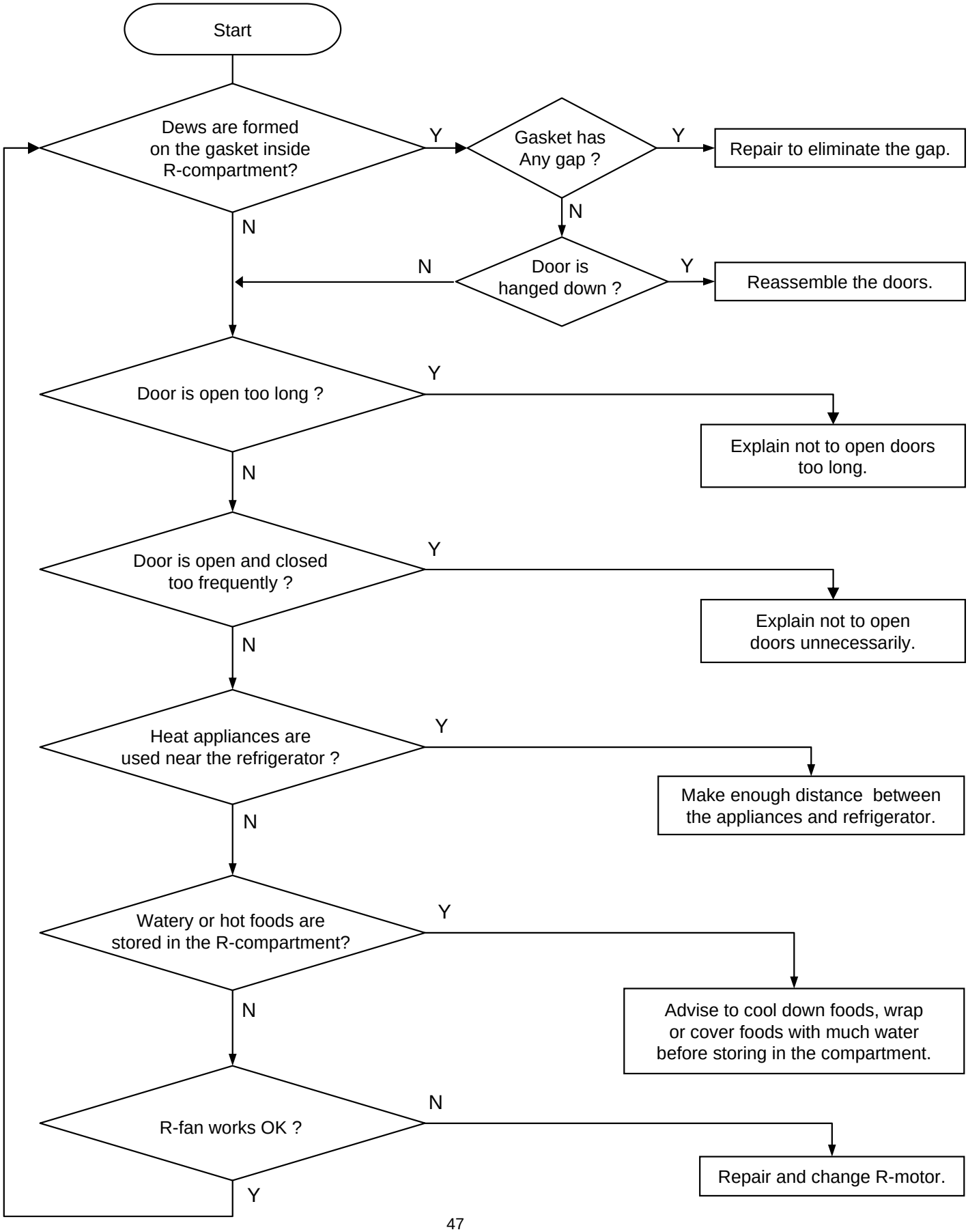


* Disconnect the housing and change the switch for a new one.

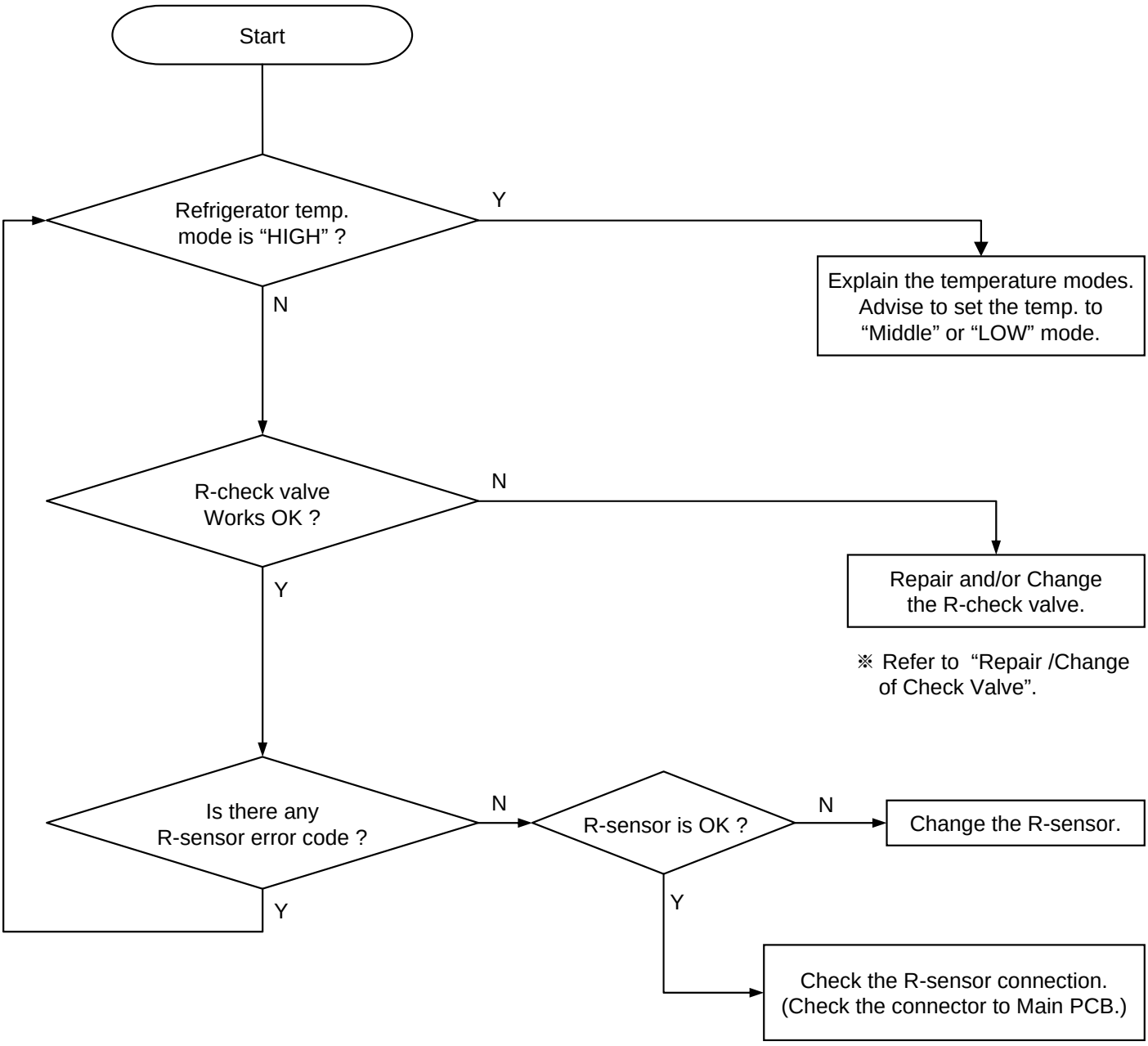
※ Be careful when changing the switch. F and R door switch are different in type and shape.

※ Follow the reverse order of disassembling after changing the switch.

7-3-3. Dews on Refrigerator Compartment



7-3-4. Excessive Refrigeration of Vegetable Case



Removing of Check Valve

* Remove foods and shelves of R-compartment.

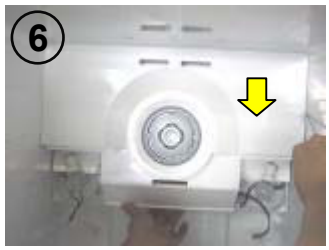
* Remove screws caps with a tiny tip screw driver.

Remove light cover screws with a (+)screw driver.

Hold the bottom of cover to pull down.

Disconnect light housing.

Remove screws with a (+) screw driver.

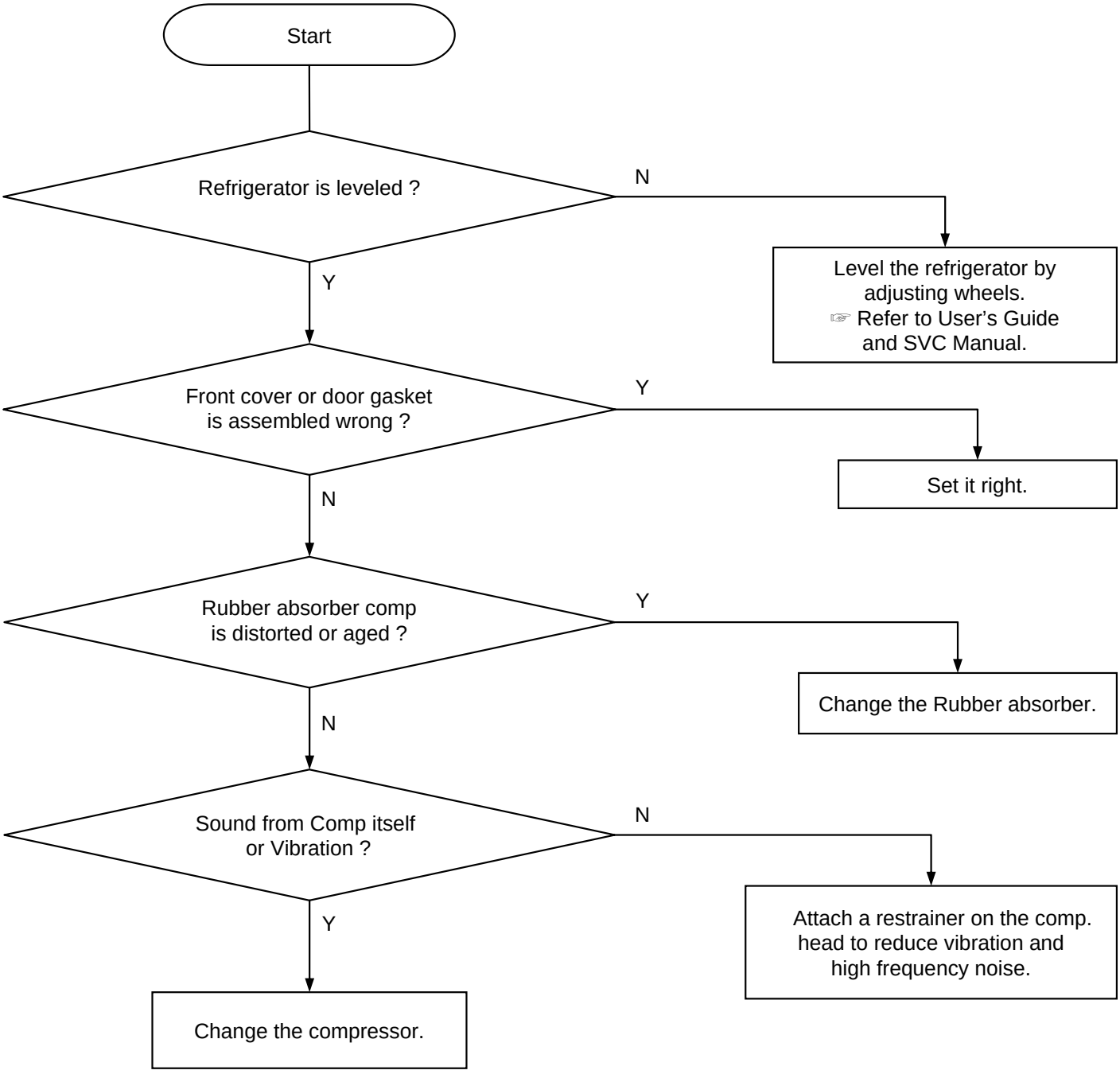


Hold the bottom and right of damper to pull down to remove.

Lift up a piece of Check Valve Flap and insert a finger to the valve frame to hold out.

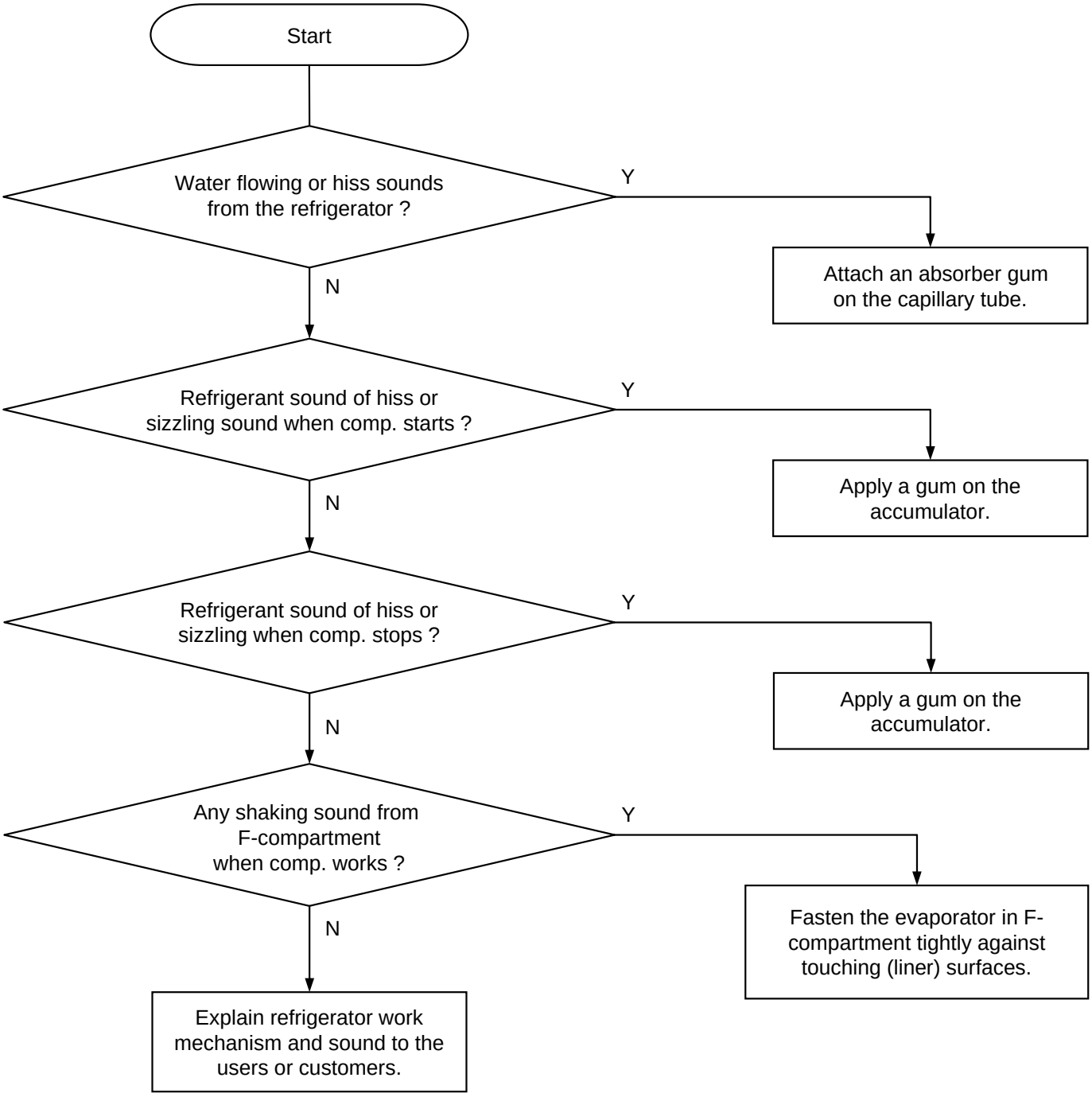
7-4. Operation Noise of Refrigerator

9-4-1. Comp. operation Noise



Remarks
● Compressor sound is somewhat normal because it works like a heart to circulate the refrigerant in the pipes during the refrigerator operation. ● Rattling or metallic touch sound of motor, piston of comp. can be heard when it starts or stops.

7-4-2. Refrigerant Flow Sound

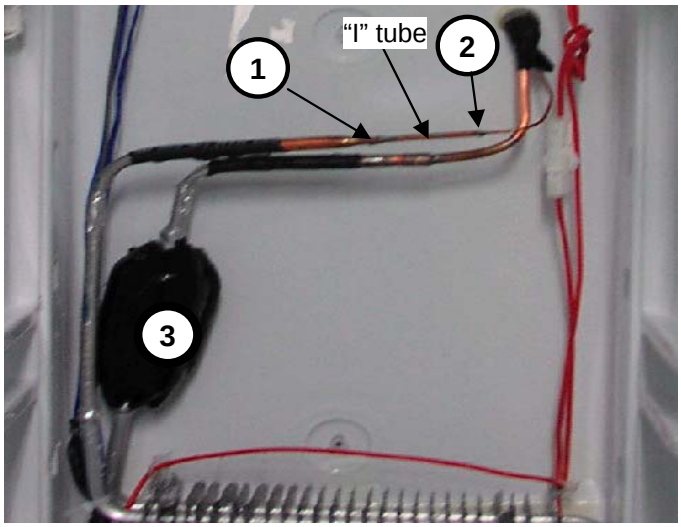


Remarks

● Water flowing sound, hiss or sizzling sound can make while refrigerant in the pipes is changing from liquid to gas state when comp. starts or stops.
It is normal to the refrigerator.

Troubleshooting of Evaporator Sound

1. Hiss Sound from Capillary Tube



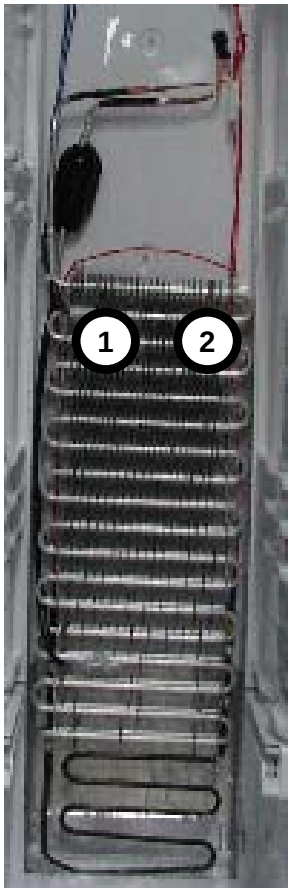
1) "I" tube is used to connect the capillary tube and evaporator. (2 welding points : ①, ②)

2) When such a sound is made, attach a absorber on the tube including 2 welding points.

2. Sizzling Sound from Accumulator

Attach a absorber on point ③ (accumulator).

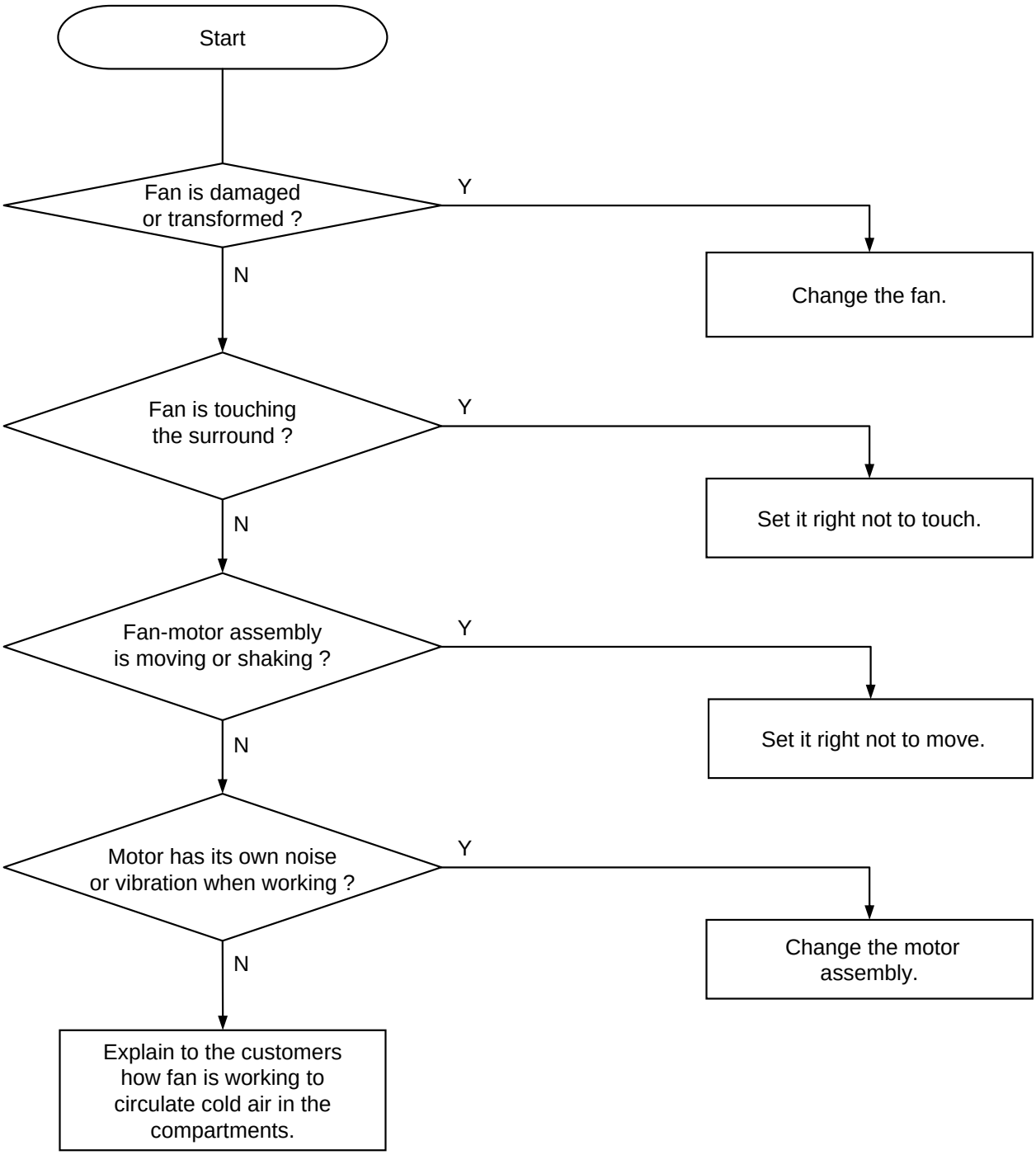
3. Shaking or trembling Sound of Evaporator



1) Check whether evaporator is fastened tight with the fasteners of ①, ②.

2) Insert a soft spacer (EPS) between left and right wall. Evaporator not to be shaken or trembled during refrigerator operation.

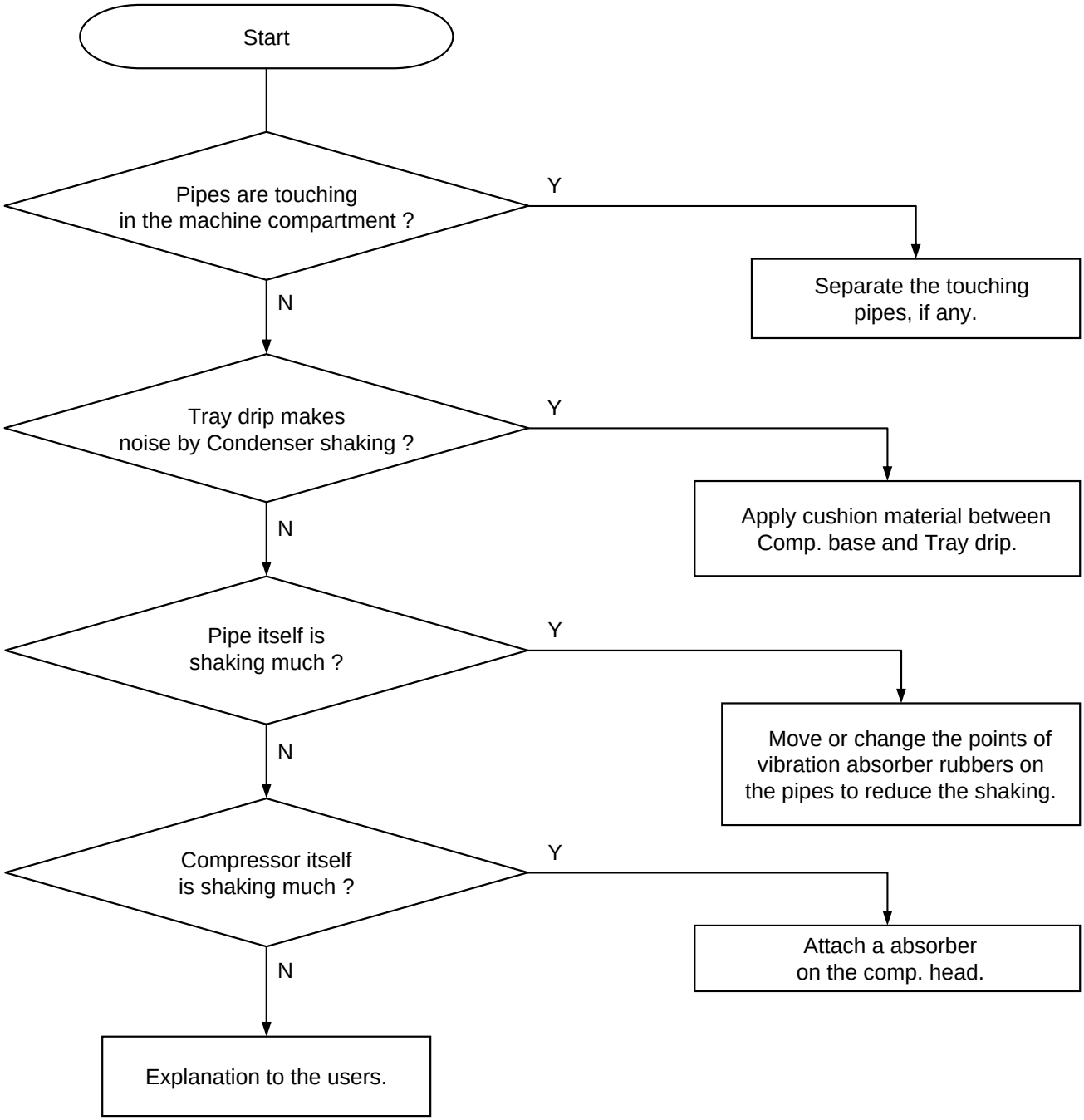
7-4-3. Fan Noise



Remarks

● The fan is sending out cold air to circulate it through the compartments.
When the air is touching the surface of louver or liner wall, such sound can make.

7-4-4. Pipe Noise

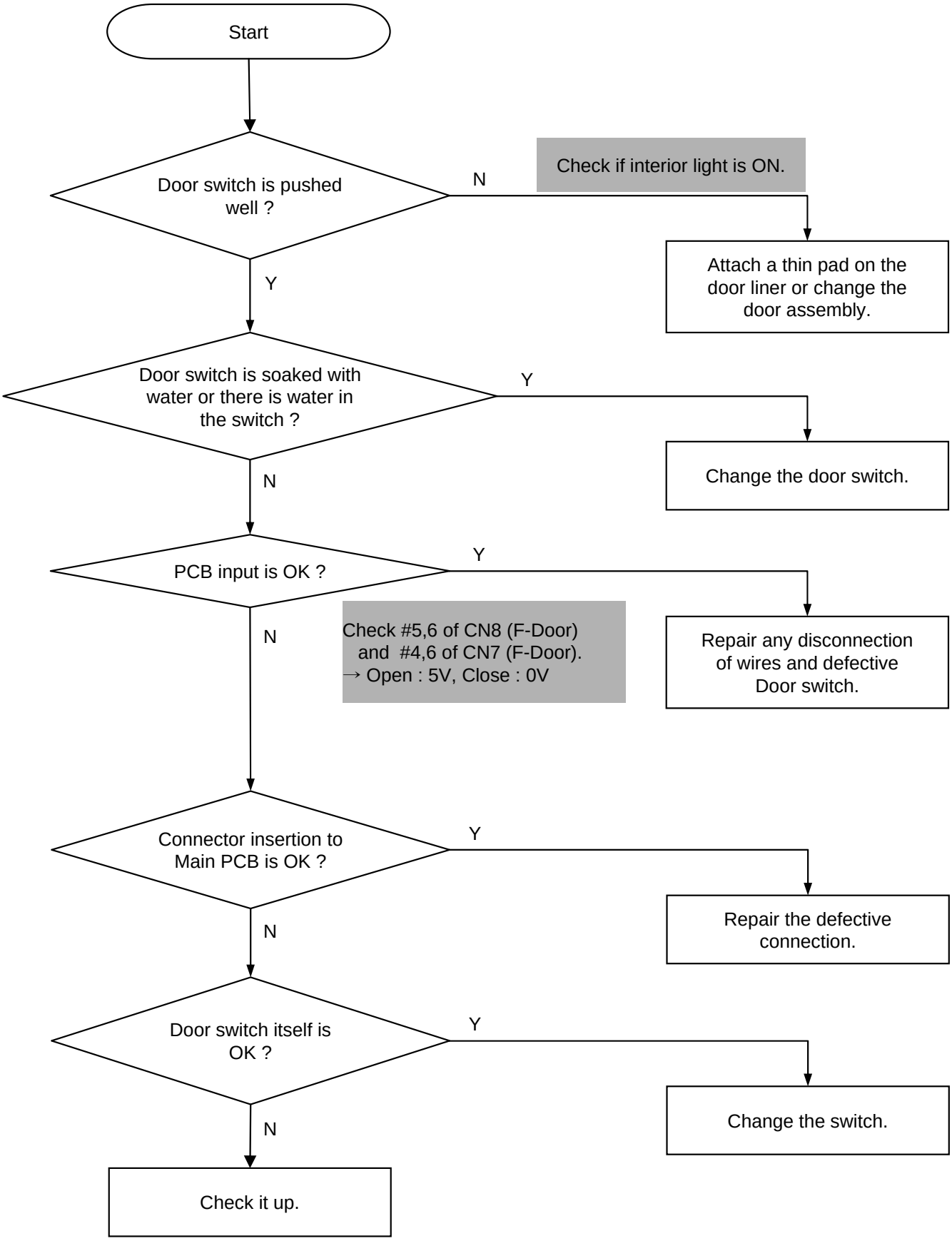


Remarks

- Refrigerant is erupting rapidly from the compressor to circulate pipes, so pipe shaking noise can make to some degree.
- In case compressor vibration is sent to a pipe directly, apply vibration absorber rubbers to welding points of the pipe and comp. or to a much bent point on the pipe.

7-5. Door

7-5-1. Door Opening Alarm Continues though the door is closed.

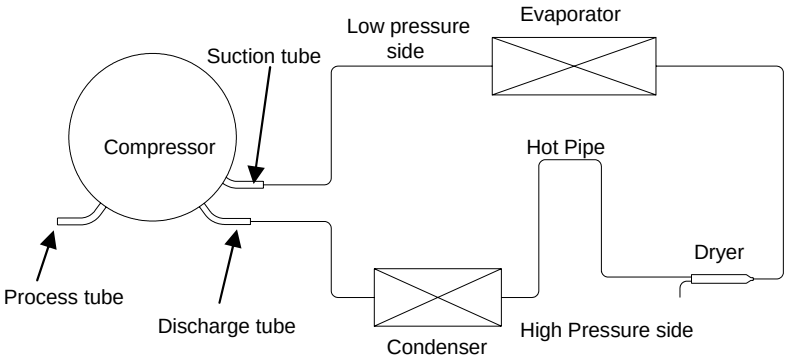


8. COOLING CYCLE HEAVY REPAIR

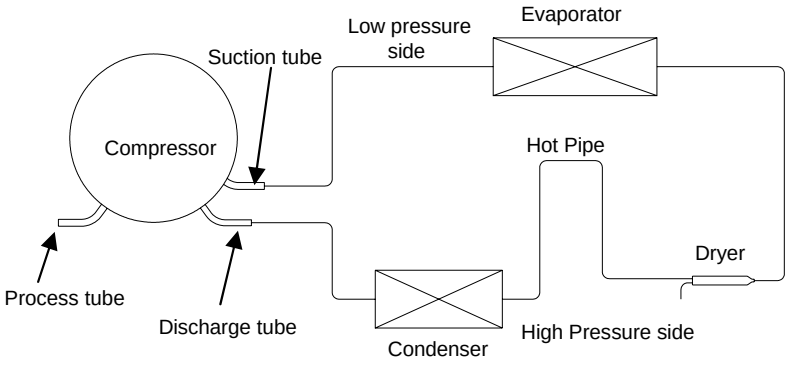
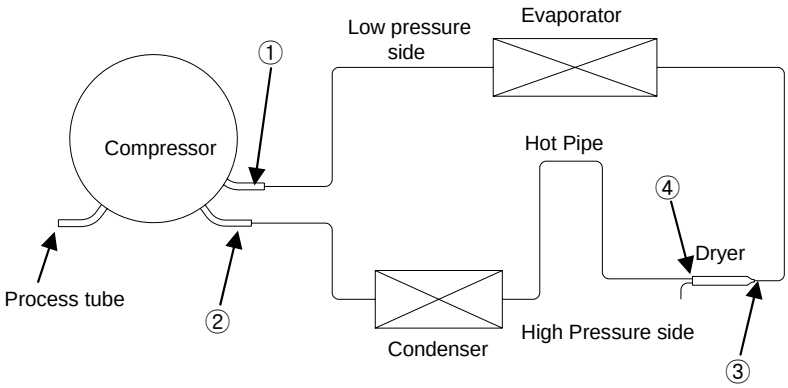
8-1. Summary of Heavy Repair

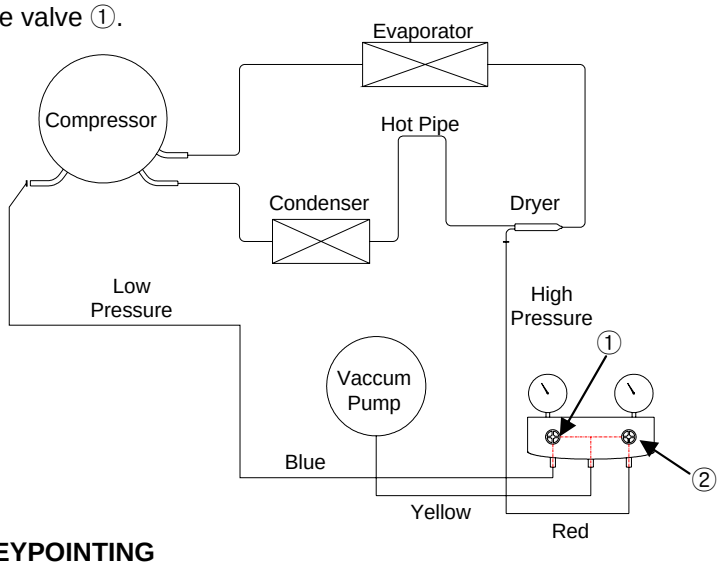
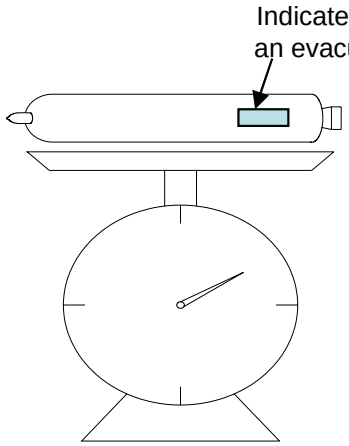
Process	Contents	Tools
Remove refrigerant Residuals	* Cut charging pipe ends (Comp. & Dryer) and discharge refrigerant from drier and compressor.	* Nipper, side cutters
Parts replacement and welding	* Confirm refrigerant (R-134a) and oil for compressor and drier. * Confirm N2 sealing and packing conditions before use. Use good one for welding and assembly. * Weld under nitrogen gas atmosphere. * Repair in a clean and dry place.	* Pipe Cutter, Gas welder, N2 gas
Vacuum	* Evacuate for more than forty minutes after connecting manifold gauge hose and vacuum pump to high (drier) and low (compressor) pressure sides.	* Vacuum pump , Manifold gauge.
Refrigerant charging and charging inlet welding	* Weigh and control the bombe in a vacuum conditions with electronic scales and charge through compressor inlet (Process tube). * Charge while refrigerator operates). * Weld carefully after inlet pinching.	* Bombe (mass cylinder), refrigerant manifold gauge, electronic scales, punching off flier, gas welding machine
Check refrigerant leak and cooling capacity	* Check leak at weld joints. Note :Do not use soapy water for check. * Check cooling capacity → Check condenser manually to see if warm. → Check hot pipe manually to see if warm. → Check frost formation on the whole surface of the evaporator.	* Electronic Leak Detector, Driver.
Compressor compartment and tools arrangement	* Remove flux from the silver weld joints with soft brusher wet rag. (Flux may be the cause of corrosion and leaks.) *Clean tools and store them in a clean tool box or in their place.	* Copper brush, Rag, Tool box
Transportation and installation	* Installation should be conducted in accordance with the standard installation procedure. (Leave space of more than 5 cm from the wall for compressor compartment cooling fan mounted model.)	

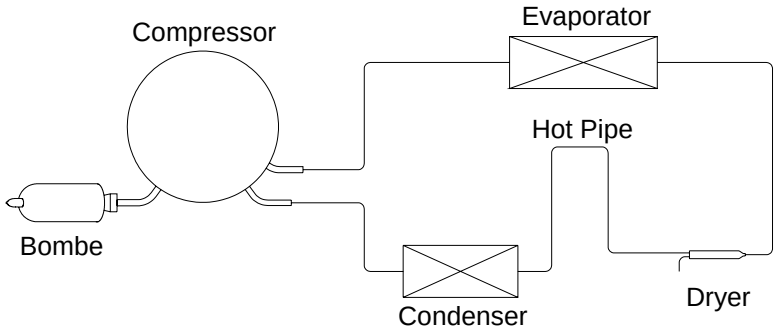
8-2. Precautions During Heavy Repair

Items	Precautions
Use of tools.	1) Use special parts and tools for R-134a.
Removal of retained refrigerant.	1) Remove retained refrigerant more than 5 minutes after turning off a refrigerator. (If not, oil will leak inside.) 2) Remove retained refrigerant by cutting first high pressure side (drier part) with a nipper and then cut low pressure side. (If the order is not observed, oil leak will happen.) 
Replacement of drier.	1) Be sure to replace drier when repairing pipes and injecting refrigerant.
Nitrogen blowing welding.	1) Weld under nitrogen atmosphere in order to prevent oxidation inside a pipe. (Nitrogen pressure : 0.1~0.2 kg/cm2.)
Others.	1) Nitrogen only should be used when cleaning inside of cycle pipes inside and sealing. 2) Check leakage with an electronic leakage tester. 3) Be sure to use a pipe cutter when cutting pipes. 4) Be careful not the water let intrude into the inside of the cycle.

8-3. Practical Work for Heavy Repair

Items	Precautions
1. Removal of residual refrigerant.	1) Remove residual refrigerant more than 5 minutes later after turning off the refrigerator. (If not, compressor oil may leak inside.) 2) Remove retained refrigerant slowly by cutting first high pressure side (drier part) with a nipper and then cut low pressure side. 
2. Nitrogen blowing welding.	 *** When replacing a drier:** Weld ①and② parts by blowing nitrogen (0.1~0.2kg/cm2) to high pressure side after assembling a drier. *** When replacing a compressor:** Weld ③and④ parts by blowing nitrogen to the low pressure side. Note) For other parts, nitrogen blowing is not necessary because it does not produce oxidized scales inside pipe because of its short welding time. **※ KEYPOINTING** Welding without nitrogen blowing produces oxidized scales inside a pipe, Which affect on performance and reliability of a product.

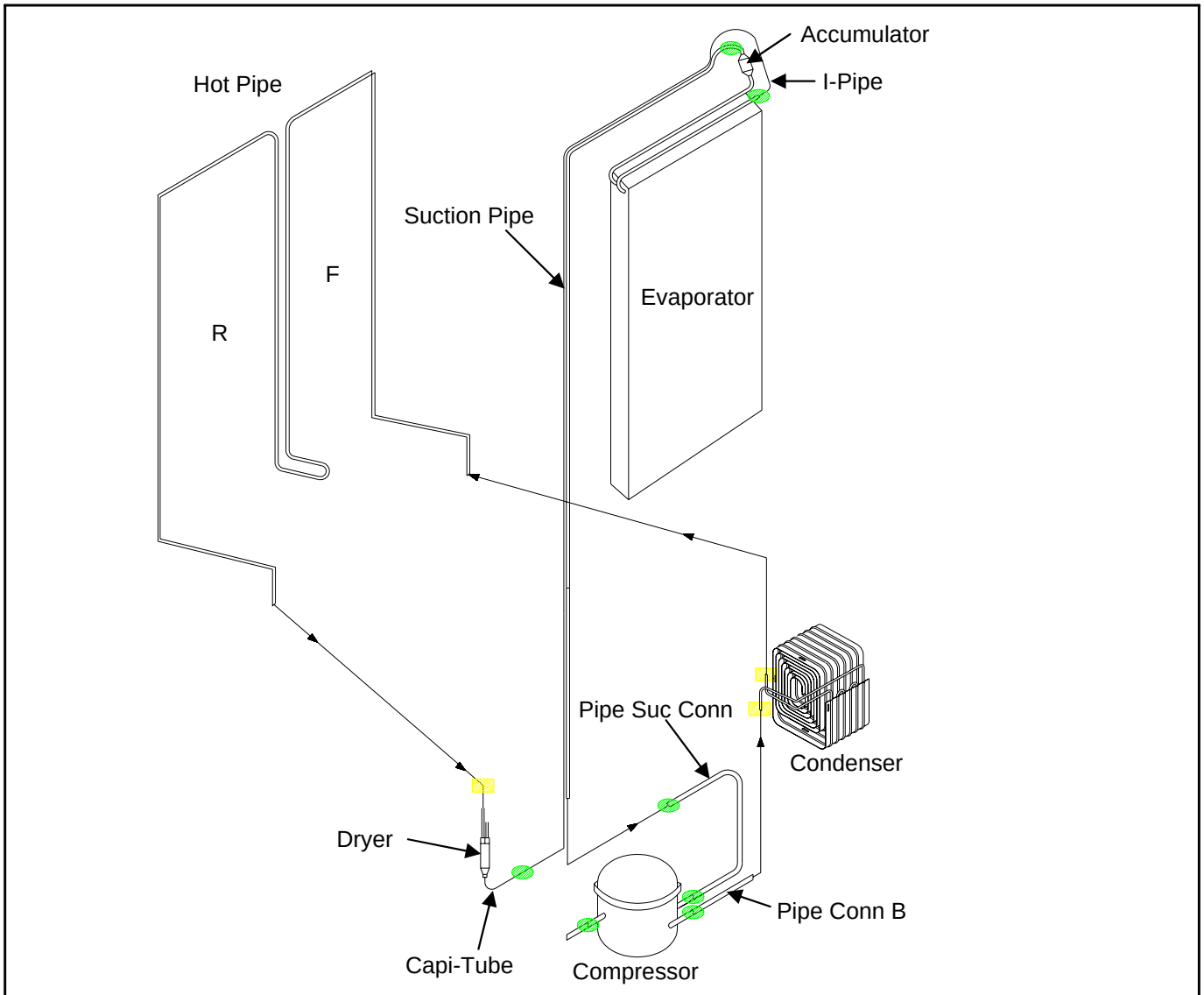
Items	Precautions
3.Vacuum degassing.	*** Pipe Connection** Connect a red hose to the high pressure side and a blue hose to the low pressure side. *** Vacuum Sequence** Open ①,② valves and evacuate for 40 minutes. Close valve ①.  **※ KEYPOINTING** 1) If power is applied during vacuum degassing, vacuum degassing shall be more effective. 2) Operate compressor while charging refrigerant. (It is easier and more certain to do like this.)
4.Refrigerant charging.	*** Charging sequence** 1) Check the amount of refrigerant supplied to each model after completing vacuum degassing. 2) Evacuate bombe with a vacuum pump. 3) Measure the amount of refrigerant charged. - Measure the weight of an evacuated bombe with an electronic scale. - Charge refrigerant into a bombe and measure the weight. Calculate the weight of refrigerant charged into the bombe by subtracting the weight of an evacuated bombe.  **※ KEYPOINTING** 1) Be sure to charge the refrigerant at around 25°C. 2) Be sure to keep -5g in the winter and +5g in summer. Calculation of amount of refrigerant charged the amount of refrigerant charged = a weight after charging - a weight before charging (a weight of an evacuated cylinder)

Items	Precautions
4.Refrigerant charging.	4) Refrigerant Charging Charge refrigerant while operating a compressor as shown above. 5) Pinch a charging pipe with a pinch-off plier after completion of charging. 6) Braze the end of a pinched charging pipe with copper brazer and take a gas leakage test on the welded parts. 
5. Gas-leakage test	* Take a leakage test on the welded or suspicious area with an electronic leakage tester.
6. Pipe arrangement in each cycle	* Check each pipe is placed in its original place before closing a cover back-M/C after completion of work.

8-4. Standard Regulations for Heavy Repair

1) Observe the safety precautions for gas handling.
2) Use JIG (or wet towel) in order to prevent electric wires from burning during welding.
(In order to prevent insulation break and accident.)
3) The inner case shall be melted and insulation material (polyurethane) shall be burnt if not cared during welding inner case parts.
4) The copper pipe shall be oxidized by overheating if not cared during welding.
5) Not allow the aluminum pipes to contact to copper pipes. (In order to prevent corrosion.)
6) Make sure that the inner diameter should not be distorted while cutting a capillary tube.
7) Be sure that a suction pipe and a filling tube should not be substituted each other during welding.
(High efficiency pump.)

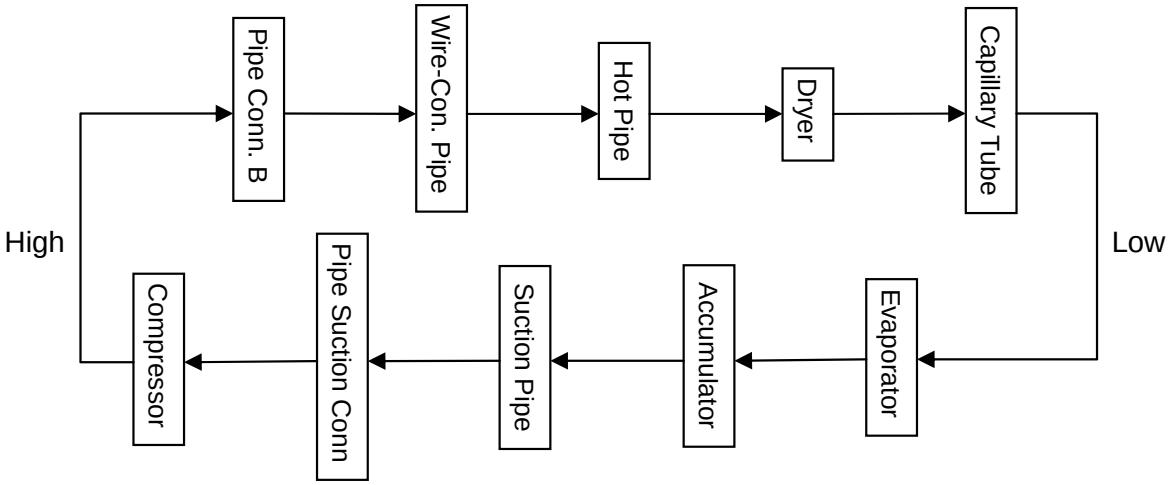
8-5. Brazing Reference Drawings.



▶ Welding Point

●	Copper Welding (Ag 5%)	7 Points
■	Silver Welding (Ag 35%)	3 Points

▶ Flow of Refrigeration Cycle

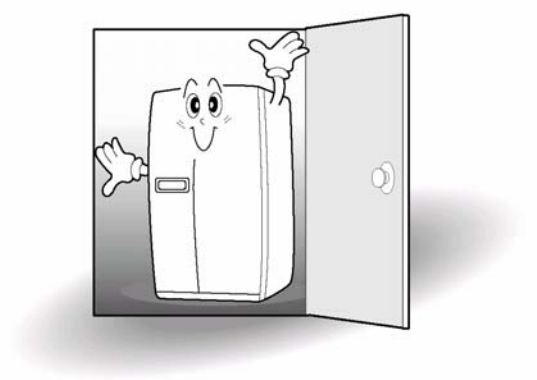


9. INSTALLATION GUIDE

9-1. Installation Preparation

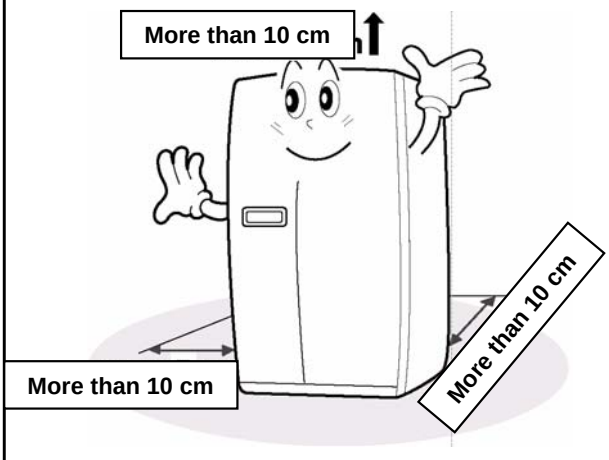
Check if the refrigerator can pass a doorway or enter a door first.

Dimensions(including Door Handles)	
FRS-20**	**925mm X 801mm X 1808mm** (Width*Depth*Height)
FRS-24**	**925mm X 881mm X 1808mm** (Width*Depth*Height)

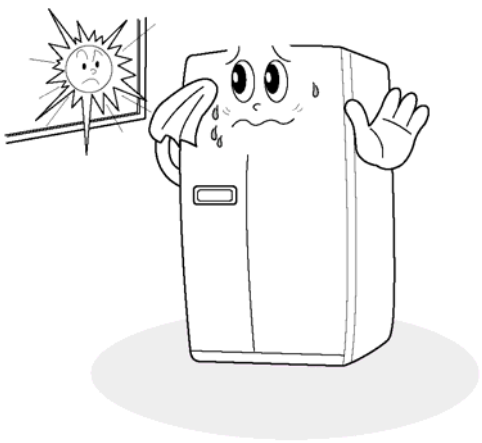


Find a suitable place to install

Sufficient space from refrigerator back to the
※wall for free air ventilation



※Avoid direct sunlight.



Note

Once the installation place is ready follow the installation instructions.
If surround temperature of refrigerator is low (below 10℃)),
foods can be frozen or the refrigerator can work in abnormal way**.**

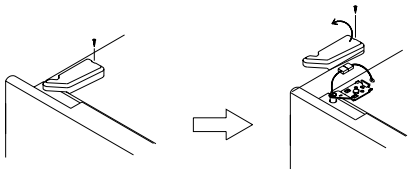
9-2. If the refrigerator can not enter the door

Removing Freezer Door

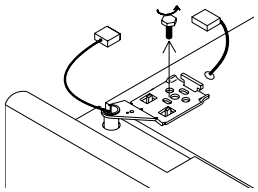
※Remove front bottom cover first, if it is attached.

1 Remove front bottom cover first, Pull out the left collar of the coupling first, then hold the coupling and pull out the left water tube.(Dispenser Model)

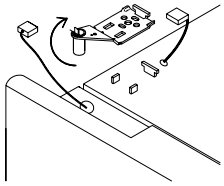
2 Unscrew top hinge cover with a screw driver.
Remove the hinge cover.



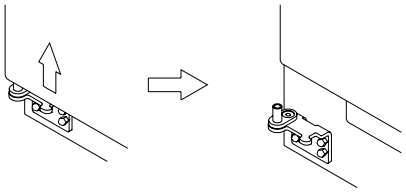
3 Turn top hinge bolt counterclockwise .
Disconnect the harness wires.



4 Lift up the front of hinge to remove.
(After the hinge is removed the door can fall down forward.
Be careful !)

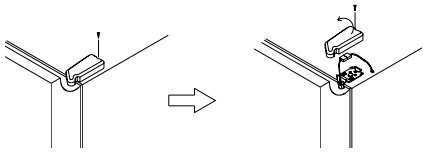


5 Be careful not to damage the water line when removing the door.

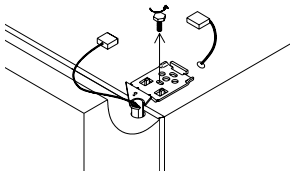


Removing Refrigerator Door

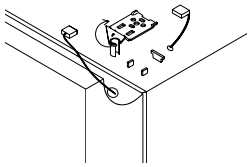
1 Unscrew top hinge cover with a screw driver.
Remove the hinge cover.



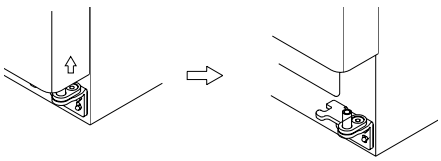
2 Turn top hinge fastener counterclockwise.
Disconnect harness wires.



3 Lift up the front of hinge to remove.
(After the hinge is removed the door can fall down forward.
Be careful !)

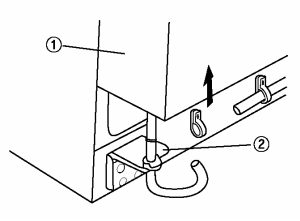


4 Lift the door straight up to remove.

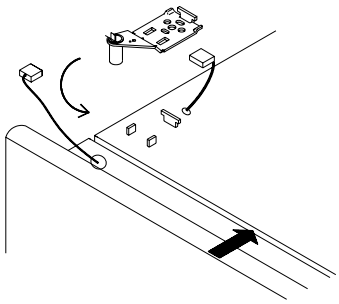


Replacing Freezer Door

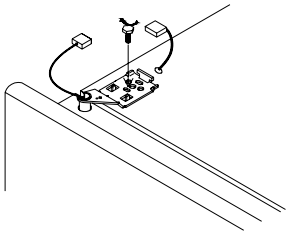
1 Insert the water tube into the hole Of the bottom hinge pin first, then Insert the bottom of freezer door Into the bottom hinge pin.
(Dispenser Model)



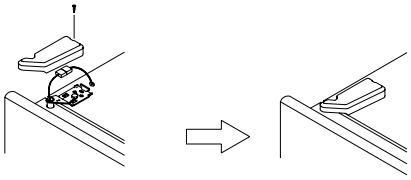
2 Insert the bottom hole of freezer door straight to the bottom hinge pin.



3 Let the top of door close to the cabinet and insert the top hinge pin to the top hole of freezer door.
(Insert the back of hinge to the groove of protrusion first, then front to the top hole of door.)



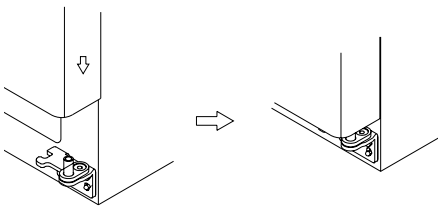
4 Turn the hinge fastener tightly to The end.
Connect harness wire and screw ground wire.



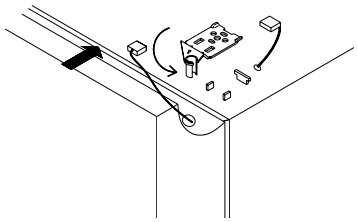
5 Insert the water tube far into the coupling. (Dispenser Model)

Replacing Refrigerator Door

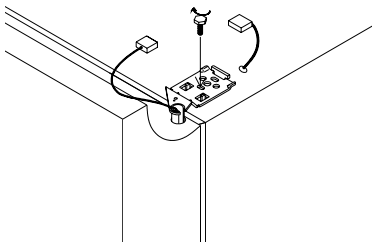
1 Insert the bottom hole of refrigerator door straight to the bottom hinge pin.



2 Let the top of door close to the cabinet and insert the top hinge pin to the top hole of refrigerator door.
(Insert the back of hinge to the groove of protrusion first, then front to the top hole of door.)

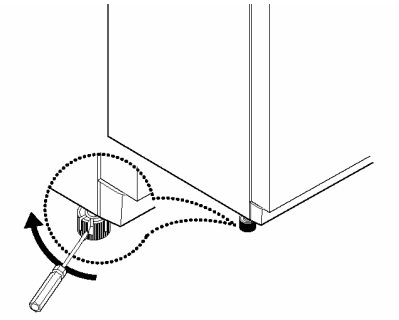
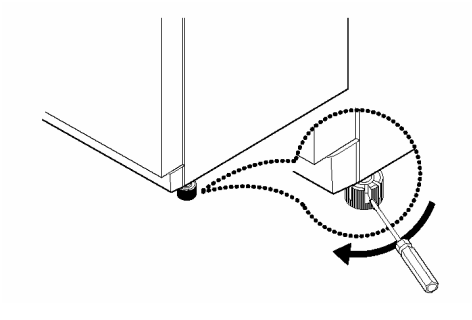


3 Turn the hinge fastener tightly to the end.
Connect harness wirings and screw ground wire.
Click and screw the top hinge cover.



9-3. Refrigerator Leveling & Door Adjustment

※Refrigerator must be level in order to maintain optimal performance and desirable front appearance.
(If the floor beneath the refrigerator is uneven, freezer and refrigerator doors look unbalanced.)

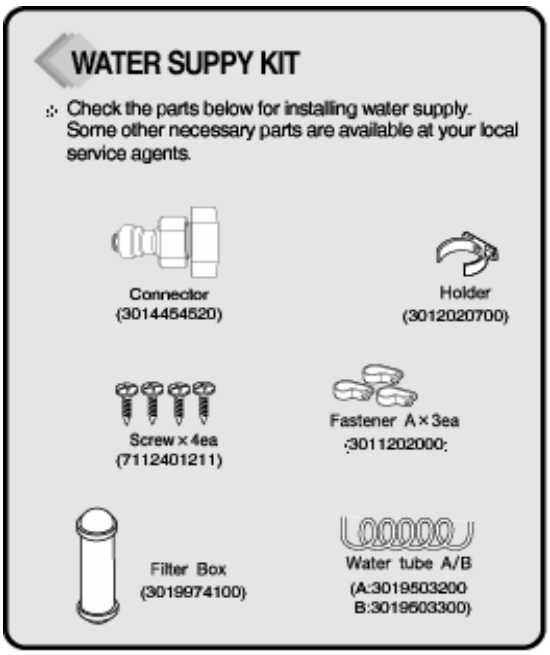
In case freezer door is lower than refrigerator door	In case refrigerator door is lower than refrigerator door
Insert a screw driver (flat tip) into a groove of the left wheel (bottom of freezer) and turn it clockwise until the door is balanced. (clockwise to raise freezer door ; counterclockwise to lower)	Insert a screw driver (flat tip) into a groove of the right wheel (bottom of refrigerator) and turn it clockwise until the door is balanced. (clockwise to raise refrigerator door ; counterclockwise to lower)
	

Caution The front of refrigerator needs to be higher just a little than the back for easy door closing, but if the wheel is raised too much for door balance, i.e. front of refrigerator is too higher than the back, it can be difficult to open the door.

9-4. Water Line Installation (Dispenser Model)

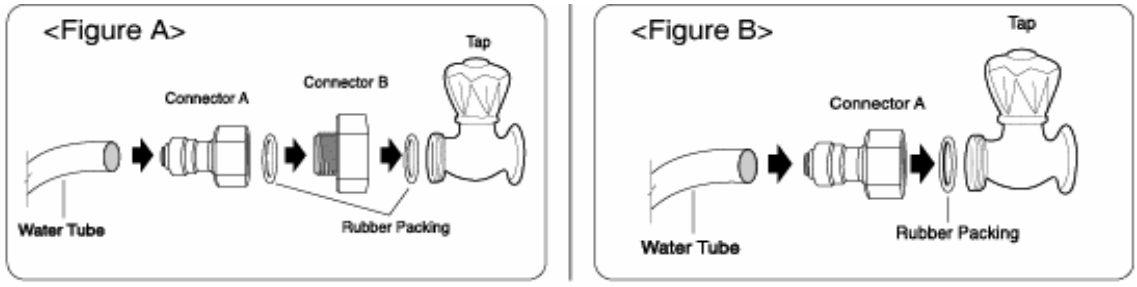
How to install Water Line

1.The water pressure should be 3kgf/cm2 or more to run the automatic icemaker.
※Checkup your tap water pressure ; if a cup of 180cc is full within 10 seconds, the pressure is OK.
2.When installing the water tubes, ensure they are not close to Any hot surface.
3.The water filter only “filters” water ; it does not eliminate any bacteria or microbes.
4.If the water pressure is not so high to run the icemaker, call the local plumber to get an additional water pressure pump.
5.The filter life depends on the amount of use. We recommend you replace the filter at least once every 6months.
※When attaching the filter, place it for easy access (removing & replacing)
6.After installation of refrigerator and water line system, select [WATER] on your control panel and press it for 2~3 minutes to supply water into the water tank and dispense water.
7.Use sealing tape to every connection of pipes/tubes to ensure there is no water leak.
8.The water tube should be connected to the cold water line.



Installation Procedure

1. Join connector to water tap

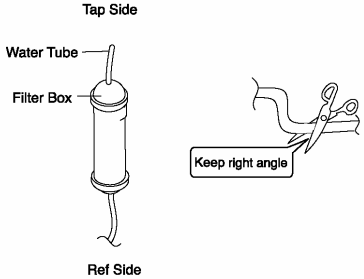


N.B. Place the rubber washer inside the tap connector and screw onto the water tap.

2. Get ready to install water line

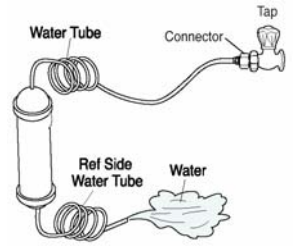
1) Measure an approximate distance between the filter and the Water Tube and cut the tube off filter vertically.
2) Connect the tubes to the filter as the figure shows.

Leave a sufficient distance when cutting the tubes.



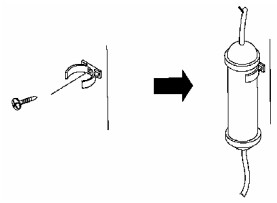
3. Remove any substance from filter

1) Open the main tap water valve and check if water comes out of the Water Tube.
2) Check if the Water Valve is open in case water does not come out.
3) Leave the valve open until clean water is coming out.
※ Initial water may contain some substances out of filter (manufacturing process).



4. Attach the filter box

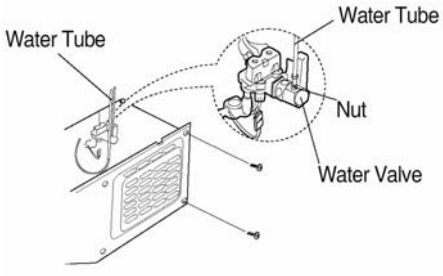
1)Screw and fasten the filter holder to the left/right side of the back of refrigerator.
※ In case the holder is not fastened well, remove the back paper of the tape on the filter holder and attach it.
2)Insert the filter box into the holder.



5. Connect water tube

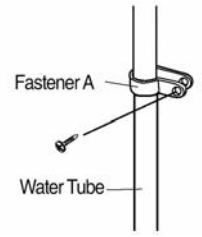
1)Remove the rear cover at the bottom back of the refrigerator.
2)Insert the fastening ring into the Water tube.
(Be careful to follow the direction of the nut.)
3)Insert the Water Tube into the top of Water Valve, turn the nut clockwise to fasten it. (The Water valve is to the right of the motor.)
4)Check for any bent tubes or water leaks; if so, re-check instalation procedure.
5)Replace the rear cover. (The Water Tube should be placed between the groove of the refrigerator back and motor cover.)

Set the tube upright as the figure shows.



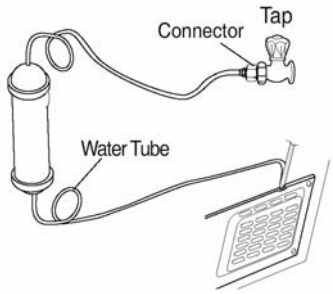
6. Fasten water tube

1) Fasten the Water Tube with the [Fastener A] .
2) Check if the tube is bent or sqeezed. If so, set it right to prevent any water leak.

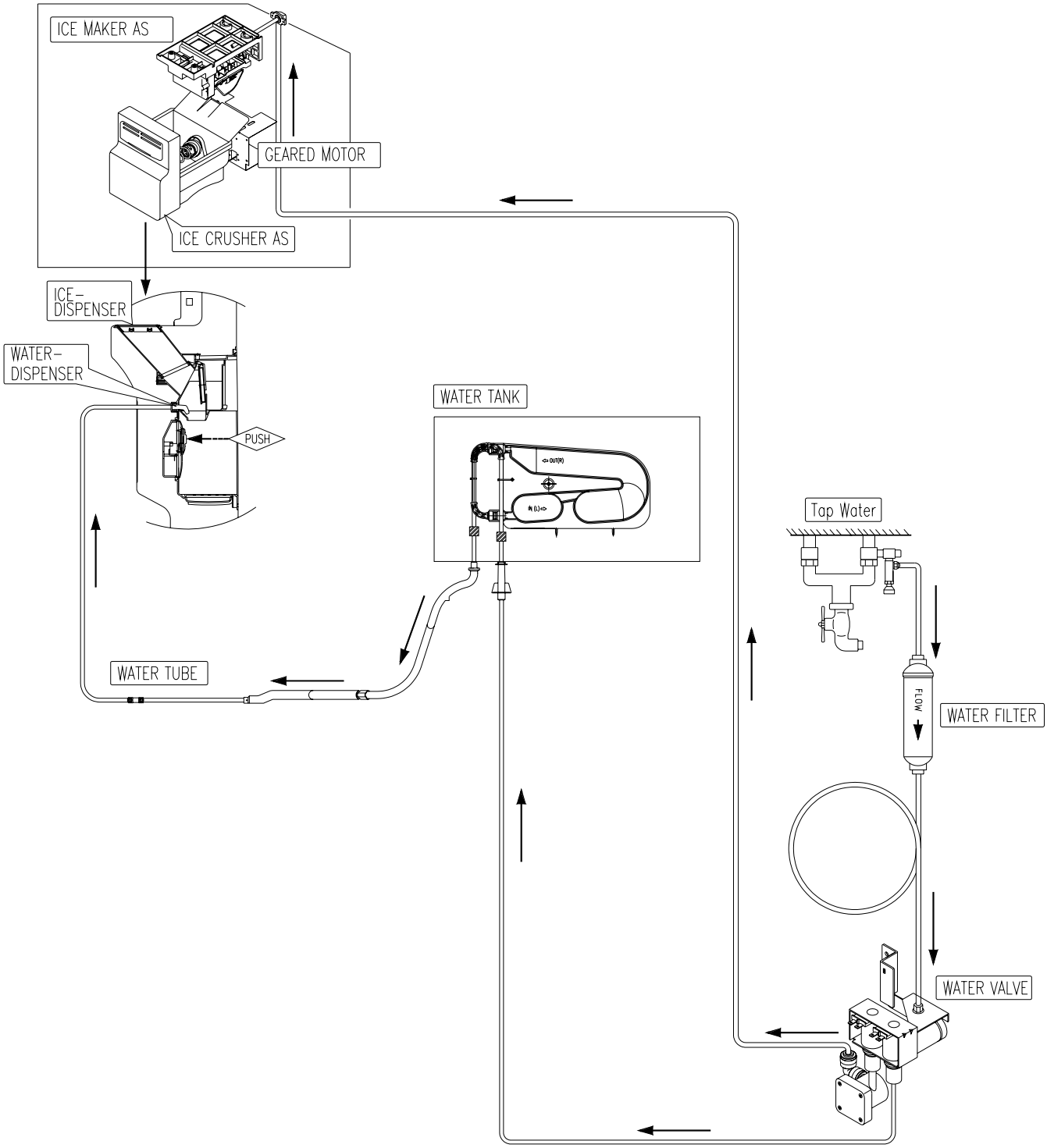


7. After installation

1) Plug the refrigerator, press the [WATER] button on the control panel for 2~3 minutes to remove any air (bubble) in the pipes and drain out the initial water.
2) Check the water leak again through the water supply system (tubes, connectors and pipes) Rearrange the tubes again and do not move the refrigerator.



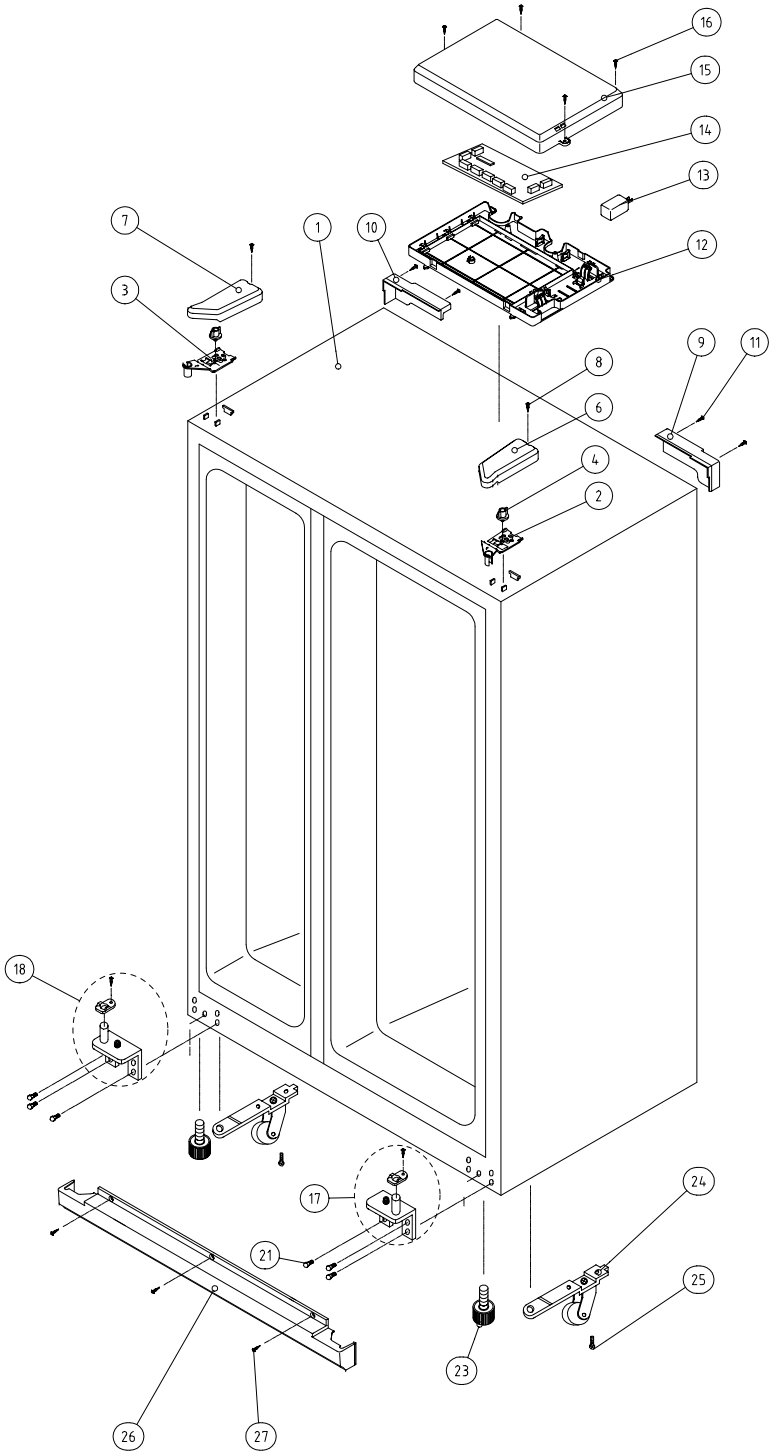
9-5. Dispenser Water Flow (Dispenser Models Only)



10. EXPLODED VIEW

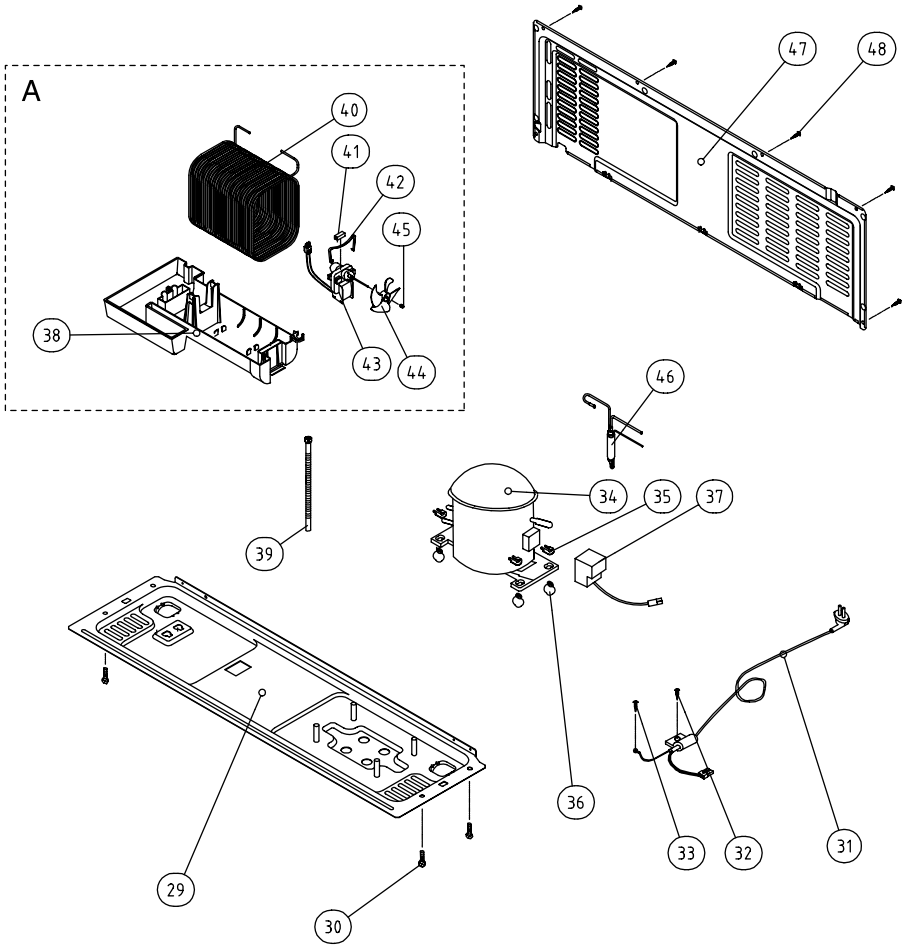
10-1. FRS-20BD / 24BD (Basic Model)

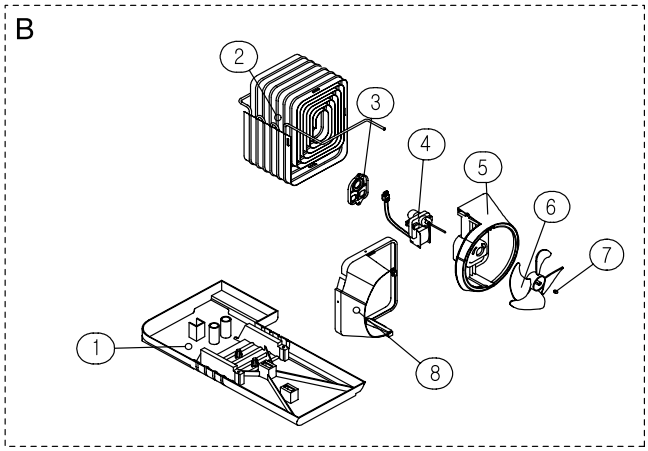
CABINET



EXPLODED VIEW

MECH ROOM

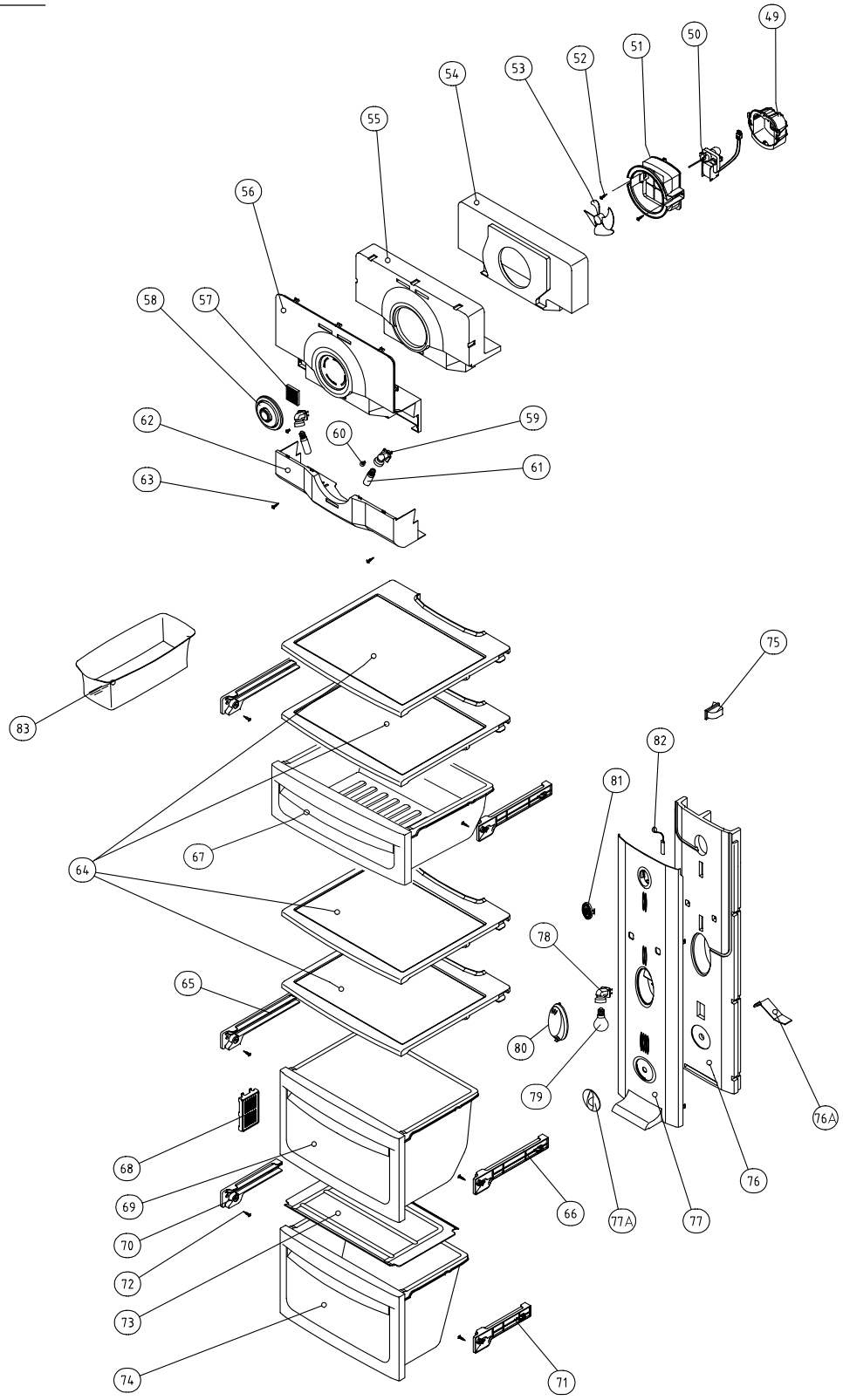




※ A or B by country

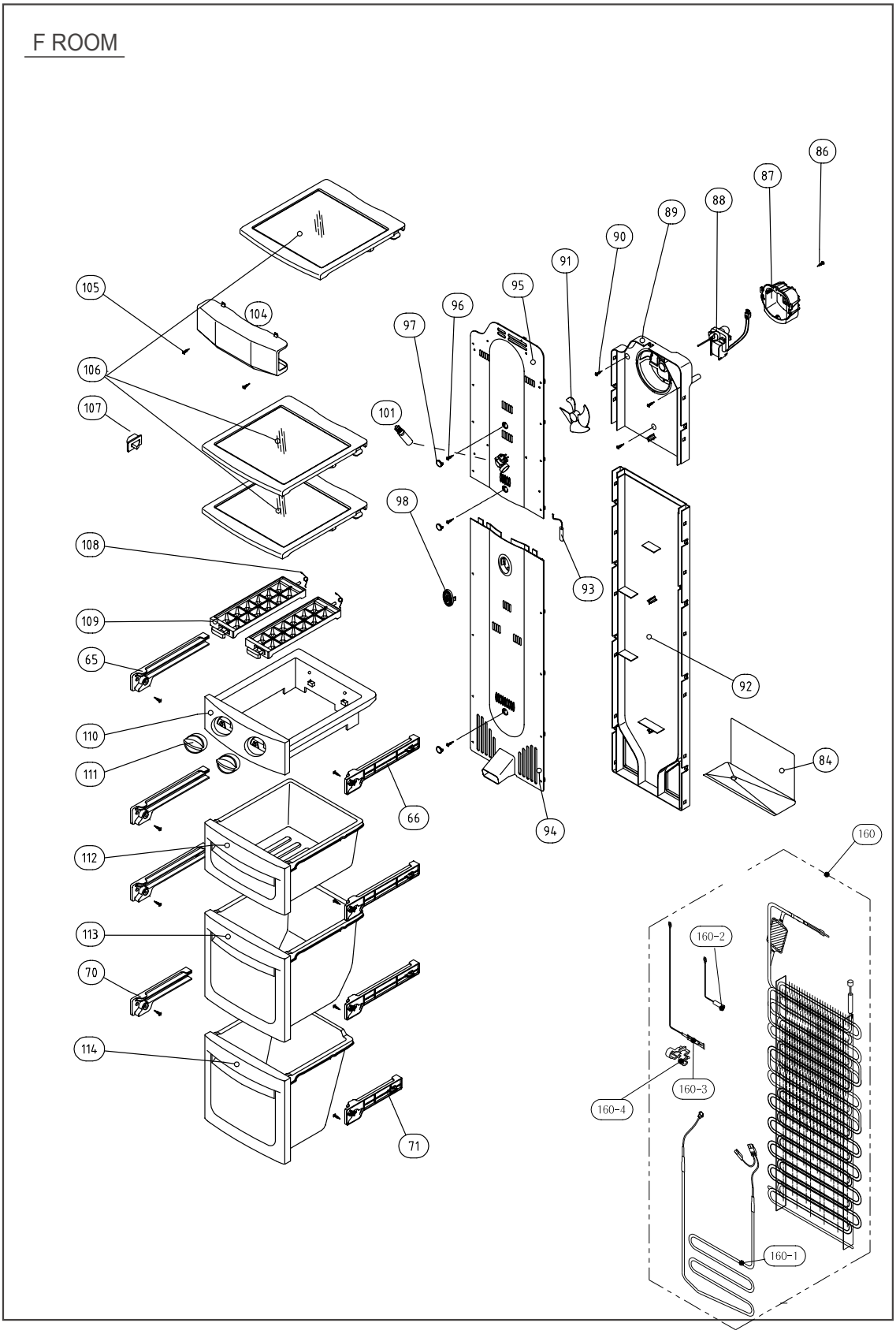
EXPLODED VIEW

R-Room

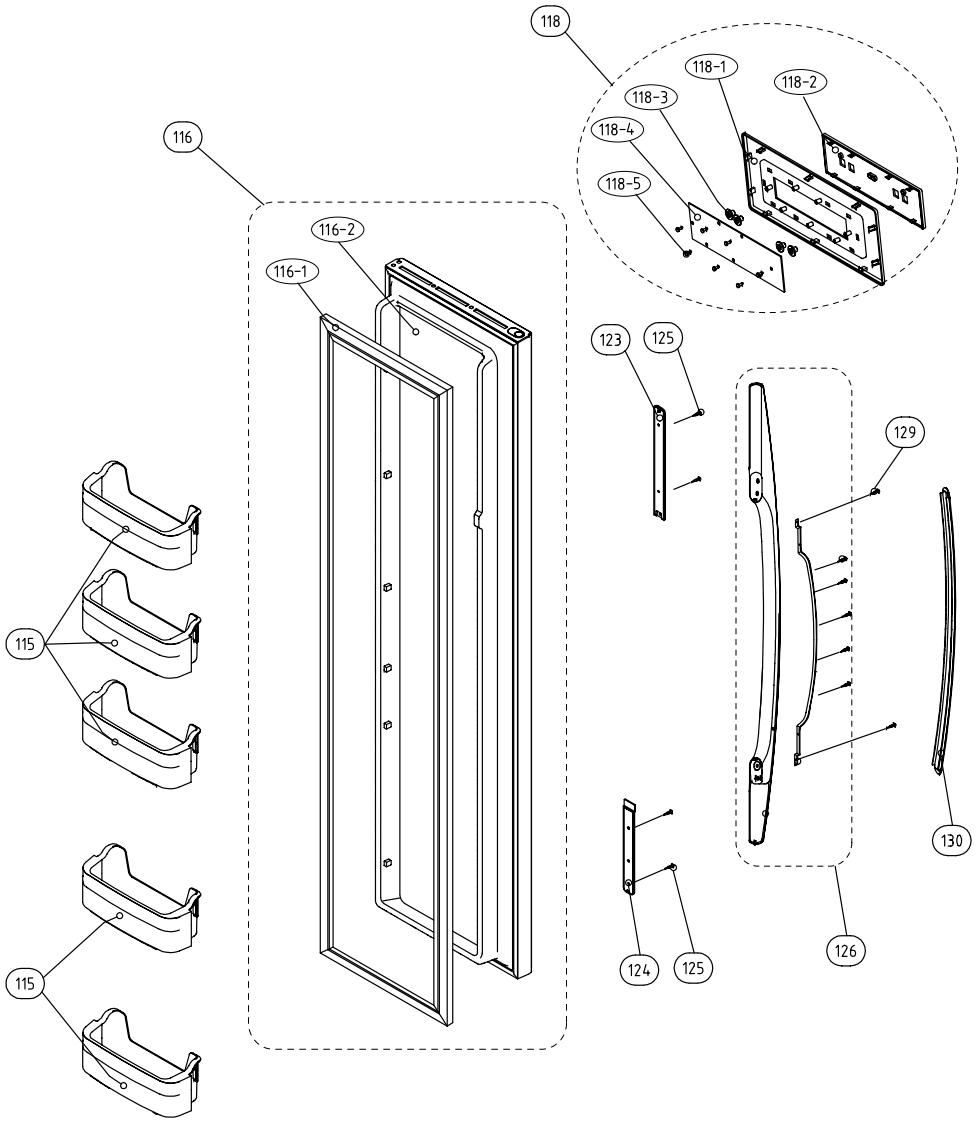


EXPLODED VIEW

F ROOM

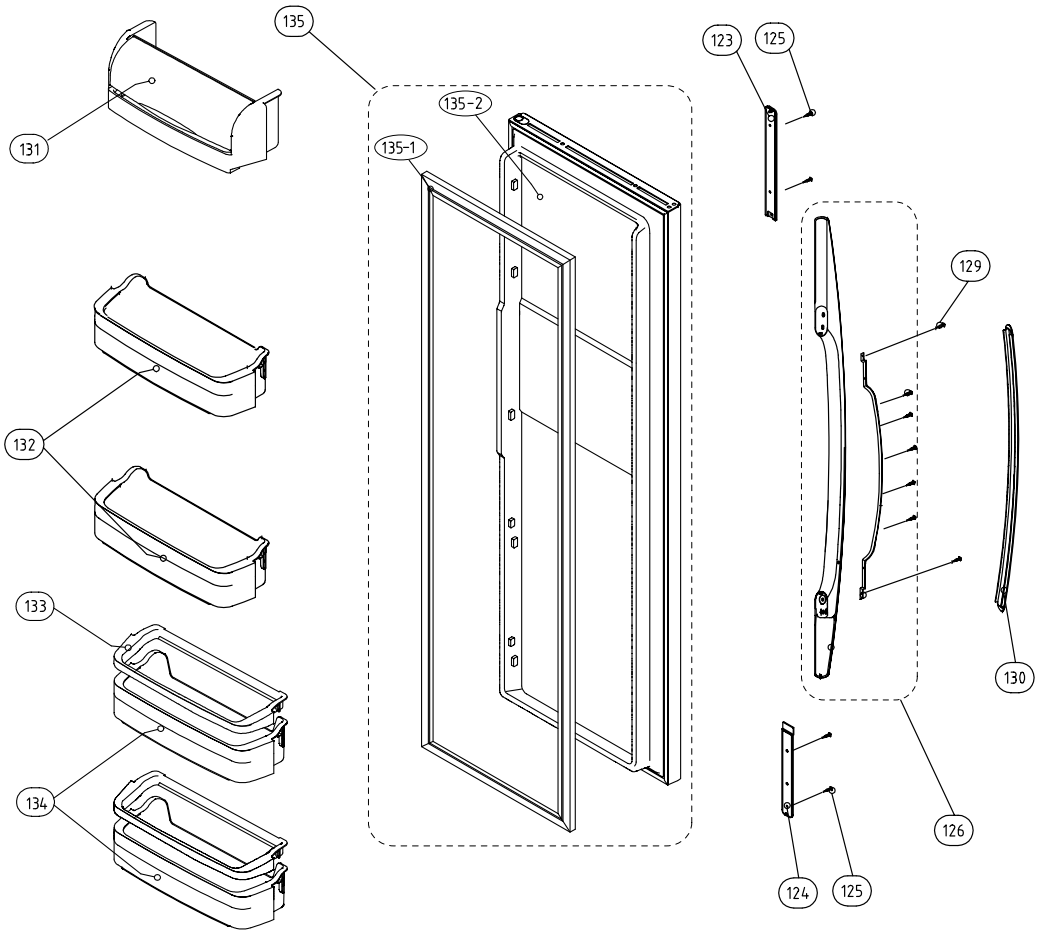


F DOOR


118
118-1
118-2
118-3
118-4
118-5
116
116-2
116-1
123
125
129
115
115
130
126
124
125

EXPLODED VIEW

R DOOR



10-2. FRS-20BD / FRS-24BD Parts List

Cabinet

NO	Part Code	Part Name	Description	Q'ty	Remark
1	3000003610	ASSY CAB URT	FR-S580CGM	1	**FRS-20BD**
	3000025700	ASSY CAB URT	FR-S690CG/CR	1	**FRS-24BD**
2	3012917620	HINGE *T *R AS	PO+BLACK T3.0	1	
3	3012918520	HINGE *T *L AS	PO+BLACK T3.0	1	
4	3012013000	FIXTURE *T HI	PP M6X19	2	
6	3011472400	COVER HI *T *R	PP	1	
7	3011472300	COVER HI *T *L	PP	1	
8	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	2	
9	3012601301	HANDLE CAB COVR *R	PP	1	
10	3012601201	HANDLE CAB COVR *L	PP	1	
11	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	1	
12	3010533400	BOX MAIN PCB	PP	1	
13	3016401920	CAPACITOR RUN	400VAC 5UF	1	**Model dependent**
	3016401170	CAPACITOR RUN	350VAC 5UF	1	
14	30143D3011	PCB MAIN AS	FRS-584(EASY BASIC)	1	
	30143D3021	PCB MAIN AS	FRS-584(EASY BASIC EUROPE)	1	
15	3011472610	COVER MAIN PCB BOX	PP	1	
16	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	4	
17	3012917812	HINGE *U *R AS	PO T5.0+PAINTING	1	
18	3012917711	HINGE *U *L AS	PO T5.0+PAINTING	1	
21	3016001240	SPECIAL BOLT *T	6 x 22 SWCH22A(YL)	8	
23	3012104400	FOOT ADJ AS	FR-S580CG	2	
24	3016501200	CASTER TURN AS	CASTER+BRACKET	2	
25	3016001240	SPECIAL BOLT *T	6 x 22 SWCH22A(YL)	2	
26	3011471010	COVER CAB BRKT *F	FR-S580CG	1	
27	7142401611	SCREW TAPPING	T2 RS 4 x 16 MFZN	3	

Machine Room

NO	Part Code	Part Name	Description	Q'ty	Remark
29	3010326701	BASE COMP AS	FR-S580DGB(HANDLE)	1	
30	3016003300	SPECIAL BOLT	T2 M6.5X20	4	
31	3011344221	CORD POWER AS	CP-2PIN(EUROPE)	1	**Model dependent**
	3011301270	CORD POWER AS	ISRAEL	1	
	3011302030	CORD POWER AS	CP-2PIN	1	
	3011301030	CORD POWER AS	KP-550(CHINA)	1	
	3011301060	CORD POWER AS	KP-550(AUSTRALIA)	1	
	3011344231	CORD POWER AS	BS-1363(FRS-662)	1	
32	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	1	
33	7051401065	SCREW MACHINE	PAN 4X10VSW BSNI	1	
34	395S130R50	COMPRESSOR	HPL30YG-5 220-240V-50HZ	1	**Model dependent**
	3956183D50	COMPRESSOR	MK183Q-L2U 220-240V-50HZ	1	
	3956190D50	COMPRESSOR	DK190Q-L2U 220-240V-50HZ	1	
35	3016002500	SPECIAL WASR	SK-5 T0.8	3	
36	3010101600	ABSORBER RUBBER COMP	NBR	4	

NO	Part Code	Part Name	Description	Q'ty	Remark
37	3018129810	SWITCH P RELAY AS	308NHB,330	1	
	3018125210	SWITCH P RELAY AS	265RHB,330	1	
39	3013201710	HOSE DRN B	PE FRB-5970NB	1	
46	3016806900	DRYER AS	C1220T-M OD19.05XL135	1	
48	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	6	
38	3011109902	CASE VAPORI AS	FRB-5960NB	1	
47	3011474750	COVER MACH RM AS	FRS-551F(F-US(N))	1	
A					
40	3014413730	PIPE WICON AS	OD4.76XT0.7XL28280	1	
41	3010102100	ABSORBER C MOTR	NR FRB-5350NT	1	
42	3012004400	FIXTURE C MOTR	SUS	1	
43	3015911500	MOTOR C FAN	BL-2213DWCA-2	1	
44	3011802200	FAN	ABS OD3.17XD110	1	
45	3011200500	CLAMP FAN	SUS 304	1	
B					
1	3011181300	CASE VAPORI AS	.	1	
2	3014457401	PIPE WICON AS	TSW,OD4.76XT0.7 ME18.5	1	
3	3012021700	FIXTURE MOTR	PP	1	
4	3015914100	MOTOR C FAN	DC-2213DWCA-3	1	
5	3018500200	M/BELL A	PP	1	
6	3011834700	FAN	ABS ₡150	1	
7	3011200500	CLAMP FAN	SUS 304	1	
8	3018500300	M/BELL B	PP	1	

Refrigerator Room

NO	Part Code	Part Name	Description	Q'ty	Remark
49	3012007800	FIXTURE MOTOR A	PP	1	
50	3015911400	MOTOR R FAN	BL-2213DWRA-1	1	
51	3012007900	FIXTURE MOTOR B	HIPS	1	
52	7122401211	SCREW TAPPING	T2S 4X12 MFZN	2	
53	3011802200	FAN	ABS ₡110	1	
54	3013344200	INSU DAMP B	F-PS	1	
55	3013344100	INSU DAMP A	F-PS	1	
56	3011471250	COVER DAMP	HIPS+SILK PRINT	1	
57	3018701800	DEO ANTI AS	W40XT5XL40	1	
58	COVER DEO	3011471320	ABS(NUDE)	1	
59	3017905300	SOCKET R LAMP AS	250V/1A	1	
60	7121300811	SCREW TAPPING	T2S PAN 3X8	1	
61	3013602030	LAMP R A	240V 25W(GENERAL)	2	
62	3015507900	WINDOW R LAMP A	MIPS	1	
63	3016002720	SPECIAL CAP SCREW	4X12	2	
64	3017827310	SHELF R A AS	FRAME+NUDE GLASS+FIXTURE	4	**FRS-20BD**
	3017831910	SHELF R AS	FRAME+NUDE GLASS+FIXTURE	4	**FRS-24BD**
65	3012514500	GUIDE CASE A *L AS	ABS	4	
66	3012514600	GUIDE CASE A *R AS	ABS	4	

NO	Part Code	Part Name	Description	Q'ty	Remark
67	3011171290	CASE CHILD AS	CASE(SILK)+FRAME	1	**FRS-20BD**
	3011177770	CASE CHILD AS	CASE(SILK)+FRAME	1	**FRS-24BD**
68	3011472900	COVER RETURN DUCT	HIPS	1	
69	3011172040	CASE VEGETB A AS	582 GP NO-NANO SILK	1	**FRS-20BD**
	3011178260	CASE VEGETB A AS	(NANO-X,SILK)+FRAME(SILK)	1	**FRS-24BD**
70	3012514700	GUIDE CASE B *L AS	ABS	2	**FRS-20BD**
	3012514500	GUIDE CASE A *L AS	ABS	2	**FRS-24BD**
71	3012514800	GUIDE CASE B *R AS	ABS	2	**FRS-20BD**
	3012514600	GUIDE CASE A *R AS	ABS	2	**FRS-24BD**
72	7142401611	SCREW TAPPING	T2S 4X16 MFZN	4	
73	3011473200	COVER V/CASE B	GPPS	1	**FRS-20BD**
	3011485400	COVER V/CASE B	GPPS	1	**FRS-24BD**
74	3011172170	CASE VEGETB B AS	CASE(SILK)+FRAME	1	**FRS-20BD**
	3011178360	CASE VEGETB B AS	(NANO-X)+SILK	1	**FRS-24BD**
75	3018124000	SWITCH DR	SP201R-7DR	1	
76	3013345000	INSU MULTI DUCT AS	F-PS	1	
76A	3017100500	FLAP MULTI DUCT	PP	1	
77	3011472750	COVER MULTI DUCT	HIPS SILK	1	
77A	3013408100	KNOB MULT DUCT	HIPS	1	
78	3017905310	SOCKET R LAMP AS	250V 1A	1	
79	3013600020	LAMP R B	AC 240V / 15W	1	
80	3015508000	WINDOW R LAMP B	MIPS	1	
81	3011473010	COVER SENS	ABS	1	
82	3014805400	SENSOR R AS	PBN-438	1	
83	3011169900	CASE EGG	GPPS	1	

Freezer Room

NO	Part Code	Part Name	Description	Q'ty	Remark
84	3012514200	GUIDE DRN	GA	1	
86	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	1	
87	3012007800	FIXTURE MOTOR A	HIPS	1	
88	3015911310	MOTOR F FAN	DL-2213DWFA-2	1	
89	3018917200	LOUVER F C	PP	1	
90	7142401611	SCREW TAPPING	T2 TRS 4X16 MFZN	3	
91	3011834500	FAN	ABS ¢130	1	
92	3018914910	LOUVER F D AS	PP	1	
93	3014805300	SENSOR F AS	PT-38	1	
94	3018914710	LOUVER F B AS	FR-S580CGS	1	
95	3018914650	LOUVER F A AS	FRS-581BEE6C(L-HTR X)	1	
96	7142401611	SCREW TAPPING	T2 TRS 4X16 MFZN	3	
97	3010924600	CAP F LUVR	HIPS T2.3	3	
98	3011473010	COVER SENSOR	ABS	1	
101	3013602500	LAMP F/R	AC 240V 25W(S)	1	
104	3015507710	WINDOW F LAMP	MIPS	1	
105	3016002720	SPECIAL CAP SCREW	4X12	2	

NO	Part Code	Part Name	Description	Q'ty	Remark
106	3017827110	SHELF F A AS	FRAME+NUDE GLASS+FIXTURE	3	**FRS-20BD**
	3017831810	SHELF F AS	FRAME+NUDE GLASS+FIXTURE	3	**FRS-24BD**
107	3018124010	SWITCH LAMP	SP201R-70R	1	
108	3015101300	SPRING ICING CASE	FR-S580CG	2	**FRS-20BD**
	3015101300	SPRING ICING CASE	FR-S580CG	3	**FRS-24BD**
109	3011170600	CASE ICING	PP	2	**FRS-20BD**
	3011177300	CASE ICING	PP	3	**FRS-24BD**
110	3012203810	FRAME ICE MAKER	HIPS SILK	1	**FRS-20BD**
	3012205310	FRAME I/MAKER	HIPS+SILK	1	**FRS-24BD**
111	3013408000	KNOB I/CASE	HIPS	2	**FRS-20BD**
	3013409300	KNOB I/CASE	HIPS	3	**FRS-24BD**
112	3011171880	CASE ICE AS	CASE(SILK)+FRAME	1	**FRS-20BD**
	3011178070	CASE ICE AS	CASE(SILK)+FRAME	1	**FRS-24BD**
113	3011171440	CASE F A AS	CASE(NO-NANO SILK)+FRAME	1	**FRS-20BD**
	3011177870	CASE F A AS	CASE(NO-NANO SILK)+FRAME	1	**FRS-24BD**
114	3011171540	CASE F B AS	CASE+FRAME(NANO-X)SILK	1	**FRS-20BD**
	3011177970	CASE F B AS	CASE+FRAME(NANO-X)SILK	1	**FRS-24BD**

Freezer Door

NO	Part Code	Part Name	Description	Q'ty	Remark
115	3019019150	POCKET F	HIPS SILK	5	
116	3000056410	ASSY F DR	FRS-584(ELLIO)	1	
116-1	3012314200	GASKET F DR AS	PVC	1	
116-2	3000024620	ASSY F DR URT	FR-S580DYB	1	
118	3011441500	COVER F PCB AS	FR-S580EXB/EGM	1	
118-1	3011440800	COVER F PCB	ABS	1	
118-2	3015510500	WINDOW FCP	ABS+PC FILM	1	
118-3	3016303410	BUTTON CONTL	ABS	4	
118-4	30143D3110	PCB FRONT AS	FR-S580EXB/EGM	1	
118-5	7173300811	SCREW TAPPTITE	TT2 BIN 3X8 MFZN	7	
123	3010339100	BASE HNDL *T	HIPS	1	
124	3010339200	BASE HNDL *U	HIPS	1	
125	3016002700	SPECIAL SCREW	WASR+TRS5X16 MFZN	4	
126	3012641000	HANDLE F/R AS	FR-S580DYB	1	
129	7112401211	SCREW TAPPING	T1 TRS 4*12 MFZN	2	
130	3011636020	DECO HANDL F/R	ABS(SPRAY)	1	

Refrigator Door

NO	Part Code	Part Name	Description	Q'ty	Remark
123	3010339100	BASE HNDL *T	HIPS	1	
124	3010339200	BASE HNDL *U	HIPS	1	
125	3016002700	SPECIAL SCREW	WASR+TRS5X16 MFZN	4	
126	3012641000	HANDLE F/R AS	FR-S580DYB	1	
129	7112401211	SCREW TAPPING	T1 TRS 4*12 MFZN	2	
130	3011636020	DECO HANDL F/R	ABS(SPRAY)	1	

NO	Part Code	Part Name	Description	Q'ty	Remark
131	3019019400	POCKET DAIRY AS	POCKET+COVER	1	
132	3019019830	POCKET R *M	HIPS SILK	2	
133	3012514100	GUIDE R POKT	HIPS	2	
134	3019019220	POCKET R	HIPS SILK	2	
135	3000025320	ASSY R DR	FRS-584(ELLIO)	1	
135-1	3012314500	GASKET R DR AS	PVC	1	
135-2	3000024900	ASSY R DR URT	FR-S580CGM	1	

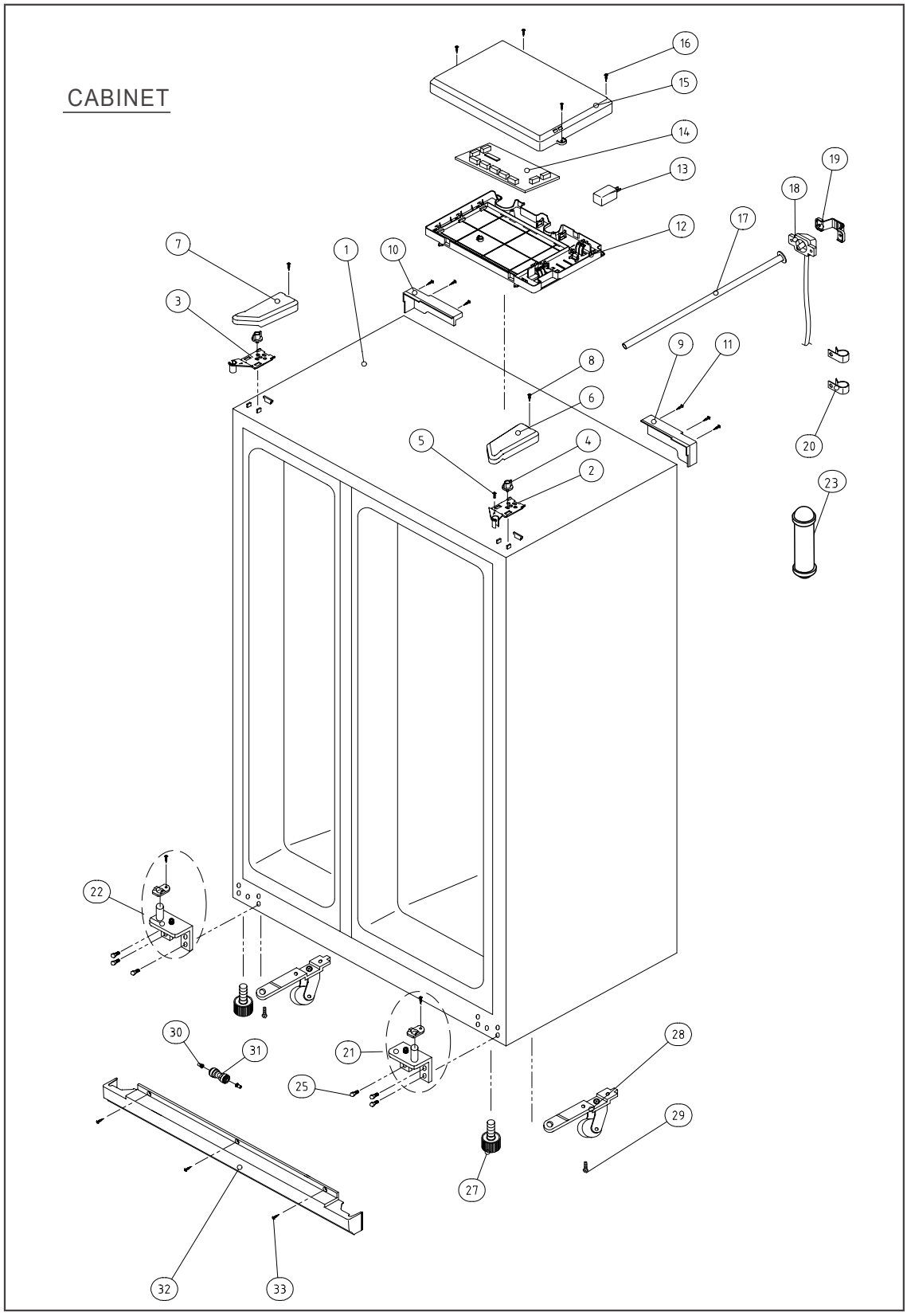
EVA

NO	Part Code	Part Name	Description	Q'ty	Remark
160	3017050730	EVA AS	ACCUM SHEATH HTR 220V	1	**Model dependent**
	3017050750	EVA AS	SHEATH HEATER 220V/250W	1	
160-1	3012818100	HEATER SHEATH AS	220V/250W	1	
160-2	3014805200	SENSOR D AS	PBN-43	1	
160-3	3017202000	FUSE TEMP AS	AC 250V 77C 10A	1	
160-4	4017Z90590	FIXTURE FUSE TEMP	PP	1	

- It would be recommend to check the your colour.

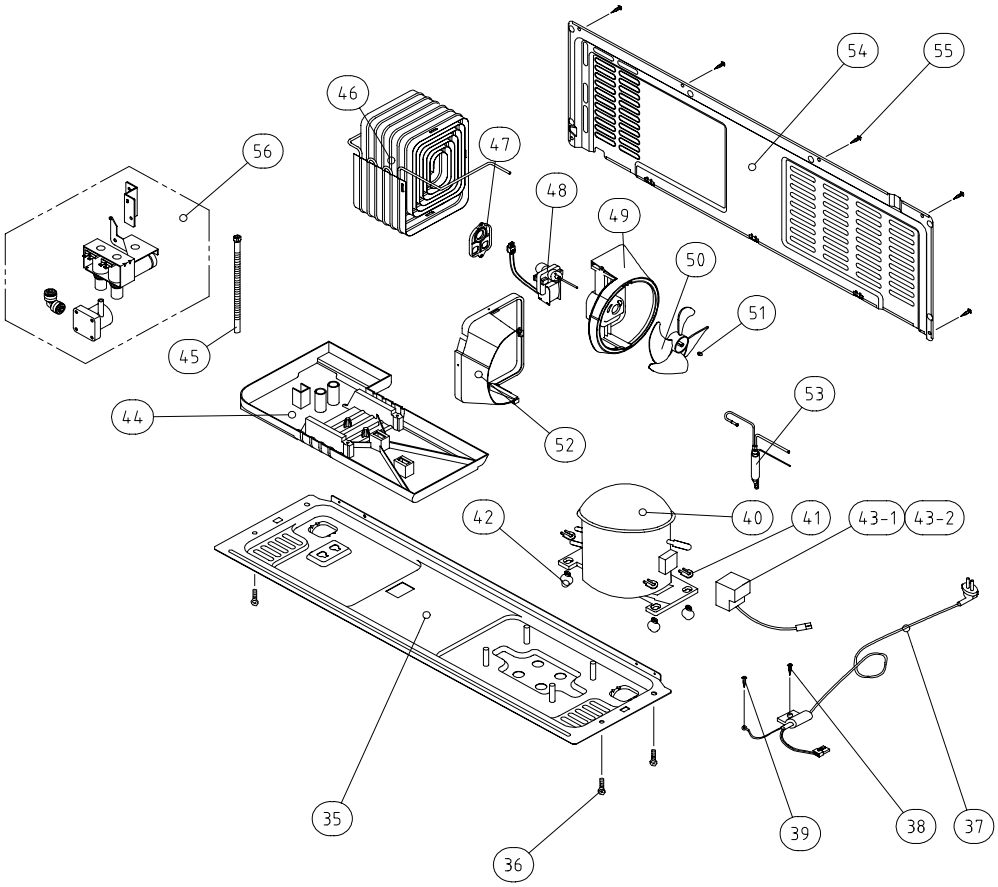
(Above parts number doesn't match each own colour.)

10-3. FRS-20DD / FRS-24DD (Dispenser Only)

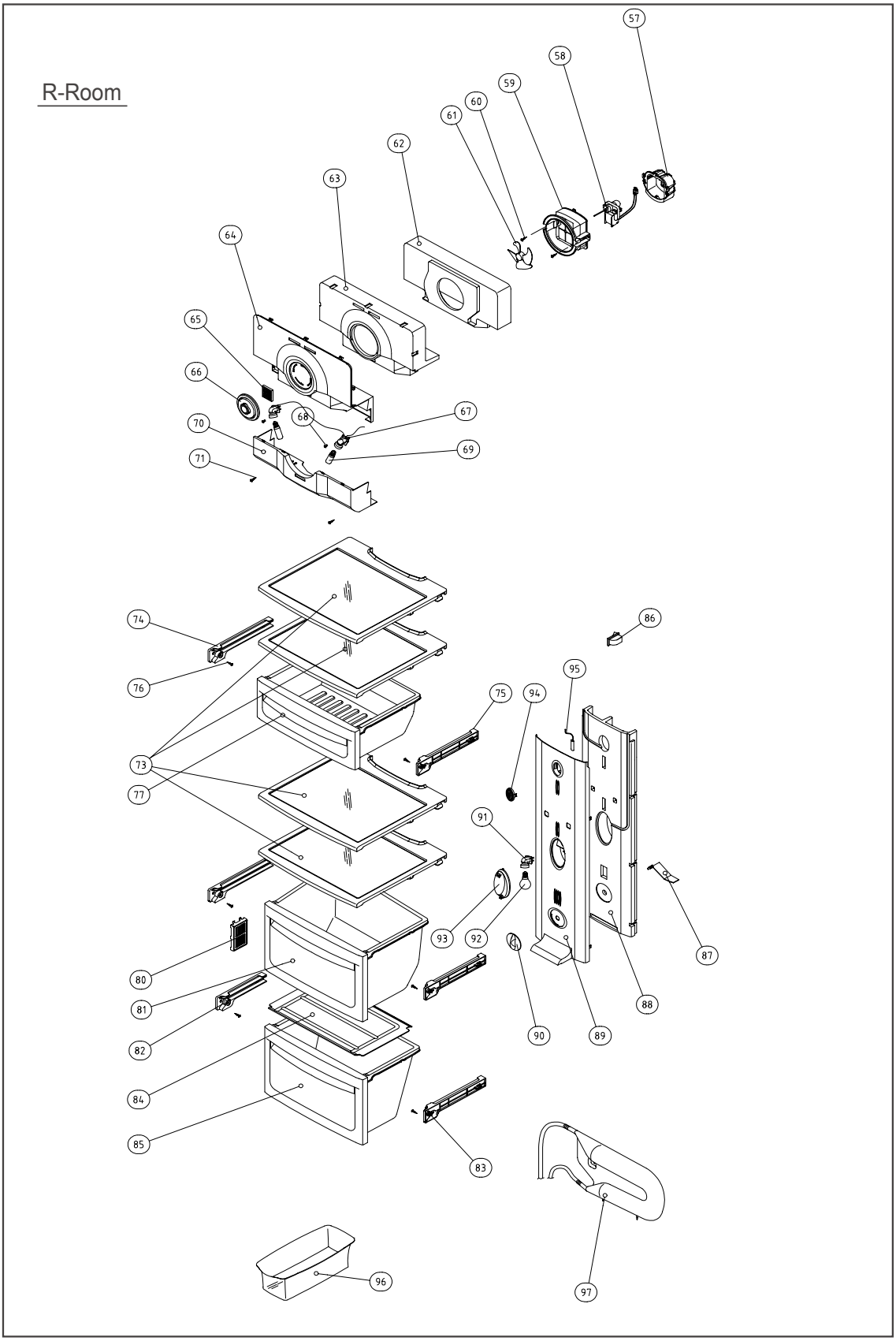


EXPLODED VIEW

MECH ROOM

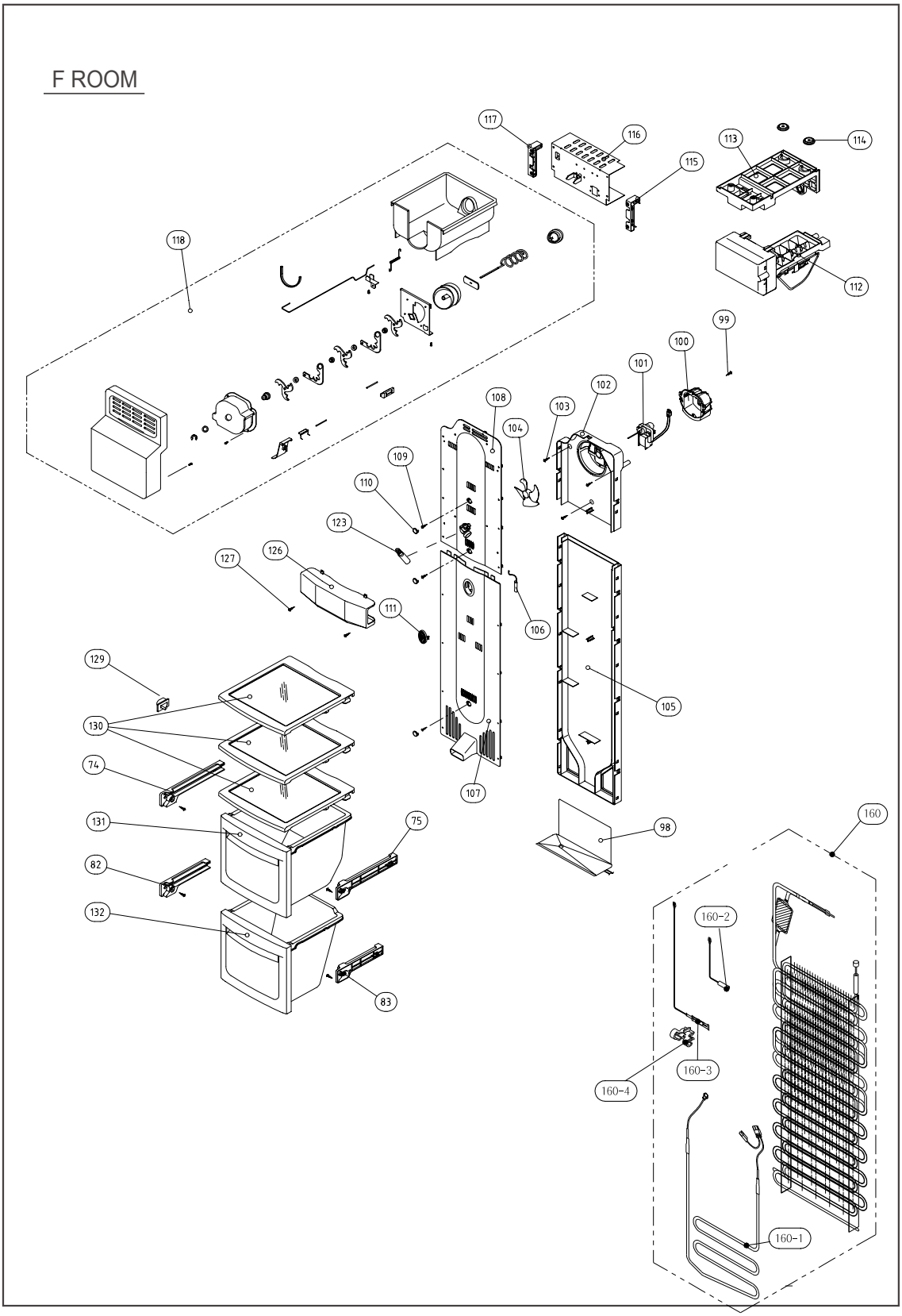


EXPLODED VIEW



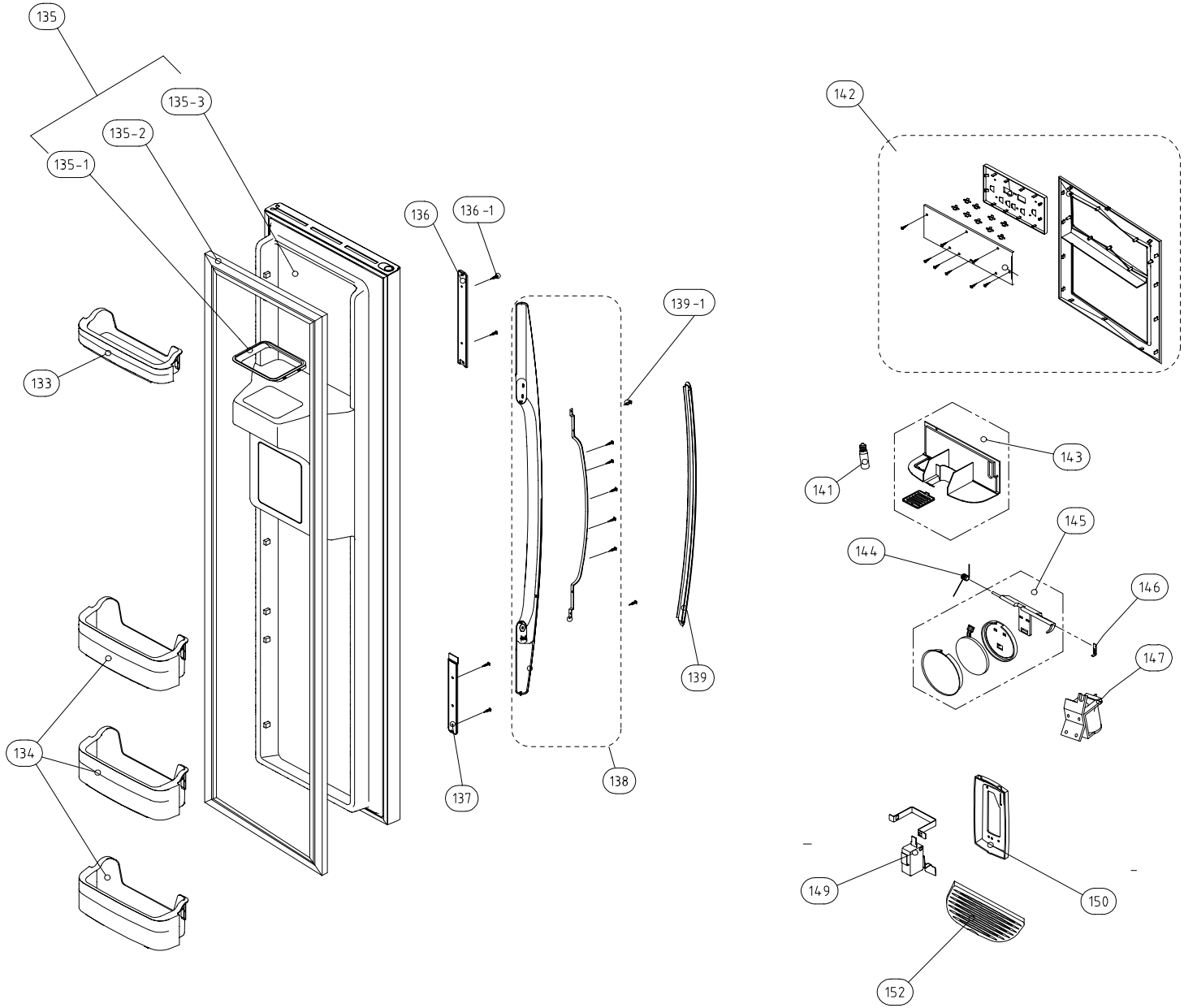
EXPLODED VIEW

F ROOM



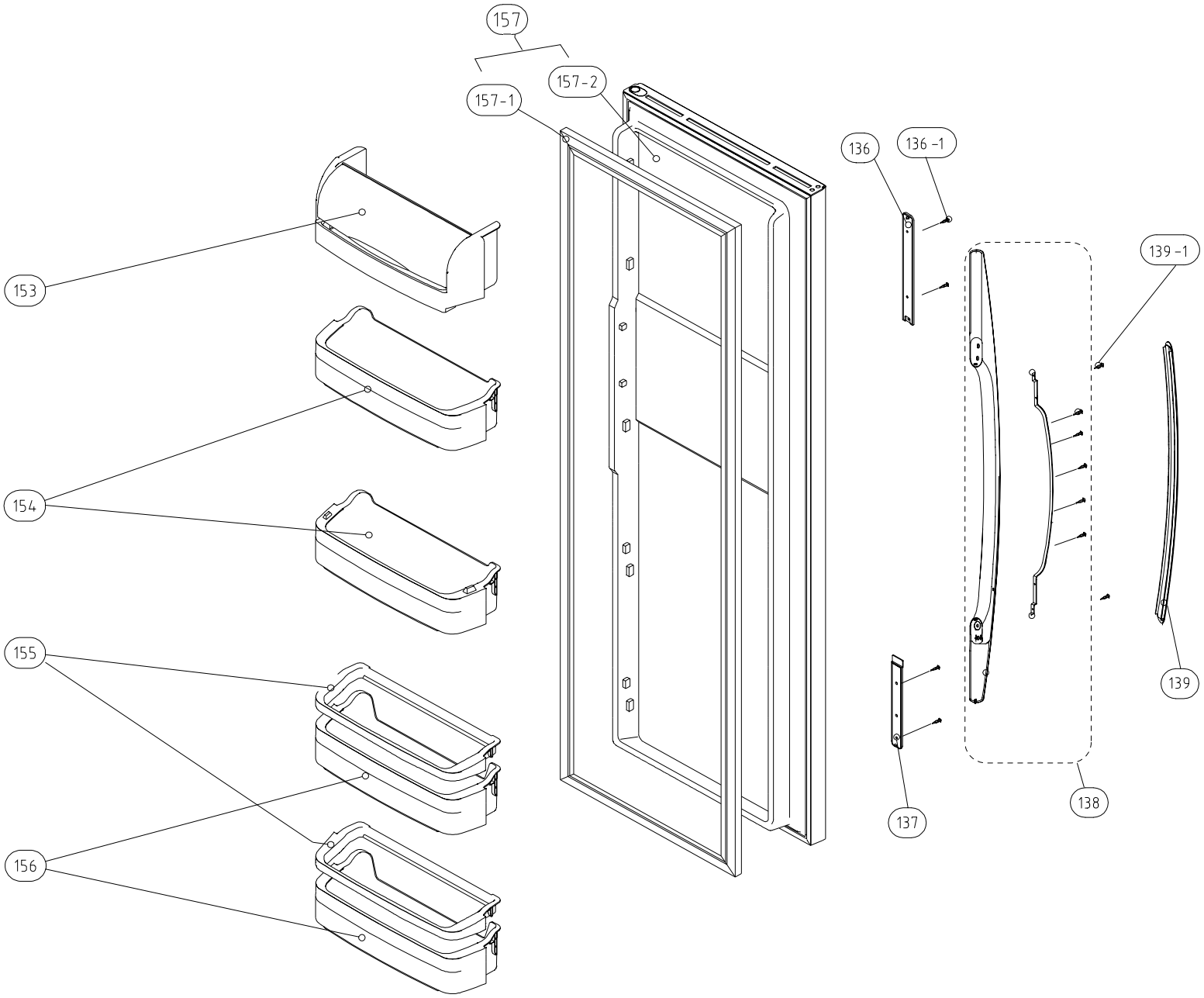
EXPLODED VIEW

F-Door



EXPLODED VIEW

R-Door



10-4. FRS-20DD / FRS-24DD Parts List

Cabinet

NO	Part Code	Part Name	Description	Q'ty	Remark
1	3000003600	ASSY CAB URT	FR-S580CGM	1	**FRS-20DD**
	3000025800	ASSY CAB URT	FR-S660CW	1	**FRS-24DD**
2	3012917620	HINGE *T *R AS	PO+BLACK T3.0	1	
3	3012918520	HINGE *T *L AS	PO+BLACK T3.0	1	
4	3012013000	FIXTURE *T HI	PP M6X19	2	
6	3011472400	COVER HI *T *R	PP	1	
7	3011472300	COVER HI *T *L	PP	1	
8	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	2	
9	3012601301	HANDLE CAB COVR *R	PP	1	
10	3012601201	HANDLE CAB COVR *L	PP	1	
11	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	1	
12	3010533400	BOX MAIN PCB	PP	1	
13	3016401920	CAPACITOR RUN	400VAC 5UF	1	**Model dependent**
	3016401170	CAPACITOR RUN	350VAC 5UF(	1	
14	30143D2062	PCB MAIN AS	SBS 2ND PREMIUM	1	
	30143D2072	PCB MAIN AS	SBS 2ND PREMIUM(EUROPE)	1	
	30143D2090	PCB MAIN AS	SBS 2ND PREMIUM(AUSTRALIA)	1	
15	3011472610	COVER MAIN PCB BOX	PP	1	
16	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	4	
17	3013223410	HOSE I/MAKER TUBE AS	FRS-551F	1	
	3013223401	HOSE I/MAKER TUBE AS	FR-S660CW	1	
18	3012519200	GUIDE CAB W/T A AS	HIPS	1	
19	3011485600	COVER GUIDE CAB W/TANK A	HIPS	1	
20	3011202000	CLAMP TUBE	PA-66,5N	2	
21	3012917812	HINGE *U *R AS	PO T5.0+PAINTING	1	
22	3012917711	HINGE *U *L AS	PO T5.0+PAINTING	1	
23	3019974800	S/PART FILT WATER AS	FR-S660CW/CD	1	
25	3016001240	SPECIAL BOLT *T	6X22 SWCH22A(YL)	8	
27	3012104400	FOOT ADJ AS	FR-S580CG	1	
28	3010654500	BRACKET ADJ FOOT AS	FR-T690DG	2	
29	3016001240	SPECIAL BOLT *T	6X22 SWCH22A(YL)	2	
30	3012019500	FIXTURE TUBE FIT B	PP	2	
31	3013064200	HOLDER TUBE A	A5UC5	1	
32	3011471010	COVER CAB BRKT *F	FR-S580CG	1	
33	7122401611	SCREW TAPPING	T2S TRS 4X16 MFZN	3	

Machine Room

NO	Part Code	Part Name	Description	Q'ty	Remark
35	3010326701	BASE COMP AS	FR-S580DGB(HANDLE)	1	
36	3016003300	SPECIAL BOLT	T2 M6.5X20	4	
37	3011344221	CORD POWER AS	CP-2PIN(EUROPE)	1	**Model dependent**
	3011301270	CORD POWER AS	ISRAEL	1	
	3011302030	CORD POWER AS	CP-2PIN	1	
	3011301030	CORD POWER AS	KP-550(CHINA)	1	
	3011301060	CORD POWER AS	KP-550(AUSTRALIA)	1	
	3011344231	CORD POWER AS	BS-1363(FRS-662)	1	

NO	Part Code	Part Name	Description	Q'ty	Remark
38	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	1	
39	7051401065	SCREW MACHINE	PAN 4X10VSW BSNI	1	
40	395S130R50	COMPRESSOR	HPL30YG-5 220-240V-50HZ	1	Model dependent
	3956183D50	COMPRESSOR	MK183Q-L2U 220-240V-50HZ	1	
	3956190D50	COMPRESSOR	DK190Q-L2U 220-240V-50HZ	1	
41	3016002500	SPECIAL WASR	SK-5 T0.8	3	
42	3010101600	ABSORBER RUBBER COMP	NBR	4	
43	3018129810	SWITCH P RELAY AS	308NHB,330	1	
	3018125210	SWITCH P RELAY AS	265RHB,330	1	
44	3011181300	CASE VAPORI AS	.	1	
45	3013201710	HOSE DRN B	PE FRB-5970NB	1	
46	3014457401	PIPE WICON AS	TSW,OD4.76XT0.7 ME18.5	1	
47	3012021700	FIXTURE MOTR	PP	1	
48	3015914100	MOTOR C FAN	DC-2213DWCA-3	1	
49	3018500200	M/BELL A	PP	1	
50	3011834700	FAN	ABS ₵150	1	
51	3011200500	CLAMP FAN	SUS 304	1	
52	3018500300	M/BELL B	PP	1	
53	3016806900	DRYER AS	XH-9 15G	1	
54	3011474750	COVER MACH RM AS	FRS-551F(F-US(N))	1	
55	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	6	
56	3015402300	VALVE WATER AS	FR-S660CW	1	

Refrigerator Room

NO	Part Code	Part Name	Description	Q'ty	Remark
57	3012007800	FIXTURE MOTOR A	PP	1	
58	3015911400	MOTOR R FAN	BL-2213DWRA-1	1	
59	3012007900	FIXTURE MOTOR B	HIPS	1	
60	7122401211	SCREW TAPPING	T2S 4X12 MFZN	2	
61	3011802200	FAN	ABS ₵110	1	
62	3013344200	INSU DAMP B	F-PS	1	
63	3013344100	INSU DAMP A	F-PS	1	
64	3011471250	COVER DAMP	HIPS+SILK PRINT	1	
65	3018701800	DEO ANTI AS	W40XT5XL40	1	
66	COVER DEO	3011471320	ABS(NUDE)	1	
67	3017905300	SOCKET R LAMP AS	250V/1A	1	
68	7121300811	SCREW TAPPING	T2S PAN 3X8	1	
69	3013602030	LAMP R A	240V 25W(GENERAL)	2	
70	3015507900	WINDOW R LAMP A	MIPS	1	
71	3016002720	SPECIAL CAP SCREW	4X12	2	
73	3017827310	SHELF R A AS	FRAME+NUDE GLASS+FIXTURE	4	**FRS-20DD**
	3017831910	SHELF R AS	FRAME+NUDE GLASS+FIXTURE	4	**FRS-24DD**
74	3012514500	GUIDE CASE A *L AS	ABS	3	
75	3012514600	GUIDE CASE A *R AS	ABS	3	
76	7142401611	SCREW TAPPING	T2S 4X16 MFZN	4	

NO	Part Code	Part Name	Description	Q'ty	Remark
77	3011171290	CASE CHILD AS	CASE(SILK)+FRAME	1	**FRS-20DD**
	3011177770	CASE CHILD AS	CASE(SILK)+FRAME	1	**FRS-24DD**
80	3011472900	COVER RETURN DUCT	HIPS	1	
81	3011172040	CASE VEGETB A AS	582 GP NO-NANO SILK	1	**FRS-20DD**
	3011178260	CASE VEGETB A AS	(NANO-X,SILK)+FRAME(SILK)	1	**FRS-24DD**
82	3012514700	GUIDE CASE B *L AS	ABS	2	**FRS-20DD**
	3012514500	GUIDE CASE A *L AS	ABS	2	**FRS-24DD**
83	3012514800	GUIDE CASE B *R AS	ABS	2	**FRS-20DD**
	3012514600	GUIDE CASE A *R AS	ABS	2	**FRS-24DD**
84	3011473200	COVER V/CASE B	GPPS	1	**FRS-20DD**
	3011485400	COVER V/CASE B	GPPS	1	**FRS-24DD**
85	3011172170	CASE VEGETB B AS	CASE(SILK)+FRAME	1	**FRS-20DD**
	3011178360	CASE VEGETB B AS	(NANO-X)+SILK	1	**FRS-24DD**
86	3018124000	SWITCH DR	SP201R-7DR	1	
87	3017100500	FLAP MULTI DUCT	PP	1	
88	3013345000	INSU MULTI DUCT AS	F-PS	1	
89	3011472750	COVER MULTI DUCT	HIPS SILK	1	
90	3013408100	KNOB MULT DUCT	HIPS	1	
91	3017905310	SOCKET R LAMP AS	250V 1A	1	
92	3013600020	LAMP R B	AC 240V / 15W	1	
93	3015508000	WINDOW R LAMP B	MIPS	1	
94	3011473010	COVER SENS	ABS	1	
95	3014805400	SENSOR R AS	PBN-438	1	
96	3011169900	CASE EGG	GPPS	1	
97	3018200812	TANK WATER AS	FRS-551F	1	
	3018200802	TANK WATER AS	FR-S660CW	1	

Freezer Room

NO	Part Code	Part Name	Description	Q'ty	Remark
98	3012514200	GUIDE DRN	GA	1	
99	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	1	
100	3012007800	FIXTURE MOTOR A	HIPS	1	
101	3015911310	MOTOR F FAN	DL-2213DWFA-2	1	
102	3018917200	LOUVER F C	PP	1	
103	7142401611	SCREW TAPPING	T2 TRS 4X16 MFZN	3	
104	3011834500	FAN	ABS ₵130	1	
105	3018914900	LOUVER F D AS	FR-S580CG	1	
106	3014805300	SENSOR F AS	PT-38	1	
107	3018914710	LOUVER F B AS	FR-S580CGS	1	
108	3018914630	LOUVER F A AS	FR-S660CW/CD	1	
109	7142401611	SCREW TAPPING	T2 TRS 4X16 MFZN	3	
110	3010924600	CAP F LUVR	HIPS T2.3	3	
111	3011473010	COVER SENSOR	ABS	1	
112	3000025900	CASE I/MAKER AS	FR-S660CW	1	
113	3012205600	FRAME I/MAKER	HIPS	1	

NO	Part Code	Part Name	Description	Q'ty	Remark
114	3012013200	FIXTURE C	PP	2	
115	3012517900	GUIDE G MOTR BRKT *R	ABS	1	
116	3010634810	BRACKET GEARED MOTR AS	FRS-661(220~240V/50HZ)	1	
117	3012517800	GUIDE G MOTR BRKT *L	ABS	1	
119	3011176230	CASE I/CRUSHER AS	FRS-551F	1	**FRS-20DD**
	3011176201	CASE I/CRUSHER AS	FR-S660CW	1	**FRS-24DD**
123	3013602500	LAMP F/R	AC 240V 25W(S)	1	
126	3015507710	WINDOW F LAMP	MIPS	1	
127	3016002720	SPECIAL CAP SCREW	SM18C	2	
129	3018124010	SWITCH DR	SP201R-7DL	1	
130	3017827110	SHELF F A AS	FRAME+NUDE GLASS+FIXTURE	3	**FRS-20DD**
	3017831810	SHELF F AS	FRAME+NUDE GLASS+FIXTURE	3	**FRS-24DD**
131	3011171440	CASE F A AS	CASE(NO-NANO SILK)+FRAME	1	**FRS-20DD**
	3011177870	CASE F A AS	CASE(NO-NANO SILK)+FRAME	1	**FRS-24DD**
132	3011171540	CASE F B AS	CASE+FRAME(NANO-X)SILK	1	**FRS-20DD**
	3011177970	CASE F B AS	CASE+FRAME(NANO-X)SILK	1	**FRS-24DD**

Freezer Door

NO	Part Code	Part Name	Description	Q'ty	Remark
133	3019019020	POCKET F *S	HIPS+SILK	1	**FRS-20DD**
	3019019020	POCKET F *S	HIPS+SILK	2	**FRS-24DD**
134	3019019150	POCKET F	HIPS SILK	3	
135	3000059400	ASSY F DR	FRS-554F(ELLIO) 220V	1	**FRS-20DD**
	3000059420	ASSY F DR	FRS-664F(ELLIO) 220V	1	**FRS-24DD**
135-1	3010957100	CAP ICE PATH FRAME	HIPS(FR-S660)	1	**FRS-20DD**
	3010964601	CAP ICE PATH FRAME	PP(FRS-551F)	1	**FRS-24DD**
135-2	3012314200	GASKET F DR AS	PVC	1	
135-3	3011754130	DOOR F URT AS	FRS-552F	1	**FRS-20DD**
	3011754120	DOOR F URT AS	FRS-662F	1	**FRS-24DD**
136	3010339100	BASE HNDL *T	HIPS	1	
136-1	3016002700	SPECIAL SCREW	WASR+TRS5X16 MFZN	4	
137	3010339200	BASE HNDL *U	HIPS	1	
138	3012641000	HANDLE F/R AS	FR-S580DYB	1	
139	3011636020	DECO HANDL F/R	ABS(SPRAY)	1	
139-1	7112401211	SCREW TAPPING	T1 TRS 4*12 MFZN	2	
141	3013600020	LAMP AS	240V/15W (E14,CC7A)	1	
142	3011498300	COVER DISPNS BOX AS	FRS-662F	1	
143	3010542200	BOX DISPNS I/SHUT AS	.	1	
144	3015102200	SPRING ICE D LEVR	SUS	1	
145	3011485900	COVER I/FLAP AS	FR-S660CW	1	
146	3012019700	FIXTURE I/SHUT LUVR	FR-S650CD	1	
147	3015403000	VALVE SOL DISPNS	AC230V 50HZ	1	
148	3014563700	PLATE MICRO SW	FR-S660CW	1	
149	3018125800	SWITCH MICRO	VP333A-2D	1	
150	3016304000	BUTTON DISPNS AS	FR-T660DD	1	

NO	Part Code	Part Name	Description	Q'ty	Remark
152	3012406200	GRILLE DISPNS	ABS	1	

Refrigator Door

NO	Part Code	Part Name	Description	Q'ty	Remark
136	3010339100	BASE HNDL *T	HIPS	1	
136-1	3016002700	SPECIAL SCREW	WASR+TRS5X16 MFZN	4	
137	3010339200	BASE HNDL *U	HIPS	1	
138	3012641000	HANDLE F/R AS	FR-S580DYB	1	
139	3011636020	DECO HANDL F/R	ABS(SPRAY)	1	
139-1	7112401211	SCREW TAPPING	T1 TRS 4*12 MFZN	2	
153	3019019400	POCKET DAIRY AS	POCKET+COVER	1	
154	3019019830	POCKET R *M	HIPS SILK	2	
155	3012514100	GUIDE R POKT	HIPS	2	
156	3019019220	POCKET R	HIPS SILK	2	
157	3000025320	ASSY R DR	FRS-584(ELLIO)	1	
157-1	3012314500	GASKET R DR AS	PVC	1	
157-2	3000024900	ASSY R DR URT	FR-S580CGM	1	

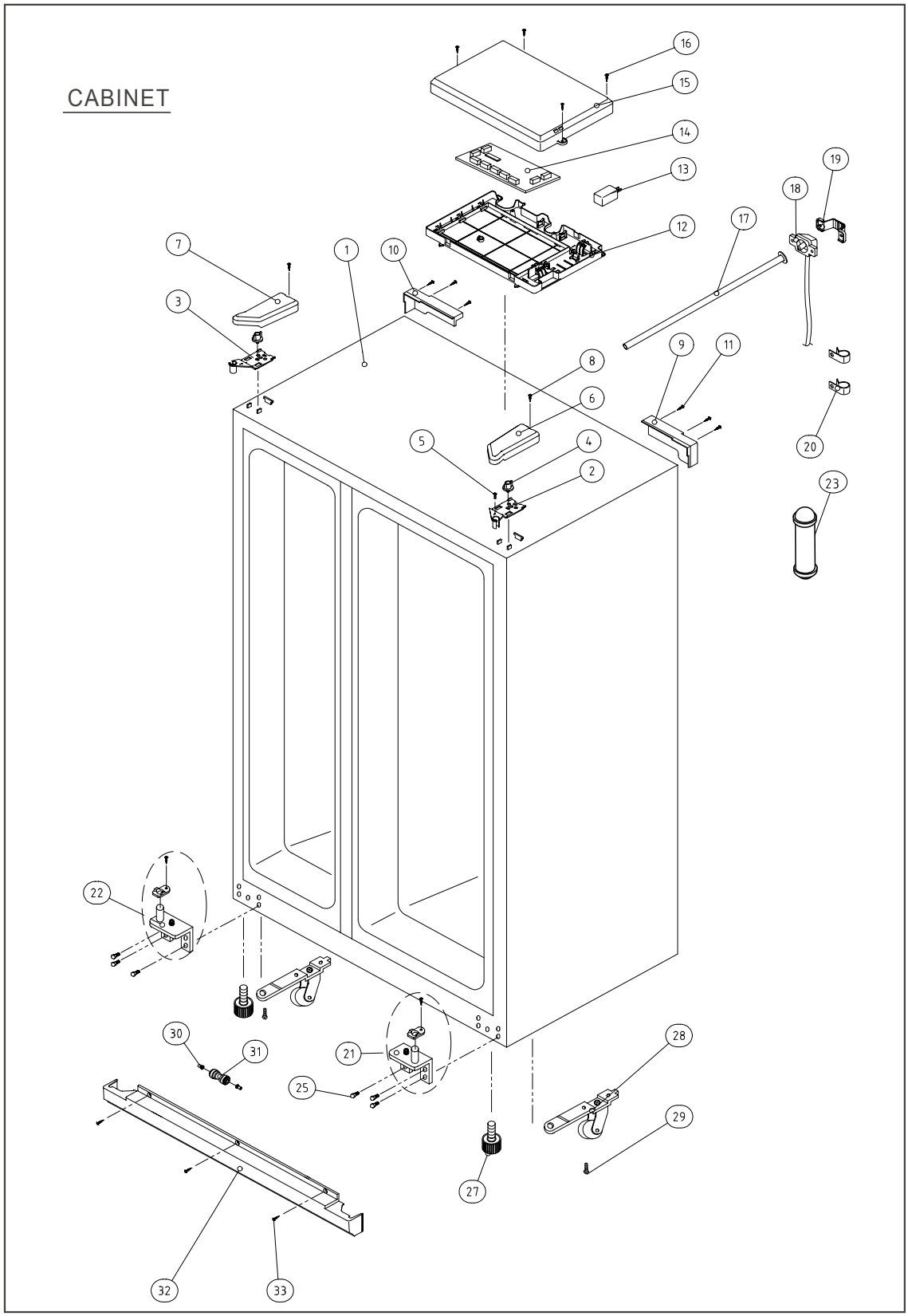
EVA

NO	Part Code	Part Name	Description	Q'ty	Remark
160	3017050730	EVA AS	ACCUM SHEATH HTR 220V	1	
160-1	3012818100	HEATER SHEATH AS	220V/250W	1	
160-2	3014805200	SENSOR D AS	PBN-43	1	
160-3	3017202000	FUSE TEMP AS	AC 250V 77C 10A	1	
160-4	4017Z90590	FIXTURE FUSE TEMP	PP	1	

- It would be recommend to check the your colour.

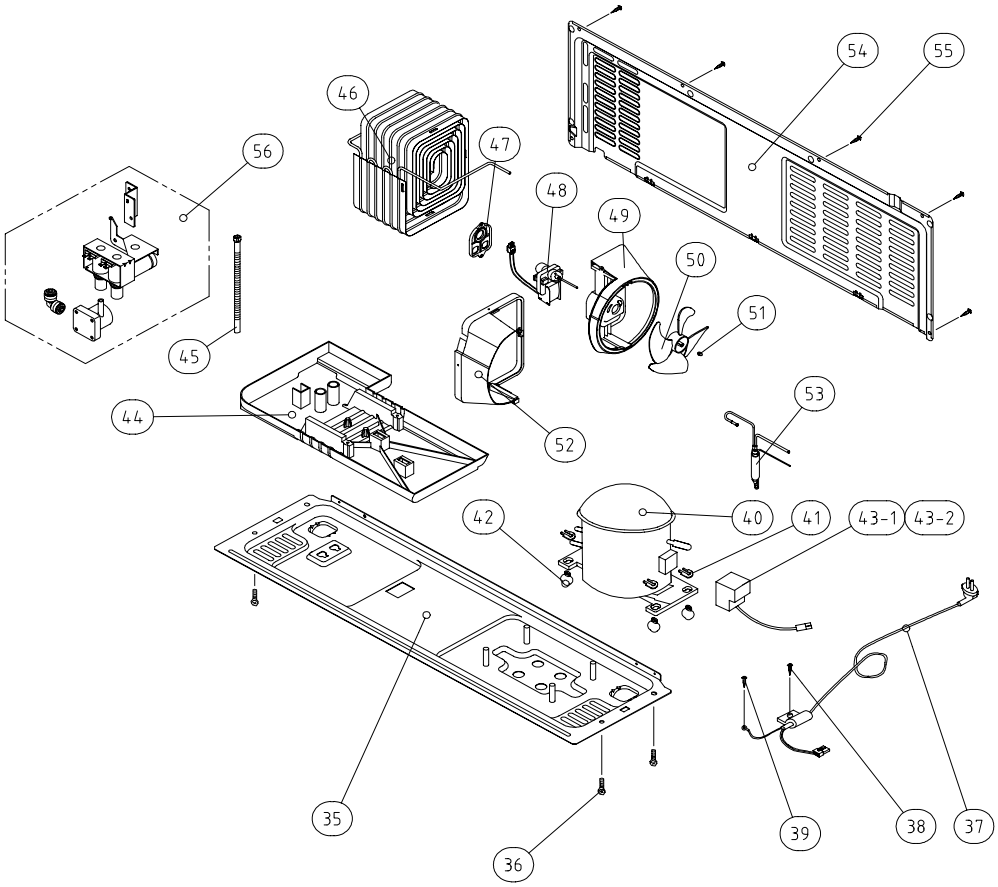
(Above parts number doesn't match each own colour.)

10-5. FRS-20FD / FRS-24FD (Dispenser + Homebar)

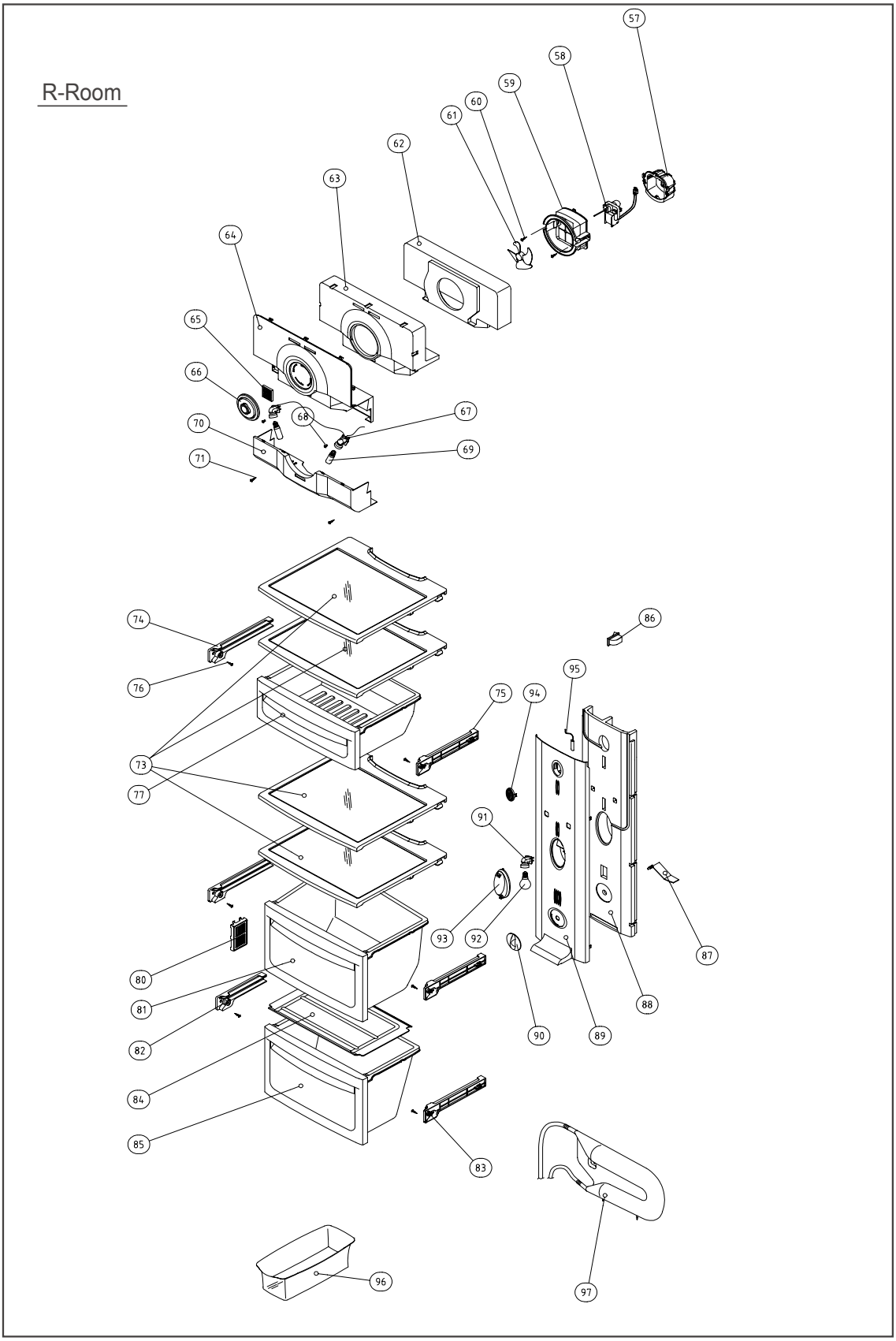


EXPLODED VIEW

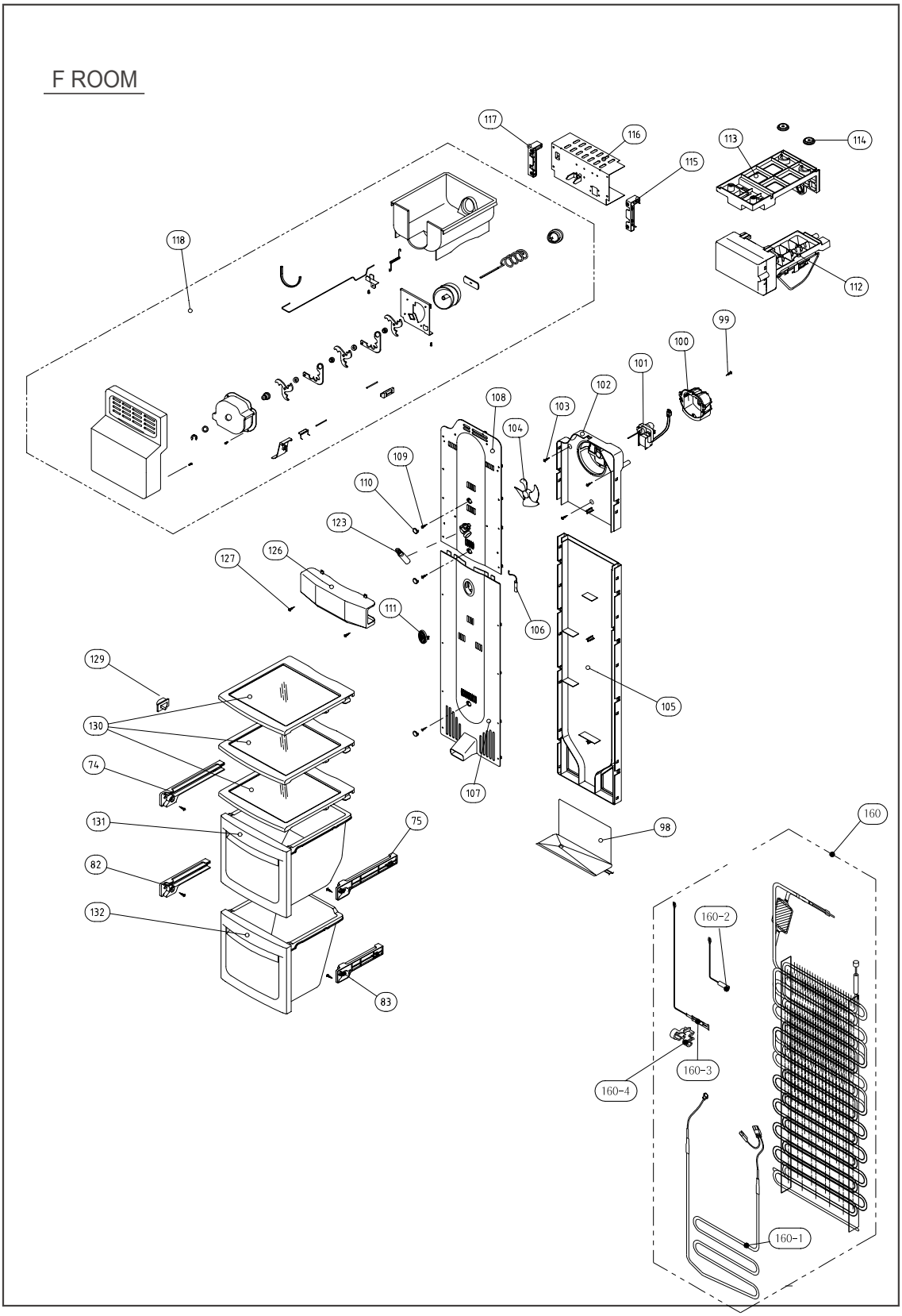
MECH ROOM



EXPLODED VIEW

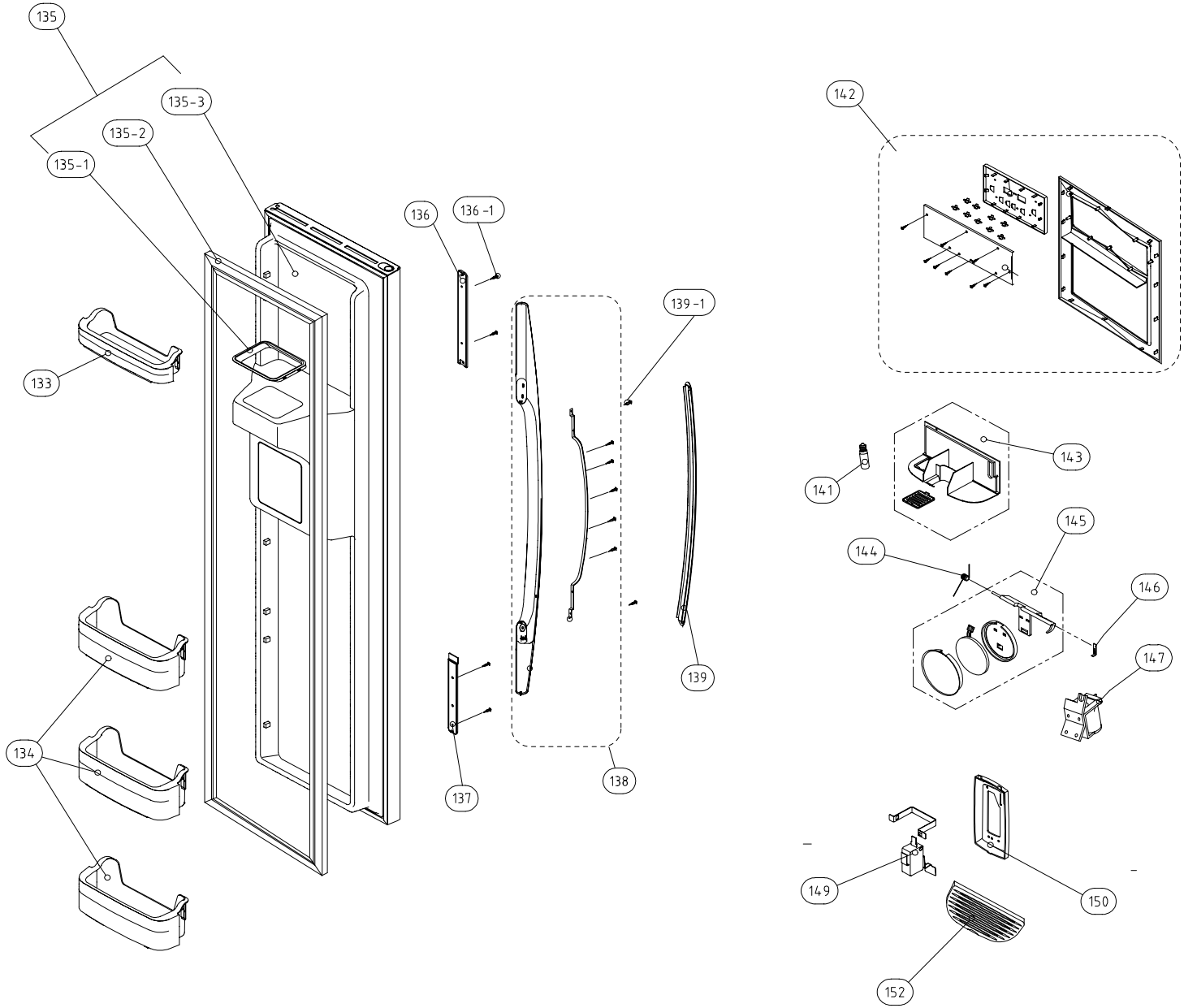


EXPLODED VIEW



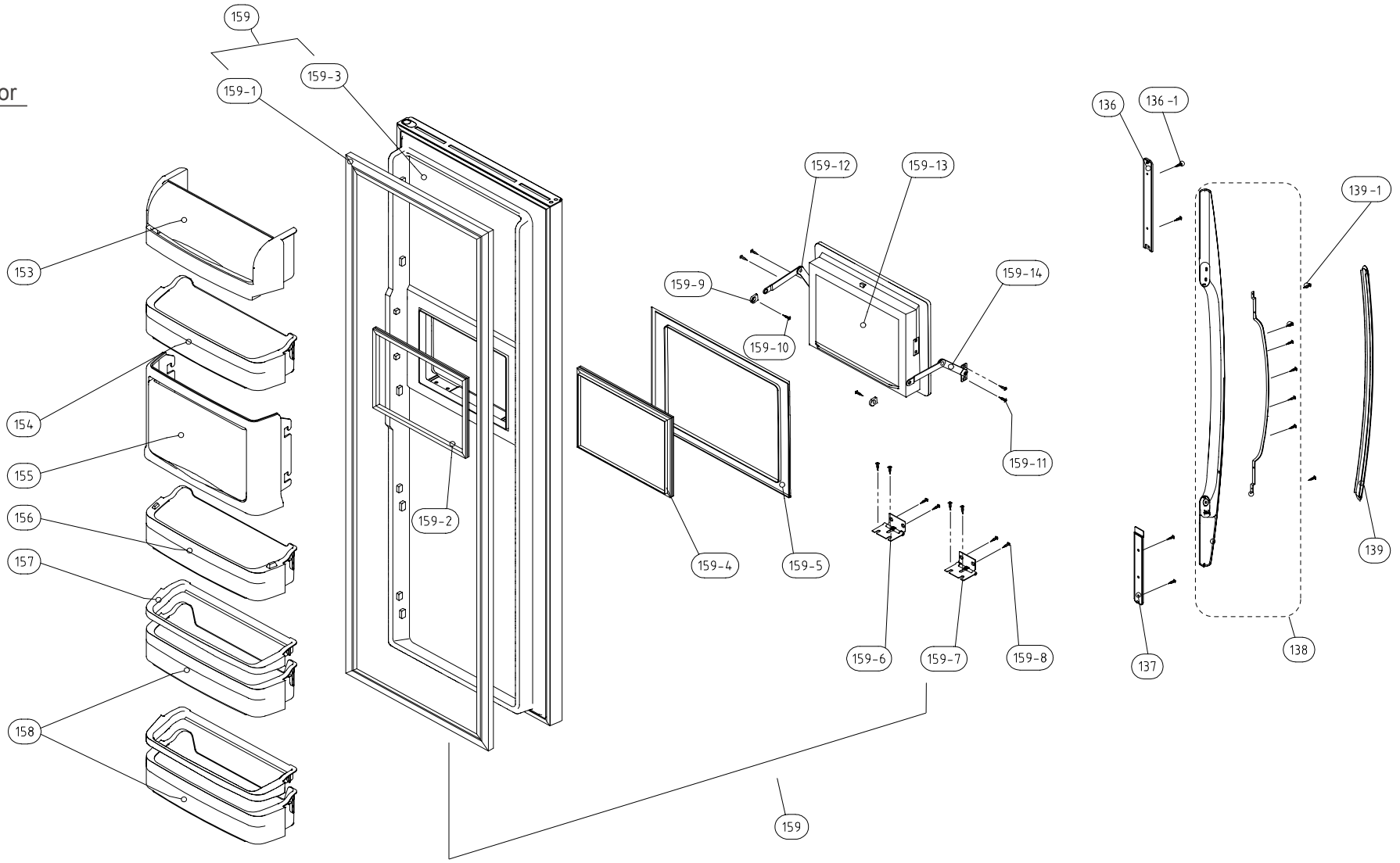
EXPLODED VIEW

F-Door



EXPLODED VIEW

R-Door



10-6. FRS-20FD / FRS-24FD Parts List

Cabinet

NO	Part Code	Part Name	Description	Q'ty	Remark
1	3000003600	ASSY CAB URT	FR-S580CGM	1	**FRS-20FD**
	3000025800	ASSY CAB URT	FR-S660CW	1	**FRS-24FD**
2	3012917620	HINGE *T *R AS	PO+BLACK T3.0	1	
3	3012918520	HINGE *T *L AS	PO+BLACK T3.0	1	
4	3012013000	FIXTURE *T HI	PP M6X19	2	
6	3011472400	COVER HI *T *R	PP	1	
7	3011472300	COVER HI *T *L	PP	1	
8	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	2	
9	3012601301	HANDLE CAB COVR *R	PP	1	
10	3012601201	HANDLE CAB COVR *L	PP	1	
11	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	1	
12	3010533400	BOX MAIN PCB	PP	1	
13	3016401920	CAPACITOR RUN	400VAC 5UF	1	**Model dependent**
	3016401170	CAPACITOR RUN	350VAC 5UF(	1	
14	30143D2062	PCB MAIN AS	SBS 2ND PREMIUM	1	
	30143D2072	PCB MAIN AS	SBS 2ND PREMIUM(EUROPE)	1	
	30143D2090	PCB MAIN AS	SBS 2ND PREMIUM(AUSTRALIA)	1	
15	3011472610	COVER MAIN PCB BOX	PP	1	
16	7112401211	SCREW TAPPING	T1 TRS 4 x 12 MFZN	4	
17	3013223410	HOSE I/MAKER TUBE AS	FRS-551F	1	
	3013223401	HOSE I/MAKER TUBE AS	FR-S660CW	1	
18	3012519200	GUIDE CAB W/T A AS	HIPS	1	
19	3011485600	COVER GUIDE CAB W/TANK A	HIPS	1	
20	3011202000	CLAMP TUBE	PA-66,5N	2	
21	3012917812	HINGE *U *R AS	PO T5.0+PAINTING	1	
22	3012917711	HINGE *U *L AS	PO T5.0+PAINTING	1	
23	3019974800	S/PART FILT WATER AS	FR-S660CW/CD	1	
25	3016001240	SPECIAL BOLT *T	6X22 SWCH22A(YL)	8	
27	3012104400	FOOT ADJ AS	FR-S580CG	1	
28	3010654500	BRACKET ADJ FOOT AS	FR-T690DG	2	
29	3016001240	SPECIAL BOLT *T	6X22 SWCH22A(YL)	2	
30	3012019500	FIXTURE TUBE FIT B	PP	2	
31	3013064200	HOLDER TUBE A	A5UC5	1	
32	3011471010	COVER CAB BRKT *F	FR-S580CG	1	
33	7122401611	SCREW TAPPING	T2S TRS 4X16 MFZN	3	

Machine Room

NO	Part Code	Part Name	Description	Q'ty	Remark
35	3010326701	BASE COMP AS	FR-S580DGB(HANDLE)	1	
36	3016003300	SPECIAL BOLT	T2 M6.5X20	4	
37	3011344221	CORD POWER AS	CP-2PIN(EUROPE)	1	**Model dependent**
	3011301270	CORD POWER AS	ISRAEL	1	
	3011302030	CORD POWER AS	CP-2PIN	1	
	3011301030	CORD POWER AS	KP-550(CHINA)	1	
	3011301060	CORD POWER AS	KP-550(AUSTRALIA)	1	
	3011344231	CORD POWER AS	BS-1363(FRS-662)	1	

NO	Part Code	Part Name	Description	Q'ty	Remark
38	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	1	
39	7051401065	SCREW MACHINE	PAN 4X10VSW BSNI	1	
40	395S130R50	COMPRESSOR	HPL30YG-5 220-240V-50HZ	1	Model dependent
	3956183D50	COMPRESSOR	MK183Q-L2U 220-240V-50HZ	1	
	3956190D50	COMPRESSOR	DK190Q-L2U 220-240V-50HZ	1	
41	3016002500	SPECIAL WASR	SK-5 T0.8	3	
42	3010101600	ABSORBER RUBBER COMP	NBR	4	
43	3018129810	SWITCH P RELAY AS	308NHB,330	1	
	3018125210	SWITCH P RELAY AS	265RHB,330	1	
44	3011181300	CASE VAPORI AS	.	1	
45	3013201710	HOSE DRN B	PE FRB-5970NB	1	
46	3014457401	PIPE WICON AS	TSW,OD4.76XT0.7 ME18.5	1	
47	3012021700	FIXTURE MOTR	PP	1	
48	3015914100	MOTOR C FAN	DC-2213DWCA-3	1	
49	3018500200	M/BELL A	PP	1	
50	3011834700	FAN	ABS ¢150	1	
51	3011200500	CLAMP FAN	SUS 304	1	
52	3018500300	M/BELL B	PP	1	
53	3016806900	DRYER AS	XH-9 15G	1	
54	3011474750	COVER MACH RM AS	FRS-551F(F-US(N))	1	
55	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	6	
56	3015402300	VALVE WATER AS	FR-S660CW	1	

Refrigerator Room

NO	Part Code	Part Name	Description	Q'ty	Remark
57	3012007800	FIXTURE MOTOR A	PP	1	
58	3015911400	MOTOR R FAN	BL-2213DWRA-1	1	
59	3012007900	FIXTURE MOTOR B	HIPS	1	
60	7122401211	SCREW TAPPING	T2S 4X12 MFZN	2	
61	3011802200	FAN	ABS ¢110	1	
62	3013344200	INSU DAMP B	F-PS	1	
63	3013344100	INSU DAMP A	F-PS	1	
64	3011471250	COVER DAMP	HIPS+SILK PRINT	1	
65	3018701800	DEO ANTI AS	W40XT5XL40	1	
66	COVER DEO	3011471320	ABS(NUDE)	1	
67	3017905300	SOCKET R LAMP AS	250V/1A	1	
68	7121300811	SCREW TAPPING	T2S PAN 3X8	1	
69	3013602030	LAMP R A	240V 25W(GENERAL)	2	
70	3015507900	WINDOW R LAMP A	MIPS	1	
71	3016002720	SPECIAL CAP SCREW	4X12	2	
73	3017827310	SHELF R A AS	FRAME+NUDE GLASS+FIXTURE	4	**FRS-20FD**
	3017831910	SHELF R AS	FRAME+NUDE GLASS+FIXTURE	4	**FRS-24FD**
74	3012514500	GUIDE CASE A *L AS	ABS	3	
75	3012514600	GUIDE CASE A *R AS	ABS	3	
76	7142401611	SCREW TAPPING	T2S 4X16 MFZN	4	

NO	Part Code	Part Name	Description	Q'ty	Remark
77	3011171290	CASE CHILD AS	CASE(SILK)+FRAME	1	**FRS-20FD**
	3011177770	CASE CHILD AS	CASE(SILK)+FRAME	1	**FRS-24FD**
80	3011472900	COVER RETURN DUCT	HIPS	1	
81	3011172040	CASE VEGETB A AS	582 GP NO-NANO SILK	1	**FRS-20FD**
	3011178260	CASE VEGETB A AS	(NANO-X,SILK)+FRAME(SILK)	1	**FRS-24FD**
82	3012514700	GUIDE CASE B *L AS	ABS	2	**FRS-20FD**
	3012514500	GUIDE CASE A *L AS	ABS	2	**FRS-24FD**
83	3012514800	GUIDE CASE B *R AS	ABS	2	**FRS-20FD**
	3012514600	GUIDE CASE A *R AS	ABS	2	**FRS-24FD**
84	3011473200	COVER V/CASE B	GPPS	1	**FRS-20FD**
	3011485400	COVER V/CASE B	GPPS	1	**FRS-24FD**
85	3011172170	CASE VEGETB B AS	CASE(SILK)+FRAME	1	**FRS-20FD**
	3011178360	CASE VEGETB B AS	(NANO-X)+SILK	1	**FRS-24FD**
86	3018124000	SWITCH DR	SP201R-7DR	1	
87	3017100500	FLAP MULTI DUCT	PP	1	
88	3013345000	INSU MULTI DUCT AS	F-PS	1	
89	3011472750	COVER MULTI DUCT	HIPS SILK	1	
90	3013408100	KNOB MULT DUCT	HIPS	1	
91	3017905310	SOCKET R LAMP AS	250V 1A	1	
92	3013600020	LAMP R B	AC 240V / 15W	1	
93	3015508000	WINDOW R LAMP B	MIPS	1	
94	3011473010	COVER SENS	ABS	1	
95	3014805400	SENSOR R AS	PBN-438	1	
96	3011169900	CASE EGG	GPPS	1	
97	3018200812	TANK WATER AS	FRS-551F	1	
	3018200802	TANK WATER AS	FR-S660CW	1	

Freezer Room

NO	Part Code	Part Name	Description	Q'ty	Remark
98	3012514200	GUIDE DRN	GA	1	
99	7112401211	SCREW TAPPING	T1 TRS 4X12 MFZN	1	
100	3012007800	FIXTURE MOTOR A	HIPS	1	
101	3015911310	MOTOR F FAN	DL-2213DWFA-2	1	
102	3018917200	LOUVER F C	PP	1	
103	7142401611	SCREW TAPPING	T2 TRS 4X16 MFZN	3	
104	3011834500	FAN	ABS ₵130	1	
105	3018914900	LOUVER F D AS	FR-S580CG	1	
106	3014805300	SENSOR F AS	PT-38	1	
107	3018914710	LOUVER F B AS	FR-S580CGS	1	
108	3018914630	LOUVER F A AS	FR-S660CW/CD	1	
109	7142401611	SCREW TAPPING	T2 TRS 4X16 MFZN	3	
110	3010924600	CAP F LUVR	HIPS T2.3	3	
111	3011473010	COVER SENSOR	ABS	1	
112	3000025900	CASE I/MAKER AS	FR-S660CW	1	
113	3012205600	FRAME I/MAKER	HIPS	1	

NO	Part Code	Part Name	Description	Q'ty	Remark
114	3012013200	FIXTURE C	PP	2	
115	3012517900	GUIDE G MOTR BRKT *R	ABS	1	
116	3010634810	BRACKET GEARED MOTR AS	FRS-661(220~240V/50HZ)	1	
117	3012517800	GUIDE G MOTR BRKT *L	ABS	1	
119	3011176230	CASE I/CRUSHER AS	FRS-551F	1	**FRS-20FD**
	3011176201	CASE I/CRUSHER AS	FR-S660CW	1	**FRS-24FD**
123	3013602500	LAMP F/R	AC 240V 25W(S)	1	
126	3015507710	WINDOW F LAMP	MIPS	1	
127	3016002720	SPECIAL CAP SCREW	SM18C	2	
129	3018124010	SWITCH DR	SP201R-7DL	1	
130	3017827110	SHELF F A AS	FRAME+NUDE GLASS+FIXTURE	3	**FRS-20FD**
	3017831810	SHELF F AS	FRAME+NUDE GLASS+FIXTURE	3	**FRS-24FD**
131	3011171440	CASE F A AS	CASE(NO-NANO SILK)+FRAME	1	**FRS-20FD**
	3011177870	CASE F A AS	CASE(NO-NANO SILK)+FRAME	1	**FRS-24FD**
132	3011171540	CASE F B AS	CASE+FRAME(NANO-X)SILK	1	**FRS-20FD**
	3011177970	CASE F B AS	CASE+FRAME(NANO-X)SILK	1	**FRS-24FD**

Freezer Door

NO	Part Code	Part Name	Description	Q'ty	Remark
133	3019019020	POCKET F *S	HIPS+SILK	1	**FRS-20FD**
	3019019020	POCKET F *S	HIPS+SILK	2	**FRS-24FD**
134	3019019150	POCKET F	HIPS SILK	3	
135	3000059400	ASSY F DR	FRS-554F(ELLIO) 220V	1	**FRS-20FD**
	3000059420	ASSY F DR	FRS-664F(ELLIO) 220V	1	**FRS-24FD**
135-1	3010957100	CAP ICE PATH FRAME	HIPS(FR-S660)	1	**FRS-20FD**
	3010964601	CAP ICE PATH FRAME	PP(FRS-551F)	1	**FRS-24FD**
135-2	3012314200	GASKET F DR AS	PVC	1	
135-3	3011754130	DOOR F URT AS	FRS-552F	1	**FRS-20FD**
	3011754120	DOOR F URT AS	FRS-662F	1	**FRS-24FD**
136	3010339100	BASE HNDL *T	HIPS	1	
136-1	3016002700	SPECIAL SCREW	WASR+TRS5X16 MFZN	4	
137	3010339200	BASE HNDL *U	HIPS	1	
138	3012641000	HANDLE F/R AS	FR-S580DYB	1	
139	3011636020	DECO HANDL F/R	ABS(SPRAY)	1	
139-1	7112401211	SCREW TAPPING	T1 TRS 4*12 MFZN	2	
141	3013600020	LAMP AS	240V/15W (E14,CC7A)	1	
142	3011498300	COVER DISPNS BOX AS	FRS-662F	1	
143	3010542200	BOX DISPNS I/SHUT AS	.	1	
144	3015102200	SPRING ICE D LEVR	SUS	1	
145	3011485900	COVER I/FLAP AS	FR-S660CW	1	
146	3012019700	FIXTURE I/SHUT LUVR	FR-S650CD	1	
147	3015403000	VALVE SOL DISPNS	AC230V 50HZ	1	
148	3014563700	PLATE MICRO SW	FR-S660CW	1	
149	3018125800	SWITCH MICRO	VP333A-2D	1	
150	3016304000	BUTTON DISPNS AS	FR-T660DD	1	

NO	Part Code	Part Name	Description	Q'ty	Remark
152	3012406200	GRILLE DISPNS	ABS	1	

Refrigator Door

NO	Part Code	Part Name	Description	Q'ty	Remark
136	3010339100	BASE HNDL *T	HIPS	1	
136-1	3016002700	SPECIAL SCREW	WASR+TRS5X16 MFZN	4	
137	3010339200	BASE HNDL *U	HIPS	1	
138	3012641000	HANDLE F/R AS	FR-S580DYB	1	
139	3011636020	DECO HANDL F/R	ABS(SPRAY)	1	
139-1	7112401211	SCREW TAPPING	T1 TRS 4*12 MFZN	2	
153	3019019400	POCKET DAIRY AS	POCKET+COVER	1	
154	3019019830	POCKET R *M	HIPS SILK	1	
155	3011474600	COVER H/BAR AS	FR-S580CR	1	
156	3019022130	POCKET R H/BAR	HIPS SILK	1	
157	3012514100	GUIDE R POKT	HIPS	2	
158	3019019220	POCKET R	HIPS SILK	2	
159	3000059500	ASSY R DR	FRS-554F(ELLIO) 220V	1	
159-1	3012314500	GASKET R DR AS	PVC	1	
159-2	3012314400	GASKET H/BAR B AS	PVC	1	
159-3	3011754230	DOOR R URT AS	FRS-552F	1	
159-4	3012314400	GASKET H/BAR B AS	PVC	1	
159-5	3011497300	COVER H/BAR FRAME	ABS	1	
159-6	3012918300	HINGE H/BAR *R AS	FR-S580CR	1	
159-7	3012918200	HINGE H/BAR *L AS	FR-S580CR	1	
159-8	3016030600	SPECIAL SCREW C	T1 BIN 5X15 STS	8	
159-9	3010951500	CAP H/BAR ARM PLT *L	ABS	2	
159-10	3016030800	SPECIAL SCREW A	T1 FLT 5X15 STS	2	
159-11	3016030600	SPECIAL SCREW C	T1 BIN 5X15 STS	4	
159-12	3014567100	PLATE H/BAR ARM *R AS	FR-T690DR	1	
159-13	3011762600	DOOR H/BAR AS	FRS-662F	1	
159-14	3014567000	PLATE H/BAR ARM *L AS	FR-T690DR	1	

EVA

NO	Part Code	Part Name	Description	Q'ty	Remark
160	3017050730	EVA AS	ACCUM SHEATH HTR 220V	1	
160-1	3012818100	HEATER SHEATH AS	220V/250W	1	
160-2	3014805200	SENSOR D AS	PBN-43	1	
160-3	3017202000	FUSE TEMP AS	AC 250V 77C 10A	1	
160-4	4017Z90590	FIXTURE FUSE TEMP	PP	1	

- It would be recommend to check the your colour.

(Above parts number doesn't match each own colour.)