Changes for the Better

MITSUBISHI ELECTRIC

HOME REFRIGERATORS

SERVICE MANUAL

2011

NO.SM-RE-1125

Models
MR-BF290C-W-A
MR-BF290C-ST-A
MR-BF325C-W-A
MR-BF325C-ST-A
MR-BF390C-W-A
MR-BF390C-ST-A

CONTENTS

A.....Australia & New Zea land

1 SPECIFICATIONS

1-1 SPECIFICATIONS

MR-BF290C-A

Power supply			230-240V 50Hz
Total capacity		L	GROSS (AS) 290 (R : 185 F : 105)
Dimensions (HXWXD)		mm.	1359 x 600 x 656
Cabinet			Acrylic resin coated steel
Food liner			ABS resin
Insulation	Cabinet		Foamed cyclopenthane
	Refrigerator door		Foamed cyclopenthane
	Vegetable door		Foamed cyclopenthane
	Freezer door		Foamed cyclopenthane
Cooling system	Freezer		Forced air convection
	Refrigerator		3 way air flow
Evaporator			Fin and tube type
Condenser			Concealed type
Defrost system			Automatic (Defrost heater)
Drain			Automatic (drainage)
Temperature control system			Automatic control
Refrigerator room light			240V, 15W (E12)
Accessories	Glass shelf (R)		2 pcs.
	Slide shelf		1 pc.
	Slide chilled case		1 pc.
	Free pocket (L)		2 pcs.
	Egg case		1 pc.
	Bottle pocket		1 pc.
	Bottle stopper		1 pc.
	Ice tray		1 pc.
	Ice box		1 pc.
	Freezing case (UP)		1 pc.
	Freezing case (LOW)		1 pc.
	Kick plate		1 pc.
Weight	Unit	kg	60
	Shipping	kg	67

MR-BF325C-A

Power supply			230-240V 50Hz
Total capacity		L	GROSS (AS) 325 (R : 220 F : 105)
Dimensions (HXWXD)		mm.	1479 x 600 x 656
Cabinet			Acrylic resin coated steel
Food liner			ABS resin
Insulation	Cabinet		Foamed cyclopenthane
	Refrigerator door		Foamed cyclopenthane
	Vegetable door		Foamed cyclopenthane
	Freezer door		Foamed cyclopenthane
Cooling system	Freezer		Forced air convection
	Refrigerator		3 way air flow
Evaporator			Fin and tube type
Condenser			Concealed type
Defrost system			Automatic (Defrost heater)
Drain			Automatic (drainage)
Temperature control system			Automatic control
Refrigerator room light			240V, 15W (E12)
Accessories	Glass shelf (R)		3 pcs.
	Slide shelf		1 pc.
	Slide chilled case		1 pc.
	Free pocket (L)		2 pcs.
	Egg case		1 pc.
	Free pocket (S)		1 pc.
	Bottle pocket		1 pc.
	Bottle stopper		1 pc.
	Ice tray		1 pc.
	Ice box		1 pc.
	Freezing case (UP)		1 pc.
	Freezing case (LOW)		1 pc.
	Kick plate		1 pc.
Weight	Unit	kg	64
	Shipping	kg	70

MR-BF390C-A

Power supply			230-240V 50Hz
Total capacity		L	GROSS (AS) 390 (R : 285 F : 105)
Dimensions (HXWXD)		mm.	1720 x 600 x 656
Cabinet			Acrylic resin coated steel
Food liner			ABS resin
Insulation	Cabinet		Foamed cyclopenthane
	Refrigerator door		Foamed cyclopenthane
	Vegetable door		Foamed cyclopenthane
	Freezer door		Foamed cyclopenthane
Cooling system	Freezer		Forced air convection
	Refrigerator		3 way air flow
Evaporator			Fin and tube type
Condenser			Concealed type
Defrost system			Automatic (Defrost heater)
Drain			Automatic (drainage)
Temperature control system			Automatic control
Refrigerator room light			240V, 15W (E12)
Accessories	Glass shelf (R)		4 pcs.
	Slide shelf		1 pc.
	Slide chilled case		1 pc.
	Free pocket (L)		2 pcs.
	Egg case		1 pc.
	Free pocket (S)		1 pc.
	Bottle pocket		2 pcs.
	Bottle stopper		1 pc.
	Ice tray		1 pc.
	Ice box		1 pc.
	Freezing case (UP)		1 pc.
	Freezing case (LOW)		1 pc.
	Kick plate		1 pc.
Weight	Unit	kg	70
	Shipping	kg	77

1-2 ELECTRICAL PARTS SPECIFICATION

MR-BF290C-A

Compressor	Model		DHS66C10RAW
	Power supply		220-240V, 50Hz
	Rated input	W	113/113.5(220/240V 50Hz)
	Starting current	A	7.78/8.55(220/240V 50Hz)
	Running current	A	0.70/0.64(220/240V 50Hz)
	Winding resistance (A.T. 20 °C)		18.4 Ω(Main) / 18.5 Ω(Aux)
PTC RELAY			PTH7M330MD2
Motor protector	Model		5TM222NFBYY-53
	Ambient temperature	°C	25
	Time	Sec.	16 MAX
	Current	A	6.7
Running capacitor			4μF 400VAC
Capillary tube		mm.	∅ 1.8 X ∅ 0.6 X 2350
Dehydrant Molecular sieve		g	10
Refrigerant HFC. 134a		g	170
Defrosting control	Defrosting timer		Control board
	Defrost finish	°C	Thermister 14 ± 1.5
	Thermal fuse	°C	73
	Defrost heater		372 Ω (240V, 150W)
	Deodorizing function of defrost heater		Not equipped
Fan motor Refrigerator	Model		FBA12J12VXC
	Type		DC brushless
	Rate Voltage		12VDC
	Input	W	4.2 (12 VDC)
	Revolution	r.p.m	2300 (12 VDC)
Heater	Vegetable case heater	W	6

Temperature control		Thermistor F		Thermistor R	
		Freezer		Refrigerator	
Dial position		ON	OFF	OPEN	SHUT
LOW	°C	-12.3	-18.4	6.1	4.2
MID	°C	-16.8	-22.7	3.2	1.3
HI	°C	-18.7	-24.6	0.7	-1.2

MR-BF325C-A

Compressor	Model		DHS66C10RAW
	Power supply		220-240V, 50Hz
	Rated input	W	113/113.5(220/240V 50Hz)
	Starting current	A	7.78/8.55(220/240V 50Hz)
	Running current	A	0.70/0.64(220/240V 50Hz)
	Winding resistance (A.T. 20 °C)		18.4 Ω(Main) / 18.5 Ω(Aux)
PTC RELAY			PTH7M330MD2
Motor protector	Model		5TM222NFBYY-53
	Ambient temperature	°C	25
	Time	Sec.	16 MAX
	Current	A	6.7
Running capacitor			4μF 400VAC
Capillary tube		mm.	∅ 1.8 X ∅ 0.6 X 2350
Dehydrant Molecular sieve		g	10
Refrigerant HFC. 134a		g	170
Defrosting control	Defrosting timer		Control board
	Defrost finish	°C	Thermister 14 ± 1.5
	Thermal fuse	°C	73
	Defrost heater		372 Ω (240V, 150W)
	Deodorizing function of defrost heater		Not equipped
Fan motor Refrigerator	Model		FBA12J12VXC
	Type		DC brushless
	Rate Voltage		12VDC
	Input	W	4.2 (12 VDC)
	Revolution	r.p.m	2300 (12 VDC)
Heater	Vegetable case heater	W	6

Temperature control			Thermistor F		Thermistor R	
			Freezer		Refrigerator	
	Dial position		ON	OFF	OPEN	SHUT
	LOW	°C	-10.8	-18.4	6.7	4.8
	MID	°C	-15.4	-22.7	3.8	1.9
	HI	°C	-17.3	-24.6	1.3	-0.6

MR-BF390C-A

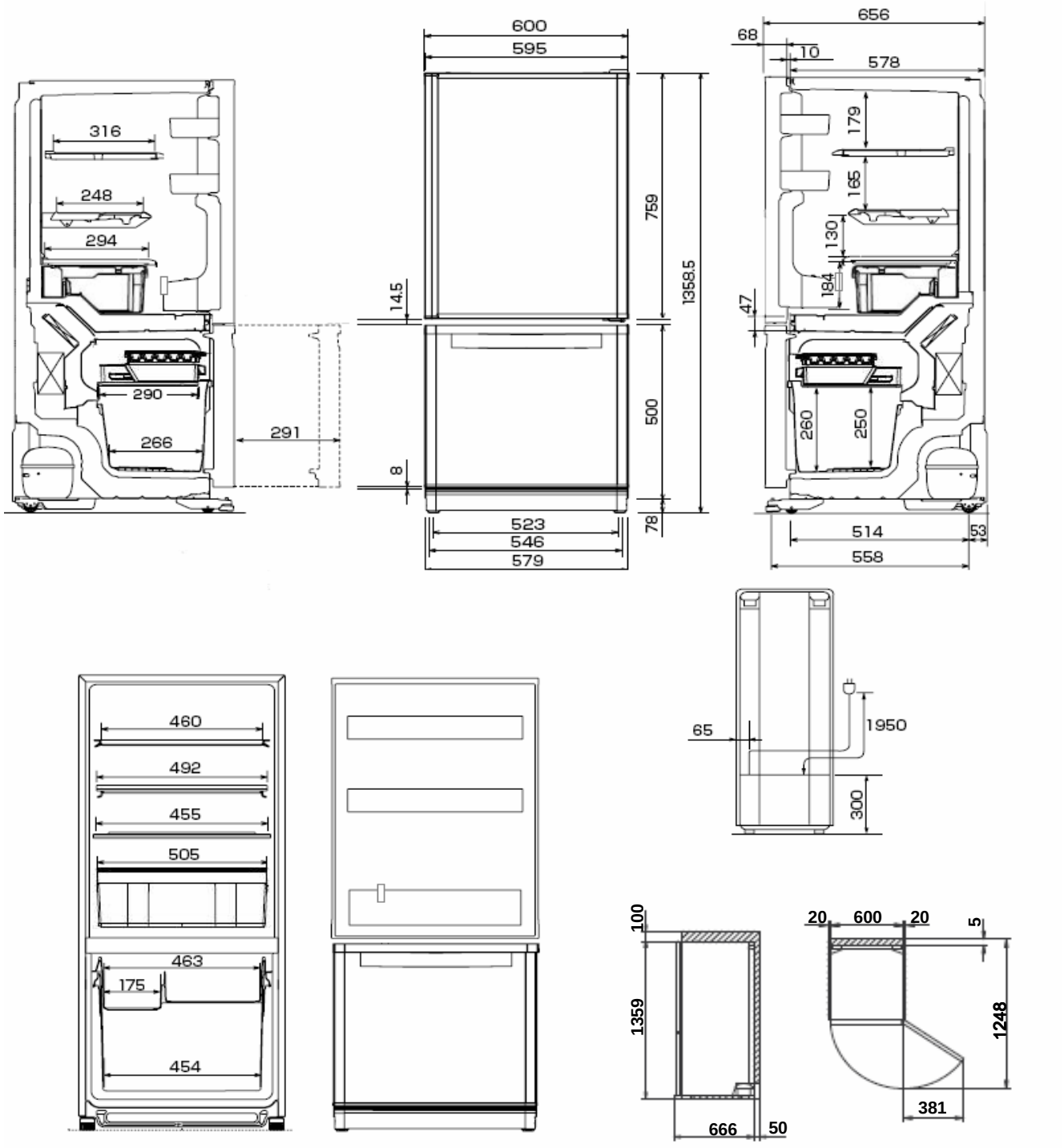
Compressor	Model		DHS66C10RAW
	Power supply		220-240V, 50Hz
	Rated input	W	113/113.5(220/240V 50Hz)
	Starting current	A	7.78/8.55(220/240V 50Hz)
	Running current	A	0.70/0.64(220/240V 50Hz)
	Winding resistance (A.T. 20 °C)		18.4 Ω(Main) / 18.5 Ω(Aux)
PTC RELAY			PTH7M330MD2
Motor protector	Model		5TM222NFBYY-53
	Ambient temperature	°C	25
	Time	Sec.	16 MAX
	Current	A	6.7
Running capacitor			4μF 400VAC
Capillary tube		mm.	∅ 1.8 X ∅ 0.6 X 2350
Dehydrant Molecular sieve		g	10
Refrigerant HFC. 134a		g	170
Defrosting control	Defrosting timer		Control board
	Defrost finish	°C	Thermister 14 ± 1.5
	Thermal fuse	°C	73
	Defrost heater		372 Ω (240V, 150W)
	Deodorizing function of defrost heater		Not equipped
Fan motor Refrigerator	Model		FBA12J12VXC
	Type		DC brushless
	Rate Voltage		12VDC
	Input	W	4.2 (12 VDC)
	Revolution	r.p.m	2300 (12 VDC)
Heater	Vegetable case heater	W	6

Temperature control			Thermistor F		Thermistor R	
			Freezer		Refrigerator	
	Dial position		ON	OFF	OPEN	SHUT
	LOW	°C	-10.8	-18.4	6.7	4.8
	MID	°C	-15.4	-22.7	3.8	1.9
	HI	°C	-17.3	-24.6	1.3	-0.6

2 OUTLINES AND DIMENSIONS

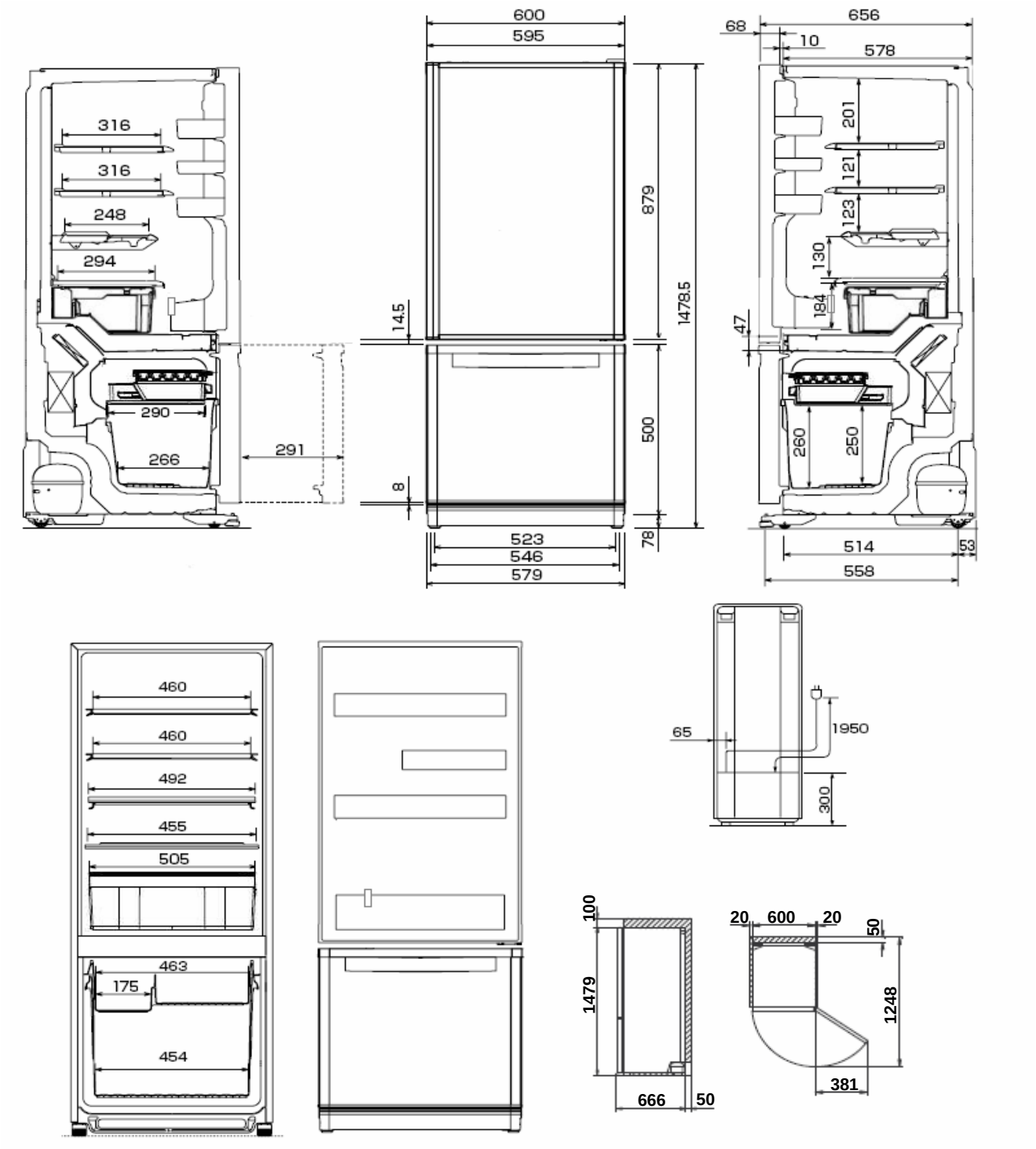
Unit : mm

MR-BF290C-A



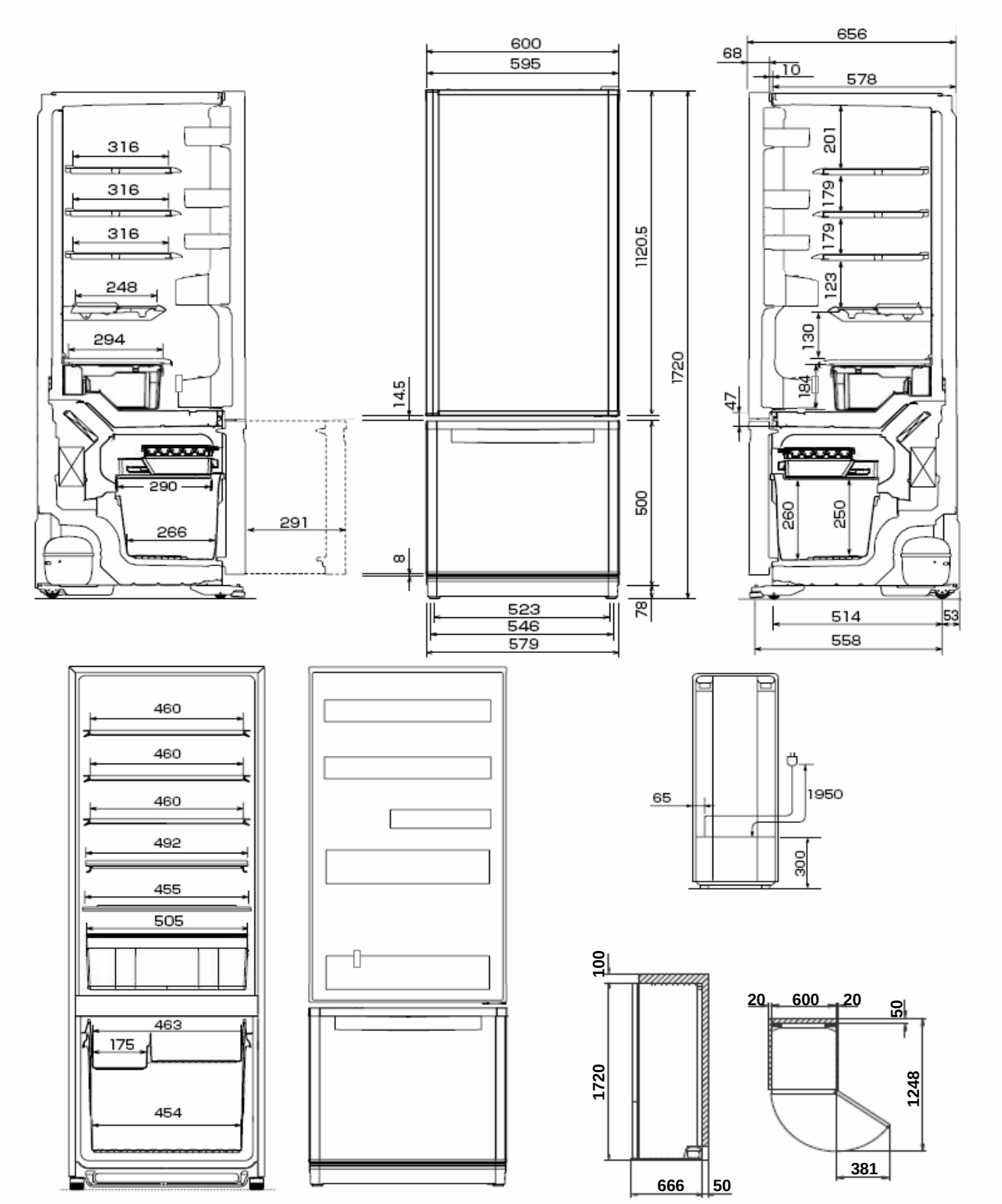
Unit : mm

MR-BF325C-A



Unit : mm

MR-BF390C-A



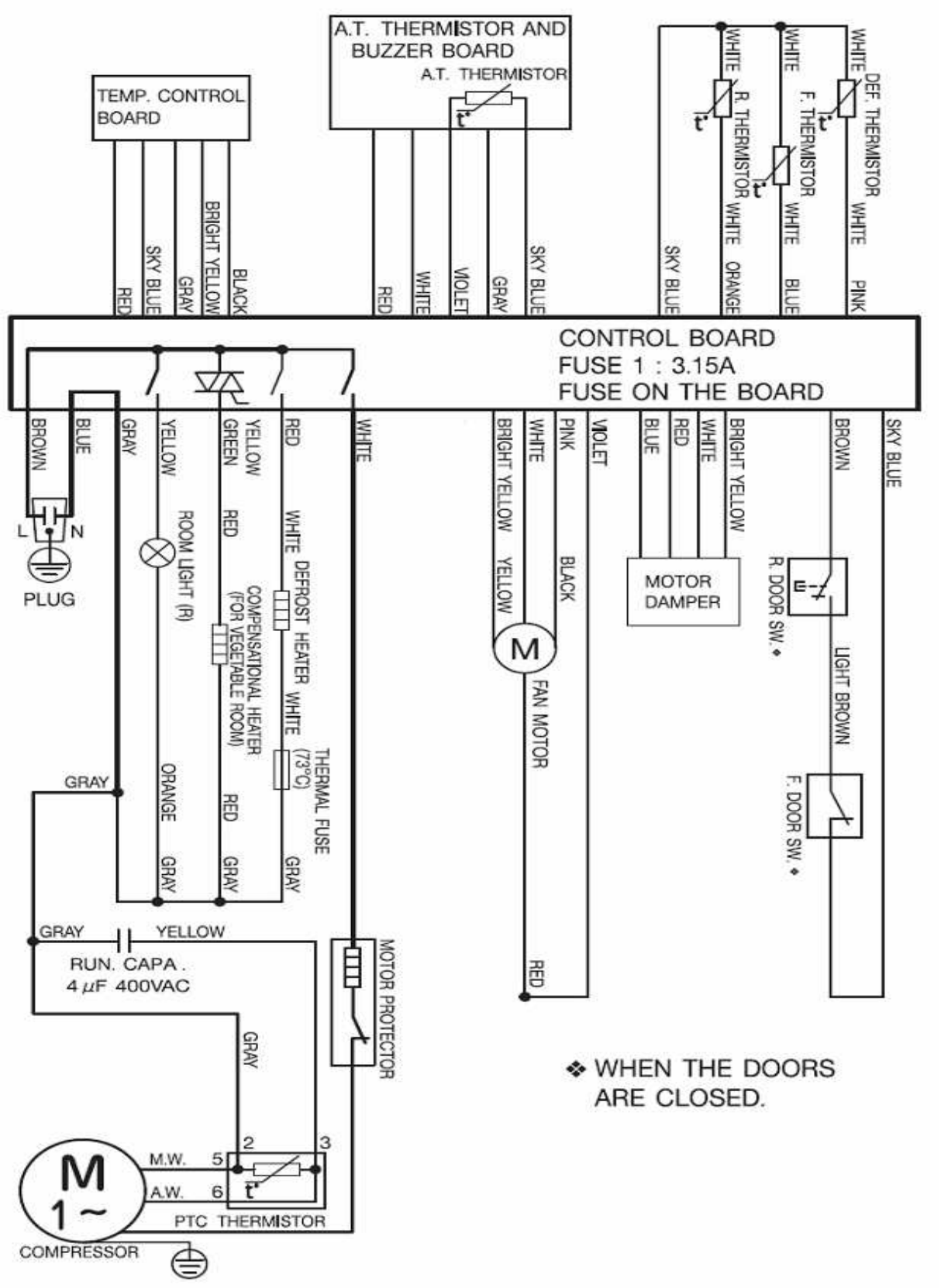
3 WIRING DIAGRAM

(SKELETON WIRING DIAGRAM)

MR-BF290C-A

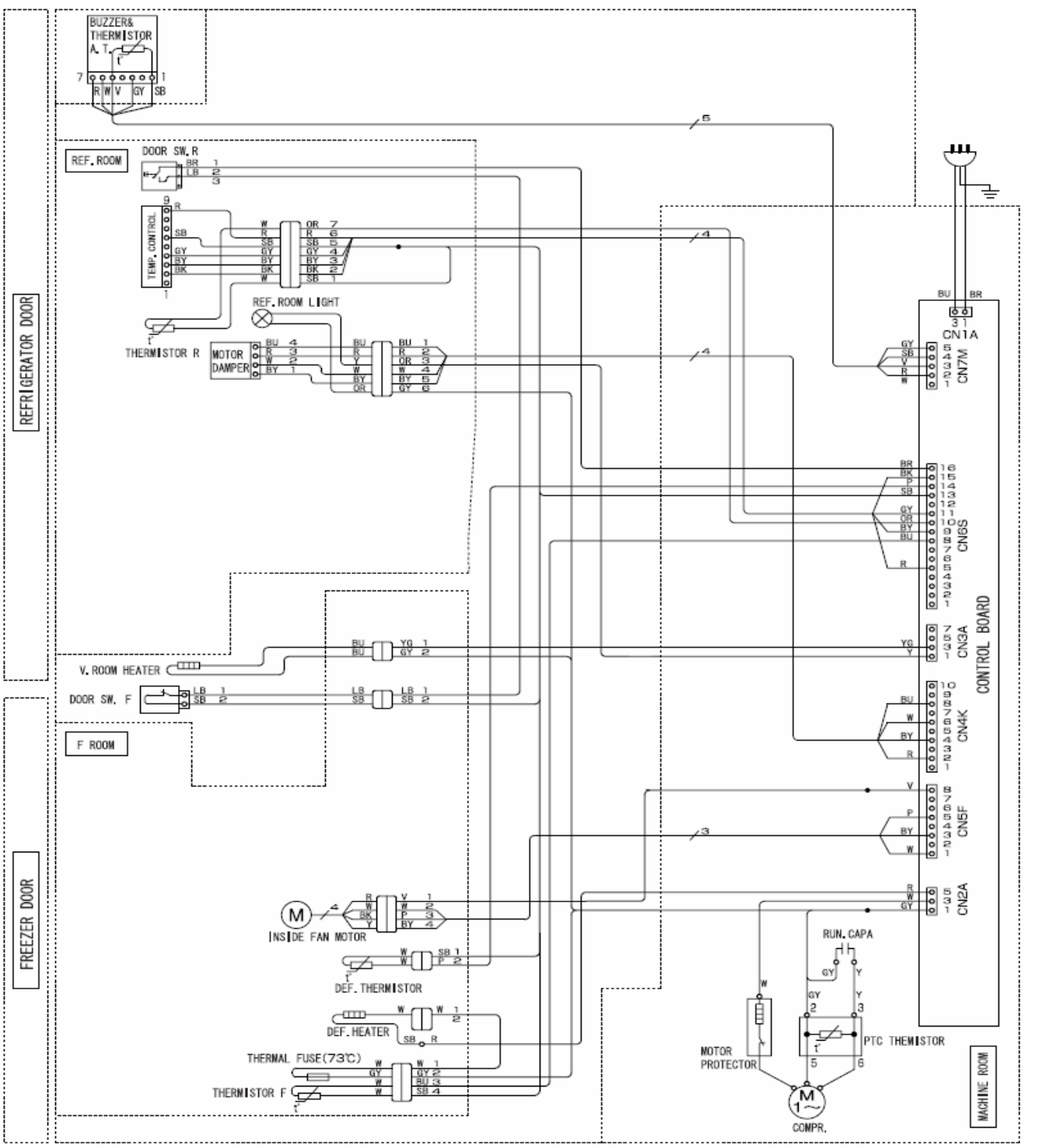
MR-BF325C-A

MR-BF390C-A



(ACTUAL WIRING DIAGRAM)

MR-BF290C-A MR-BF325C-A MR-BF390C-A

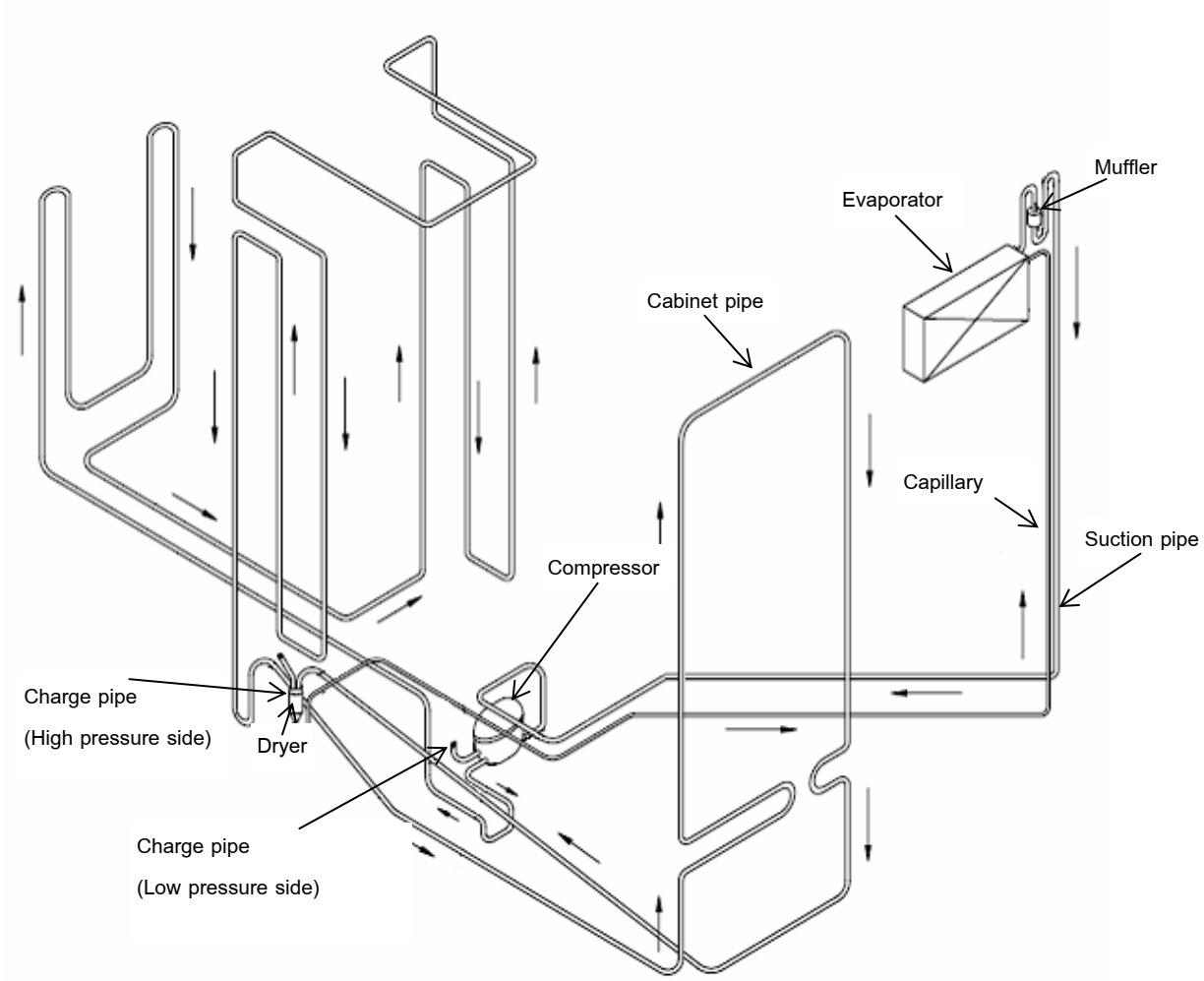


Remark

GY	= GRAY	BK	= BLACK	BR	= BROWN
W	= WHITE	OR	= ORANGE		
R	= RED	Y	= YELLOW		
SB	= SKY BLUE	YG	= YELLOW/GREEN		
P	= PINK	LG	= LIGHT GREEN		
LB	= LIGHT BROWN	BY	= BRIGHT YELLOW		
V	= VIOLET	BU	= BLUE		

4 REFRIGERANT CIRCUIT

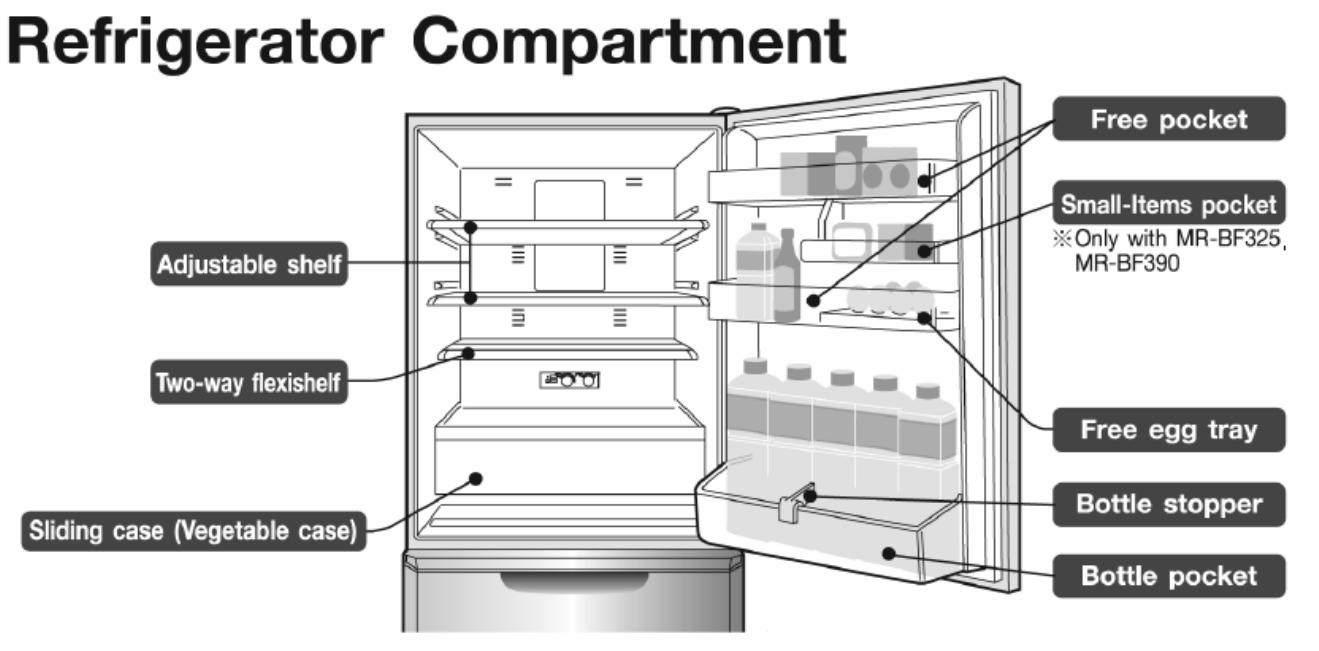
MR-BF290C-A
MR-BF325C-A
MR-BF390C-A



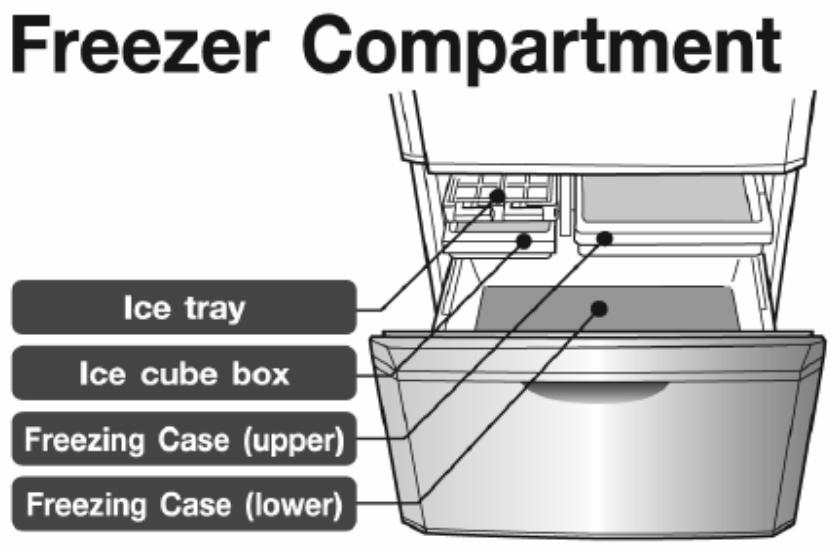
5 NAMES OF PARTS

MR-BF290C-A
MR-BF325C-A
MR-BF390C-A

Refrigerator Compartment



Freezer Compartment



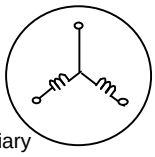
6 TROUBLE SHOOTING

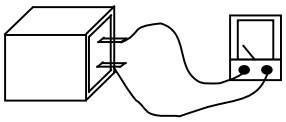
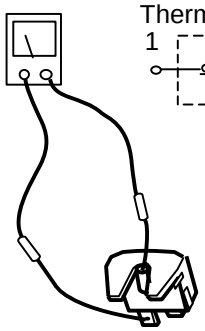
6.1 TROUBLE CRITERION OF MAIN PARTS

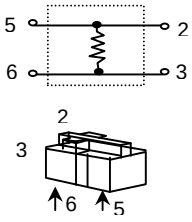
MR-BF290C-A

MR-BF325C-A

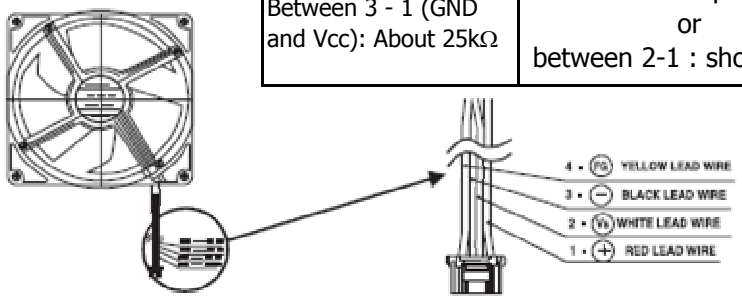
MR-BF390C-A

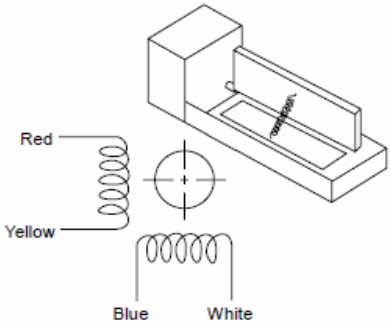
<table>
<tr><th>Components / Part Name</th><th>Check Method and Criterion</th><th>Parts Mounted Position</th></tr>
<tr><td>Compressor</td><td>
<table>
<tr><td>Model</td><td></td><td>DHS66C10RAW</td></tr>
<tr><td>Rated input</td><td>W</td><td>113/113.5(220/240V 50Hz)</td></tr>
<tr><td>Starting current</td><td>A</td><td>7.78./8.55(220/240V 50Hz)</td></tr>
<tr><td>Running current</td><td>A</td><td>0.52/0.48(220/240V 50Hz)</td></tr>
</table>
<table>
<tr><th></th><th>Normal</th><th>Abnormal (faulty)</th></tr>
<tr><td>Main wiring</td><td>18.4 Ω (Approx.)</td><td rowspan="2">Opened (∞ Ω) or Short (0Ω)</td></tr>
<tr><td>Auxilliary wiring</td><td>18.5 Ω (Approx.)</td></tr>
</table>


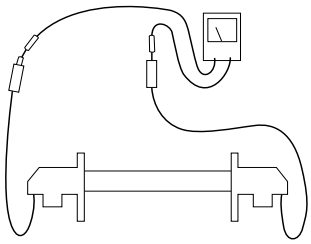
Measure the resistance with a tester.
(Ambient temperature:Room temperature 15°C ~ 25°C)</td><td>Compressor in the machine chamber at the rear side of the frame</td></tr>
<tr><td>Run capacitor</td><td>

<table>
<tr><td>Rated input</td><td>400VAC</td></tr>
</table>
Measure the resistance with a tester.
<table>
<tr><th>Normal</th><th>Abnormal(faulty)</th></tr>
<tr><td>4 μF</td><td>Short (0Ω)</td></tr>
</table>
</td><td>In the control panel of the rear side at compressor room</td></tr>
<tr><td>Motor protector</td><td>


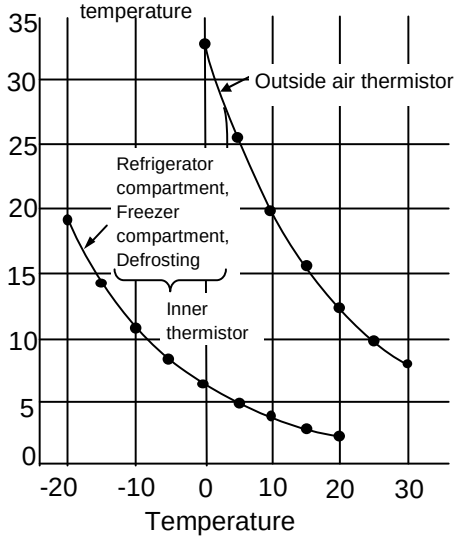
<table>
<tr><td>Model</td><td colspan="2">5TM222NFBYY-53</td></tr>
<tr><td rowspan="2">Connected Point</td><td>Open</td><td>120 ± 5° C</td></tr>
<tr><td>Close</td><td>69 ± 9° C</td></tr>
</table>
Measure the resistance with a tester.(Ambient temperature:Room temperature 15°C ~ 25°C)
<table>
<tr><th>Normal</th><th>Abnormal(faulty)</th></tr>
<tr><td>Less than 1Ω</td><td>Opened (∞ Ω)</td></tr>
</table>
</td><td>Compressor in the machine chamber at the rear side of the frame</td></tr>
<tr><td>PTC Relay</td><td>


<table>
<tr><td>Model</td><td>PTH7M330MD2</td></tr>
</table>
Measure the resistance with a tester.
(Ambient temperature:Room temperature 15°C ~ 25°C)
<table>
<tr><th>Normal</th><th>Abnormal(faulty)</th></tr>
<tr><td>33 Ω (Approx.)</td><td>Opened (∞ Ω) or Short (0Ω)</td></tr>
</table>
As PTC Relay has been heated while refrigerator is running be sure to measure the resistance after the thermistor has got cool enough.</td><td>Compressor in the machine chamber at the rear side of the frame</td></tr>
</table>

<table>
<tr><th>Components/
Part Name</th><th>Check Method and Criterion</th><th>Parts Mounted Position</th></tr>
<tr><td>Refrigerator
fan motor</td><td>
<table>
<tr><td>Model</td><td>FBA12J12VXC</td></tr>
<tr><td>Type</td><td>DC brushless</td></tr>
</table>
Measure the resistance with a tester.(Ambient temperature:Room temperature 15°C ~ 25°C)
<table>
<tr><th>Normal</th><th>Abnormal (faulty)</th></tr>
<tr><td>Between 3 - 1 (GND and Vcc): About 25kΩ</td><td>Between 3-1 : open(∞ Ω)
or
between 2-1 : short (0 Ω)</td></tr>
</table>


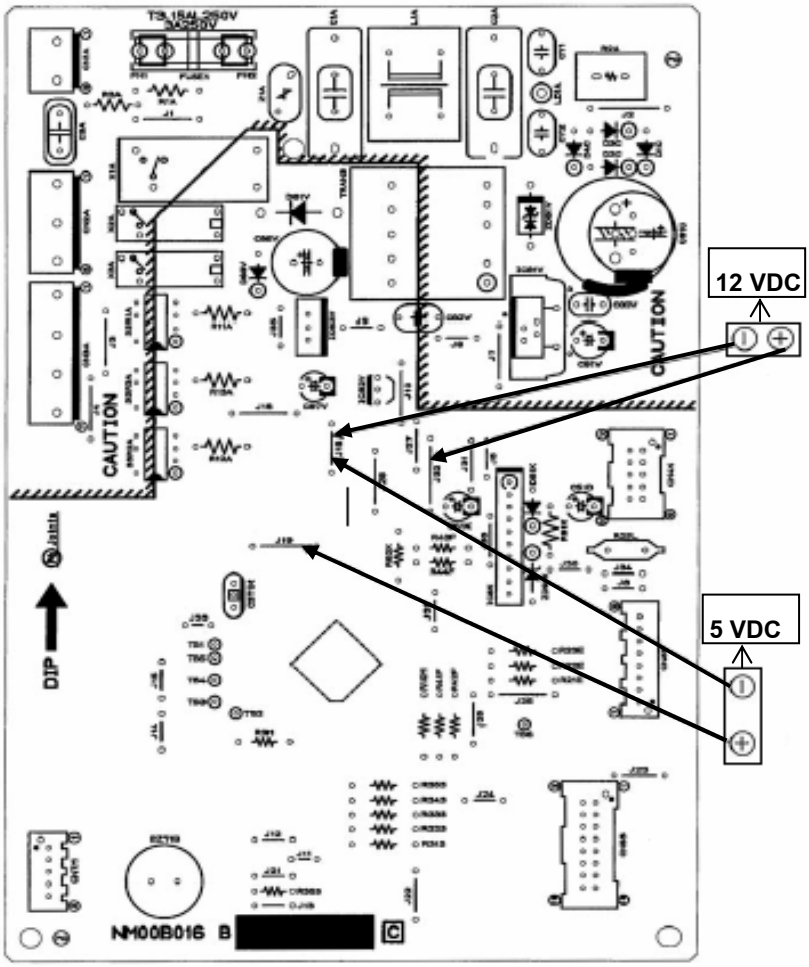
</td><td>In the fan grille of the refrigerator compartment.</td></tr>
<tr><td>Motor
damper for
refrigerator
compartment/
slide
compartment</td><td>Measure the resistance with a tester.(Ambient temperature:Room temperature 15°C ~ 25°C)


<table>
<tr><th></th><th>Normal</th><th>Abnormal (faulty)</th></tr>
<tr><td>Winding (Blue-White, Red-Yellow)</td><td>415 Ω (Approx.)</td><td>Open (∞ Ω) or short circuit (0Ω)</td></tr>
</table></td><td>In the fan grille of the refrigerator compartment.</td></tr>
<tr><td>Defrost
Heater</td><td>

<table>
<tr><td>Rated input</td><td>155 W</td></tr>
<tr><td>operation method</td><td>Power ON after defrosting
(14 ± 1.5°C or more)</td></tr>
</table>
Measure the resistance with a tester.
(Ambient temperature:Room temperature 15°C~25°C)
<table>
<tr><th>Normal</th><th>Abnormal (faulty)</th></tr>
<tr><td>372Ω (Approx.)</td><td>Opened (∞ Ω)</td></tr>
</table></td><td>In the drip tray under the evaporator of the freezer compartment</td></tr>
</table>

Components/ Part Name	Check Method and Criterion	Parts Mounted Position
Thermistor	Measure the resistance with a tester according to the following graph. (Thermistor resistance values against temperature) • Resistance measured under the ambient temperature from -50°C to +50 °C 1. 200 Ω to 500kΩ .....normal 2. Out of the above range .....abnormal (kΩ) Thermistor resistance valves against temperature  **Thermistor Check Procedure** • Thermistor resistance value will vary with the change of temperature. • Take the temperature around the thermistor, and then measure thermistor resistance using a tester. The relation between resistance and temperature is as shown on the left side. **Trouble shooting with self-check** (1) If the self - check indicates the abnormality of thermistor right after the power is turned on, measure the resistance of the thermistor. • If the circuit of thermistor is short , check the element of the thermistor and the contact of the connector. (2) When the self - check indicates the abnormality of thermistor a few seconds after the power is turned on , check the contact of the connector.	**(Defrost thermistor)** Evaporator **(Freezer compartment thermistor)** In the fan grille of freezer compartment **(Refrigerator compartment thermistor)** In the control panel of refrigerator compartment **(Outside air thermistor)** In the buzzer board (check board)

6.2 TEST POINT DIAGRAM OF MAIN CONTROL BOARD

MR-BF290C-A MR-BF325C-A MR-BF390C-A



CN4K	Lead color	Parts Name
1		
2	Red	Damper
3		
4	Bright Yellow	Damper
5		
6	White	Damper
7		
8	Blue	Damper
9		
10		

CN5F	Lead color	Parts Name
8	Violet	12 VDC Common
7		
6		
5	Pink	GND
4		
3	Bright Yellow	Inner Fan Motor FG
2		
1	White	Inner Fan Motor Vs

CN6S	Lead color	Parts Name
1		
2		
3		
4		
5	Red	Ice maker Stop LED
6		
7		
8	Blue	F Thermistor
9	Bright Yellow	Temp Control Board
10	Orange	R Thermistor
11	Gray	Temp Control Board
12		
13	Sky Blue	5 VDC Common
14	Pink	DEF Thermistor
15	Black	GND
16	Brown	Door SW

CN1A	Lead color	Parts Name
1	Grey	230 - 240 VAC
3	Black	

CN2A	Lead color	Parts Name
1	Grey	230 - 240 VAC Common
3	White	Compressor
5	Red	Defrost Heater

CN3A	Lead color	Parts Name
1	Yellow	Lamp
3	Yellow/Green	V Heater
5		
7		

CN7M	Lead color	Parts Name
1	White	12 VDC Common
2	Red	Buzzer
3	Violet	A.T. Thermistor
4	Sky Blue	5 VDC Common
5	Grey	Compulsion DEF

<u>Compulsory defrosting method</u> have 2 methods as below

1) Short circuit at 2-pin connector between no.6 (white wire) with no.7 (red wire) at Buzzer & Thermistor A.T. board.(Inside hinge cover)
2) Open door R and then adjust dial freezer at MID position. Use magnet touch door switch in order to simulate as door closing. (lamp must no light),then turn the dial continuously as follow COLDER → LOW → MID

6.3 LED trouble display and check point.

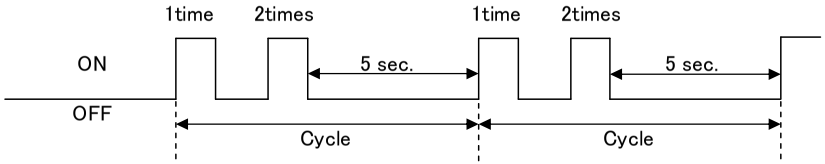
6.3.1) Trouble is indicated by the blinking number of self-check LED.

6.3.2) LED blinks as shown below.

The blinking number of self-check LED specifies the trouble which has occurred.

LED repeats to blinks as many times as the number specified for each trouble under this cycle : lighted for 0.3 second/not lighted for 0.3 second.

(Example)Malfunction of defrsot thermistor



6.3.3) Check point and Repairing

※When several troubles occur,smaller blinking number LED has priority to be indicated first.

Function display				Cause	Analysis	Check point	Corrective	Priority Repairing
LED display self-check	Malfunction display	Lighting mode	1 time	Fault trouble of freezer thermistor	Open circuit or short circuit case	1.Check connector of control PCB CN6S, relay connector 4 pins	Improve in contact	1
						2.Check the resistance of thermistor	Change part	
			2 times	Fault trouble of defrost thermistor	Open circuit or short circuit case	1.Check connector of control PCB CN6S, relay connector 2 pins	Improve in contact	2
						2.Check the resistance of thermistor	Change part	
			3 times	Fault trouble of defrost heater	Defrost unfinished with in 2 hours	1.Check connector of control PCB CN2A, relay connector 1 pin	Improve in contact	3
						2.Check the resistance of defrost heater	Change part	
						3.Check the resistance of temp. fuse	Change part	
			6 times	Fault trouble of A.T. thermistor	Open circuit or short circuit case	1.Check connector of control PCB CN7M, relay connector 7 pins	Improve in contact	4
						2.Check the resistance of thermistor	Change part	
			10 times	Fault trouble of fan motor	Don't rolling case	1.Check connector of control PCB CN5F, relay connector 4 pin	Improve in contact	5
						2.Check the movement of fan motor	Change part	
			16 times	Fault trouble of Memory (Control Board)	Out of control case	———————————	Change Control Board	6

Caution

1.Before plug in the AC power, Be ensure the comp had been off more than 20 min.

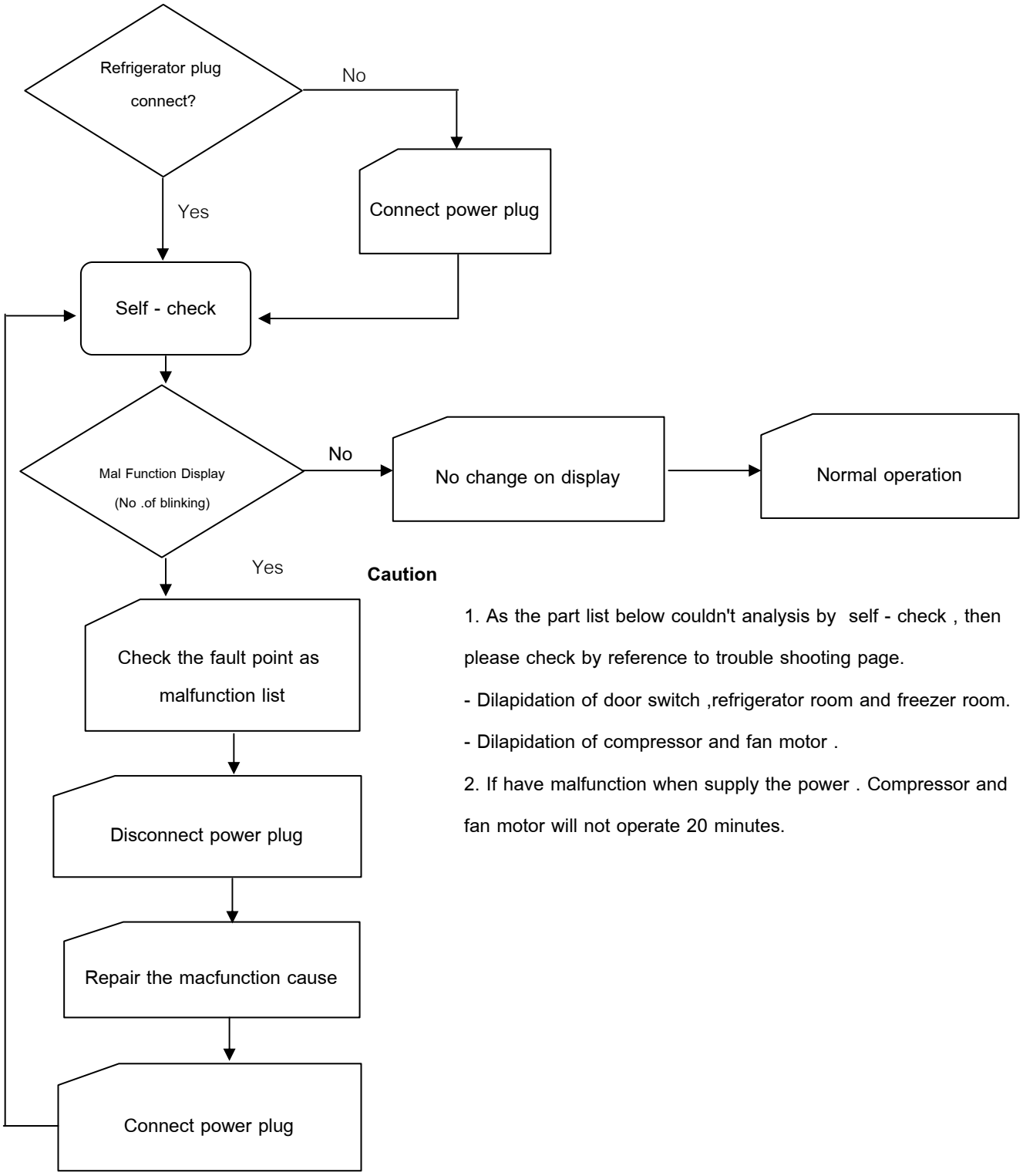
2.The consider short circuit or open circuit of thermistor, resistance of open circuit is ∞ Ω, resistance of short circuit is 0 Ω.

6.4 Importance detail of fault analysis

Flow chart of self - check

1) Self - check monitor circuit

For show the fault condition of refrigerator and clarify point. Therefore, self - check monitor control is provided that are able to monitor No. of blinking condition with electric circuit and electric part . Before disconnect power plug please confirm LED self - check .



Caution

1. As the part list below couldn't analysis by self - check , then please check by reference to trouble shooting page.
- Dilapidation of door switch ,refrigerator room and freezer room.
- Dilapidation of compressor and fan motor .
2. If have malfunction when supply the power . Compressor and fan motor will not operate 20 minutes.

2) Interval of self check analysis

- Troubles of thermistor : will check always.
- Trouble of defrost heater : will just analyse during defrost display only.

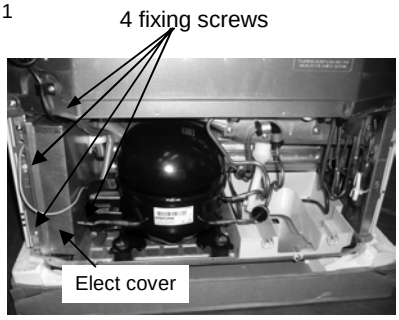
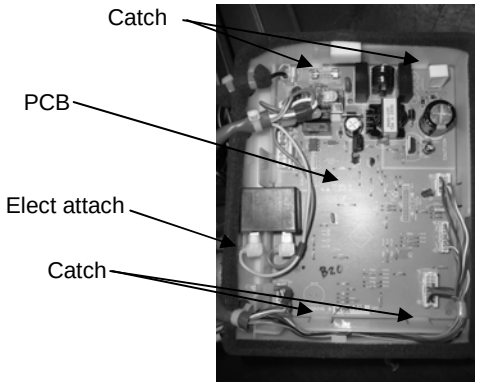
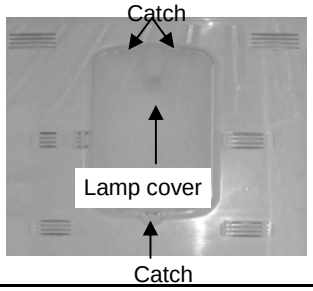
(The period checking will analyse the defrost circuit after connect the plug 2 hours)

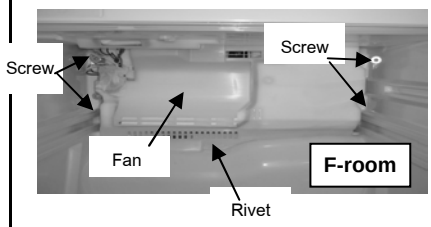
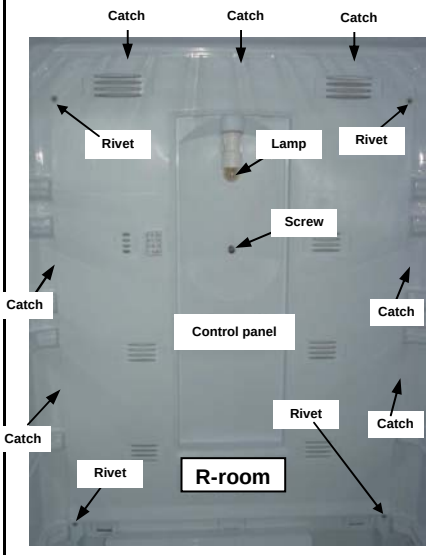
7 DISASSEMBLY INSTRUCTIONS

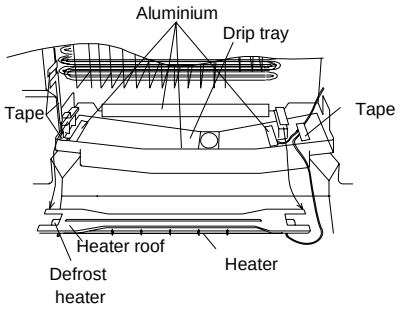
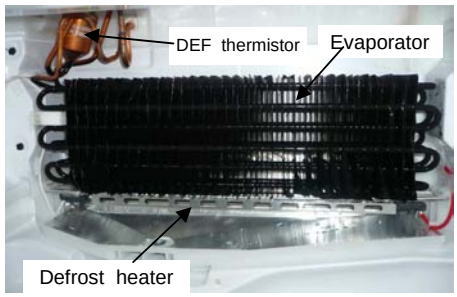
MR-BF290C-A MR-BF325C-A MR-BF390C-A

Plug out before work.

In assembling & disassembling parts use several kind of Screw and Rivet. Do not mistake to use them.

OPERATING PROCEDURE	PHOTOS
1. Detachment Control PCB parts **Elect cover** (1) Detach 4 pcs. of Elect cover screws. (Photo 1) **Elect attach** (2) Disconnect the connector and remove Elect attach. (Photo 2) **PCB (Refcon assy)** (3) Remove the catch of elect attach to release the PCB plate. (Photo 2) **Caution on assembly** [1] Firmly connect the lead wire and the connector. Ensure the wire are not pinched. [2] Please use the new material of sealing insulation when re-attach.	Photo 1  Photo 2 
2. Detachment Lamp cover parts (1) Remove parts inside the refrigerator Shelf 1,2,3 shelf **Lamp cover inside the refrigerator** (1) Push up the lower catch, and pull the room light cover toward you. (2) Detach two upper catches to take out the cover (Photo 3)	Photo 3 

OPERATING PROCEDURE	PHOTOS
3. Detach the refrigerator room parts (1) Detach parts inside the refrigerator compartment. (2) Detach a left screw of mirror hinge and pull out the lead wire. (Photo 5) (3) Detach the connector. **Control panel , Duct R, Temperature control panel** (4) Remove the upper and lower rivets (C) of right side and left side, then unhook 7 catches. * Remove the right catch before push the control panel to the right and detach it. (Photo 5) **Fan grille** (5) Remove the following; 2 screws (B) at the left and 2 screws (B) at the right and 1 rivet at the bottom. (Photo 4) * Motor damper and thermal fuse are combined with fan grille. * Fan motor are combined with fan grille. **Caution on assembly** [1] Use new tapes and sealing materials for assembly. [2] Putting some tape across joints, tape them securely so that they will not leak the cool air. [3] Attach a connector securely in order to prevent contact failure.	Photo 4  Photo 5 

OPERATING PROCEDURE	PHOTOS
Defrost heater, Drip tray (6) Peel off the tape that fixes lead wires on the side wall of the vegetable compartment. Then take out defrost heater together with heater roof. Detach heater roof and Heater cover from Defrost heater. Detach the drip tray after removing the defrost heater. **Defrost thermistor** (7) Cut the binder and disconnect the connector. (Photo 7) **Caution on assembly** [1] Loosen the lead wire at the defrost heather to prevent water from entering the glass tube and careful the direction for the correct assembly. [2] Attach the drip tray securely to the lower parts. [3] Attach the defrost thermistor in the correct place. (If they're attached out of place, thermal characteristics will go wrong). [4] Attach the lead wires to the fixture.	Photo 6  Photo 7 

OPERATING PROCEDURE

4 Detachment compressor.

(1) Collect gas from the charge pipe on the high pressure side.

(2) After collecting gas, cut the charge pipe on the low pressure side.

(3) Detach the welded section of the discharge pipe and suction pipe.

(4) Replace the compressor and the dryer at a time.

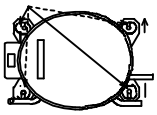
Caution on assembly

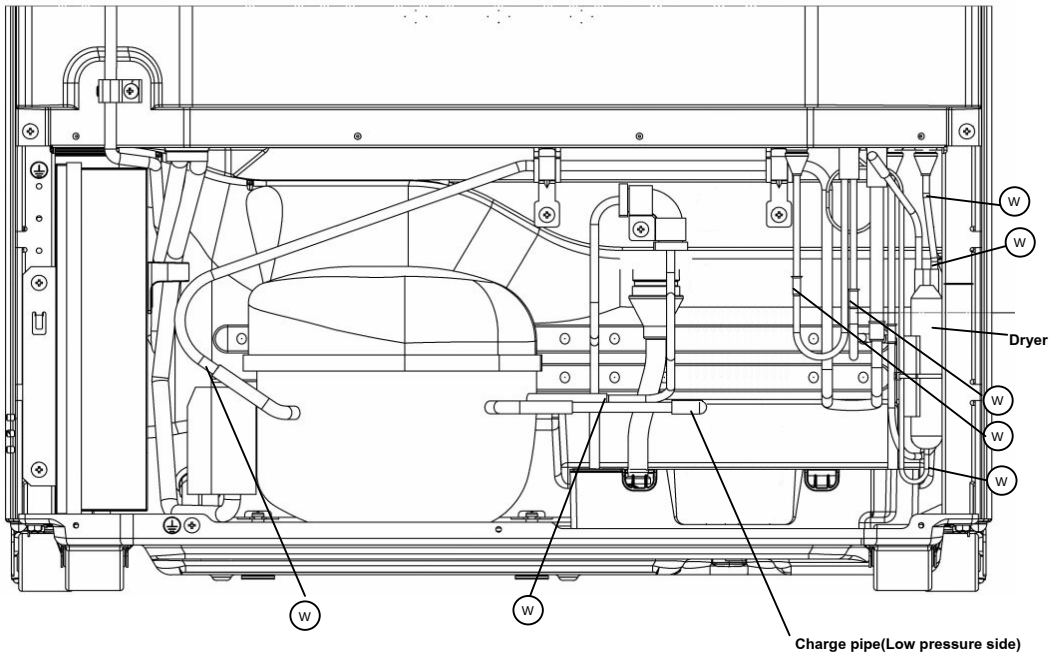
(1) After attaching the compressor, must to Vacuum and charge gas from charge pipe.

(2) Arrage the piping so that the pipe will not hit each other and compressor cover, (which causes loud noise). Then attach the compressor cover.

(3) After all the work is complete, be sure to check the cooling preformance and the gas leak from the welded points.

Attach U washer as the figure shown below



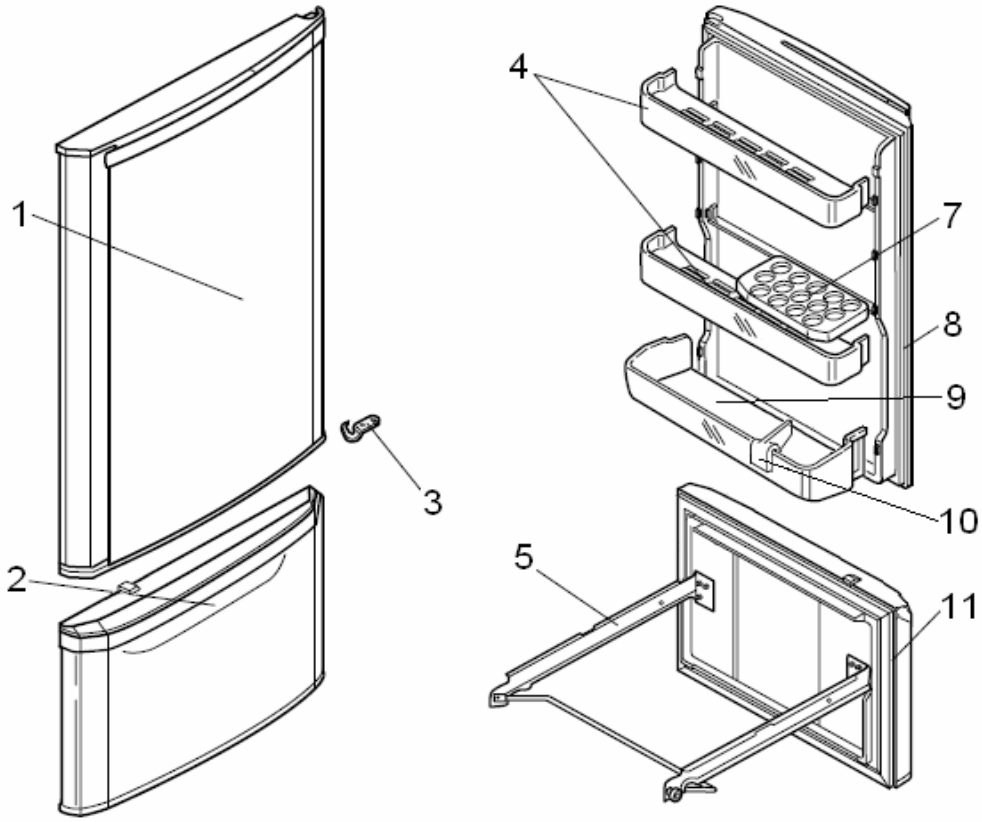


W : This mark shown welded point

8 PARTS LIST

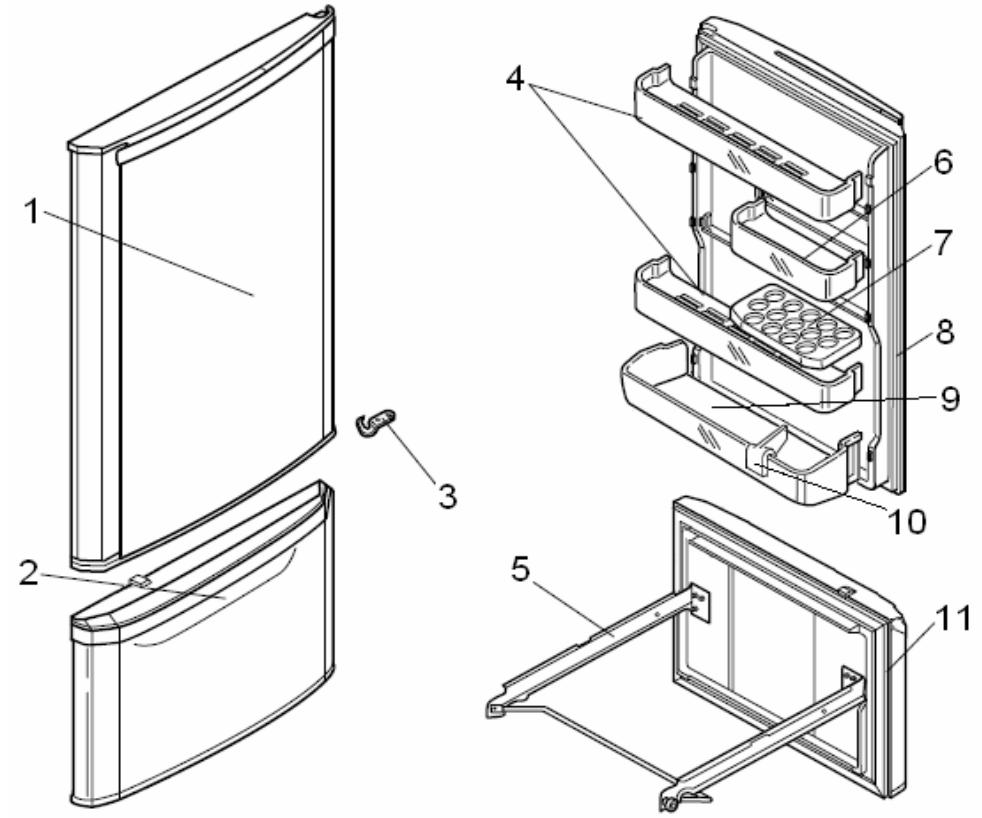
DOOR, BODY PARTS

MR-BF290C-A



MR-BF325C-A

MR-BF390C-A



NO.	PART NO.	RoHS	PART NAME	SPEC	Q'TY/UNIT						PRICE/PIECE(US$-FOB)
					MR-BF290C-A		MR-BF325C-A		MR-BF390C-A		
					W	ST	W	ST	W	ST	
1	KIERL6000	<G>	DOOR R		1						
	KIER66000	<G>				1					
	KIERL8000	<G>					1				
	KIER71000	<G>						1			
	KIERM4000	<G>							1		
	KIER79000	<G>								1	
2	KIEPE2001	<G>	DOOR F		1		1		1		
	KIEP91001	<G>				1		1		1	
3	KIEG05741	<G>	CATCHER RH		1	1	1	1	1	1	
4	KIEP89118	<G>	FREE POCKET L		2	2	2	2	2	2	
5	KIEP89157	<G>	FRAME F ASSY		1	1	1	1	1	1	
6	KIEP89119	<G>	FREE POCKET S				1	1	1	1	
7	KIEHJ3115	<G>	EGG CASE		1	1	1	1	1	1	
8	KIEP89110	<G>	MAGNET GASKET ASSY (R)		1	1					
	KIEP94110	<G>					1	1			
	KIEP80110	<G>							1	1	
9	KIEP80124	<G>	BOTTLE POCKET		1	1	1	1	2	2	
10	KIEF13143	<G>	BOTTLE STOPPER		1	1	1	1	1	1	
11	KIEP89111	<G>	MAGNET GASKET ASSY (F)		1	1	1	1	1	1	
(12)	KIERN0031	<G>	BADGE ASSY		1		1		1		
	KIER72031	<G>				1		1		1	

RECOMMEND PART NO. 1, 2, 8, 11

ABBREVIATION

F	FREEZER ROOM
R	REFRIGERATOR ROOM

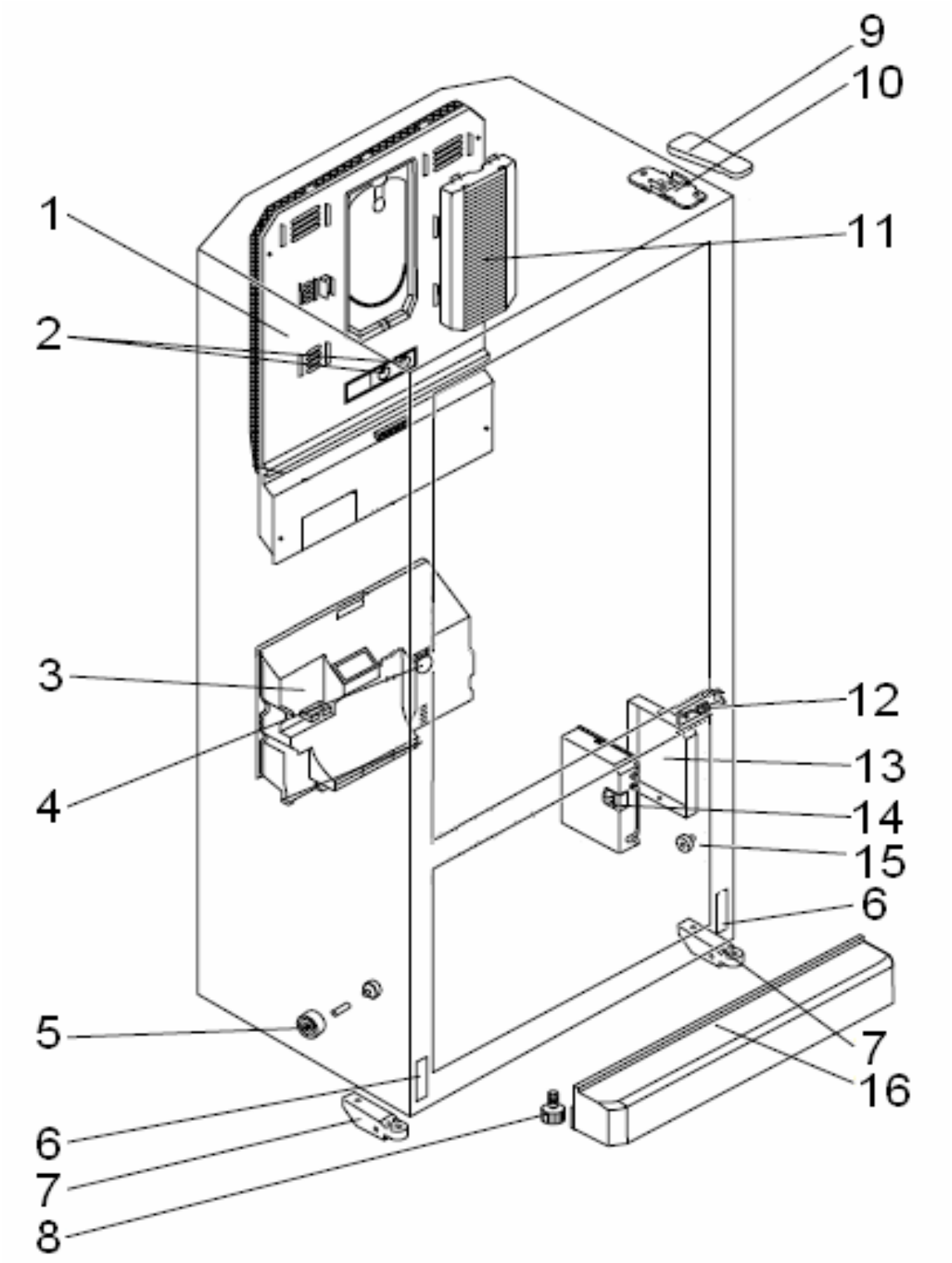
ENCIRCLED PART NUMBER ARE NOT SHOWN IN THE FIGURES.

Remark

- Country code : A= Australia and New Zealand
- Colour code : W = White, ST = Stainless

BODY PARTS

MR-BF290C-A
MR-BF325C-A
MR-BF390C-A



NO.	PART NO.	RoHS	PART NAME	SPEC	Q'TY/UNIT						PRICE/PIECE(US$-FOB)
					MR-BF290C-A		MR-BF325C-A		MR-BF390C-A		
					W	ST	W	ST	W	ST	
1	KIEP67858	<G>	CONTROL PANEL		1	1					
	KIEP72858	<G>					1	1			
	KIEP80858	<G>							1	1	
2	KIEHJ3305	<G>	THERMO DIAL (R)		2	2	2	2	2	2	
3	KIEPJ2663	<G>	FAN GRILLE ASSY		1	1	1	1	1	1	
4	KIEHJ3708	<G>	LABEL FC		1		1		1		
	KIEP91708	<G>				1		1		1	
5	KIE805794	<G>	CASTER SET		2	2	2	2	2	2	
6	KIEHJ3709	<G>	SCREW LABEL (F)		2	2	2	2	2	2	
7	KIEH79795	<G>	CASTER ASSY		2	2	2	2	2	2	
8	KIEC02460	<G>	ADJUST BOLT		2	2	2	2	2	2	
9	KIER65705	<G>	HINGE COVER		1		1		1		
	KIEP91705	<G>				1		1		1	
10	KIEP89701	<G>	HINGE ASSY (UP)		1	1	1	1	1	1	
11	KIEP89470	<G>	LAMP COVER		1	1	1	1	1	1	
12	KIEMT0702	<G>	HINGE ASSY (LOW)		1	1	1	1	1	1	
13	KIEP89328	<G>	ELECT BOX COVER ASSY		1	1	1	1	1	1	
14	KIEP89326	<G>	ELECT BOX SUB ASSY		1	1	1	1	1	1	
15	KIEHJ3798	<G>	ROLLER		2	2	2	2	2	2	
16	KIEPE2730	<G>	KICK PLATE		1		1		1		
	KIEP91730	<G>				1		1		1	
(17)	KIEPJ5663	<G>	FAN GRILLE		1	1	1	1	1	1	
(18)	KIEP94662	<G>	BELL MOUTH		1	1	1	1	1	1	
(19)	KIEHJ4682	<G>	DUCT DAMPER		1	1	1	1	1	1	
(20)	KIEP80336	<G>	THERMAL FUSE ASSY		1	1	1	1	1	1	

RECOMMEND PART NO. 3, 20

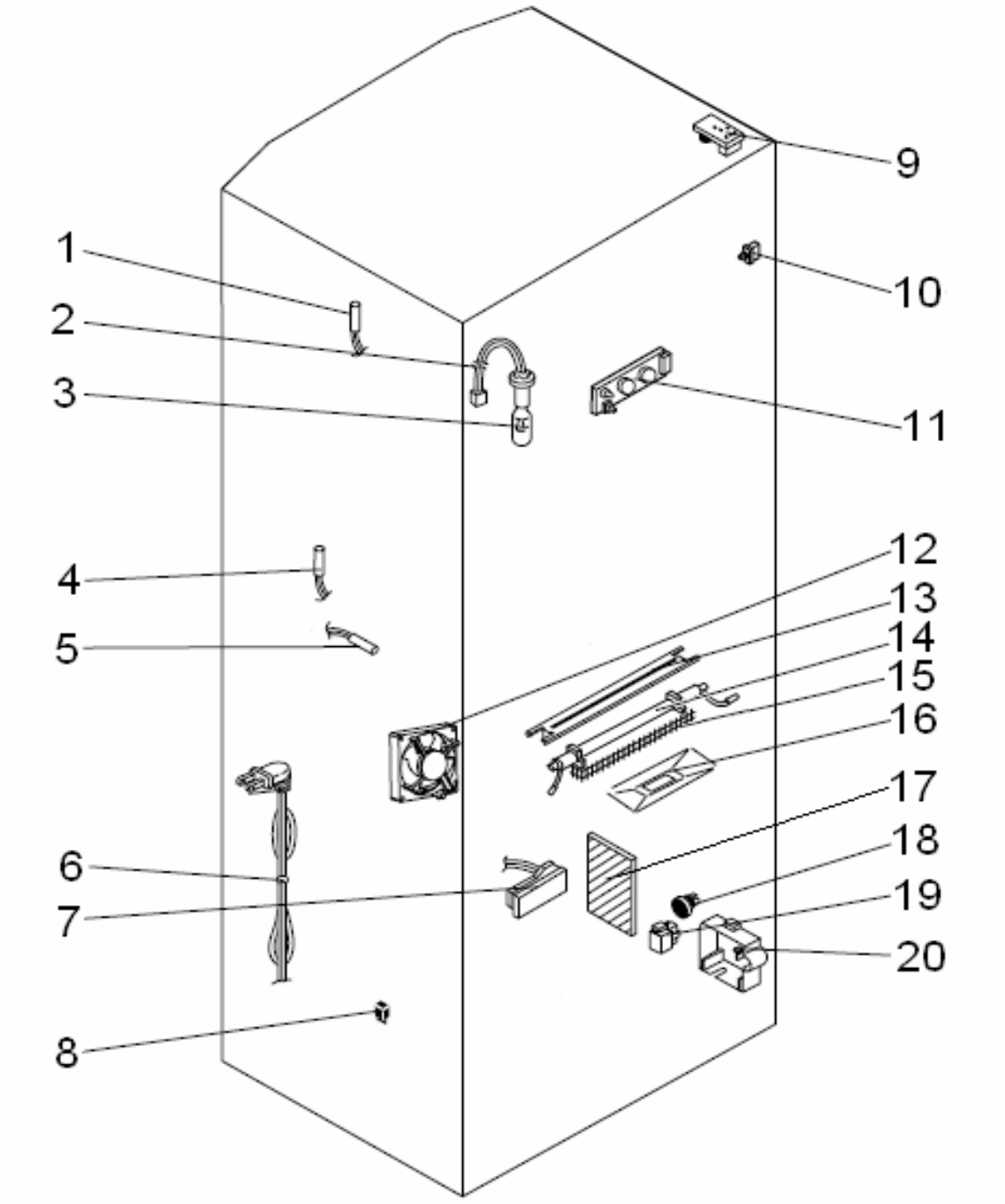
ABBREVIATION

F	FREEZER ROOM
R	REFRIGERATOR ROOM

ENCIRCLED PART NUMBER ARE NOT SHOWN IN THE FIGURES.

ELECTRICIAL PARTS

MR-BF290C-A
MR-BF325C-A
MR-BF390C-A

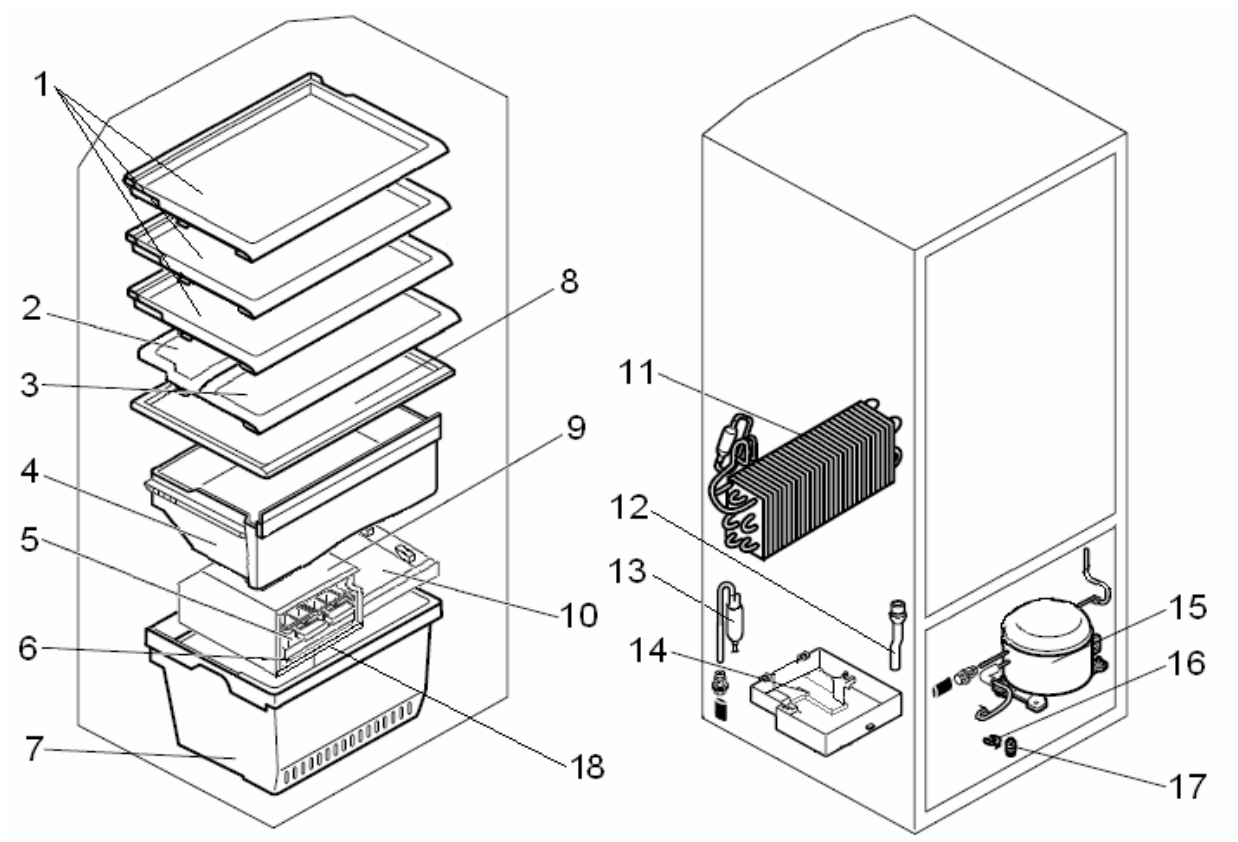


NO.	PART NO.	RoHS	PART NAME	SPEC	Q'TY/UNIT						PRICE/PIECE(US$-FOB)
					MR-BF290C-A		MR-BF325C-A		MR-BF390C-A		
					W	ST	W	ST	W	ST	
1	KIEHJ3313	<G>	THERMISTOR (R)		1	1	1	1	1	1	
2	KIEP89386	<G>	LAMP SOCKET		1	1					
	KIEP94386	<G>					1	1			
	KIEP80386	<G>							1	1	
3	KIE402360	<G>	LAMP	240V 15W E12	1	1	1	1	1	1	
4	KIEP89312	<G>	THERMISTOR (DEF)		1	1	1	1	1	1	
5	KIEP80378	<G>	THERMISTOR (F)		1	1	1	1	1	1	
6	KIEPE2354	<G>	PLUG CORD ASSY		1	1	1	1	1	1	
7	KIEHJ3362	<G>	REED SWITCH		1	1	1	1	1	1	
8	KIELR4346	<G>	RUNNING CAPACITOR	4μF 400VAC	1	1	1	1	1	1	
9	KIEKA0374	<G>	BUZZER BOARD & THERMISTOR (A.T.)		1	1	1	1	1	1	
10	KIEMQ4363	<G>	LAMP SWITCH (R)		1	1	1	1	1	1	
11	KIEKA0382	<G>	TEMP CONTROL PANEL		1	1	1	1	1	1	
12	KIEMQ4320	<G>	FAN MOTOR ASSY		1	1	1	1	1	1	
13	KIEP89537	<G>	HEATER ROOF		1	1	1	1	1	1	
14	KIEP89392	<G>	DEFROST HEATER		1	1	1	1	1	1	
15	KIEP89397	<G>	HEATER COVER		1	1	1	1	1	1	
16	KIEP89538	<G>	DRIP TRAY		1	1	1	1	1	1	
17	KIEPC4339	<G>	REFCON ASSY		1	1					
	KIEPC6339	<G>					1	1			
	KIEPD2339	<G>							1	1	
18	KIEMR7340	<G>	MOTOR PROTECTOR	5TM2222NFBYY	1	1	1	1	1	1	
19	KIEE76330	<G>	PTC RELAY	PTH7M330MD2	1	1	1	1	1	1	
20	KIEG05341	<G>	PROTECTOR COVER		1	1	1	1	1	1	

RECOMMEND PART NO. 1, 3, 4, 5, 9, 11, 14, 17, 18, 19

ACCESSORY AND UNIT PARTS

MR-BF290C-A
MR-BF325C-A
MR-BF390C-A



NO.	PART NO.	RoHS	PART NAME	SPEC	Q'TY/UNIT						PRICE/PIECE(US$-FOB)
					MR-BF290C-A		MR-BF325C-A		MR-BF390C-A		
					W	ST	W	ST	W	ST	
1	KIEP89420	<G>	GLASS SHELF R ASSY		1	1	2	2	3	3	
2	KIEP80427	<G>	GLASS SHELF REAR ASSY		1	1	1	1	1	1	
3	KIEP80428	<G>	GLASS SHELF FRONT ASSY		1	1	1	1	1	1	
4	KIEP80413	<G>	UTILITY CASE		1	1	1	1	1	1	
5	KIEL55440	<G>	ICE TRAY		1	1	1	1	1	1	
6	KIEG63487	<G>	ICE BOX		1	1	1	1	1	1	
7	KIEP89475	<G>	F CASE (LOW)		1	1	1	1	1	1	
8	KIEP89420	<G>	GLASS SHELF R ASSY		1	1	1	1	1	1	
9	KIEP80450	<G>	ICE CORNER		1	1	1	1	1	1	
10	KIEP80431	<G>	TRAY F		1	1	1	1	1	1	
11	KIEP89995	<G>	EVAPORATOR		1	1	1	1	1	1	
12	KIEP89504	<G>	ELBOW		1	1	1	1	1	1	
13	KIEAA1980	<G>	DRYER	4AXH-9,10GR	1	1	1	1	1	1	
14	KIERD0435	<G>	DRAIN PAN		1	1	1	1	1	1	
15	KIEPE2277	<G>	COMPRESSOR	DHS66C10RAW	1	1	1	1	1	1	
16	KIEHJ3735	<G>	U WASHER		4	4	4	4	4	4	
17	KIEE76797	<G>	RUBBER MOUTH		4	4	4	4	4	4	
18	KIEP80449	<G>	ICE CORNER SUPPORT		1	1	1	1	1	1	

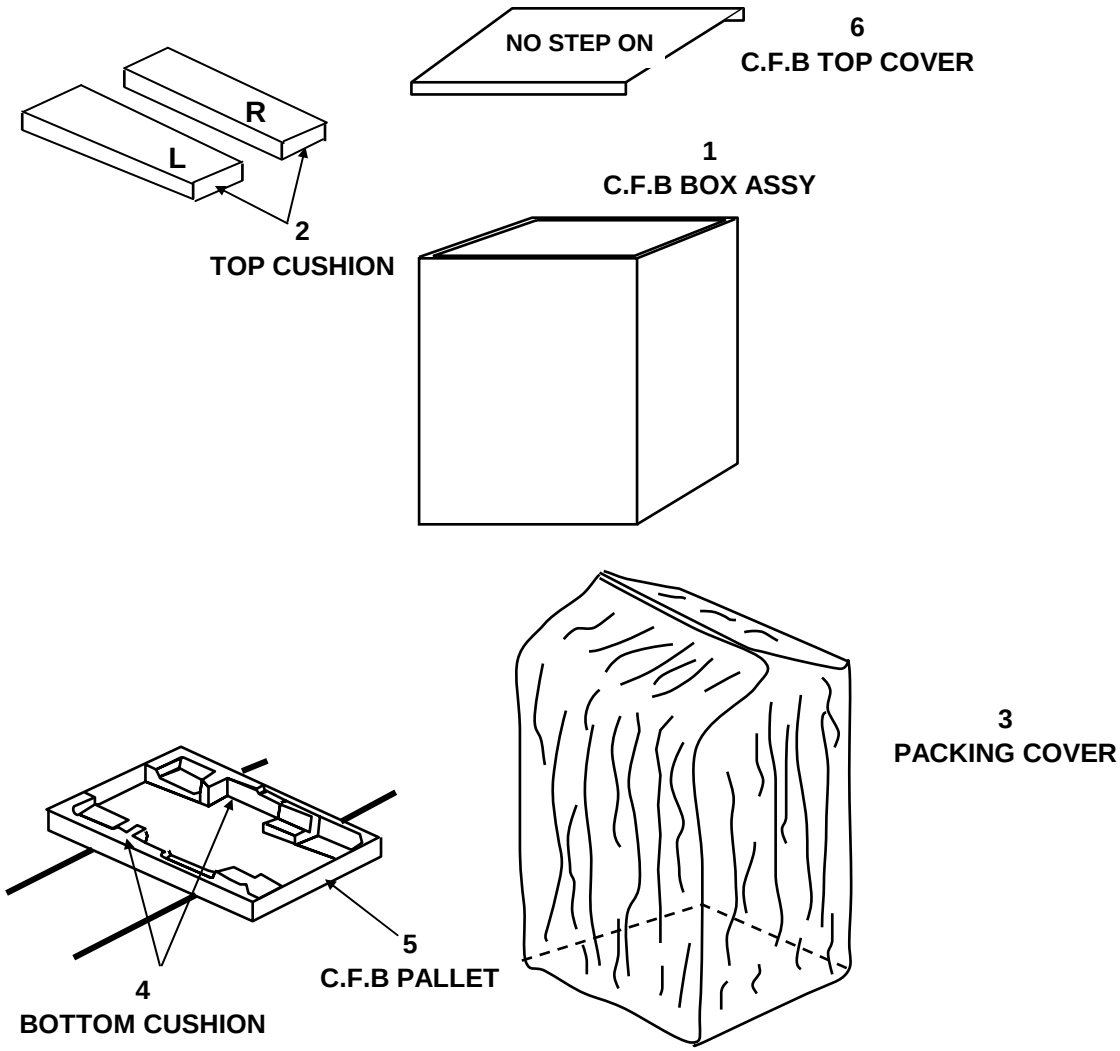
RECOMMEND PART NO. 1, 2, 3, 4, 11, 13, 15

PACKING PARTS

MR-BF290C-A

MR-BF325C-A

MR-BF390C-A



NO.	PART NO.	RoHS	PART NAME	SPEC	Q'TY/UNIT						PRICE/PIECE(US$-FOB)
					MR-BF290C-A		MR-BF325C-A		MR-BF390C-A		
					W	ST	W	ST	W	ST	
1	KIERL6970	<G>	C.F.B BOX ASSY		1						
	KIERL7970	<G>				1					
	KIERL8970	<G>					1				
	KIERL9970	<G>						1			
	KIERM4970	<G>							1		
	KIERM5970	<G>								1	
2	KIEP89979	<G>	TOP CUSHION		1	1	1	1	1	1	
3	KIEHJ3973	<G>	PACKING COVER		1	1	1	1	1	1	
4	KIEP89978	<G>	BOTTOM CUSHION		1	1	1	1	1	1	
5	KIEP89974	<G>	C.F.B PALLET		1	1	1	1	1	1	
6	KIEP89975	<G>	C.F.B TOP COVER		1	1	1	1	1	1	

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