



Commercial Upright Bottom Mount Refrigerator & Freezer Service Manual



TABLE OF CONTENTS

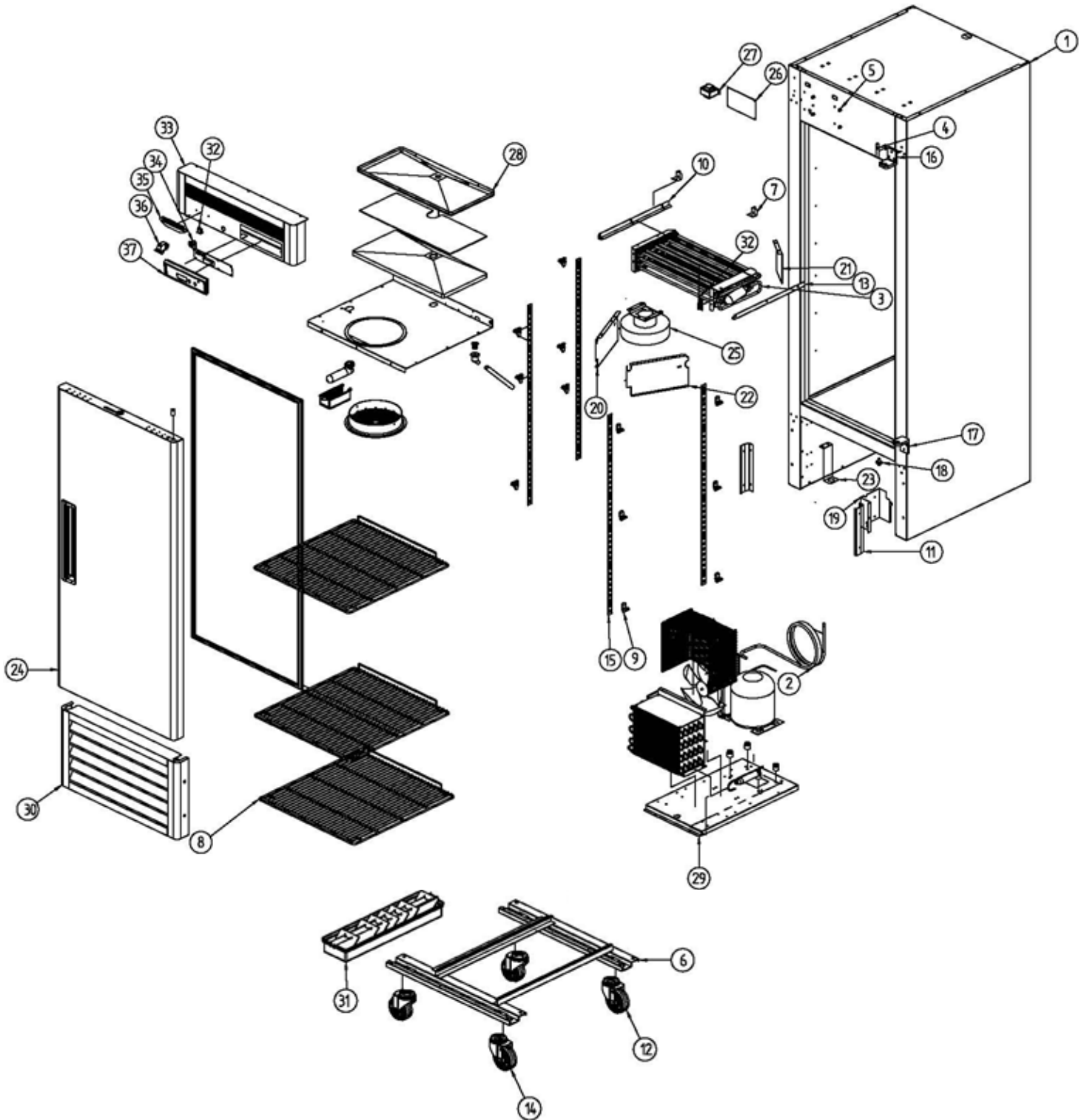
1. ASSEMBLY	4~15
2. PARTS	16~36
3. WIRING DIAGRAM	37~39
4. PART DETAILS	40~44
5. MAIN COMPONENTS	45~61
6. ELECTRONIC CONTROL INSTRUCTIONS	62~66
7. REPLACEMENT OF MAIN COMPONENTS	67~85
8. PART LIST	86~88



Safety cautions during service

- **When exchanging or repairing electric parts, pull the plug out before exchanging and repairing.**
- **When exchanging electric parts, use a rating part.**
 - Be sure to check marks such as MODEL name, rating voltage, rating currents, movement temperature etc.
- **During repairing, make sure wirings such as HARNESS, WIRE JOINT are sturdy so that it is free of danger due to disclosure of core wire.**
 - Don't let it derail when certain strength is put on.
- **When repairing, take out the dust or foreign body (Housing part, wiring part, contact point part).**
 - It prevents danger of fire such as TRACKING, SHORT.
- **Check whether water has gone into the electric parts.**
 - When there are traces of water, exchange the parts or enact the TRACKING prevention device.
- **After repairing, check the assembly status of the parts.**
 - Keep the status as it was before the repairing. .
- **After checking the usage environment of the product and if the installation is unstable, change the usage location.**
 - For installations in places with moisture, water and for heat devices, prevent placing products near igniting materials etc.
- **When earthing is needed, earth it.**
 - For cases when electric leakage is concerned due to moisture or water, be sure to earth it.
- **For products that consumes power such as electric products, make sure numerous plugs are not used in a single outlet.**

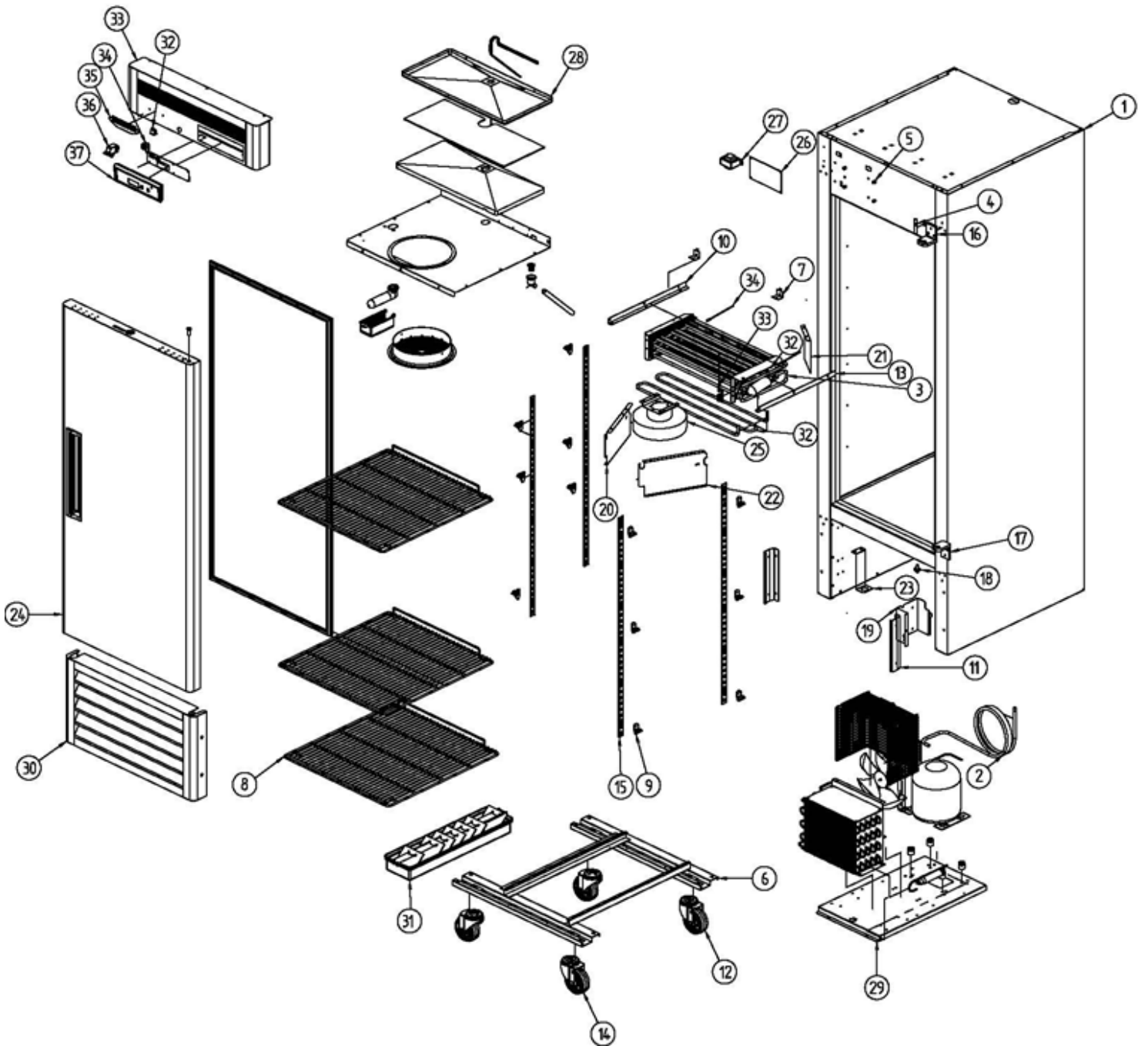
1. ASSEMBLY (UM-24)



1-1. PART LIST : UM-24

NO.	CODE-No	Title	Subject	Q'TY
1	R8279-210	ASSY CABI FOAM	R23	1
2	R2103-445	COMPRESSOR PULL OUT	CU-PIPE. OD9.52*T0.6*1716	1
3	R8613-354	EVAPORATOR ASSY	AL	1
4	R3044-050	DOOR HINGE SHAFT UPP	SM45C. \varnothing 12*51.5	1
5	R3084-010	SUPPORT PCB	NYLON NO.66. M4*8	4
6	R3212-231	FRAME ASSY 23	WELDING 600LT	1
7	R3214-321	TOP FRAME B/K	GI. T1.2*30*59.5	2
8	R3233-200	SHELF 23	MSWR10. NSF	3
9	R3313-151	SHELF CLIP	POM. WHT	12
10	R3313-271	EVAPORATOR B/K LF	STS304-2B. T1.0*408*37.5	1
11	R3313-291	GRILL BRACKET	GI. T1.0*219*78.1	2
12	R3323-010	CASTER 4"	4" MOVE	2
13	R3313-440	EVAP COVER B/K RH	STS304-2B. T1.0*408*37.5	1
14	R3323-020	CASTER 4"	4" STOP	2
15	R3373-630	SHELF STANDARD L	AL. T1.2*930	4
16	R3393-312	DOOR HINGE TOP	ZDC 2. T10*48*64*63	1
17	R3393-450	DOOR HINGE BOTTOM	ZDC 2. T10*42*64*63	1
18	R3393-530	LOW SHAFT RH	\varnothing 24*31	1
19	R3813-350	COVER CAPACITOR	GI. T0.8*255.2*135	1
20	R3853-080	EVAPORATOR AIR GUIDE LF	STS443CT-2B. T0.5*161.8*269	1
21	R3853-390	EVAPORATOR AIR GUIDE REAR	STS430-2B. T0.5*125*155	1
22	R3853-620	EVAPORATOR AIR GUIDE RIGHT	STS443CT. T0.5*161.8*269	1
23	R3854-210	EVAPORATOR DRAIN HOSE GUIDE	GI. T1.0*225*60	1
24	R8272-160	DOOR ASSY 23	R23	1
25	R8329-060	EVAPORATOR FAN MOTOR ASSY	115V 60HZ	1
26	R7113-500	MAIN PCB (115. °F)	115V. REF	1
27	R7504-060	POWER TRANS	120V 60HZ. DT-1213	1
28	R8139-110	EVAPORATOR HOUSING ASSY	R23	1
29	R8579-270	ASSY UNIT	R23	1
30	R8182-081	GRILL ASSY		1
31	R8199-080	EVAPORATOR DRAIN WATER S ASSY	R/F23	1
32	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
33	R8182-121	TOP GRILL ASSEMBLY	SL112A. 125V 15A	1
34	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	1
35	C5133-021	MASCOT	AL. L=121	1
36	R7203-020	DOOR SWITCH	WHT. SP201R-9D	1
37	R8339-590	ASSY CONTROL BOARD 23	R/F 23	1
38	R7213-112	TEMP-DISPLAY SENSOR. REF	R23	1

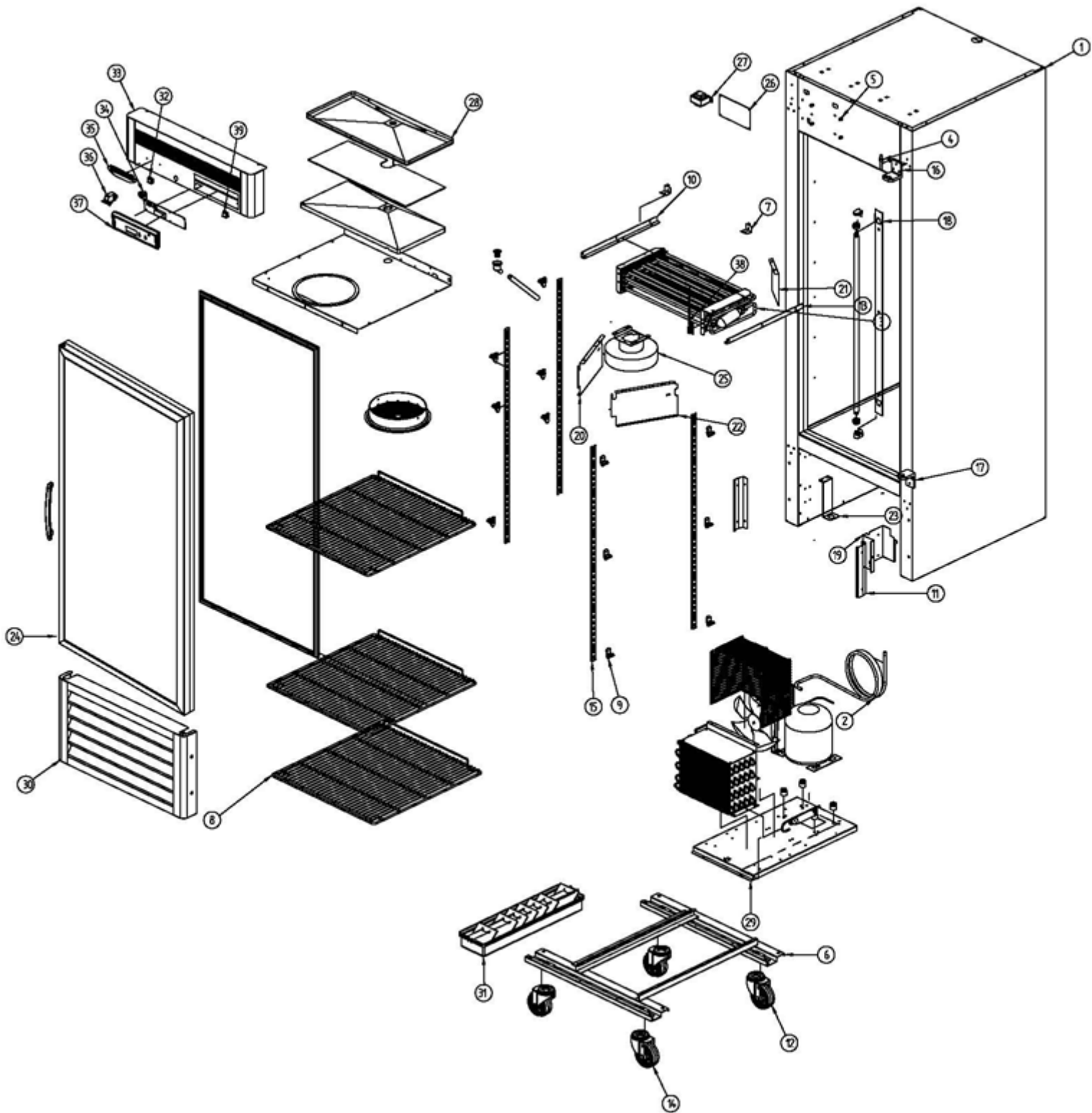
1. ASSEMBLY(UM-24F)



1-2. PART LIST :UM-24

NO.	CODE-No	Title	Subject	Q'TY
1	R8279-100	ASSY CABI FOAM	F23	1
2	R2103-445	COMPRESSOR PULL OUT	CU-PIPE. OD9.52*T0.6*1716	1
3	R2263-038	EVAPORATOR	CU+AL. 23F	1
4	R3044-050	DOOR HINGE SHAFT UPP	SM45C. ϕ 12*51.5	1
5	R3084-010	SUPPORT PCB	NYLON NO.66. M4*8	4
6	R3212-231	FRAME ASSY 23	WELDING 600LT	1
7	R3214-321	TOP FRAME B/K	GI. T1.2*30*59.5	2
8	R3233-200	SHELF 23	MSWR10. NSF	3
9	R3313-151	SHELF CLIP	POM. WHT	12
10	R3313-271	EVAPORATOR B/K LF	STS304-2B. T1.0*408*37.5	1
11	R3313-291	GRILL BRACKET	GI. T1.0*219*78.1	2
12	R3323-010	CASTER 4"	4" MOVE	2
13	R3313-440	EVAP COVER B/K RH	STS304-2B. T1.0*408*37.5	1
14	R3323-020	CASTER 4"	4" STOP	2
15	R3373-630	SHELF STANDARD L	AL. T1.2*930	4
16	R3393-312	DOOR HINGE TOP	ZDC 2. T10*48*64*63	1
17	R3393-450	DOOR HINGE BOTTOM	ZDC 2. T10*42*64*63	1
18	R3393-530	LOW SHAFT RH	ϕ 24*31	1
19	R3813-350	COVER CAPACITOR	GI. T0.8*255.2*135	1
20	R3853-080	EVAPORATOR AIR GUIDE LF	STS443CT-2B. T0.5*161.8*269	1
21	R3853-390	EVAPORATOR AIR GUIDE REAR	STS430-2B. T0.5*125*155	1
22	R3853-620	EVAPORATOR AIR GUIDE RIGHT	STS443CT. T0.5*161.8*269	1
23	R3854-210	EVAPORATOR DRAIN HOSE GUIDE	GI. T1.0*225*60	1
24	R8272-160	DOOR ASSY 23	R23	1
25	R8329-060	EVAPORATOR FAN MOTOR ASSY	115V 60HZ	1
26	R7113-510	MAIN PCB (115. °F)	115V. FRE	1
27	R7504-060	POWER TRANS	120V 60HZ. DT-1213	1
28	R8139-090	EVAPORATOR HOUSING ASSY	F23	1
29	R8159-920	ASSY UNIT	F23	1
30	R8182-081	GRILL ASSY		1
31	R8199-080	EVAPORATOR DRAIN WATER S ASSY	R/F23	1
32	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
33	R8182-121	TOP GRILL ASSEMBLY	SL112A. 125V 15A	1
34	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	1
35	C5133-021	MASCOT	AL. L=121	1
36	R7203-020	DOOR SWITCH	WHT. SP201R-9D	1
37	R8339-590	ASSY CONTROL BOARD 23	R/F 23	1
38	R7303-402	DEFROST HEATER	F23	1
39	R7213-082	TEMP-THERMISTOR,FRE	F23	1
40	R7213-210	D-SENSOR	F23	1
41	R7259-070	EVAPORATOR THERMAL FUSE	F23	1

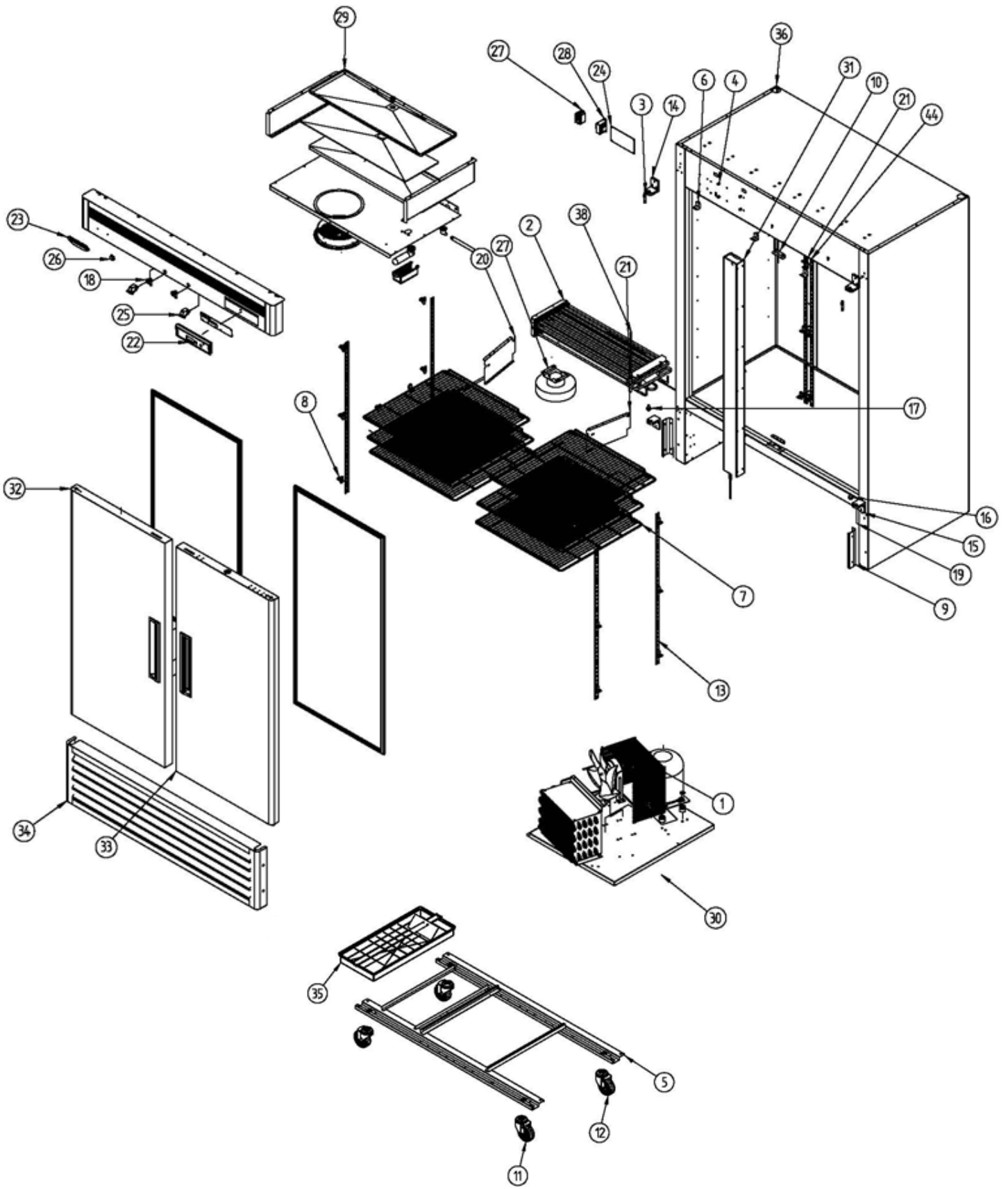
1. ASSEMBLY (UM-24)



1-3. PART LIST :UM-24G

NO.	CODE-No	Title	Subject	Q'TY
1	R8279-210	ASSY CABI FOAM	R23	1
2	R2103-445	COMPRESSOR PULL OUT	CU-PIPE. OD9.52*T0.6*1716	1
3	R2263-038	EVAPORATOR	CU+AL	1
4	R3044-050	DOOR HINGE SHAFT UPP	SM45C. Ø12*51.5	1
5	R3084-010	SUPPORT PCB	NYLON NO.66. M4*8	4
6	R8279-350	FRAME ASSY	WELDING 600LT	1
7	R3214-321	TOP FRAME B/K	Gl. T1.2*30*59.5	2
8	R3233-180	SHELF ASSY	MSWR10. NSF	3
9	R3313-151	SHELF CLIP	POM. WHT	12
10	R3313-271	EVAPORATOR B/K LF	STS304-2B. T1.0*408*37.5	1
11	R3313-291	GRILL BRACKET	Gl. T1.0*219*78.1	2
12	R3323-010	CASTER 4"	4" MOVE	2
13	R3313-440	EVAP COVER B/K RH	STS304-2B. T1.0*408*37.5	1
14	R3323-020	CASTER 4"	4" STOP	2
15	R3373-630	SHELF STANDARD L	AL. T1.2*930	4
16	R3393-312	DOOR HINGE TOP	ZDC 2. T10*48*64*63	1
17	R3393-341	DOOR HINGE BOTTOM RH	ZDC 2. T10*42*64*63	1
18	R3373-321	SUPPORT LAMP (23G)	R23G	1
19	R3813-350	COVER CAPACITOR	Gl. T0.8*255.2*135	1
20	R3853-080	EVAPORATOR AIR GUIDE LF	STS443CT-2B. T0.5*161.8*269	1
21	R3853-390	EVAPORATOR AIR GUIDE REAR	STS430-2B. T0.5*125*155	1
22	R3853-620	EVAPORATOR AIR GUIDE RIGHT	STS443CT. T0.5*161.8*269	1
23	R3854-210	EVAPORATOR DRAIN HOSE GUIDE	Gl. T1.0*225*60	1
24	R8172-650	DOOR ASSY (23G)	R23G	1
25	R8329-060	EVAPORATOR FAN MOTOR ASSY	115V 60HZ	1
26	R7113-500	MAIN PCB (115. °F)	115V. REF	1
27	R7504-060	POWER TRANS	120V 60HZ. DT-1213	1
28	R8139-150	EVAPORATOR HOUSING ASSY	R23G	1
29	R8559-140	ASSY UNIT	R23G	1
30	R8182-380	BOTTOM GRILL ASSY		1
31	R8199-080	EVAPORATOR DRAIN WATER S ASSY	R/F23	1
32	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
33	R8182-200	TOP GRILL ASSEMBLY	SL112A. 125V 15A	1
34	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	1
35	C5133-021	MASCOT	AL. L=121	1
36	R7203-020	DOOR SWITCH	WHT. SP201R-9D	1
37	R8339-590	ASSY CONTROL BOARD 23	R/F 23	1
38	R7213-112	TEMP-DISPLAY SENSOR. REF	R23	1
39	R7204-070	LAMP POWER SWITCH	SL112A. 125V 15A	1

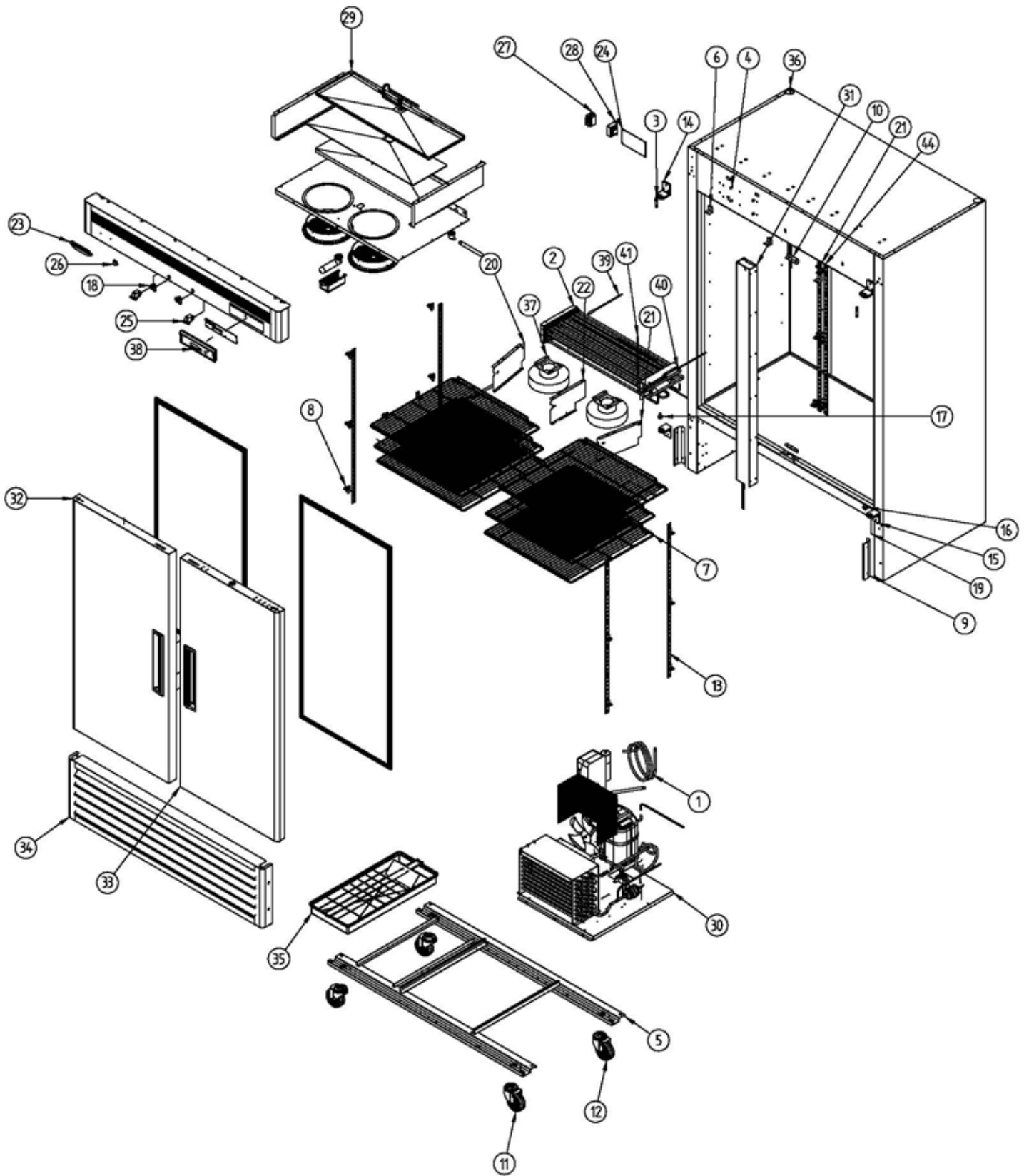
2. ASSEMBLY (UM-48)



1-4. PART LIST :UM-48

NO.	CODE-No	Title	Subject	Q'TY
1	R2103-942	COMPRESSOR PULL OUT	CU-PIPE. T0.7*OD9.52*1930	1
2	R8613-343	EVAPORATOR ASSY	R49	1
3	R3044-050	DOOR HINGE SHAFT-UPP	SM45C. ϕ 12*51.5	2
4	R3084-010	SUPPORT PCB	NYLON NO.66. M4*8	4
5	R3212-250	FRAME ASSY (49)	717.5*1408	1
6	R3214-321	TOP FRAME B/K	GI. T1.2*30*59.5	3
7	R3233-210	SHELF 49	MSWR10+PE	6
8	R3313-151	SHELF CLIP	POM. WHT	20
9	R3313-291	GRILL BRACKET	GI. T1.0*219*78.1	2
10	R3314-241	SUPPORT FRONT B/K	STS304-2B. T1.0*80*34	2
11	R3323-010	CASTER 4"	4" MOVE	2
12	R3323-020	CASTER 4"	4" STOP	2
13	R3373-630	SHELF STANDARD	AL. T1.2*930	6
14	R3393-312	DOOR HINGE TOP	AL. T10*48*64*63	2
15	R3393-450	DOOR HINGE BOTTOM	ZDC 2. T10*42*64*63	2
16	R3393-530	LOW SHAFT RH	ϕ 24*31	1
17	R3393-550	LOW SHAFT LF	ϕ 24*31	1
18	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	2
19	R3813-350	COVER CAPACITOR	GI. T0.8*255.2*135	1
20	R3853-210	EVAPORATOR AIR GUIDE LF	T0.5*161.8*269	1
21	R3853-120	EVAPORATOR AIR GUIDE RH	T0.5*161.8*269	1
22	R8339-600	ASSY CONTROL BOARD 49		1
23	R5134-720	MASCOT	EXPOCY	1
24	R7113-500	MAIN PCB (115V. °F)	REF	1
25	R7203-020	DOOR SWITCH	WHT. SP201R-9D	2
26	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
27	R8329-060	EVAPORATOR FAN MOTOR ASSY	UL. 115V 60HZ	1
28	R7504-060	POWER TRANS	120V 60HZ. DT-1213	1
29	R8139-100	EVAPORATOR HOUSING ASSY		1
30	R8159-950	ASSY UNIT	R49. 115V. REF	1
31	R8163-031	CROSS BAR SOLID ASSY	R49	1
32	R8179-590	DOOR LF ASSY (49)	R/F49	1
33	R8179-600	DOOR ASSY RH (49)	R/F49	1
34	R8182-092	BOTTOM GRILL ASSY	R/F49	1
35	R8199-070	EVAPORATOR DRAIN WATER-L ASSY	R/F49	1
36	R8279-200	CABI FOAM ASSY 49	R49	1
37	R8329-060	EVAPORATOR FAN MOTOR ASSY	115V 60HZ	1
38	R7213-112	TEMP-DISPLAY SENSOR. REF	49R	1

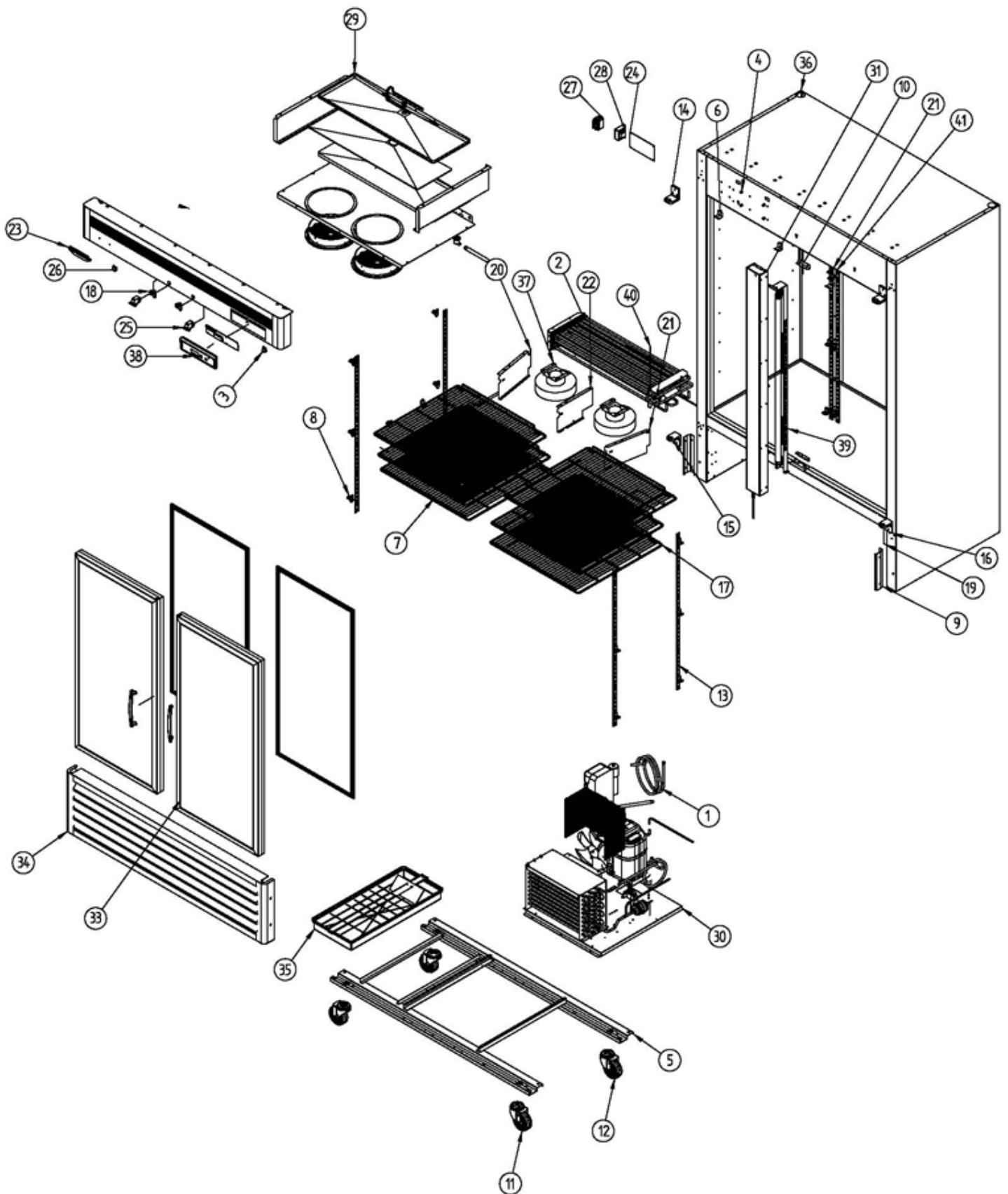
1. ASSEMBLY (UM-48F)



1-5. PART LIST :UM-48F

NO.	CODE-No	Title	Subject	Q'TY
1	R2113-331	COMPRESSOR PULL OUT. A	CU-PIPE. T0.7*OD9.52*1930	1
2	R2263-047	EVAPORATOR	F49	1
3	R3044-050	DOOR HINGE SHAFT-UPP	SM45C. ϕ 12*51.5	2
4	R3084-010	SUPPORT PCB	NYLON NO.66. M4*8	4
5	R3212-310	FRAME ASSY 49F	717.5*1408	1
6	R3214-321	TOP FRAME B/K	GI. T1.2*30*59.5	3
7	R3233-210	SHELF 49	MSWR10+PE	6
8	R3313-151	SHELF CLIP	POM. WHT	20
9	R3313-291	GRILL BRACKET	GI. T1.0*219*78.1	2
10	R3314-241	SUPPORT FRONT B/K	STS304-2B. T1.0*80*34	2
11	R3323-010	CASTER 4"	4" MOVE	2
12	R3323-020	CASTER 4"	4" STOP	2
13	R3373-630	SHELF STANDARD	AL. T1.2*930	6
14	R3393-312	DOOR HINGE TOP	AL. T10*48*64*63	2
15	R3393-450	DOOR HINGE BOTTOM	ZDC 2. T10*42*64*63	2
16	R3393-530	LOW SHAFT RH	ϕ 24*31	1
17	R3393-550	LOW SHAFT LF	ϕ 24*31	1
18	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	2
19	R3813-350	COVER CAPACITOR	GI. T0.8*255.2*135	1
20	R3853-080	EVAPORATOR AIR GUIDE LF	T0.5*161.8*269	1
21	R3853-620	EVAPORATOR AIR GUIDE RH	T0.5*161.8*269	1
22	R3853-660	EVAPORATOR AIR GUIDE MID	AL. A3003-H16. T0.5*161.8*243	1
23	C5133-021	MASCOT	AL. L=121	1
24	R7113-510	MAIN PCB (115V. °F)	FRE	1
25	R7203-020	DOOR SWITCH	WHT. SP201R-9D	2
26	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
27	R7253-080	POWER RELAY	115V	1
28	R7504-060	POWER TRANS	120V 60HZ. DT-1213	1
29	R8139-100	EVAPORATOR HOUSING ASSY		1
30	R8159-940	ASSY UNIT	F49. 115V. FRE	1
31	R8163-021	CROSS BAR SOLID ASSY	F49	1
32	R8179-590	DOOR LF ASSY (49)	R/F49	1
33	R8179-600	DOOR ASSY RH (49)	R/F49	1
34	R8182-092	BOTTOM GRILL ASSY	R/F49	1
35	R8199-070	EVAPORATOR DRAIN WATER-L ASSY	R/F49	1
36	R8279-090	CABI FOAM ASSY 49	F49	1
37	R8329-060	EVAPORATOR FAN MOTOR ASSY	115V 60HZ	2
38	R8339-600	ASSY CONTROL BOARD 49	R/F49	1
39	R7213-210	D-SENSOR	F23	1
40	R7259-070	EVAPORATOR THERMAL FUSE	F23	1
41	R7213-082	TEMP-THERMISTOR. FRE	F23	1

1. ASSEMBLY (UM-48G)

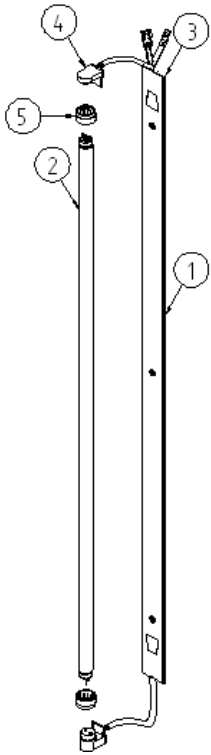


1-6. PART LIST :UM-48G

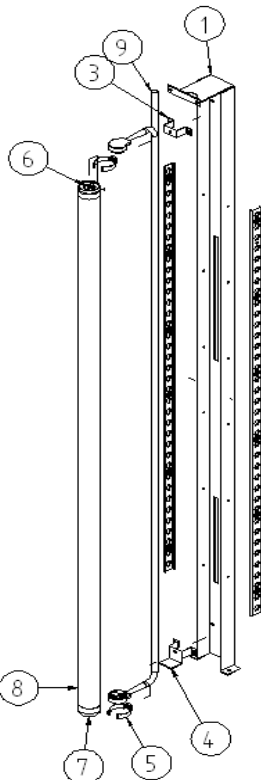
NO.	CODE-No	Title	Subject	Q'TY
1	R2114-490	COMPRESSOR PULL OUT. C	CU-PIPE. T0.7*OD9.52*1930	1
2	R2263-047	EVAPORATOR	F49	1
3	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
4	R3084-010	SUPPORT PCB	NYLON NO.66. M4*8	4
5	R3212-420	FRAME ASSY 49G	717.5*1408	1
6	R3214-321	TOP FRAME B/K	GI. T1.2*30*59.5	3
7	R3233-162	SHELF LF	MSWR10+PE	3
8	R3313-151	SHELF CLIP	POM. WHT	20
9	R3313-291	GRILL BRACKET	GI. T1.0*219*78.1	2
10	R3314-241	SUPPORT FRONT B/K	STS304-2B. T1.0*80*34	2
11	R3323-010	CASTER 4"	4" MOVE	2
12	R3323-020	CASTER 4"	4" STOP	2
13	R3373-630	SHELF STANDARD	AL. T1.2*930	6
14	R3393-312	DOOR HINGE TOP	AL. T10*48*64*63	2
15	R3393-351	DOOR HINGE BOTTOM LF	ZDC 2. T10*42*64*63	1
16	R3393-341	DOOR HINGE BOTTOM RH	ZDC 2. T10*42*64*63	1
17	R3233-172	SHELF RH	RH(49G) 609*580	1
18	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	2
19	R3813-350	COVER CAPACITOR	GI. T0.8*255.2*135	1
20	R3853-080	EVAPORATOR AIR GUIDE LF	T0.5*161.8*269	1
21	R3853-620	EVAPORATOR AIR GUIDE RH	T0.5*161.8*269	1
22	R3853-660	EVAPORATOR AIR GUIDE MID	AL. A3003-H16. T0.5*161.8*243	1
23	C5133-021	MASCOT	AL. L=121	1
24	R7113-500	MAIN PCB (115V. °F)	REF.	1
25	R7203-020	DOOR SWITCH	WHT. SP201R-9D	2
26	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
27	R7253-080	POWER RELAY	115V	1
28	R7504-060	POWER TRANS	120V 60HZ. DT-1213	1
29	R8139-140	EVAPORATOR HOUSING ASSY	49G	1
30	R5134-720	MASCOT	EXPOCY	1
31	R8559-080	ASSY UNIT	REF. 49G	1
32	R8163-620	CROSS BAR SOLID ASSY	49G	1
33	R8163-630	DOOR ASSY LF	GLASS	1
34	R8172-640	DOOR ASSY RH	GLASS	1
35	R8182-520	BOTTOM GRILL ASSY	49G	1
36	R8199-070	EVAPORATOR DRAIN WATER-L ASSY	R/F49	1
37	R8279-320	CABI FOAM ASSY 49	49G	1
38	R8329-060	EVAPORATOR FAN MOTOR ASSY	115V 60HZ	2
39	R8339-600	ASSY CONTROL BOARD 49	MSR/F-49NM. MSR-49G-2	1
40	R8379-010	SUPPORT LAMP ASSY	49G	1
41	R7213-112	TEMP-DISPLAY SENSOR. REF	49R	1

2. PARTS

2-1. SUPPORT LAMP ASSY



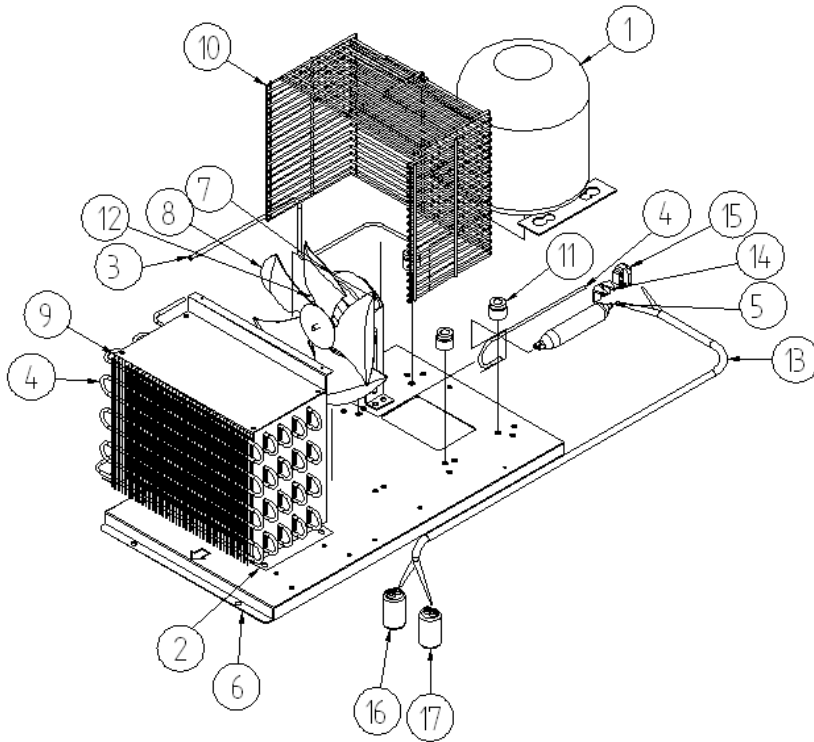
NO.	CODE-No	Title	Subject	Q'TY
1		SUPPORT LAMP ASSY (23G)	UM-24G	1
2	R7393-150	FLUORESCENT LAMP	32W (30236D0500)	1
3	R3373-321	SUPPORT LAMP (23G)	STS304-2B. T0.6*1352*62.6	1
4	R7393-220	SOCKET ASSY	UL 94-V0	1
5	R3814-550	GUARD SOCKET	UL 94-V0	1



NO.	CODE-No	Title	Subject	Q'TY
1	R3373-302	LAMP SUPPORT 49	T1.6*1439.6*114.6	1
2	R3373-630	SHELF STANDARD L	AL. T1.2*930	2
3	R3314-391	BRACKET LAMP UPP	STS430-#4. T1.0*15*91	1
4	R3314-400	BRACKET LAMP LOW	STS430-#4. T1.0*36*91	1
5	R3824-060	HOLDER SOCKET	STS304-2B. T0.8	2
6	R7393-150	FLUORESCENT LAMP	32W (30236D0500)	1
7	R3814-550	GUARD SOCKET	UL 94-V0. T0.5*36*91	2
8	R3894-030	LAMP GUARD	T0.5*OD33.5*1186	1
9	R7343-170	SOCKET ASSY (49G)	UL	1

2. PARTS

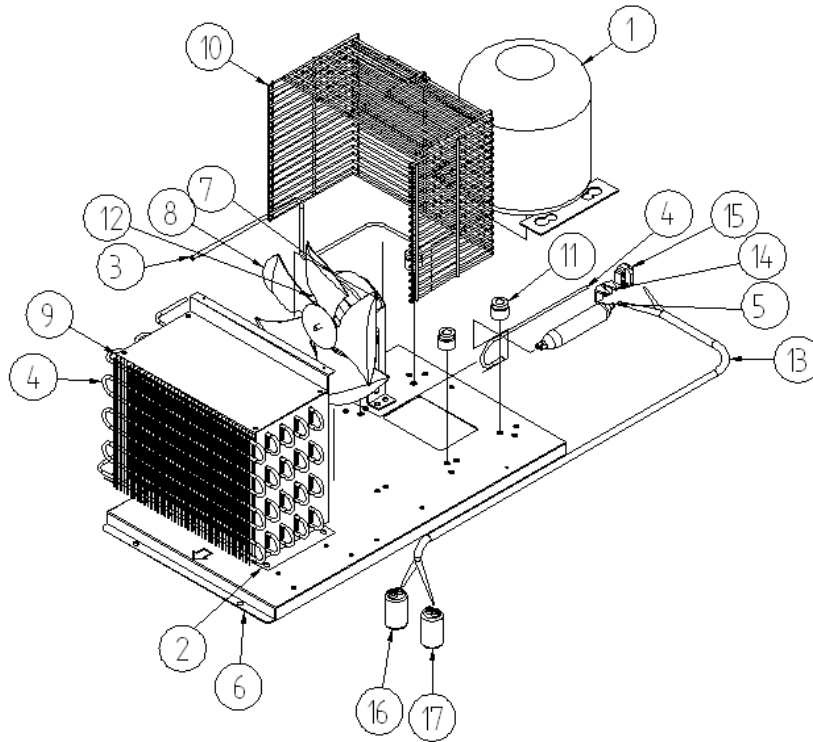
2-2. UNIT ASSY (UM-24)



NO.	CODE-No	Title	Subject	Q'TY
1	R7439-420	COMPRESSOR	HBL27YE-1	1
2	R2202-031	CONDENSER COIL	SWST. \varnothing 4.76*13190	1
3	R2104-492	COMPRESSOR PIPE	CU. T0.7* \varnothing 6.35*462	1
4	R2104-981	PIPE DRYER	CU. \varnothing 4.76	1
5	R2183-032	DRYER (R-134A. 36G)	36G	1
6	R3202-385	BASE COMP	GI. T1.2*359*605	1
7	R3313-260	CONDENSER FAN MOTOR BRACKET	GI	1
8	R3723-070	CONDENSER FAN BLADE	AL. \varnothing 225. 9" CCW	1
9	R3813-121	CONDENSER COIL COVER	GI. T0.8*265*187	1
10	R3813-150	CONDENSER FAN COVER WIRE	MSWR10. \varnothing 2.5	1
11	R3884-060	GROMMET	NY-6 . \varnothing 12.6*25	4
12	R7423-190	CONDENSER FAN MOTOR	UL	1
13	R7483-020	HARNESS RELAY B	UL	1
14	R7509-170	O.L.P	4TM783SHBZZ-52	1
15	R7539-190	POSISTOR	SO68-CSR	1
16	R7549-170	CAPACITOR RUNNING	230VAC 50/60HZ 10 μ F	1
17	R7549-160	CAPACITOR STARTING	200VAC 100 μ F	1

2. PARTS

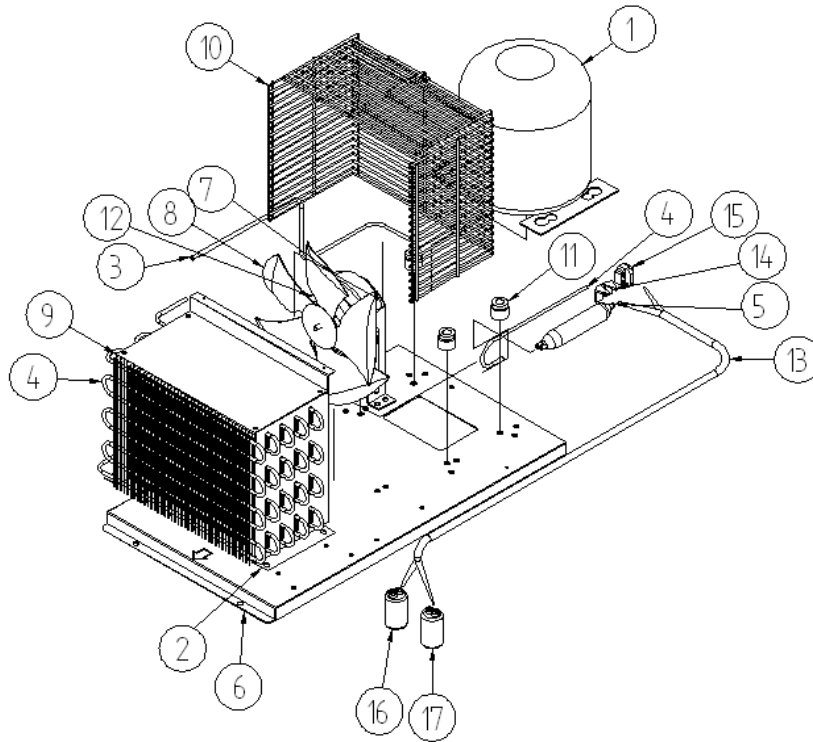
2-2. UNIT ASSY (UM-24F)



NO.	CODE-No	Title	Subject	Q'TY
1	R7439-110	COMPRESSOR	SK1A1C-L2W	1
2	R2202-031	CONDENSER COIL	SWST. \varnothing 4.76*13190	1
3	R2104-492	COMPRESSOR PIPE	CU. T0.7* \varnothing 6.35*462	1
4	R2104-981	PIPE DRYER	CU. \varnothing 4.76	1
5	R2183-032	DRYER (R-134A. 36G)	36G	1
6	R3202-385	BASE COMP	GI. T1.2*359*605	1
7	R3313-260	CONDENSER FAN MOTOR BRACKET	GI	1
8	R3723-070	CONDENSER FAN BLADE	AL. \varnothing 225. 9" CCW	1
9	R3813-121	CONDENSER COIL COVER	GI. T0.8*265*187	1
10	R3813-150	CONDENSER FAN COVER WIRE	MSWR10. \varnothing 2.5	1
11	R3884-060	GROMMET	NY-6 . \varnothing 12.6*25	4
12	R7423-190	CONDENSER FAN MOTOR	UL	1
13	R7483-020	HARNESS RELAY B	UL	1
14	R7519-070	O.L.P	4TM795TFB-53	1
15	R7539-110	PTC RELAY	J531Q34E220M3503	1
16	R7543-030	CAPACITOR RUNNING	250VAC 12 μ F. 2P	1
17	R7543-100	CAPACITOR STARTING	125VAC 125 μ F. 2P	1

2. PARTS

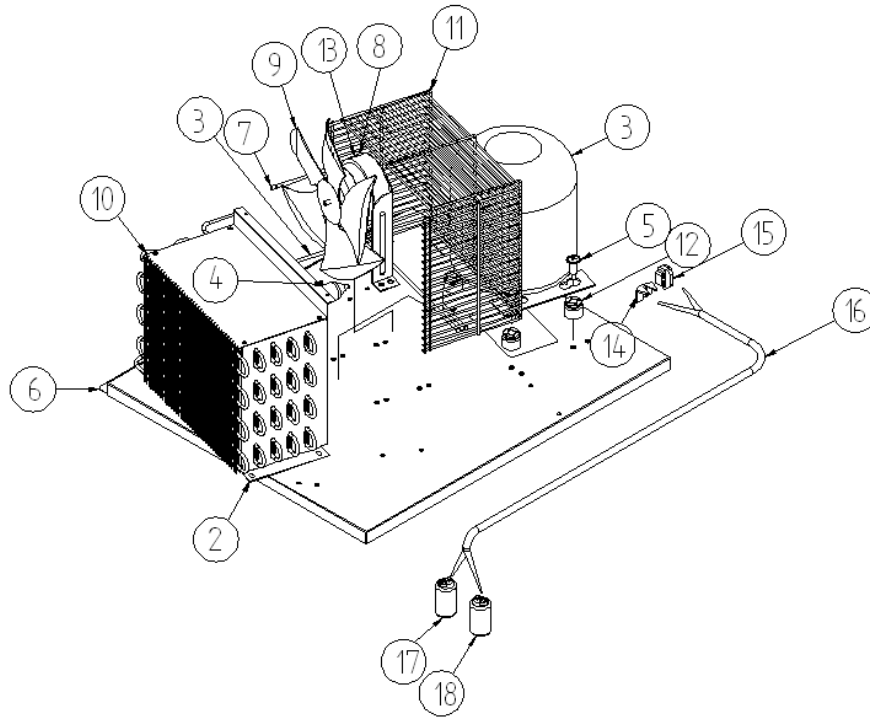
2-2. UNIT ASSY (UM-24G)



NO.	CODE-No	Title	Subject	Q'TY
1	R7439-110	COMPRESSOR	SK1A1C-L2W	1
2	R2202-031	CONDENSER COIL	SWST. \varnothing 4.76*13190	1
3	R2104-492	COMPRESSOR PIPE	CU. T0.7* \varnothing 6.35*462	1
4	R2104-981	PIPE DRYER	CU. \varnothing 4.76	1
5	R2183-032	DRYER (R-134A. 36G)	36G	1
6	R3202-385	BASE COMP	GI. T1.2*359*605	1
7	R3313-260	CONDENSER FAN MOTOR BRACKET	GI	1
8	R3723-070	CONDENSER FAN BLADE	AL. \varnothing 225. 9" CCW	1
9	R3813-121	CONDENSER COIL COVER	GI. T0.8*265*187	1
10	R3813-150	CONDENSER FAN COVER WIRE	MSWR10. \varnothing 2.5	1
11	R3884-060	GROMMET	NY-6 . \varnothing 12.6*25	4
12	R7423-190	CONDENSER FAN MOTOR	UL	1
13	R7483-060	HARNESS RELAY GB	UL	1
14	R7519-070	O.L.P	4TM795TFB-53	1
15	R7539-110	PTC RELAY	J531Q34E220M3503	1
16	R7543-030	CAPACITOR RUNNING	250VAC 12 μ F. 2P	1
17	R7543-100	CAPACITOR STARTING	125VAC 125 μ F. 2P	1

2. PARTS

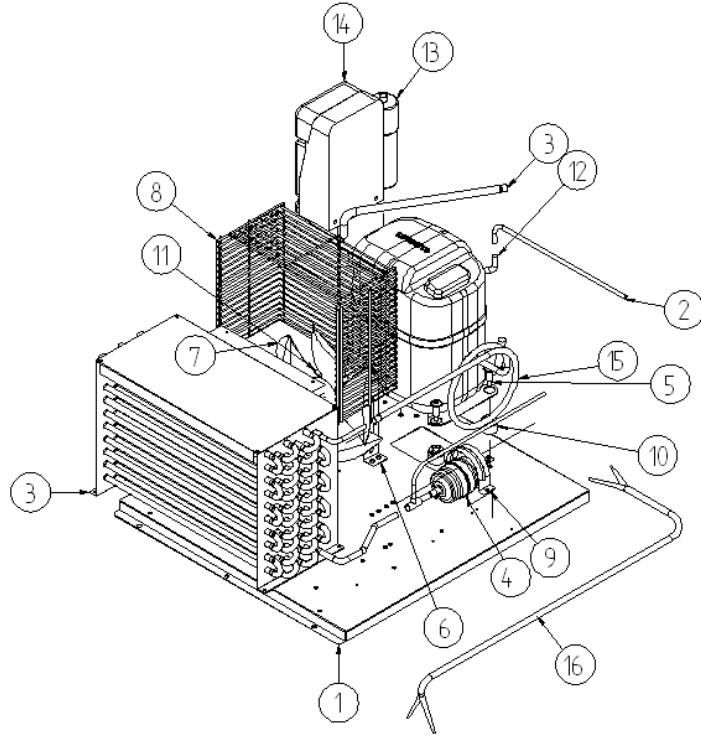
2-2. UNIT ASSY (UM-48)



NO.	CODE-No	Title	Subject	Q'TY
1	R7439-110	COMPRESSOR	SK1A1C-L2W	1
2	R2202-031	CONDENSER COIL	SWST. \varnothing 4.76*13190	1
3	R2104-981	PIPE DRYER	CU. \varnothing 4.76	1
4	R2183-032	DRYER (R-134A. 36G)	36G	1
5	R3004-270	COMPRESSOR BOLT	STS. M6*30Y. \varnothing 10	4
6	R3202-421	BASE COMP	GI. T1.2*645*574	1
7	R3203-930	CONDENSER PIPE	T0.7*OD4.76*654	1
8	R3313-260	CONDENSER FAN MOTOR BRACKET	GI	1
9	R3723-070	CONDENSER FAN BLADE	AL. \varnothing 225. 9" CCW	1
10	R3813-121	CONDENSER COIL COVER	GI. T0.8*265*187	1
11	R3813-150	CONDENSER FAN COVER WIRE	MSWR10. \varnothing 2.5	1
12	R3884-030	GROMMET COMP	NR-RUBBER. BLK	4
13	R7423-190	CONDENSER FAN MOTOR	UL	1
14	R7483-060	HARNESS RELAY GB	UL	1
15	R7519-070	O.L.P	4TM795TFB-53	1
16	R7539-110	PTC RELAY	J531Q34E220M3503	1
17	R7543-030	CAPACITOR RUNNING	250VAC 12 μ F. 2P	1
18	R7543-100	CAPACITOR STARTING	125VAC 125 μ F. 2P	1

2. PARTS

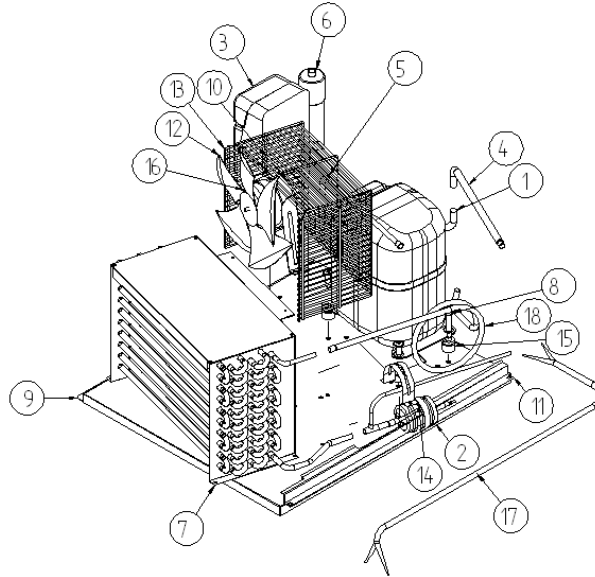
2-2. UNIT ASSY (UM-48F)



NO.	CODE-No	Title	Subject	Q'TY
1	R3202-397	BASE COMP	GI. T1.2*555*614	1
2	R2114-321	COMPRESSOR CHARGING PIPE	CU-PIPE. OD6.35*T0.7	1
3	R2114-330	COMPRESSOR PULL OUT B	CU-PIPE. T0.7*12.7	1
4	R8623-030	HARD CORE DRIER ASSY	UL	1
5	R3004-270	COMPRESSOR BOLT	STS. M6*30Y. Ø 10	4
6	R3313-260	CONDENSER FAN MOTOR BRACKET	GI	1
7	R3723-070	CONDENSER FAN BLADE	AL. Ø225. 9" CCW	1
8	R3813-160	FAN COVER WIRE	MSWR. Ø 2.5	1
9	R3834-350	BAND HARD DRYER	GI. T0.6*25*185	1
10	R3884-030	GROMMET COMP	NR-RUBBER. BLK	4
11	R7423-190	CONDENSER FAN MOTOR	UL	1
12	R7439-340	COMPRESSOR	CAJ2432Z. 115V 60HZ	1
13		CAPACITOR	CAJ2432Z. 115V 60HZ	1
14		RELAY BOX (CAJ2432Z)	UL	1
15	R2103-474	CONDENSER CONNECTOR	UL. OD9.52*T0.7*795	1
16	R7483-012	HARNESS RELAY C	UL	1

2. PARTS

2-2. UNIT ASSY (UM-48G)

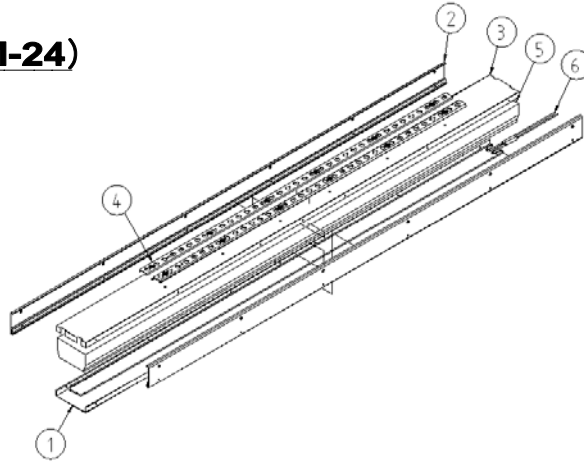


NO.	CODE-No	Title	Subject	Q'TY
1	R7439-360	COMPRESSOR	CAJ4476Y	1
2	R8623-030	HARD CORE DRIER ASSY	UL	1
3		RELAY BOX (CAJ2432Z)	UL	1
4	R2114-330	COMPRESSOR PULL OUT B	CU-PIPE. T0.7*12.7	1
5	R2114-490	COMPRESSOR PULL OUT C	CU. T0.7*OD9.52*310.5	1
6		CAPACITOR STARTING	CAJ4476Y(A)	1
7	R2273-021	PIN CONDENSER (49G)	R49G	1
8	R3004-270	COMPRESSOR BOLT	STS. M6*30Y. Ø10	4
9	R3202-510	BASE COMP	GI. T1.2*645*574	1
10	R3313-260	CONDENSER FAN MOTOR BRACKET	GI	1
11	R3313-840	BASE COMP BRACKET	GI. T1.0*53.5*590	1
12	R3723-070	CONDENSER FAN BLADE	AL. Ø225. 9" CCW	1
13	R3813-150	CONDENSER FAN COVER WIRE	MSWR10. Ø2.5	1
14	R3834-350	BAND HARD DRYER	GI. T0.6*25*185	1
15	R3884-060	GROMMET	NY-6. Ø12.6*25	3
16	R7423-190	CONDENSER FAN MOTOR	UL	1
17	R7483-051	HARNESS RELAY GA	UL	1
18	R2103-474	CONDENSER CONNECTOR	UL. OD9.52*T0.7*795	1

2. PARTS

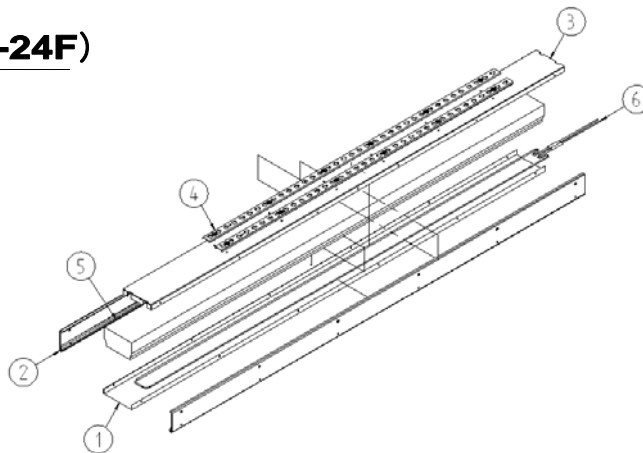
2-3. CROSS BAR ASSY

MODEL (UM-24)



NO.	CODE-No	Title	Subject	Q'TY
1	R3174-223	CROSS BAR FRONT (R49)	STS430-#4. T0.6*106*1319	1
2	R3903-264	GASKET CROSS BAR	T2*56.5	2
3	R3173-232	CROSS BAR REAR (R49)	STS304-2B. T0.6*106*1345	1
4	R3373-630	SHELF STANDARD L	AL. T1.2*930	2
5	R1143-191	CROSS BAR INSUL	EPS 40# . T44*87*1134.4	1
6	R7303-121	HEATER CORD CROSS BAR	UL. 115V *30W	1

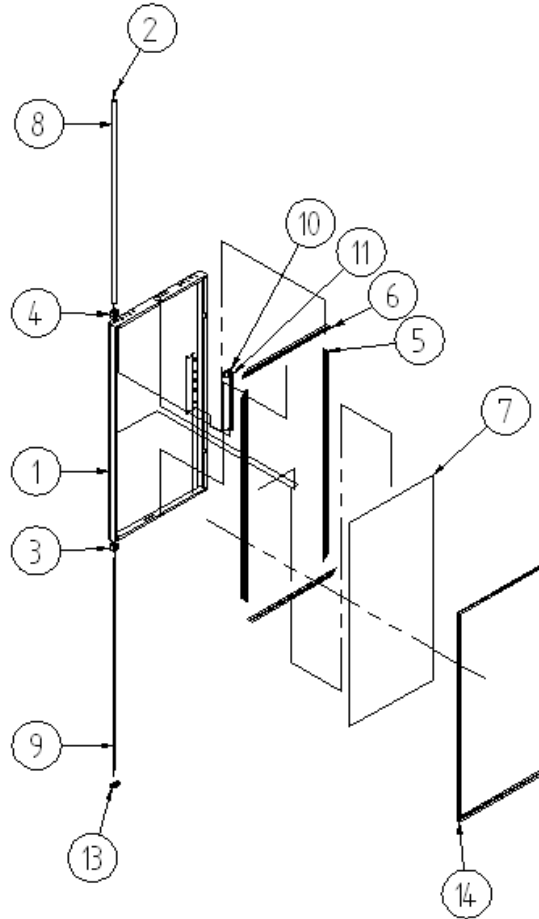
MODEL (UM-24F)



NO.	CODE-No	Title	Subject	Q'TY
1	R3174-223	CROSS BAR FRONT (R49)	STS430-#4. T0.6*106*1319	1
2	R3903-264	GASKET CROSS BAR	T2*56.5	2
3	R3173-232	CROSS BAR REAR (R49)	STS304-2B. T0.6*106*1345	1
4	R3373-630	SHELF STANDARD L	AL. T1.2*930	2
5	R1143-191	CROSS BAR INSUL	EPS 40# . T44*87*1134.4	1
6	R7303-111	HEATER CORD CROSS BAR	UL. 115V *38W	1

2. PARTS

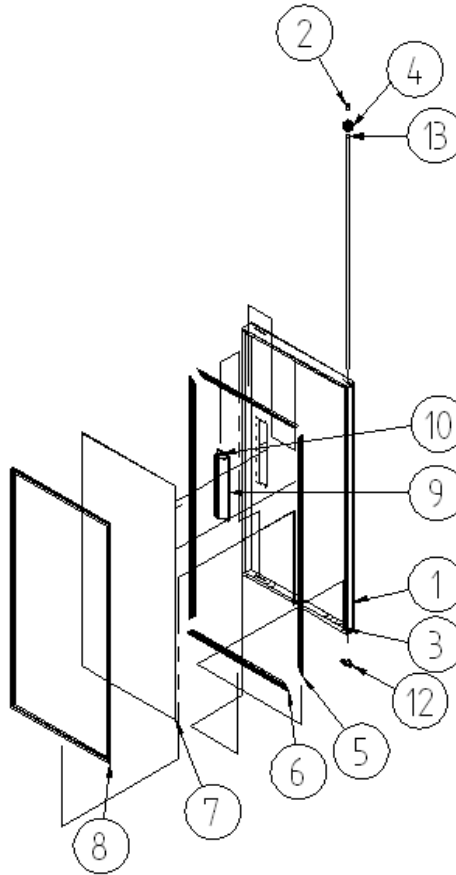
2-4. DOOR ASSY (UM-24, UM-24F)



NO.	CODE-No	Title	Subject	Q'TY
1	R3112-591	PLATE DOOR	STS430-#4. T0.6*806*1532	1
2	R3864-030	DOOR HINGE BUSHING	CU	1
3	R3883-051	DOOR HINGE BLOCK UP	NY-66 (R620)	1
4	R3883-041	DOOR HINGE BLOCK LOW	NY-66 (R620)	1
5	R4133-216	DOOR SASH-L	ABS312K-NP(VO). L=1367	2
6	R4133-226	DOOR SASH	ABS(RS-650). L=657	2
7	R3143-380	DOOR PANEL	STS443CT-2B. T0.5*587*1324	1
8	R2114-030	DOOR HINGE SPRING GUIDE	PVC. T2.0. L=1308	1
9	R3514-010	DOOR HINGE SPRING	PWR67A. ϕ 3*1373	1
10	R4122-272	HANDLE BODY	ABS. BLK. EG-0763S. UL	1
11	R4122-263	HANDLE GUARD	ABS. BLK. EG-0763S. UL	1
12	R4123-240	COVER HANDLE	ABS. NATURAL	1
13	R3393-520	LOW BUSHING RH	34*66	1
14	R3903-570	DOOR GASKET ASSY 49	RD-PVC. BLK	1

2. PARTS

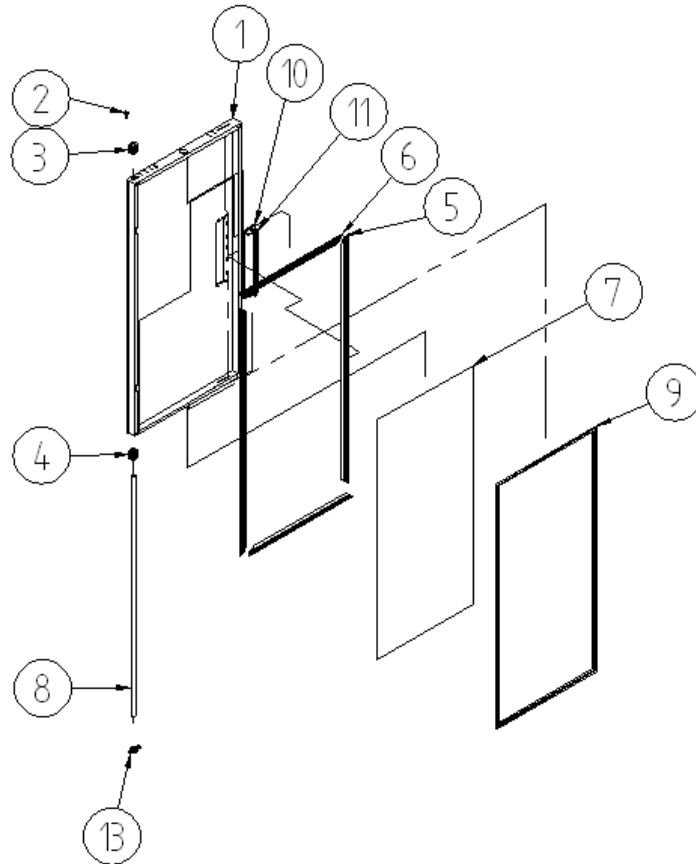
2-4. DOOR ASSY RH (UM-48, UM-48F)



NO.	CODE-No	Title	Subject	Q'TY
1	R3112-581	PLATE DOOR	STS430-#4. T0.6*814*1532	1
2	R3864-030	DOOR HINGE BUSHING	CU	1
3	R3883-051	DOOR HINGE BLOCK UPP	NY-66 (R620)	1
4	R3883-041	DOOR HINGE BLOCK LOW	NY-66 (R620)	1
5	R4133-216	DOOR SASH-L	ABS312K-NP(VO). L=1367	2
6	R4133-226	DOOR SASH	ABS(RS-650). L=657	2
7	R3143-380	DOOR PANEL	STS443CT-2B. T0.5*587*1324	1
8	R3903-570	DOOR GASKET ASSY 49	RD-PVC. BLK	1
9	R4122-272	HANDLE BODY	ABS. BLK. EG-0763S. UL	1
10	R4122-263	HANDLE GUARD	ABS. BLK. EG-0763S. UL	1
11	R4123-240	COVER HANDLE	ABS. NATURAL	1
12	R3393-520	LOW BUSHING RH	34*66	1
13	R2114-030	DOOR HINGE SPRING GUIDE	PVC. T2.0. L=1308	1

2. PARTS

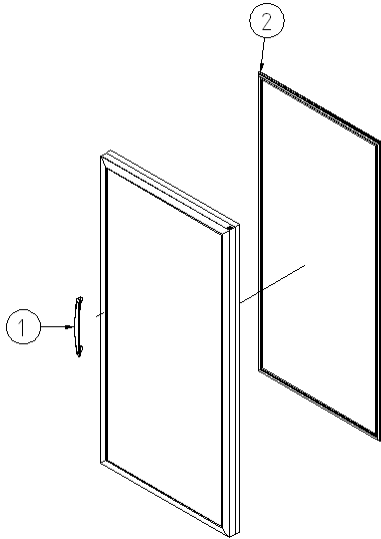
2-4. DOOR ASSY LF (UM-48, UM-48F)



NO.	CODE-No	Title	Subject	Q'TY
1	R3112-581	PLATE DOOR	STS430-#4. T0.6*814*1532	1
2	R3864-030	DOOR HINGE BUSHING	CU	1
3	R3883-051	DOOR HINGE BLOCK UPP	NY-66 (R620)	1
4	R3883-041	DOOR HINGE BLOCK LOW	NY-66 (R620)	1
5	R4133-216	DOOR SASH-L	ABS312K-NP(VO). L=1367	2
6	R4133-226	DOOR SASH	ABS(RS-650). L=657	3
7	R3143-380	DOOR PANEL	STS443CT-2B. T0.5*587*1324	1
8	R2114-030	DOOR HINGE SPRING GUIDE	PVC. T2.0. L=1308	1
9	R3903-570	DOOR GASKET ASSY 49	RD-PVC. BLK	1
10	R4122-272	HANDLE BODY	ABS. BLK. EG-0763S. UL	1
11	R4122-263	HANDLE GUARD	ABS. BLK. EG-0763S. UL	1
12	R4123-240	COVER HANDLE	ABS. NATURAL	1
13	R3393-540	LOW BUSHING LF	36*66	1

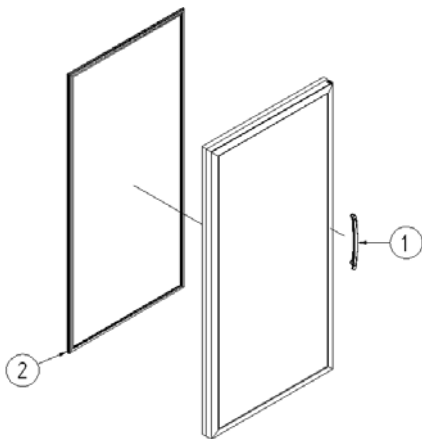
2. PARTS

2-4. DOOR ASSY



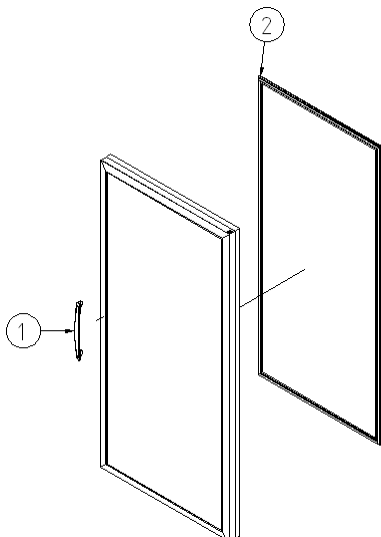
MODEL (UM-24G)

NO.	CODE-No	Title	Subject	Q'TY
1	R3393-330	GLASS DOOR HANDLE	NICKEL	1
2	R3903-552	DOOR GASKET ASSY (GLASS)	RD-PVC. BLK	1



MODEL (UM-48G RH)

NO.	CODE-No	Title	Subject	Q'TY
1	R3393-330	GLASS DOOR HANDLE	NICKEL	1
2	R3903-552	DOOR GASKET ASSY (GLASS)	RD-PVC. BLK	1

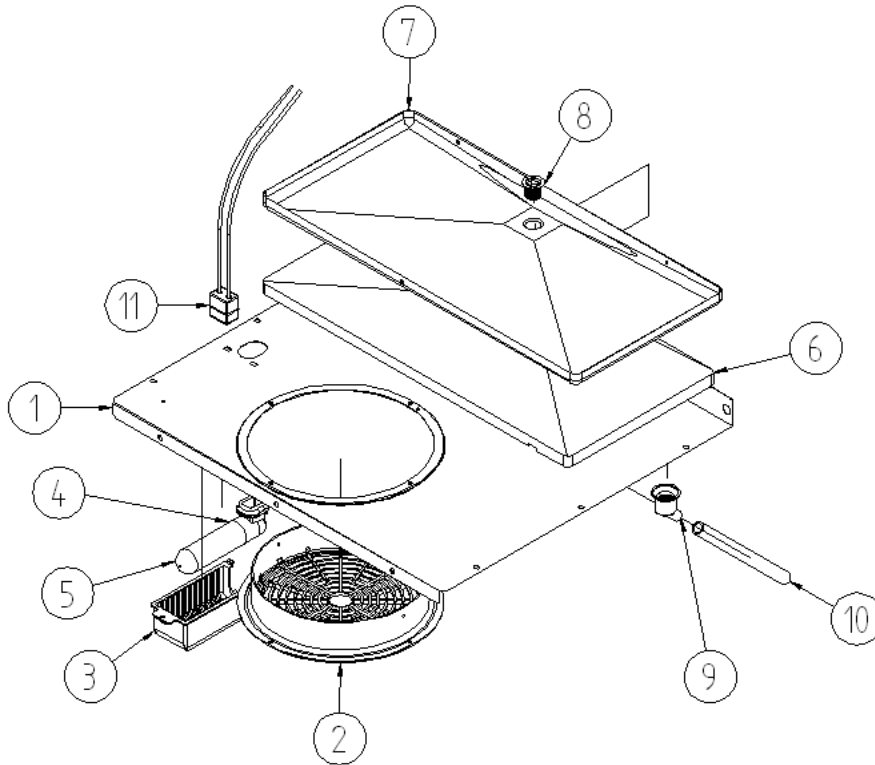


MODEL (UM-48G LH)

NO.	CODE-No	Title	Subject	Q'TY
1	R3393-330	GLASS DOOR HANDLE	NICKEL	1
2	R3903-552	DOOR GASKET ASSY (GLASS)	RD-PVC. BLK	1

2. PARTS

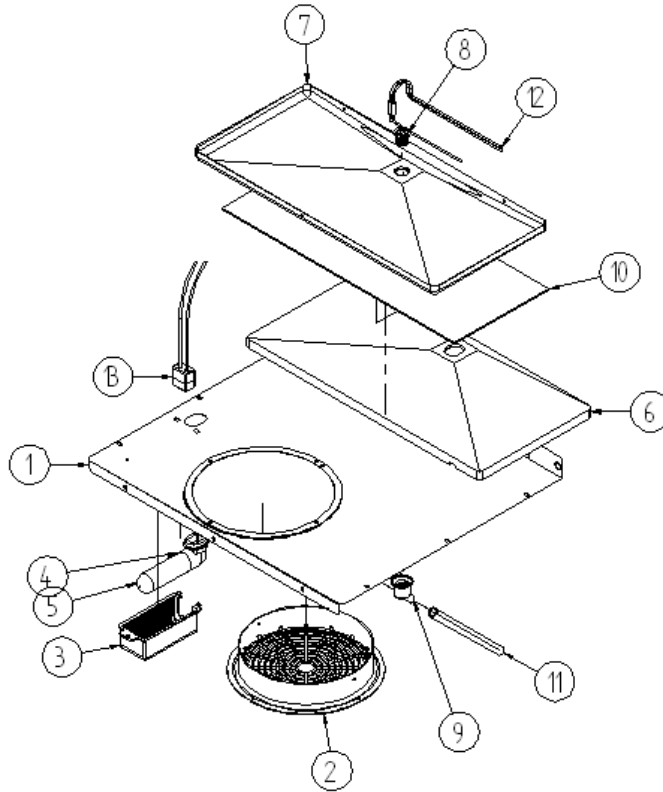
2-5. EVAPORATOR HOUSING ASSY **MODEL (UM-24)**



NO.	CODE-No	Title	Subject	Q'TY
1	R3812-512	EVAPORATOR HOUSING	STS443CT. T0.8*652*1082	1
2	R3812-141	EVAPORATOR FAN MOTMOR GUARD	HIPS (VH-1800EX). UL	1
3	R3813-990	LAMP COVER	MIPS(HR-3370). WHT	1
4	R7393-020	LAMP SOCKET	250V 660W	1
5	R7394-010	LAMP BULB	25T10. 120V 25W	1
6	R1143-212	INSUL DRAIN 49	EPS. 17*800*256	1
7	R3743-051	EVAPORATOR DRAIN PAN SMALL	AL. T0.8	1
8	R3744-100	EVAPORATOR DRAIN ELBOW UPP	PP. WHT	1
9	R3744-090	EVAPORATOR DRAIN ELBOW LOW	PP. WHT	1
10	R2124-021	EVAPORATOR DRAIN HOSE A	SILICON. CLEAR. 16*12. L=213	1
11	R7403-110	HARNES LAMP, L	UL	1

2. PARTS

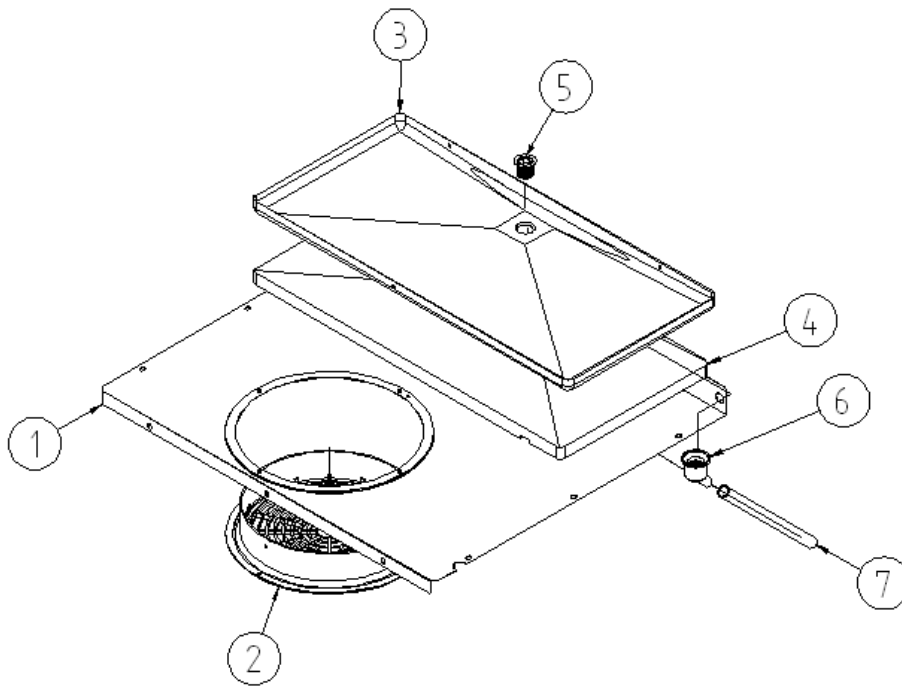
2-5. EVAPORATOR HOUSING ASSY **MODEL (UM-24F)**



NO.	CODE-No	Title	Subject	Q'TY
1	R3812-512	EVAPORATOR HOUSING	STS443CT. T0.8*652*1082	1
2	R3812-141	EVAPORATOR FAN MOTMOR GUARD	HIPS (VH-1800EX). UL	1
3	R3813-990	LAMP COVER	MIPS(HR-3370). WHT	1
4	R7393-020	LAMP SOCKET	250V 660W	1
5	R7394-010	LAMP BULB	25T10. 120V 25W	1
6	R1143-212	INSUL DRAIN 49	EPS. 17*800*256	1
7	R3743-051	EVAPORATOR DRAIN PAN SMALL	AL. T0.8	1
8	R3744-100	EVAPORATOR DRAIN ELBOW UPP	PP. WHT	1
9	R3744-090	EVAPORATOR DRAIN ELBOW LOW	PP. WHT	1
10	R7303-174	HEATER DRAIN PAN	115V 90W. UL	1
11	R2124-021	EVAPORATOR DRAIN HOSE A	SILICON. CLEAR. 16*12.L=213	1
12	R8393-030	HEATER CORD DRAIN HOSE ASSY	UL	1
13	R7403-110	HARNES LAMP, L	UL	1

2. PARTS

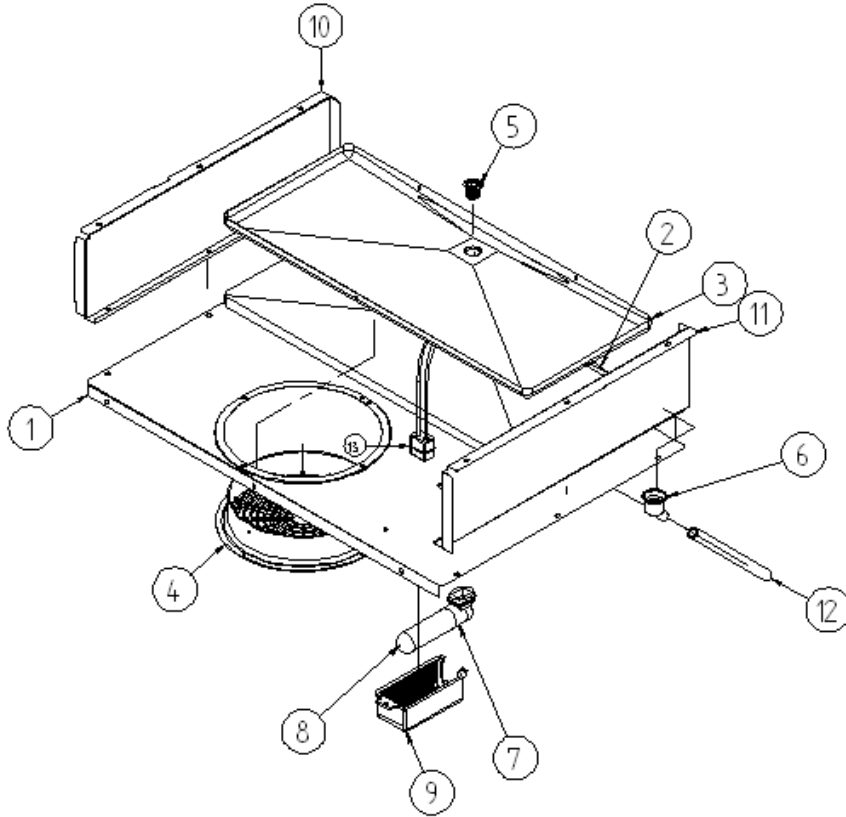
2-5. EVAPORATOR HOUSING ASSY **MODEL (UM-24G)**



NO.	CODE-No	Title	Subject	Q'TY
1	R3812-890	EVAP COVER	STS443CT. T0.8*652*1082	1
2	R3812-141	EVAPORATOR FAN MOTMOR GUARD	HIPS (VH-1800EX). UL	1
3	R3743-051	EVAPORATOR DRAIN PAN SMALL	AL. T0.8	1
4	R1143-212	INSUL DRAIN 49	EPS. 17*800*256	1
5	R3744-100	EVAPORATOR DRAIN ELBOW UPP	PP. WHT	1
6	R3744-090	EVAPORATOR DRAIN ELBOW LOW	PP. WHT	1
7	R2124-021	EVAPORATOR DRAIN HOSE A	SILICON. CLEAR. 16*12.L=213	1

2. PARTS

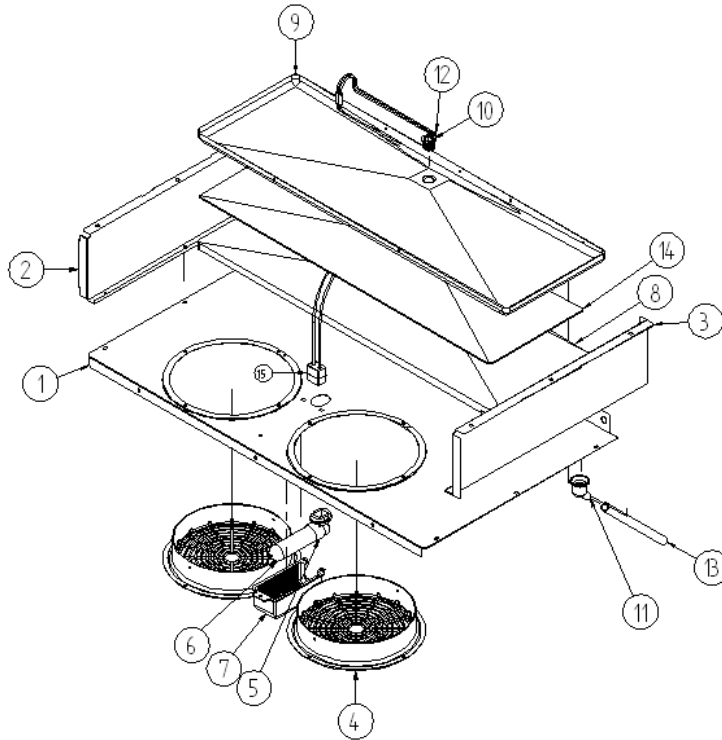
2-5. EVAPORATOR HOUSING ASSY **MODEL (UM-48)**



NO.	CODE-No	Title	Subject	Q'TY
1	R3812-890	EVAP COVER	STS443CT. T0.8*652*1082	1
2	R1143-222	INSUL DRAIN R49	EPS. 17*622*256	1
3	R3743-041	EVAPORATOR DRAIN PAN MID	AL. T0.8	1
4	R3812-141	EVAPORATOR FAN MOTMOR GUARD	HIPS (VH-1800EX). UL	1
5	R3744-100	EVAPORATOR DRAIN ELBOW UPP	PP. WHT	1
6	R3744-090	EVAPORATOR DRAIN ELBOW LOW	PP. WHT	1
7	R7393-020	LAMP SOCKET	250V 660W	1
8	R7394-010	LAMP BULB	25T10. 120V 25W	1
9	R3813-990	LAMP COVER	MIPS(HR-3370). WHT	1
10	R3853-680	EVAP HOUSING SIDE LF	STS430-2B. T0.5*180.5*537	1
11	R3853-690	EVAP HOUSING SIDE RH	STS430-2B. T0.5*180.5*538	1
12	R2124-021	EVAPORATOR DRAIN HOSE A	SILICON. CLEAR. 16*12.L=213	1
13	R7403-110	HARNES LAMP, L	UL	1

2. PARTS

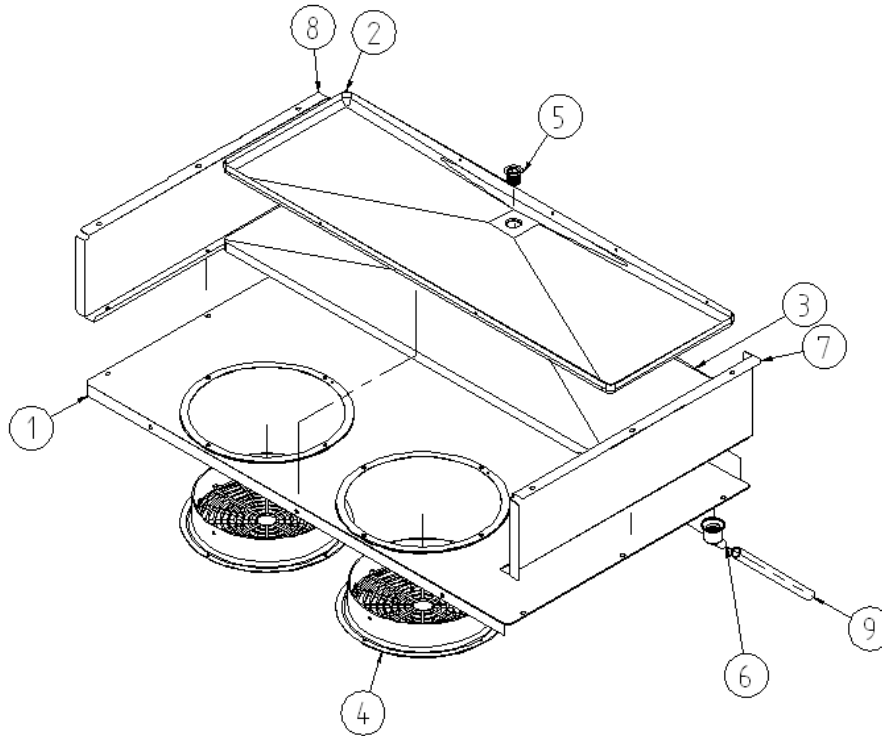
2-5. EVAPORATOR HOUSING ASSY **MODEL (UM-48F)**



NO.	CODE-No	Title	Subject	Q'TY
1	R3813-320	EVAP COVER	STS443CT. T0.5*868*558	1
2	R3853-680	EVAP HOUSING SIDE LF	STS430-2B. T0.5*180.5*537	1
3	R3853-690	EVAP HOUSING SIDE RH	STS430-2B. T0.5*180.5*538	1
4	R3812-141	EVAPORATOR FAN MOTMOR GUARD	HIPS (VH-1800EX). UL	1
5	R7393-020	LAMP SOCKET	250V 660W	1
6	R7394-010	LAMP BULB	25T10. 120V 25W	1
7	R3813-990	LAMP COVER	MIPS(HR-3370). WHT	1
8	R1143-212	INSUL DRAIN 49	EPS. 17*800*256	1
9	R3743-031	EVAPORATOR DRAIN PAN-LARGE F49	AL. T0.8	1
10	R3744-100	EVAPORATOR DRAIN ELBOW UPP	PP. WHT	1
11	R3744-090	EVAPORATOR DRAIN ELBOW LOW	PP. WHT	1
12	R8393-030	HEATER CORD DRAIN HOSE ASSY	UL	1
13	R2124-021	EVAPORATOR DRAIN HOSE A	SILICON. CLEAR. 16*12.L=213	1
14	R1143-212	INSUL DRAIN 49	EPS. 17*800*256	1
15	R7403-110	HARNES LAMP, L	UL	1

2. PARTS

2-5. EVAPORATOR HOUSING ASSY **MODEL (UM-48G)**

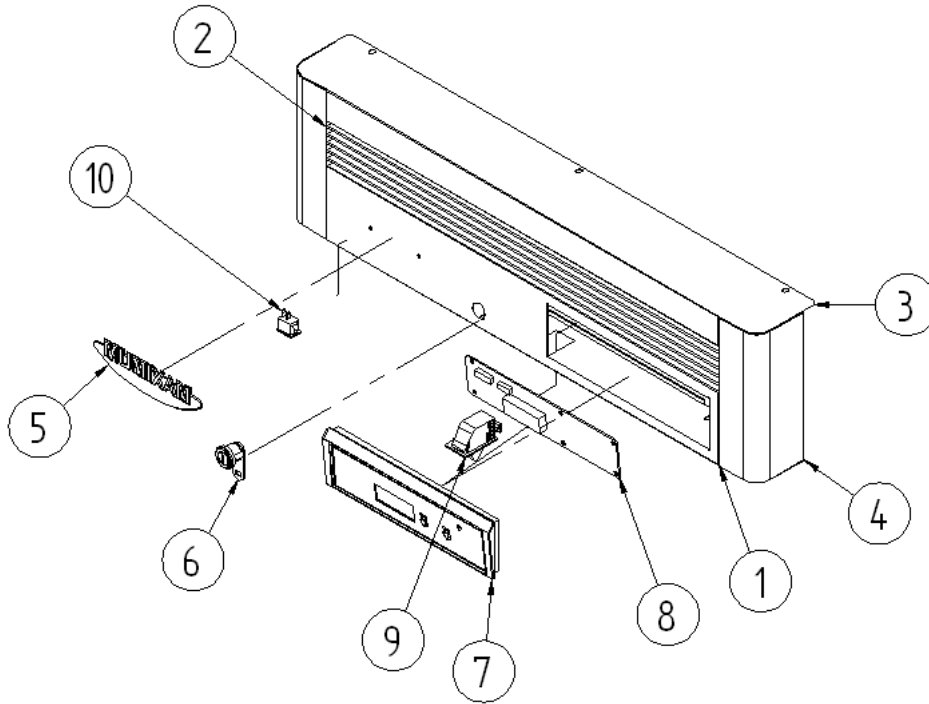


NO.	CODE-No	Title	Subject	Q'TY
1	R3812-890	EVAP COVER	STS443CT. T0.8*652*1082	1
2	R3743-031	EVAPORATOR DRAIN PAN LARGE F49	AL. T0.8	1
3	R1143-212	INSUL DRAIN 49	EPS. 17*800*256	1
4	R3812-141	EVAPORATOR FAN MOTMOR GUARD	HIPS (VH-1800EX). UL	1
5	R3744-100	EVAPORATOR DRAIN ELBOW UPP	PP. WHT	1
6	R3744-090	EVAPORATOR DRAIN ELBOW LOW	PP. WHT	1
7	R3853-690	EVAP HOUSING SIDE RH	STS430-2B. T0.5*180.5*538	1
8	R3853-680	EVAP HOUSING SIDE LF	STS430-2B. T0.5*180.5*537	1
9	R2124-021	EVAPORATOR DRIAN HOSE A	SIICON. CLEAR.16*12.L=213	1

2. PARTS

2-6. TOP FRAME ASSY

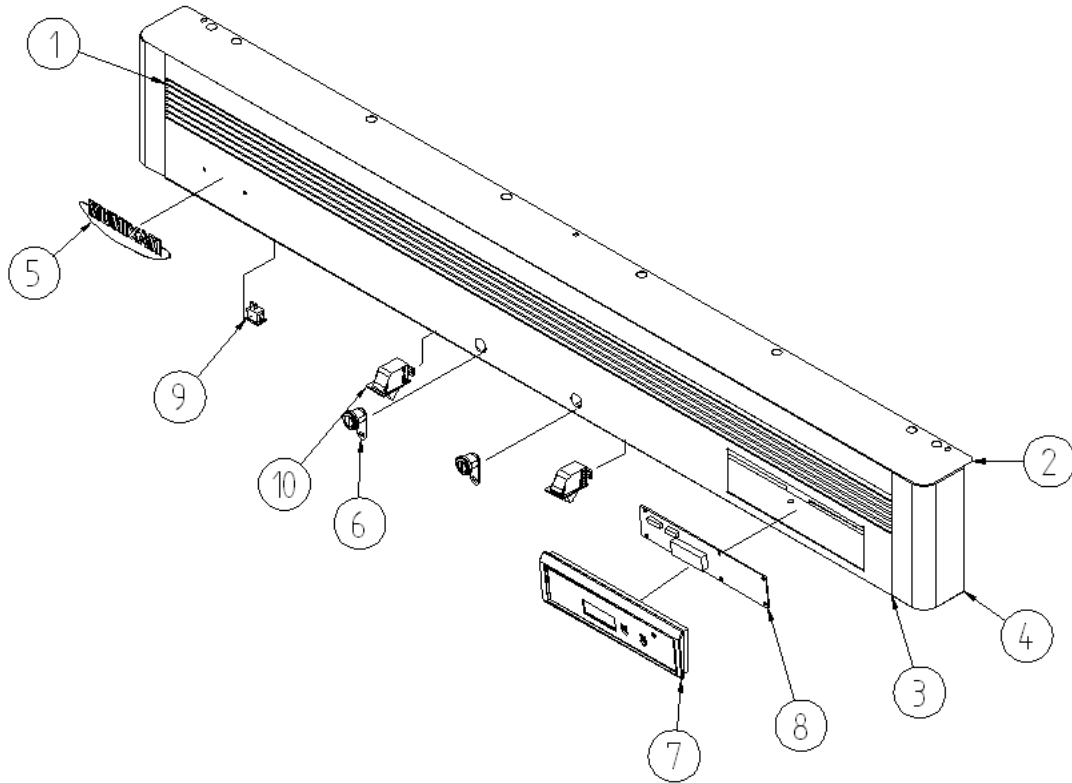
MODEL (UM-24, UM-24F, UM-24G)



NO.	CODE-No	Title	Subject	Q'TY
1	R3153-201	TOP FRAME LOW	STS430-#4. T0.6*197*681	1
2	R3153-150	TOP FRAME MID PIECE-S	ABS. BLK. L=571	1
3	R3153-113	TOP FRAME UPP	STS430-#4. T0.6*679*159.3	1
4	R3153-360	TOP GRILL SIDE	STS430-#4. T0.6*219.7*139	2
5	C5133-021	MASCOT	AL. L=121	1
6	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	1
7	R4142-122	CONTROL BOARD (DIGITAL DISPLAY)	ABS. BLK. T2*242*72	1
8	R7113-210	DISPLAY PCB (°F)	88 SEGMENT. °F	1
9	R7203-020	DOOR SWITCH	WHT. SP201R-9D	1
10	R7204-070	POWER SWITCH	SL112A. 125V 15A	1

2. PARTS

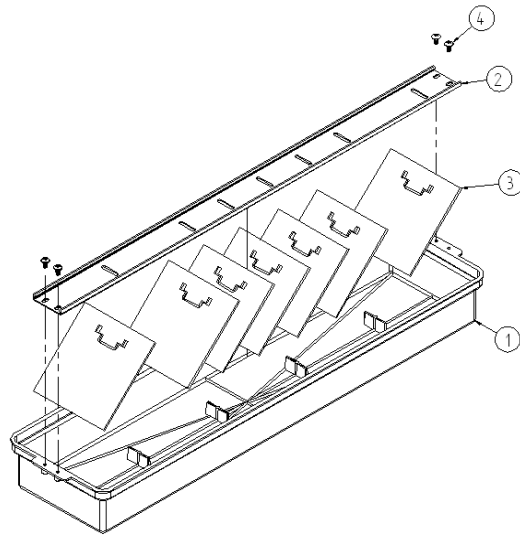
2-6. TOP FRAME ASSY **MODEL (UM-48, UM-48F, UM-48G)**



NO.	CODE-No	Title	Subject	Q'TY
1	R3153-140	TOP FRAME MID PIECE, L	ABS, BLK, L=1260	1
2	R3152-123	TOP FRAME UPP 49	STS430-#4. T0.6*1368*159.3	1
3	R3152-211	TOP FRAME LOW	STS430-#4. T0.6*197*1368	1
4	R3153-360	TOP GRILL SIDE	STS430-#4. T0.6*219.7*139	2
5	C5133-021	MASCOT	AL. L=121	1
6	R3734-030	DOOR LOCKING ASSY	ZDC. ZCR	1
7	R4142-122	CONTROL BOARD (DIGITAL DISPLAY)	ABS. BLK. T2*242*72	1
8	R7113-210	DISPLAY PCB (°F)	88 SEGMENT. °F	1
9	R7204-070	POWER SWITCH	SL112A. 125V 15A	1
10	R7203-020	DOOR SWITCH	WHT. SP201R-9D	1

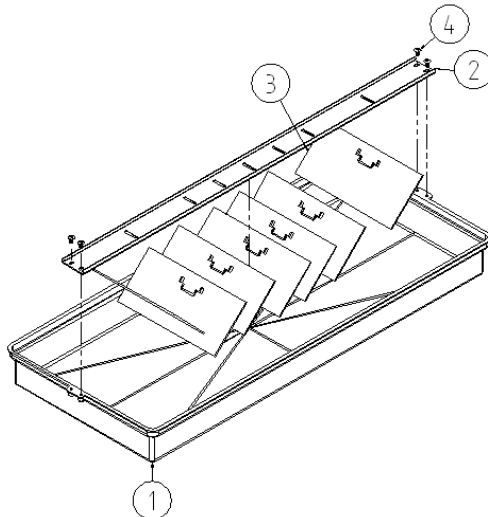
2. PARTS

2-7. EVAPORATOR DRAIN WATER-S ASSY



MODEL (UM-24, UM-24F, UM-24G)

NO.	CODE-No	Title	Subject	Q'TY
1	R3743-060	TRAY-DRAIN WATER S	ABS, BLK	1
2	R3853-230	EVAPORATOR WICKING GUIDE	P.P. WHT. T2.0*569*40	1
3	R1154-010	DRAIN WICKING P/K	P.P. T2.5*99*103	7
4	C3009-100	SCREW THT2 4*6Y	THT2 46Y	4



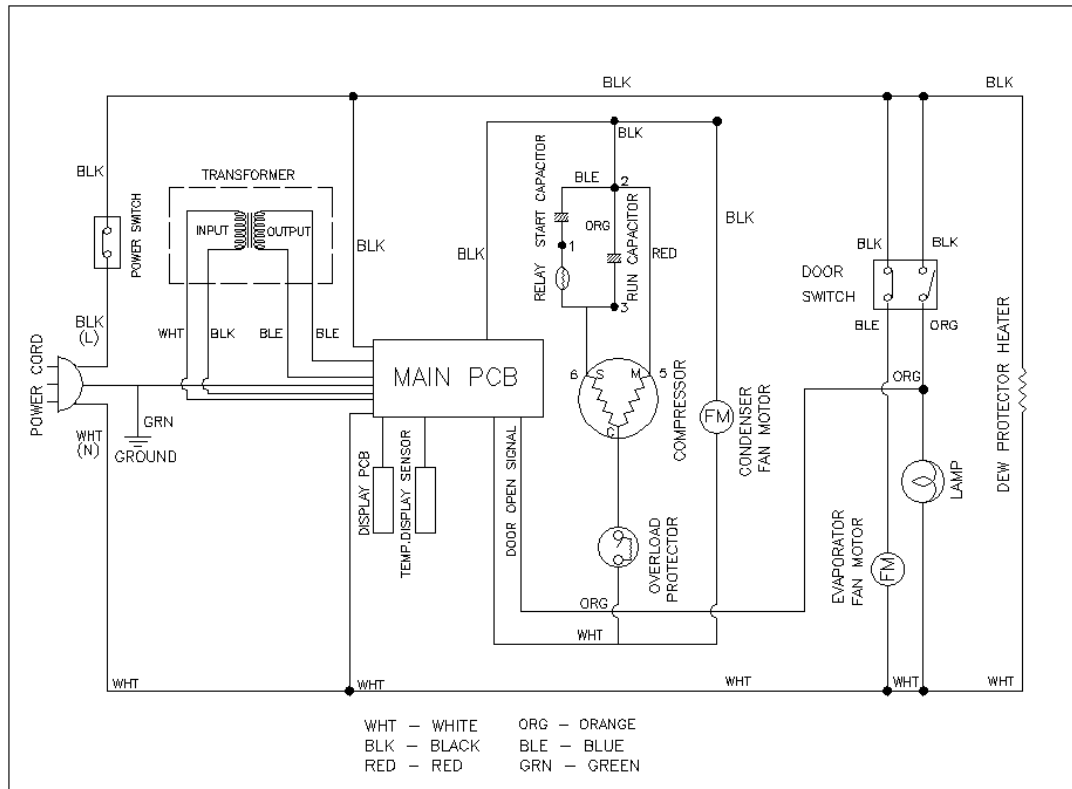
MODEL (UM-48, UM-48F, UM-48G)

NO.	CODE-No	Title	Subject	Q'TY
1	R3743-070	TRAY-DRAIN WATER L	ABS, BLK	1
2	R3853-240	EVAPORATOR WICKING GUIDE	P.P. WHT. T2.0*657*40	1
3	R1154-020	PAPER-KIT	P.P. T2.5*180*83	7
4	C3009-100	SCREW THT2 4*6Y	THT2 46Y	4

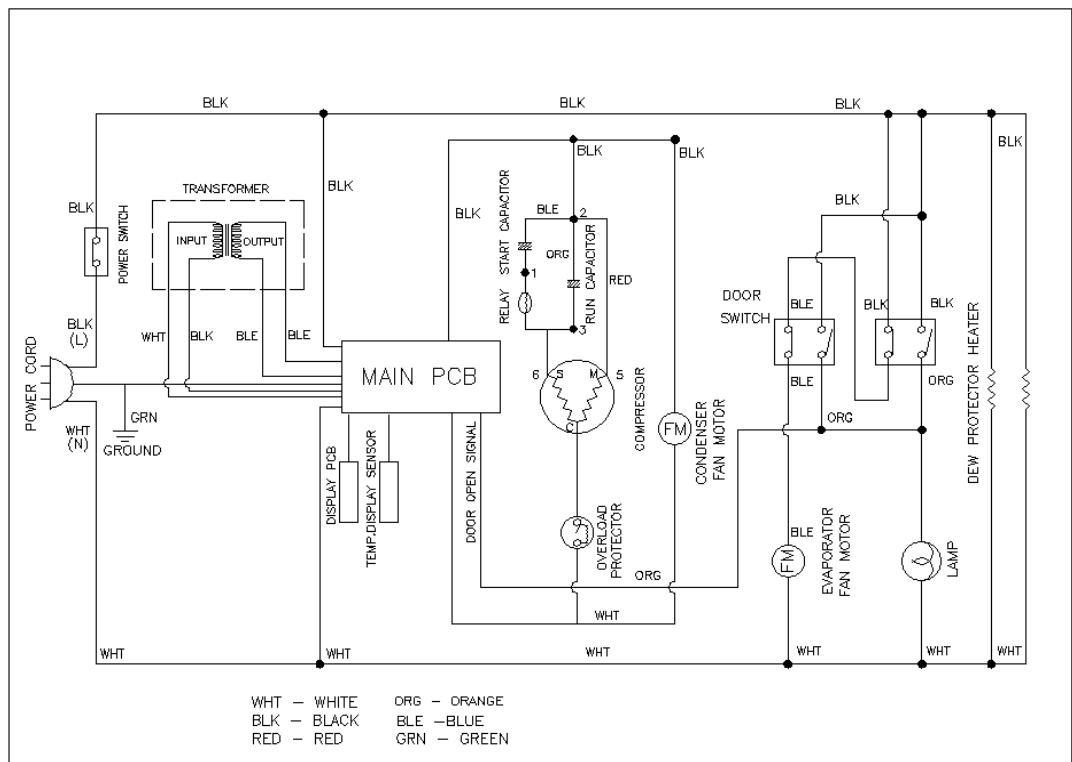
3. WIRING DIAGRAM

3-1. REFRIGERATOR

◇ UM-24



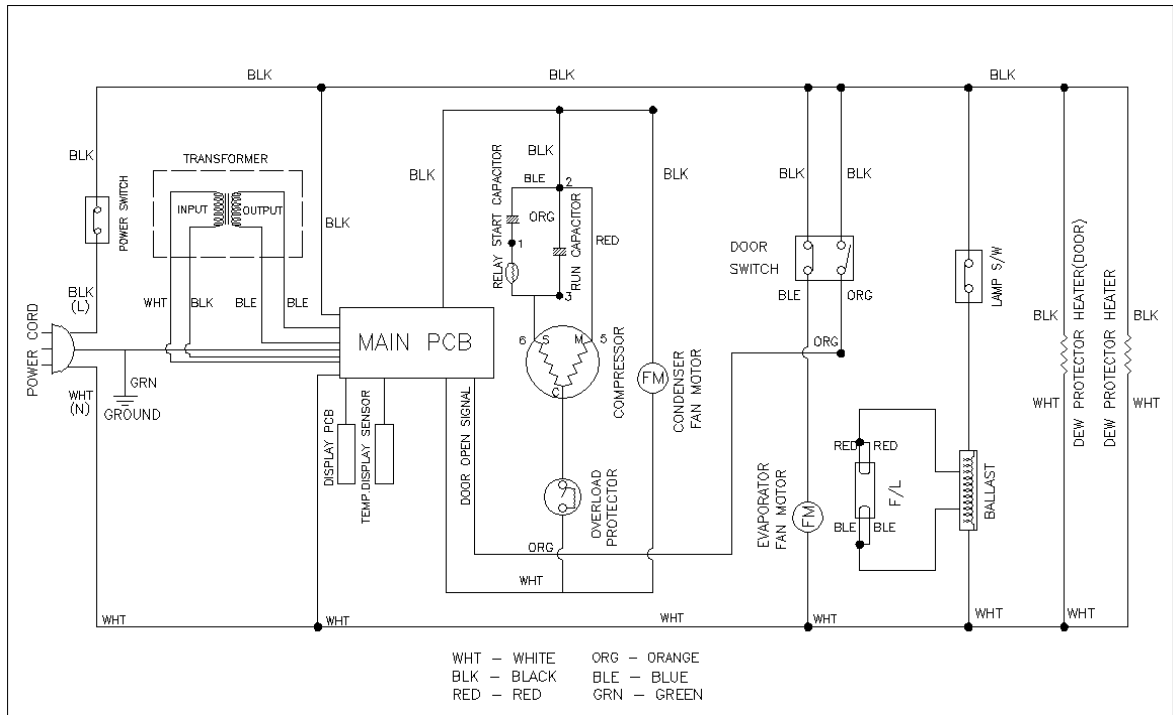
◇ UM-48



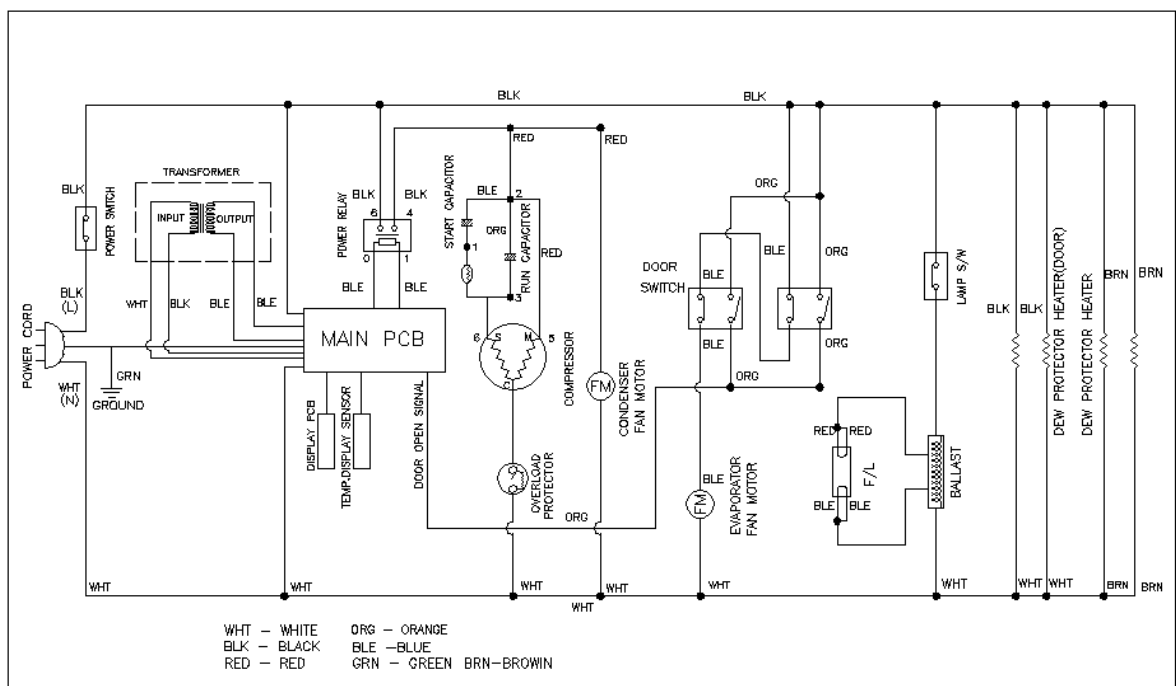
3. WIRING DIAGRAM

3-1. REFRIGERATOR

◇ UM-24G



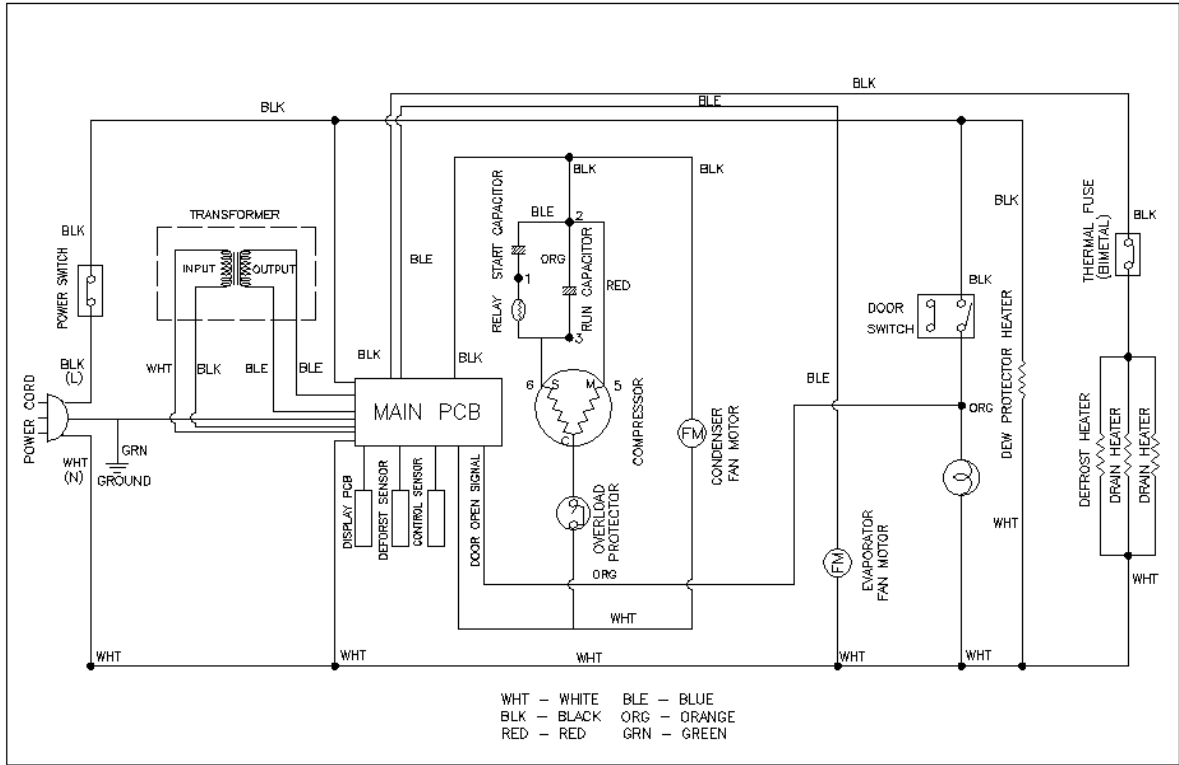
◇ UM-48G



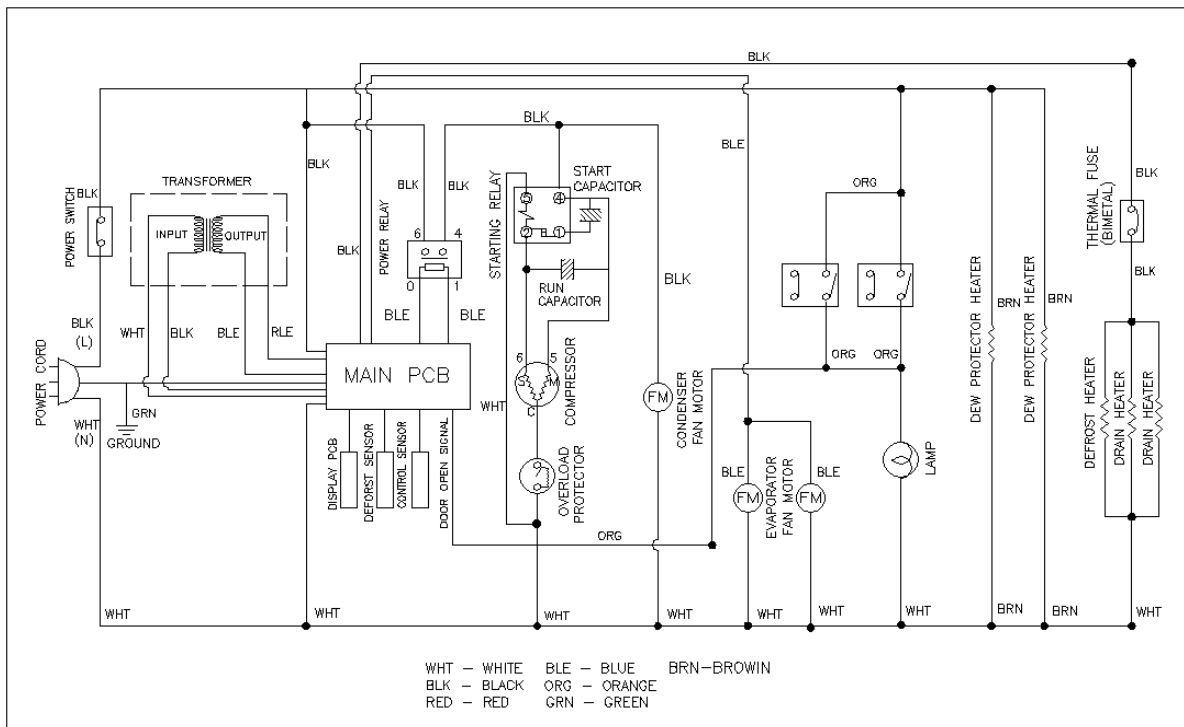
3. WIRING DIAGRAM

3-2. FREEZER

◇ UM-24F

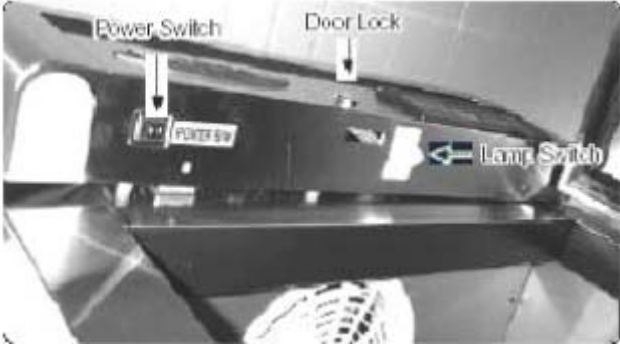


◇ UM-48F

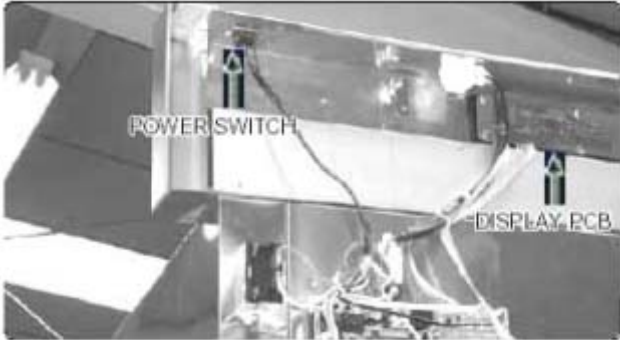


4. PART DETAILS

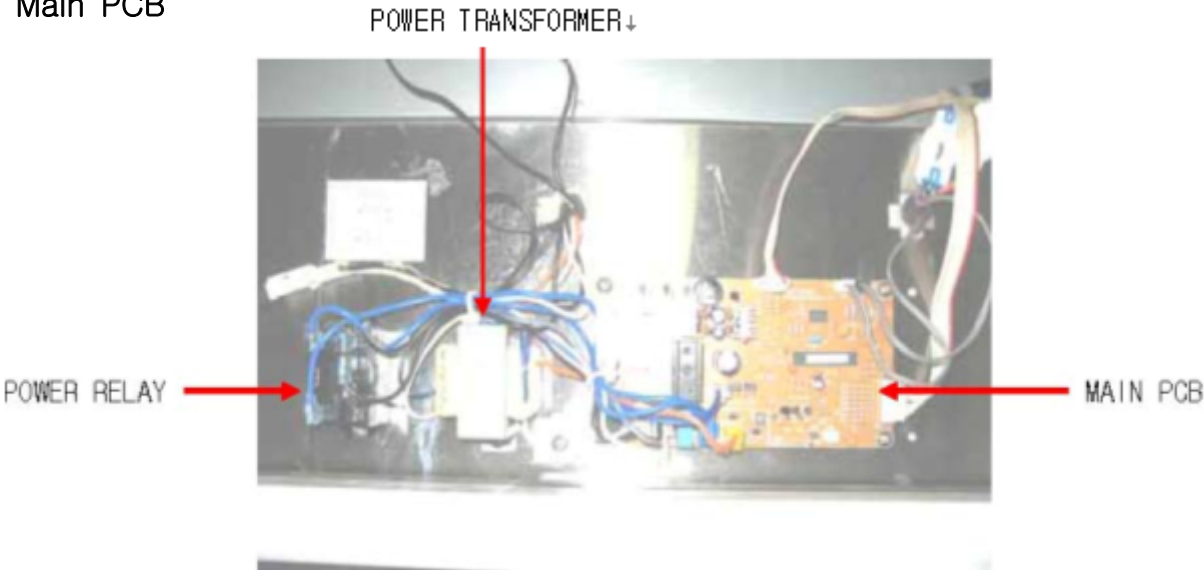
4-1. TOP PANEL



◇ Display PCB



◇ Main PCB



4. PART DETAILS

4-2. COMPRESSOR COMPARTMENT

◇ Condensing Unit



MODEL (UM-48)



MODEL (UM-48F)

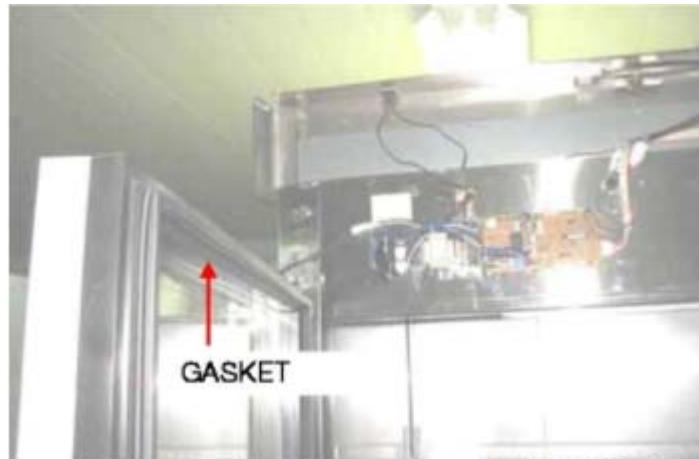


MODEL (UM-24, UM-24F)

4. PART DETAILS

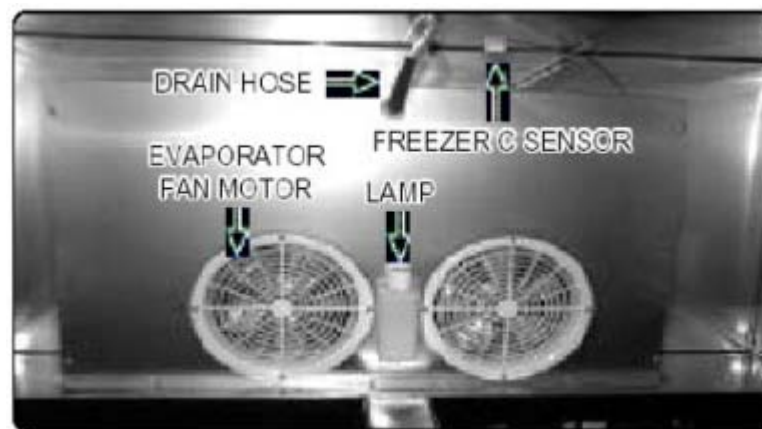
4-3. DOOR

- ◇ Door Gasket

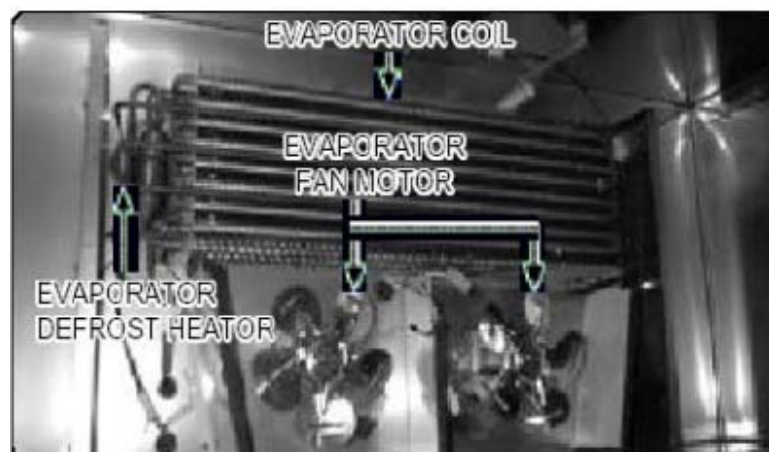


4-4. COOLING COMPARTMENT

- ◇ Evaporator Housing (Duct) (SKBF2)

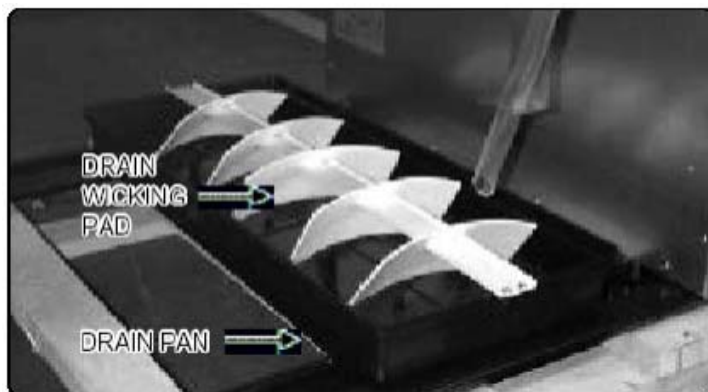


- ◇ Refrigerator Evaporator (SKBF2)



4. PART DETAILS

◇ Condensate Drain Pan



◇ Condenser Fan Motor Assembly

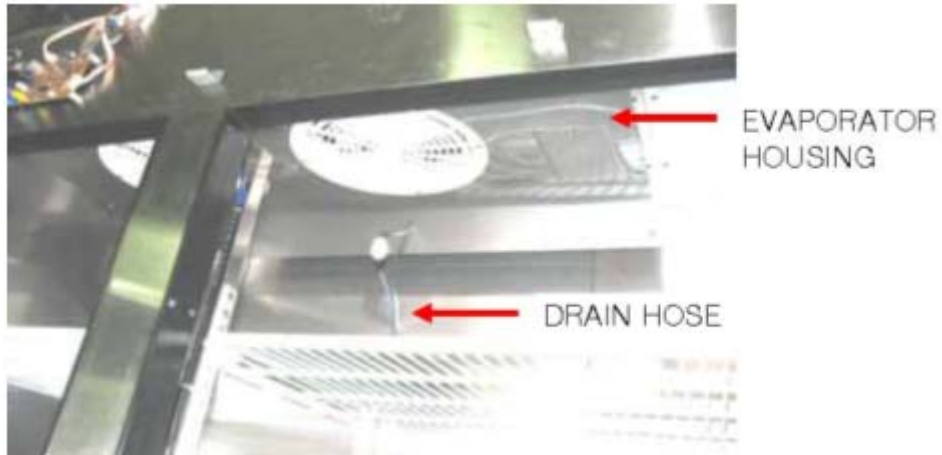


◇ Compressor Capacitor (Running & Starting Capacitor)



4. PART DETAILS

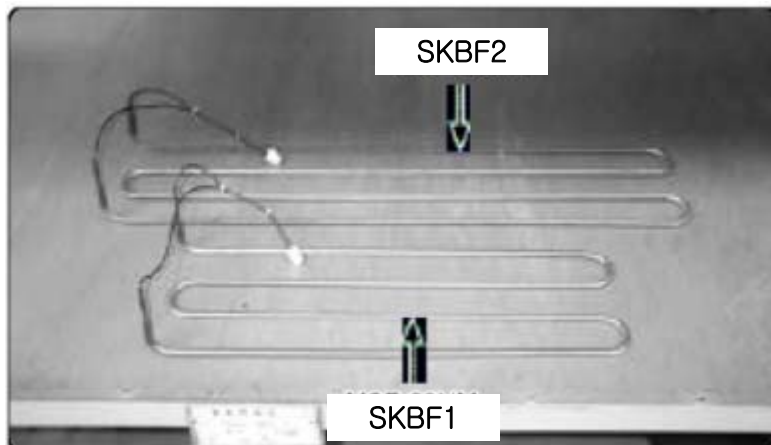
- ◇ Evaporator Housing (Duct) (SKBR1, SKBF1 Type)



- ◇ Coil Evaporator (SKBF2)



- ◇ Evaporator Defrost Heater (SKBF1, SKBF2)





5. MAIN COMPONENTS





5-1.COMPRESSOR

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Refrigerant	R-134a		R-404a		R-134a	
Voltage	115V/60Hz					
Comp. Model	HBL27YE-1	SK1A1C-L2W		CAJ2432Z(A)	SK1A1C-L2W	CAJ4476Y(A)
Part code (DY)	R7439-420	R7439-110		R7439-340	R7439-110	R7439-360
Starting type	RSCR	CSR		CSR	CSR	CSR
Image						




5-2.POWER-RELAY(COMP. RELAY)

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Voltage	-		115V/60Hz		-	
Relay Model	-		G7L-1A-TUB		-	
Part code (DY)	-		R7253-060		-	
Image						





5-3. STARTING CAPACITOR

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	200VAC 100 μ F	125VAC 125 μ F	125VAC 125 μ F	-	125VAC 125 μ F	-
Part code (DY)	R7549-160	R7543-100	R7543-100	-	R7543-100	-
Image						


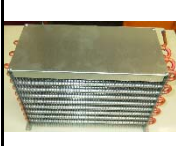


5-4. RUNNING CAPACITOR

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	230VAC 10 μ F	250VAC 12 μ F	250VAC 12 μ F	-	250VAC 12 μ F	-
Part code	(DY) R7549-170	R7543-030	R7543-030	-	R7543-030	-
Image						

5-5.CONDENSER DRYER

MODEL	UM-24	UM-48	UM-24F	UM-48	UM-24G	UM-48G
Refrigerant	R-134a			R-404a	R-134a	
Spec	36GR			-	36GR	
Part code	(DY) R2183-032			R2183-110	R2183-032	R2183-110
Image						


5-6.CONDENSER COIL

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	4.76*13190			CU.OD9.52	4.76*13190	CU.OD9.52
Part code	(DY) R2202-031			R2272-013	R2202-031	R2273-021
Image						

5-7. CONDENSER FAN BLADE

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	AL. ϕ 225. 9" CCW					
Part code	(DY) R3723-070					
Image						


5-8. CONDENSER FAN MOTOR

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Voltage	115V/60Hz					
Motor Model	DAI-8204DYCA					
Part code	(DY)	R7423-310				
Image						



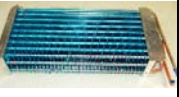
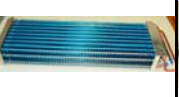
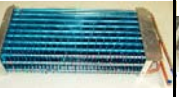
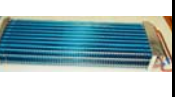
5-9. CONDENSER FAN MOTOR BRACKET

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	SBHGI. T2.0*164					
Part code	(DY)	R3313-260				
Image						


5-10. EVAPORATOR FAN MOTOR

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Voltage	115V/60Hz					
Motor Model	DAI-8204DYCA-1					
Part code	(DY)	R7423-300				
Image						

5-11. EVAPORATOR COIL

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
		CU+AL	CU+AL	CU+AL	CU+AL	CU+AL	CU+AL
Part code	(DY)	R8613-354	R8613-343	R2263-038	R2263-047	R2263-038	R2263-047
Image							


5-12. EVAPORATOR DEFROST HEATER

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G	
		Voltage					115V/60Hz	
Spec		-		445W	600W	-		
Part code	(DY)	-		R7303-402	R7303-412	-		
Image								

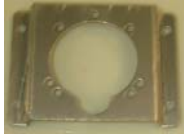
5-13. FAN BLADE

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		8". C.C.W					
Part code	(DY)	R3729-010					
Image							


5-14. EVAPORATOR FAN GUARD

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	HIPS (VH-1800EX)					
Part code (DY)	R3812-141					
Image						


5-15. EVAPORATOR FAN MOTOR BRACKET

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	STS-304. T1.0*120*90					
Part code (DY)	R3204-360					
Image						



5-16. LAMP BULB

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Voltage	115V/60Hz					
Spec	25W				FLUORESCENT 32W/8 65RS	
Part code (DY)	R7394-010				R7393-150	
Image						


5-17. GUARD SOCKET

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	-	-	-	-	ABS. UL-94-V0	
Part code	(DY)	-	-	-	-	R3814-550
Image						




5-18. LAMP GUARD

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	-	-	-	-	PC 0.5T	PC 0.5T
Part code	(DY)	-	-	-	R3894-030	R3894-030
Image	-	-	-	-		


5-19. BALLAST

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G	
Voltage	-				120V/60Hz		
Spec	-				B132I120RH-A/32W		
Part code	(DY)					R7553-050	
Image							

5-20. MAIN PCB

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Voltage	115V/60Hz					
Part code (DY)	R7113-500		R7393-150		R7113-500	
Image						







5-21. DISPLAY PCB

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	88 SEGMENT. °F					
Part code (DY)	R7113-210					
Image						


5-22. INLAY CONTROL

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	PC-SHEET		PC-SHEET		PC-SHEET	
Part code (DY)	R4113-371					
Image						


5-23. HARNESS RELAY

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	UL AWG 18					
Part code (DY)	R7523-050	R7483-030	R7483-020	R7483-012	R7483-060	R7483-051
Image						


5-24. POWER CORD

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	BLK, SJT. L=3000mm.115V 15A					
Part code (DY)	R7363-180					
Image						


5-25. EVAPORATOR THERMAL FUSE (BIMETAL)

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	-	-			-	-
Part code (DY)	-	-	R7253-051	R7253-051	-	-
Image						



5-26. TEMP-THERMISTOR, FRE

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	-	-	YELLOW		-	-
Part code (DY)	-	-	R7213-082		-	-
Image						







5-27. DEFROST SENSOR (D-SENSOR)

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	-	-	BLACK. L=180mm		-	-
Part code (DY)	-	-	R7213-210		-	-
Image						

5-28. TEMP-DISPLAY SENSOR, FRE

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	WHITE	WHITE			WHITE	WHITE
Part code (DY)	R7213-112	R7213-112			R7213-112	R7213-112
Image						

5-29. HARNESS SWITCH

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	UL AWG 18	UL AWG 18	UL AWG 18	UL AWG 18	UL AWG 18	UL AWG 18
Part code (DY)	R7403-091	R7483-130	R7483-140	R7483-130	R7403-091	R7403-080
Image						

5-30. EVAPORATOR DRAIN WATER

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	ABS. BLK.	-	ABS. BLK.	-	ABS. BLK.	-
Part code	(DY) R3743-060	-	R3743-060	-	R3743-060	-
Image						

5-31. DRAIN PAN

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	-	ABS. BLK	-	ABS. BLK	-	ABS. BLK
Part code	(DY) -	R3742-070	-	R3742-070	-	R3742-070
Image						



5-32. DRAIN WICKING BAR

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	PP.WHT T2.0*40*569	PP.WHT T2.0*40*657	PP.WHT T2.0*40*569	PP.WHT T2.0*40*657	PP.WHT T2.0*40*569	PP.WHT T2.0*40*657
Part code	(DY) R3853-230	R3853-240	R3853-230	R3853-240	R3853-230	R3853-240
Image						(R3853-230)
						(R3853-240)


5-33. DRAIN WICKING KIT

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	PP. T2.5*99*103	PP. T2.5*93*180	PP. T2.5*99*103	PP. T2.5*93*180	PP. T2.5*99*103	PP. T2.5*93*180
Part code	(DY) R1154-010	R1154-020	R1154-010	R1154-020	R1154-010	R1154-020
Image						

5-34. HEATER DRAIN PAN

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		-	-	115V 90W	115V 90W	-	-
Part code	(DY)	-	-	R7303-174	R7303-184	-	-
Image							

5-35. SENSOR BRACKET


MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		PP. WHT					
Part code	(DY)	R3314-192					
Image							

5-36.


CASTER

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		SPCC 4"					
Part code	(DY)	R3323-190, R3323-200					
Image							

5-37. DOOR SWITCH

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	WHITE. SP201R-9D					
Part code (DY)	R7203-020					
Image						

5-38. DOOR LOCK

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	ZDC. ZCR					
Part code (DY)	R3739-010					
Image						


5-39. POWER SWITCH

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	SL112A. 125V 15A					
Part code (DY)	R7204-070					
Image						


5-40. ASSY SHELF CLIP

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		14 SET	26 SET	14 SET	26 SET	14 SET	26 SET
Part code	(DY)	R8429-022	R8429-012	R8429-022	R8429-012	R8429-022	R8429-012
Image							



5-41. SHELF STANDARD. L

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		T1.2*930					
Part code	(DY)	R3373-630					
Image							

5-42. DOOR GASKET

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		RD-PVC.BLK			RD-PVC. 1376.2*542* 18.3	RD-PVC. BLK	RD-PVC. BLK
Part code	(DY)	R3903-542			R3903-630	R3903-552	R3903-552
Image							

5-43. DOOR HINGE TOP

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		ZDC2. T10*42*64*63				ZDC2. T10*48*64*63	
Part code	(DY)	R3393-440				R3393-312	
Image							


5-44. DOOR HINGE BOTTOM

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		ZDC2. T10*42*64*63				ZDC2. T10*48*64*63	
Part code	(DY)	R3393-450				R3393-341	R3393-341 R3393-351
Image							

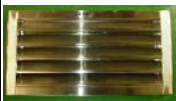

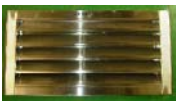

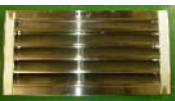

5-45. DOOR HINGE WASHER

MODEL		UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec		AL. T2.2*OD19				-	-
Part code	(DY)	R3034-020				-	-
Image							


5-46. DOOR HINGE STOP PIN

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	8*25M. STS304				8*30. STS304	
Part code (DY)	R3044-080				R3044-040	
Image						

5-47. BOTTOM GRILL

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	STAINLESS	STAINLESS	STAINLESS	STAINLESS	STAINLESS	STAINLESS
Part code (DY)	R8182-081	R8182-092	R8182-081	R8182-092	R8182-380	R8182-520
Image						





5-48. DOOR HINGE SHAFT LOW

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
Spec	ϕ 14*49.5, SM45C				-	-
Part code (DY)	R3044-021				-	-
Image						




5-49. DOOR HINGE SHAFT UPP

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G	
Spec	φ 12*61, SM45C				-		
Part code	(DY)	R3044-031				-	
Image							

5-50. DOOR ASSY

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G	
Spec	BR1, BF1	RH, LF	BR1, BF1	RH, LF	BR1G	RH, LF	
Part code	(DY)	R8172-090	R8172-100 R8172-110	R8172-090	R8172-100 R8172-110	R8172-650	R8172-640 R8172-630
Image							

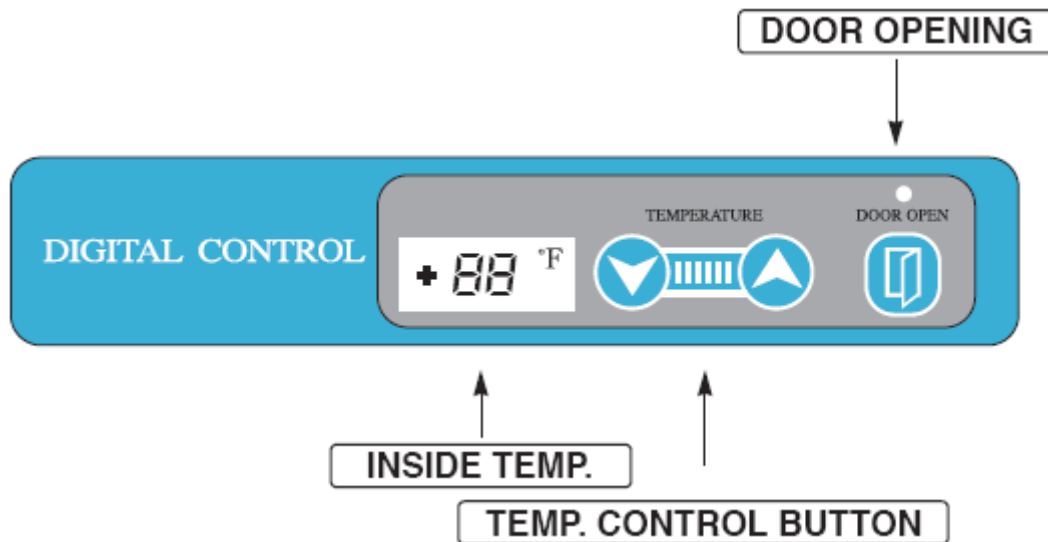
5-51. ASSY CROSS BAR

MODEL	UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G	
Spec	-	115V, 30W	-	115V, 38W	-	115V	
Part code	(DY)	-	R8163-031	-	R8163-021	-	R8163-620
Image	-		-		-		

6. ELECTRONIC CONTROL INSTRUCTIONS

6-1. FREEZER CONTROL

6-1-1. HOW TO USE THE DISPLAY PCB PANEL



1. UP / DOWN BUTTON (Temperature control button)

- By pushing the up/down button, you can set the inside temperature.

2. DEFROST


- The electronic defrost controller is set at the factory to provide a defrost cycle every 6 hours.
- Once all frost is eliminated, the defrost control is changed to the freezer mode.
- The panel displays " dF " during the defrost.

3. DOOR OPENING INDICATOR

- If door is opened, door opening indicator will be turned on.
- If the door is left open for 5 minutes an alarm will sound continuously.
- The alarm will stop immediately upon closing of the door.

6. ELECTRONIC CONTROL INSTRUCTIONS

6-1-2. FUNCTION TABLE & MANUAL DEFROST

NO	Function	Controlled Part	Description
1	Initial Operation		<ol style="list-style-type: none"> 1. LED displays inside temperature. 2. Begins to run immediately if higher than 50°F and begins to run after 5 minutes pause if lower than 50°F.
2	Temperature Control	Compressor LED	<ol style="list-style-type: none"> 1. The Temperature can be changed by pushing up/down buttons. 2. LED displays inside temperature 3. Buzzer buzzes 1 time whenever a button is pressed 4. Compressor automatically turns on and off by C-sensor (Except error mode)
			<ol style="list-style-type: none"> 5. Comp. On/off temperature at C-sensor (°F) Setting 5.03, 01.0-1.0-2.0 Comp On 86321 Comp Off 20-3-4-5 Setting -3.0-5.0-7.0-9.0 Comp On 0-2-4-6 Comp Off -6-7-9-10.5
3	Defrost Function	Heater Compressor	<ol style="list-style-type: none"> 1) Defrost function is controlled time interval setting. 2) Factory setting is every 8 hours. 3) If it becomes defrost cycle time, Defrost heater is operated when D-sensor senses below 23°F. 4) Defrost heater terminates when D-sensor temperature comes to above 53°F, then compressor will start after 10 minutes. 5) During defrost period, LED displays dF. 6) If D-sensor does not cut off defrost heater, main pcb has a back up for defrost time, the maximum is 40 minutes. 7) Defrost can be set by pushing the button for 3 seconds. (3h, 6h, 9h, 10h(ah))  <p>The image shows a digital control panel with a blue background. On the left, it says 'DIGITAL CONTROL'. In the center, there is a digital display showing '+ 88 °F'. To the right of the display are two buttons: a 'TEMPERATURE' button with a down arrow and a 'DOOR OPEN' button with a door icon.</p>
4	Error Display	LED	<ol style="list-style-type: none"> 1) Press 'up' button 3 times while pressing and holding 'down' button. Above procedure switches normal display to error display mode. And then 88 LED indicates, '(D1)' or '(F3)' or '(C1)' respectively. 2) 10 seconds after the last button pressed, error display mode will be switched to normal display mode.

6. ELECTRONIC CONTROL INSTRUCTIONS

6-1-3. ERROR CODE TABLE

CODE	Content	Indicates	Refrigeration state
CO	C-sensor	- OPEN	- Normal operation - Time control Comp ON : 6 MINUTES Comp OFF: 11 MINUTES
CS		- SHORT	
(D1) (F3) (C1)	D-sensor	- OPEN	
		- SHORT	

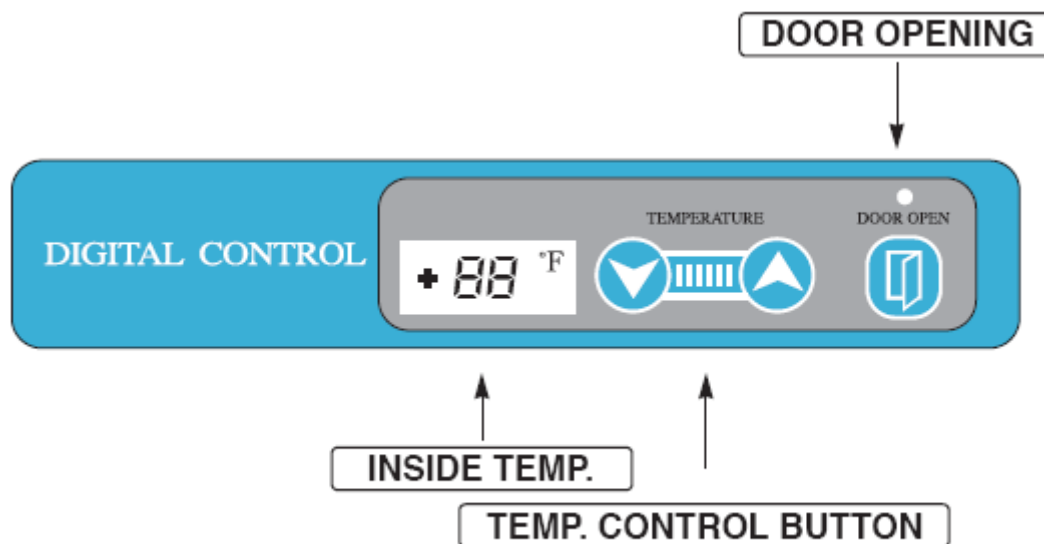
6-1-4. SENSOR DESCRIPTION

Sensor	Model	Role	Wire Color
D-sensor	Freezer	Detect Evap coil's temp. to start and terminate defrosting.	WHT
C-sensor	Freezer	Detect inside air temp. to operate comp and to indicate the inside temp. on the display PCB	BLK
	Refrigerator	Detect Evap coil's temp. to operate comp	BLK
T-sensor	Refrigerator	Detect inside air temp. to indicate the inside temp on the display PCB	WHT

6. ELECTRONIC CONTROL INSTRUCTIONS

6-2. REFRIGERATOR CONTROL

6-2-1. HOW TO USE THE DISPLAY PCB PANEL



1. UP / DOWN BUTTON (Temperature control button)


- By pushing the up/down button, you can set the inside temperature.

2. DOOR OPENING INDICATOR

- If door is opened, door opening indicator will be turned on.
- If the door is left open for 5 minutes an alarm will sound continuously.
- The alarm will stop immediately upon closing of the door.

6. ELECTRONIC CONTROL INSTRUCTIONS

6-2-2. FUNCTION TABLE

NO	Function	Controlled Part	Description
1	Initial Operation		<ol style="list-style-type: none"> 1. LED displays inside temperature. 2. Begins to run immediately if higher than 41°F and begin to run after 5 minutes pause if lower than 41°F.
2	Temperature Control	Compressor LED	<ol style="list-style-type: none"> 1. The Temperature can be changed by pushing up/down buttons. 2. LED displays inside temperature 3. Buzzer buzzes 1 time whenever a button is pressed 4. Compressor automatically turns on and off by C-sensor (Except error mode) 5. Comp. On/off temperature at C-sensor(°F) Setting 39 38 37 36 35 Comp On 42 41 40 39 38 Comp Off 36 35 34 33 32 Setting 34 32 30 28 Comp On 37 35 34 32 Comp Off 31 29 28 26
3	Error Display	LED	<ol style="list-style-type: none"> 1) Press 'up' button 3 times while pressing and holding 'down' button. Above procedure switches normal display to error display mode. And then 88 LED indicates, '(D1)' or '(C1)' respectively. 2) 10 seconds after the last button pressed, error display mode will be switched to normal display mode.
4	Defrost Function	Compressor	<ol style="list-style-type: none"> 1) Defrost can be set by pushing the button for 3 seconds. (3h, 6h, 9h, 10h(ah))  <p>The image shows a digital control panel with a blue background. On the left, it says 'DIGITAL CONTROL'. In the center, there is a digital display showing '+ 88 °F'. To the right of the display are two buttons: one with a downward arrow and a bar chart icon, and another with an upward arrow icon. Above the buttons, the word 'TEMPERATURE' is written. To the right of the panel, there is a 'DOOR OPEN' indicator with a light bulb icon.</p> <ol style="list-style-type: none"> 2) While the compressor runs for over 3 hours, defrost system will automatically be driven without any additional control order.

6. ELECTRONIC CONTROL INSTRUCTIONS

6-2-3. ERROR CODE

CODE	Content	Indicates	Refrigeration state
tO	T-sensor	- OPEN	- Normal operation - Time control Comp ON : 18 MINUTES Comp OFF : 6 MINUTES
ts		- SHORT	
(D1)	C-sensor	- OPEN	
(C1)		- SHORT	

7. REPLACEMENT OF MAIN COMPONENTS

7-1. TOP PANEL PARTS

- MAIN PCB
- LOCK ASSEMBLY or POWER SWITCH
- DOOR SWITCH

A. Remove the screws located on top grill panel.



■ CAUTION

- DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

7. REPLACEMENT OF MAIN COMPONENTS

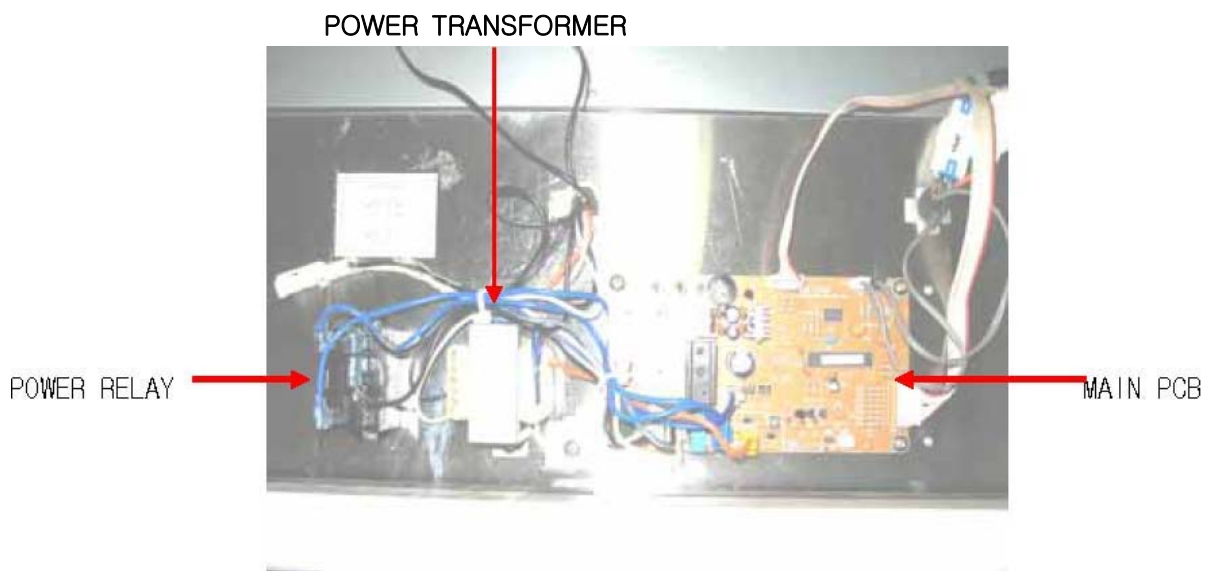
B. Remove the screws located on bottom of top panel.

caution : When unscrewing, hold the top panel. panel may fall & cause injury.



C. Place the top panel on top of the cabinet.

D. You can replace POWER-RELAY and MAIN PCB.



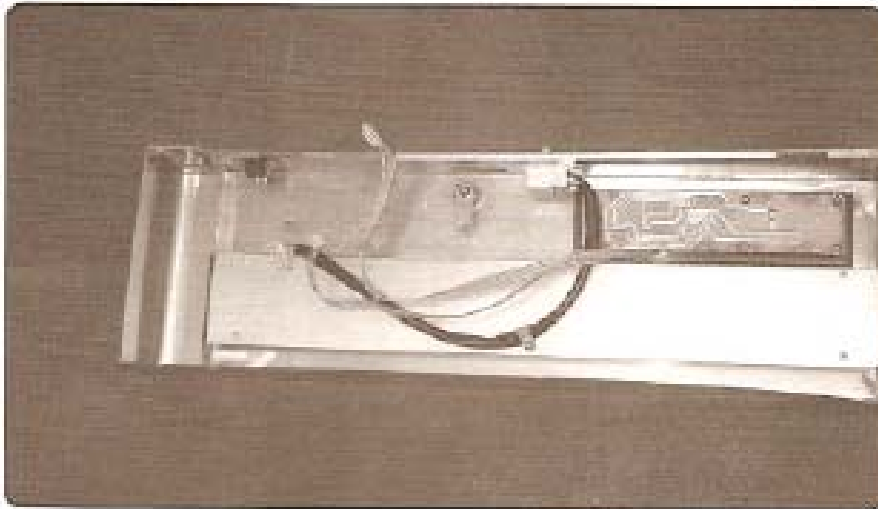
■ CAUTION

- DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

7. REPLACEMENT OF MAIN COMPONENTS

E. Pull out the harness located on back of top panel.

You can separate top panel out of the unit.
You can replace power switch, lamp switch and display PCB.



■ CAUTION

- DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

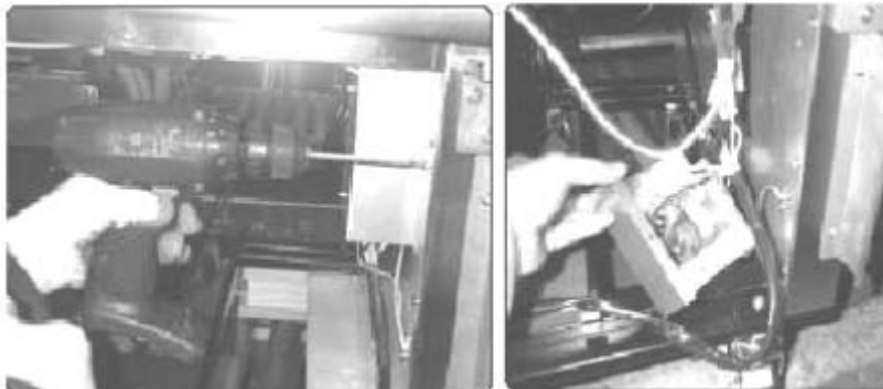
7. REPLACEMENT OF MAIN COMPONENTS

7-2. REPLACING DOOR

- A. Disassemble top panel as described section 6-1 A,B
- B. Remove bottom grill by unscrewing the four screws located on each side of bottom grill.



- C. Open the capacitor cover.
Disconnect the Mullion Heater

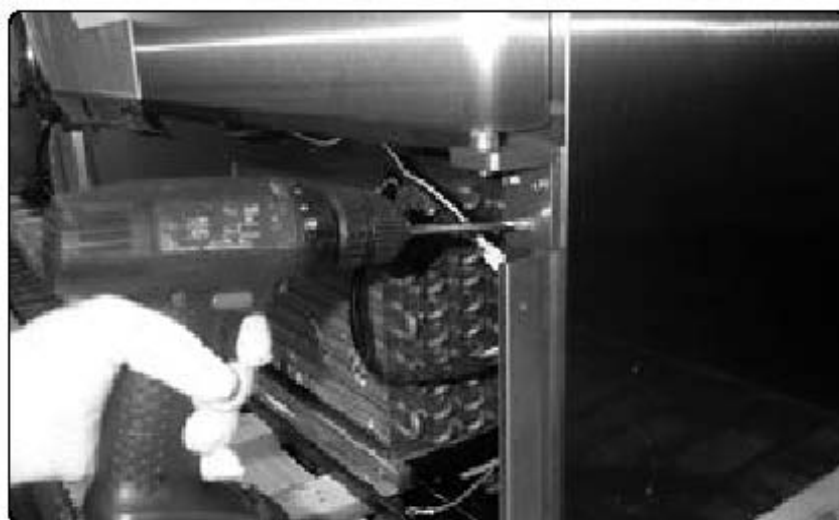


■ CAUTION

- DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

7. REPLACEMENT OF MAIN COMPONENTS

D. Remove the hinge.



■ CAUTION

- DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

7. REPLACEMENT OF MAIN COMPONENTS

7-3. DOOR SPRING ADJUSTMENT

A. Detailed structure of DOOR HINGE



B. Coordinated principle of DOOR TENSION

After Putting Tool for revolving DOOR-HINGE STOP-PIN HOLE, Insert Door Hinge STOP-PIN into the hole after revolving up to the requested TENSION.



■ CAUTION

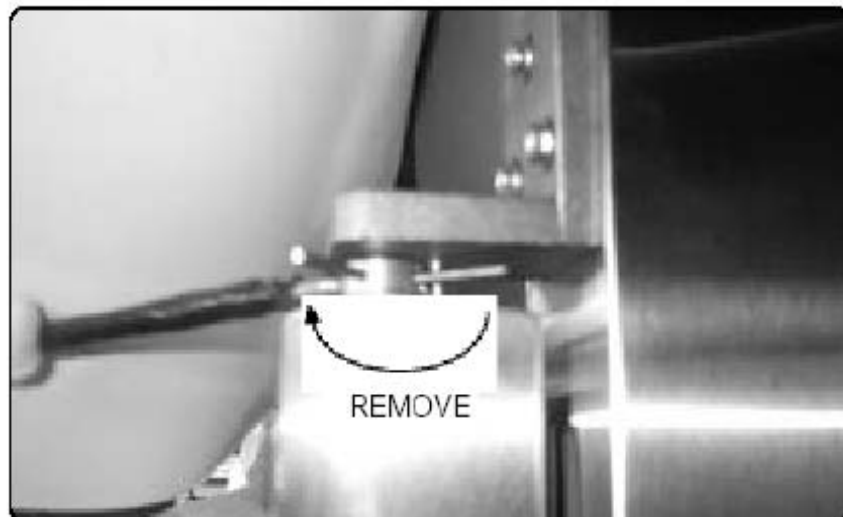
- DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

7. REPLACEMENT OF MAIN COMPONENTS

C. Remove the door hinge stop pin.



D. Place the door hinge stop pin and adjust the strength of the door spring.



■ CAUTION

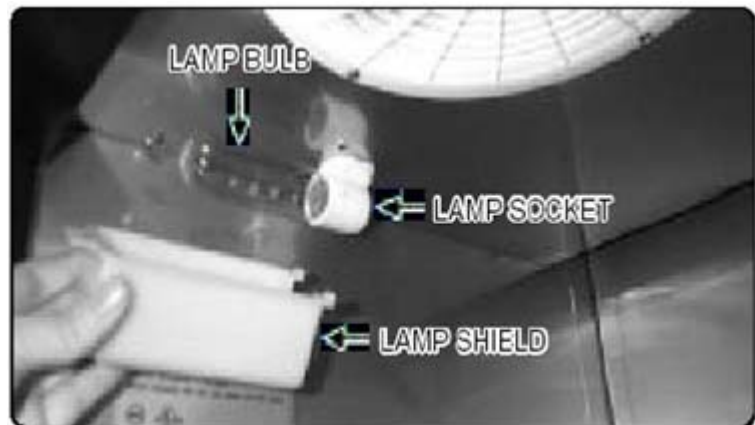
- DISCONNECT FROM POWER SOURCE BEFORE SERVICING.

7. REPLACEMENT OF MAIN COMPONENTS

7-4. REFRIGERATION COMPARTMENT'S PARTS

- LAMP BULB, LAMP SHIELD
- EVAPORATOR FAN MOTOR
- EVAPORATOR DEFROST HEATER
- EVAPORATOR COIL
- D-SENSOR, C-SENSOR, T-SENSOR
- DRAIN HOSE HEATER

A. Disassemble lamp shield



B. Disassemble Evaporator Panel



7. REPLACEMENT OF MAIN COMPONENTS

C. Pull out the lamp



D. Replacing evaporator fan motor.

A-1. Disconnect the fan motor's harness.

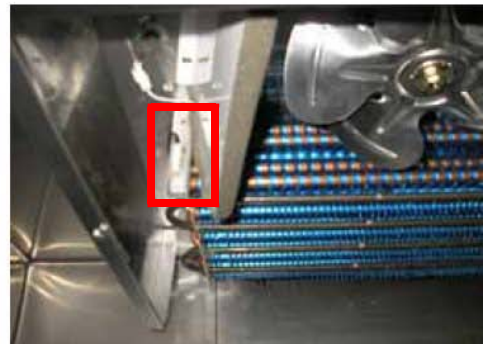
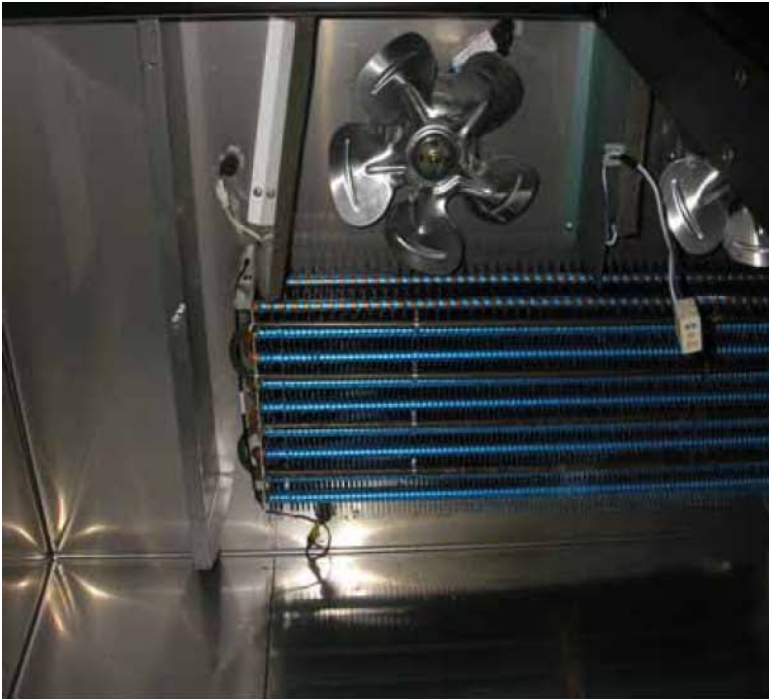
A-2. Remove the four screws that are located on bottom of fan motor.



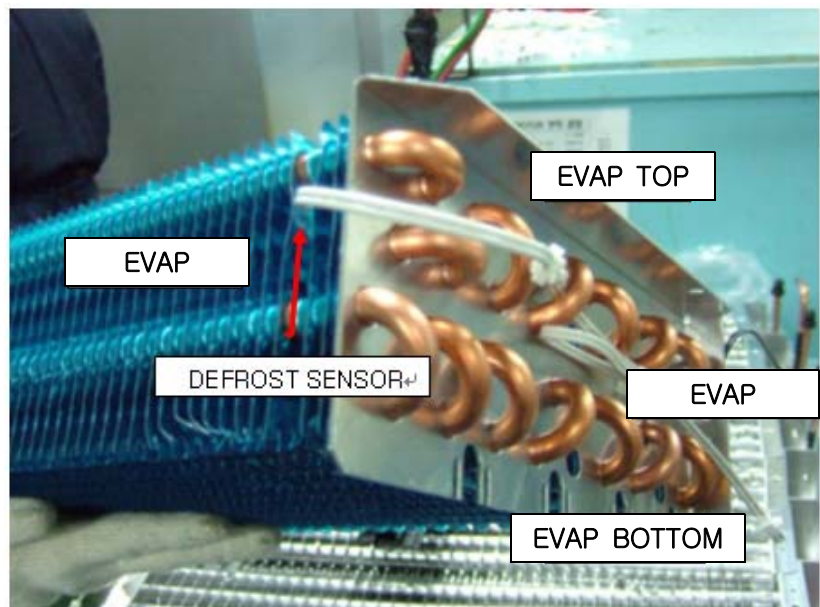
7. REPLACEMENT OF MAIN COMPONENTS

E. Replacing sensor

E-1. FREEZER C-sensor : Remove as illustrated below and pull-out the FREEZER C-sensor from the cover.



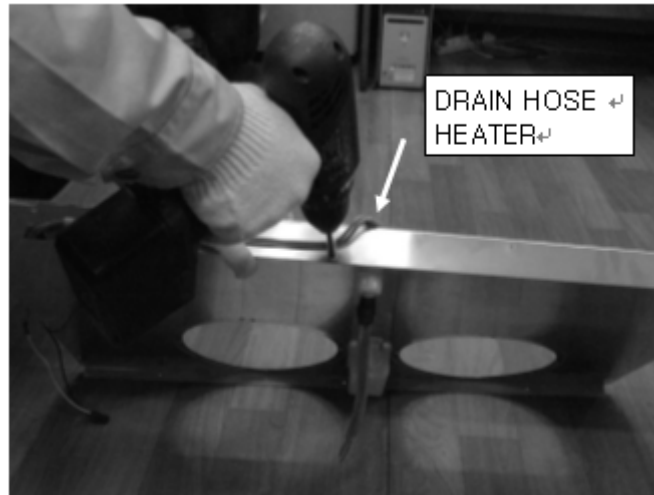
E-2. FREEZER D-sensor



7. REPLACEMENT OF MAIN COMPONENTS

F. Drain hose heater

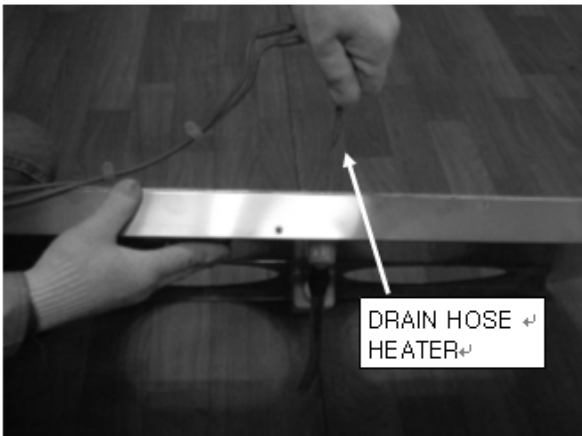
F-1. After separating Evaporator cover from the freezer, set aside the screws.



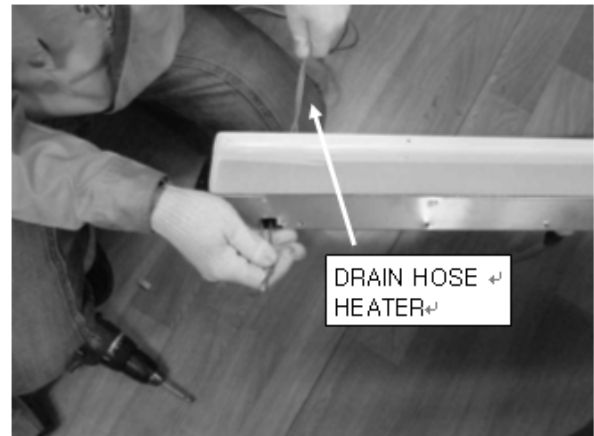
F-2. Pull out the heater for drain hose from the Evaporator.

Cover and eliminate it with care in the direction of front side.

F-3. Install the new heater for drain hose in reverse order.



F-2



F-3

7. REPLACEMENT OF MAIN COMPONENTS

7-5. UNIT – PARTS

A. How to replace the COMPRESSOR, its Parts and Refrigerant.

A-1. Remove the Mounting Screws from the sides of the front BOTTOM GRILL.



A-2. Remove the BOTTOM GRILLE as the picture



7. REPLACEMENT OF MAIN COMPONENTS

A-3. Remove the front Screws for the UNIT BASE.



A-4. Pull out the UNIT BASE to the front side.



7. REPLACEMENT OF MAIN COMPONENTS

A-5. Remove the pipe connected to the COMPRESSOR.



A-6. Remove the COMPRESSOR Mounting SCREWS, Replace the COMPRESSOR and weld the piping.



7. REPLACEMENT OF MAIN COMPONENTS

A-7. Remove the side Cover of the COMPRESSOR.



A-8. Replace the O.L.P/PTC RELAYS.



7. REPLACEMENT OF MAIN COMPONENTS

A-9. Vacuum the Pipe at least 30 ~ 40 minutes and make enough vacuum.



A-10. Fill up the Refrigerant in the volume set forth in the service manual.



A-11. After the refrigerant is filled up, check any gas leakage with soap bubbles.

A-12. Put all the parts together in the retro sequence of the disassembly.

7. REPLACEMENT OF MAIN COMPONENTS

7-6. LIGHTING-PARTS

A. UM-24G (SINGLE GLASS DOOR)



1. Remove three screws securing the Lamp Guard.



2. Separate the Lamp Guard.



3. Remove the Lamp out of the Lamp socket and replace it.



7. REPLACEMENT OF MAIN COMPONENTS

B. UM-48G (DOUBLE GLASS DOOR)



1. Remove the Shelves



2. Remove the Lamp Socket



3. Take out the Doors and separate the Lamp from the Lamp Holder.



4. Remove the Lamp shield end Cap.



7. REPLACEMENT OF MAIN COMPONENTS

C. BALLAST

1. Remove four screws securing the sign frame end separate sign frame end.
2. Separate connector of the Ballast.



3. Remove two screws for separating the Ballast.



8. PART-LIST

Part name	Code	Description	Solid				Glass	
			UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
CASTER BOX ASSY								
CASTER	R3323-190	SPCC 4"	2	2	2	2	2	2
CASTER BRAKE	R3323-200	SPCC 4"	2	2	2	2	2	2
COMPRESSOR								
COMPRESSOR	R7439-340	CAJ2432Z(A)				1		
COMPRESSOR	R7439-110	8K1A1C-L2W		1	1		1	
COMPRESSOR	R7439-420	HBL27YE-1	1					
COMPRESSOR	R7439-360	CAJ4476Y(A)						1
STARTING CAPACITOR	R7549-160	200VAC 100µF	1					
STARTING CAPACITOR	R7543-100	125AC 125UF		1	1		1	
RUNNING CAPACITOR	R7549-170	230VAC 50/60HZ 10µF	1					
RUNNING CAPACITOR	R7543-030	250VAC 12UF		1	1		1	
HARNESS RELAY A	R7483-020	UL AWG 18			1			
HARNESS RELAY B	R7523-050	UL AWG 18	1					
HARNESS RELAY C	R7483-012	UL AWG 18				1		
HARNESS RELAY D	R7483-030	UL AWG 18		1				
HARNESS RELAY GB	R7483-060	UL AWG 18					1	
HARNESS RELAY GA	R7483-051	UL AWG 18						1
POWER-CORD	R7363-180	BLK. SJT. L=3000mm. 115V 15A	1	1	1	1	1	1
CONDENSER								
CONDENSER COIL	R2272-013	CU,OD9.52				1		
CONDENSER COIL	R2202-031	4.76*13190	1	1	1		1	
CONDENSER COIL	R2273-021	CU,OD9.52						1
CONDENSER DRYER	R2183-032	25.4*169*0.635	1	1	1		1	
HARD CORE DRYER	R2183-110	FE+CU, L=120.5				1		1
CONDENSER FAN								
CONDENSER FAN MOTOR	R7423-310	AC 115V 60HZ DAI-8204DYCA CV	1	1	1	1	1	1
CONDENSER FAN BLADE	R3723-070	AL φ 225 9° CCW	1	1	1	1	1	1
CONDENSER FAN MOTOR BRACKET	R3313-260	SBHGI-0 T2.0*164	1	1	1	1	1	1
DRAIN								
EVAPORATOR DRAIN WATER SMALL	R3743-060	ABS BLK (30211L0700)	1		1		1	
DRAIN PAN	R3742-070	ABS BLK (3011J0102)		1		1		1
DRAIN WICKING BAR	R3853-230	PP WHT T2.0*40*569	1		1		1	
DRAIN WICKING BAR	R3853-240	PP WHT T2.0*40*657		1		1		1
DRAIN WICKING KIT	R1154-010	PP T2.5*99*103	1		1		1	
DRAIN WICKING KIT	R1154-020	PP T2.5*83*180		1		1		1

8. PART-LIST

Part name	Code	Description	Solid				Glass	
			UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
EVAPORATOR								
EVAPORATOR COIL (EVAPORATOR)	R2263-047	CU+AL				1		1
EVAPORATOR COIL (EVAPORATOR ASSY)	R8613-343	CU+AL		1				
EVAPORATOR COIL (EVAPORATOR)	R2263-038	CU+AL			1		1	
EVAPORATOR COIL (EVAPORATOR ASSY)	R8613-354	CU+AL	1					
DEFROST HEATER	R7303-412	UL 115V 600W				1		
DEFROST HEATER	R7303-402	UL 115V 445W			1			
HEATER DRAIN PAN	R7303-184	115V 90W				1		
HEATER DRAIN PAN	R7303-174	115V 90W			1			
SENSOR BRACKET	R3314-192	P.P. WHT	1	1	1	1	1	1
EVAPORATOR THERMAL FUSE (BIMETAL)	R7253-051				1	1		
EVAPORATOR FAN MOTOR	R7423-300	AC 115V 60HZ DAI-8204DYCA-1 Co	1	1	1	2	1	2
FAN BLADE	R3729-010	8" C.C.W	1	1	1	2	1	2
EVAPORATOR FAN MOTOR BRACKET	R3204-360	ST6-304 T1.0*120*90	1	1	1	2	1	2
TEMP-THERMISTOR,FRE	R7213-082	YELLOW			1	1		
DEFROST SENSOR (D-SENSOR)	R7213-210	BLACK. L=180mm			1	1		
TEMP-DISPLAY SENSOR,REF	R7213-112	WHITE	1	1			1	1
TOP PANEL								
TOP GRILL ASSY	R8183-010	STAINLESS	1					
TOP GRILL ASSY	R8183-020	STAINLESS		1				
TOP GRILL ASSY	R8183-030	STAINLESS					1	
TOP GRILL ASSY	R8183-040	STAINLESS						1
TOP GRILL ASSY	R8183-120	STAINLESS			1			
TOP GRILL ASSY	R8183-130	STAINLESS				1		
MASCOT	C5133-021	AL, L=121MM	1	1	1	1	1	1
FREEZER MAIN PCB	R7113-510	FRE. 115V			1	1		
REFRIGERATOR MAIN PCB	R7113-500	REF. 115V	1	1			1	1
CONTROL BOARD (DIGITAL DISPLAY)	R4142-122	ABS,BLACK. T2*242*72	1	1	1	1	1	1
DISPLAY PCB (°F)	R7113-210	88 SEGMENT. °F	1	1	1	1	1	1
INLAY CONTROL (REF)	R4113-371	PC-SHEET	1	1	1	1	1	1
SUPPORTER PCB	R3084-010	NYLON NO.66 M4*8	4	4	4	4	4	4
POWER RELAY	R7253-060	OMRON G7L-1A-TUB				1		1
DOOR SWITCH	R7203-020	WHT. SP201R-9D	1	2	1	2	1	2
HARNESS SWITCH A	R7403-080	AWG 18						1
HARNESS SWITCH B	R7403-091	UL, AWG 18	1				1	
HARNESS SWITCH C	R7483-130	UL, AWG 18		1		1		
HARNESS SWITCH D	R7483-140	AWG 18			1			
DOOR LOCK	R3739-010	ZDC, ZCR	1	2	1	2	1	2

8. PART-LIST

Part name	Code	Description	Solid				Glass	
			UM-24	UM-48	UM-24F	UM-48F	UM-24G	UM-48G
BOTTOM GRILL								
BOTTOM GRILL ASSY	R8182-081	STAINLESS	1		1			
BOTTOM GRILL ASSY	R8182-092	STAINLESS		1		1		
BOTTOM GRILL ASSY	R8182-380	STAINLESS					1	
BOTTOM GRILL ASSY	R8182-520	STAINLESS						1
SHELF								
ASSY SHELF CLIP	R8429-012	26 SET		1		1		1
ASSY SHELF CLIP	R8429-022	14 SET	1		1		1	
SHELF STANDARD, L	R3373-630	T1,2*930mm	4	8	4	8	4	8
DOOR								
ASSY DOOR	R8272-160	STAINLESS	1		1			
ASSY DOOR, LF	R8179-590	STAINLESS		1				
ASSY DOOR, RH	R8179-600	STAINLESS		1				
ASSY DOOR (GLASS)	R8172-650	GLASS					1	
ASSY DOOR, RH	R8172-640	GLASS						1
ASSY DOOR, LF	R8172-630	GLASS					1	
DOOR GASKET, ASSY	R3903-542	RD-PVC BLACK	1	2	1			
DOOR GASKET, ASSY	R3903-630	RD-PVC,1376,2*542*18,3				2		
DOOR GASKET	R3903-552	RD-PVC BLACK					1	2
ASSY CROSS BAR	R8163-031	115V 30W		1				
ASSY CROSS BAR	R8163-021	115V 38W				1		
ASSY CROSS BAR	R8163-620							1
DOOR HINGE TOP	R3393-312	ZDC2, T10*48*64*63					1	2
DOOR HINGE TOP	R3393-440	ZDC2, T10*42*64*63	1	2	1	2		
DOOR HINGE BOTTOM, RH	R3393-341	ZDC2, T10*48*64*63					1	1
DOOR HINGE BOTTOM, LF	R3393-351	ZDC2, T10*48*64*63						1
DOOR HINGE BOTTOM	R3393-450	ZDC2, T10*42*64*63	1	2	1	2		
DOOR HINGE WASHER	R3034-020	AL, T2,2*OD19	2	4	2	4		
DOOR HINGE STOP PIN	R3044-080	8*25M, STS304	1	2	1	2		
DOOR HINGE STOP PIN	R3044-040	8*30, STS304					1	2
LAMP								
LAMP BULB	R7394-010	25T 10/120V 25W	1	1	1	1		
FLUORESCENT LAMP								
FLUORESCENT	R7393-150	PHILIPS 32W/865RS					1	1
BALLAST	R7553-050	B132I120RH-A					1	1
LAMP GUARD	R3894-030	PC T0,5					1	1
GUARD SOCKET	R3814-550	ABS UL94-V0					2	2
LAMP SOCKET,B	R7394-201	ABS UL94-V0					1	
LAMP SOCKET,C	R7394R211	ABS UL94-V0					1	
LAMP SOCKET,A-1	R7394-181	ABS UL94-V0						1
LAMP SOCKET,A-2	R7394-191	ABS UL94-V0						1
EVAPORATOR FAN (MOTOR) GUARD	R3812-141	HIPS (VH-1800EX)	1	1	1	2	1	2
KEY SETS	R3739-010	ZDC, ZCR	1	2	1	2	1	2
POWER SWITCH	R7204-070	SL112A, 125V 15A	1	1	1	1	2	2