

# **TOSHIBA**

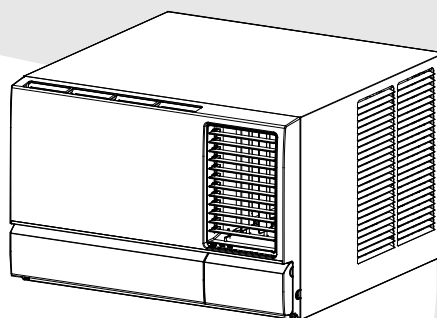
## SERVICE MANUAL

FILE NO. SVM-06051-2

# AIR-CONDITIONER

## WINDOW TYPE

***RAC-24G-AR***  
***RAC-24G2B***  
***RAC-24GE2B***  
***RAC-24G2L***



Revised Jul, 2007

# CONTENTS

<b>1. SPECIFICATIONS</b>	<b>3</b>
<b>2. CONSTRUCTION VIEWS</b>	<b>4</b>
<b>3. SPECIFICATIONS OF ELECTRICAL PARTS</b>	<b>5</b>
<b>4. WIRING DIAGRAM</b>	<b>6</b>
<b>5. REFRIGERATING CYCLE DIAGRAM</b>	<b>8</b>
<b>6. PERFORMANCE CHARACTER</b>	<b>9</b>
<b>7. EXPLODED VIEWS AND PARTS LIST</b>	<b>11</b>

# 1. SPECIFICATIONS

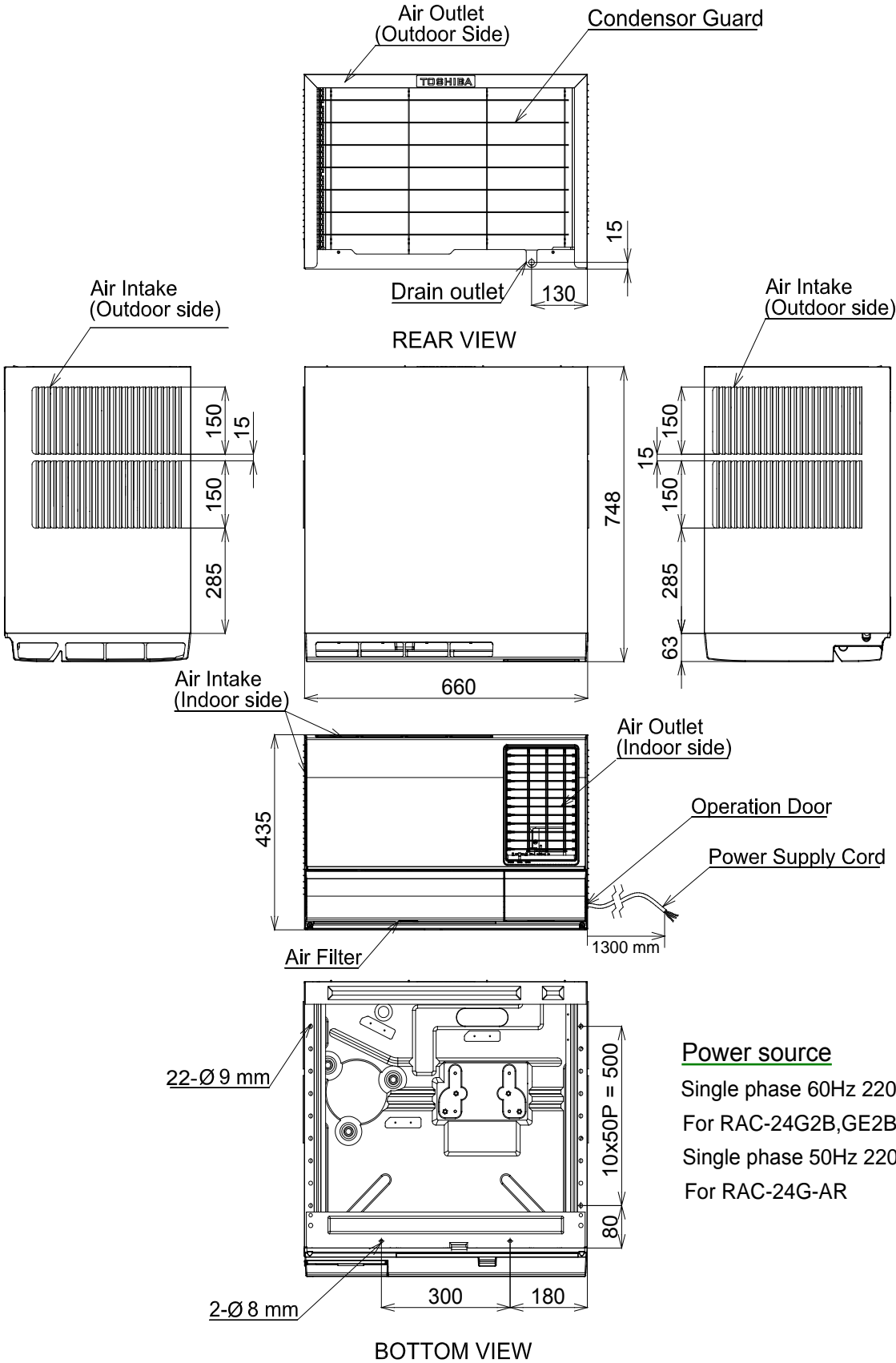
ITEM	MODEL	RAC-24GE2B		RAC-24G2B	RAC-24G-AR	RAC-24G2L
		COOLING (SSA)	HEATING	COOLING (SSA)	COOLING (JIS)	COOLING (JIS)
Capacity*	k cal/h	4,800	3,440	4,800	—	—
	Btu/h	5,600 (W)	4,000 (W)	5,600 (W)	6,500 (W)	6,500 (W)
Power source	Phase	Single		Single	Single	Single
	V	220		220	220 – 240	220
	Hz	60		60	50	60
Power consumption	W	3,750	4,400	3,750	3,100	3,200
Power factor	%	97	100	97	93	96
Running current	A	17.5	20.0	17.5	14.5	15.1
Starting current	A	65		65	58	65
Moisture removal	lit/h	3.7		3.7	3.7	3.7
Noise	Indoor (Hi/Low)	dB	58/53	58/53	58/53,60/55	58/53
	Outdoor (Hi/Low)	dB	64/59	64/59	64/59,66/62	64/59
Compressor output	W	2,000		2,000	2,200	2,000
Fan motor output	W	200		200	200	200
Refrigerant	Name of refrigerant	R22		R22	R22	R22
	Charge volume	kg	0.90	0.90	1.05	0.90
Air volume	High Fan	m <sup>3</sup> /h	1,050	1,050	1,050	1,050
	Medium Fan	m <sup>3</sup> /h	—	—	—	—
	Low Fan	m <sup>3</sup> /h	850	850	850	850
Refrigerant control	Capillary tube					
Safety device	Over current relay for protection of compressor motor and fan motor					
Control device	Selector switch, Thermostat, Auto louver switch					
Ventilation	Yes					
Auto louver	Yes					
Dimensions	Height	mm	435			
	Width	mm	660			
	Depth	mm	748			
Net weight	kg	72		70	70	70
Usable outdoor temperature range	°C	MAX. 52				

Specification are subject to change without notice.

**Note :** Capacity is based on the following temperature conditions. (\*)

ITEM	MODE	SSA 385/386	JIS
		COOLING	COOLING
Indoor unit inlet air temperature	(DB)	29°C	27°C
	(WB)	19°C	19.5°C
Outdoor unit inlet air temperature	(DB)	46°C	35°C
	(WB)	24°C	24°C

**2. CONSTRUCTION VIEWS**



### 3. SPECIFICATION OF ELECTRICAL PARTS

#### 3-1. RAC-24G2B/24GE2B/24G2L

No.	Parts name		Model	Specifications		
1	Compressor		PH370X3CJ-3MTS	Output (Rated) 2,000W, 2 poles, Single phase, 208-230V, 60Hz		
				Winding resistance ( $\Omega$ ) (at 20°C)	Red-Black	White-Black
2	Fan motor		FG-230-200B	Output (Rated) 150W, 6 poles, Single phase, 220V, 60Hz		
				Winding resistance ( $\Omega$ ) (at 20°C)	Red-Black	White-Black
3	Auto louver motor		50SM16-54S	Output (Rated) 3W or less, 8 poles, Single phase, 220-240V, 50/60Hz		
				Winding resistance ( $k\Omega$ ) (at 20°C)		
4	Room thermostat (RAC-24G2B, 24G2L, 24G-AR)		B-A106	Differential 3°C Rated current 25A (at 250V) Closing current 80A (at 250V)		
	Room thermostat (RAC-24GE2B)		YTB-T321	Differential 2°C Rated current 20A (at 250V) Closing current 80A (at 250V)		
5	Selector switch (RAC-24GE2B)		2137	Rated current 25A (at 250V) between terminal 1-2, 3-4, 9-10 Rated current 3A (at 250V) between terminal 5-6, 11-12 Closing current 12A (at 250V) between terminal 5-6, 11-12		
	Selector switch (RAC-24G2B, 24G2L, 24G-AR)		2105B	Rated current 3A (at 250V) between terminal 1-2, 1-3 Rated current 25A (at 250V) between terminal 5-6, 1-4		
6	Running capacitor	for fan motor	DS451505BPQD	5 $\mu$ F, 450 VAC		
		for compressor	RS44B556U0219S	55 $\mu$ F, 440 VAC		
7	Auto louver switch		3019B	Reated AC current, closing and cut-off current 250V, 3A		
8	Heater (RAC-24GE2B)		HG-2240	4.0kW (at 220V), Thermal relay 60°C OFF, Thermal fuse 95°C OFF		

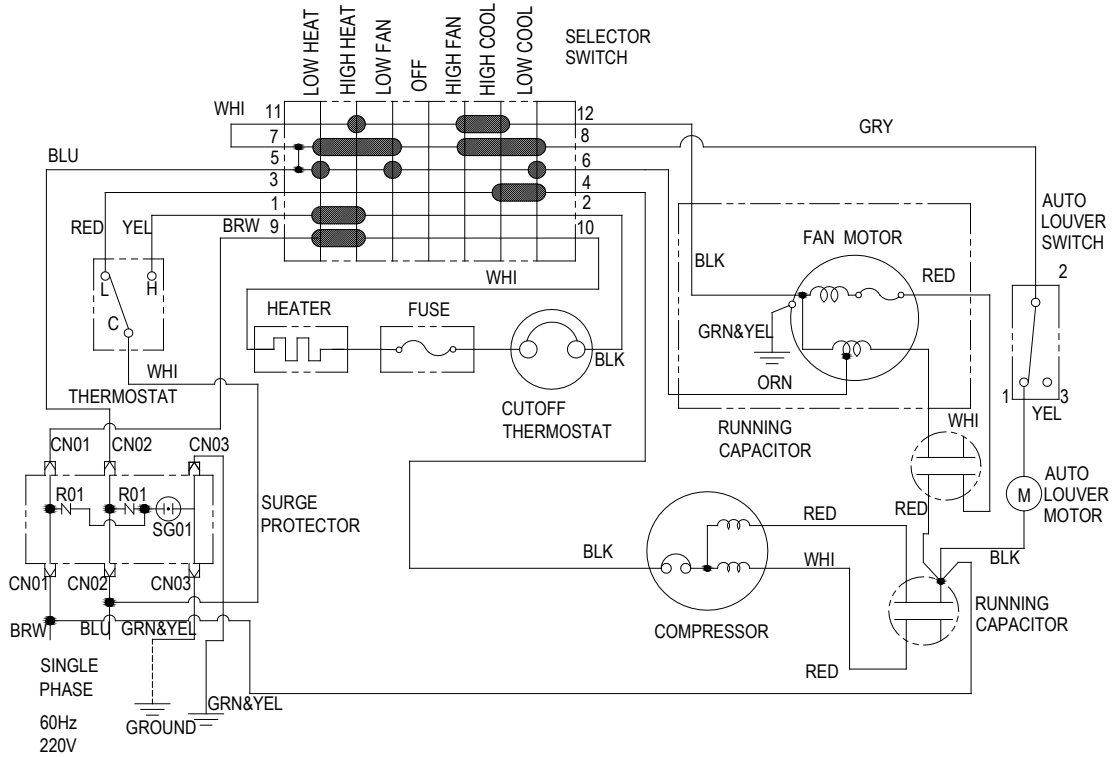
#### 3-2. RAC-24G-AR

Different points from above model show below and another specifications are the same as above.

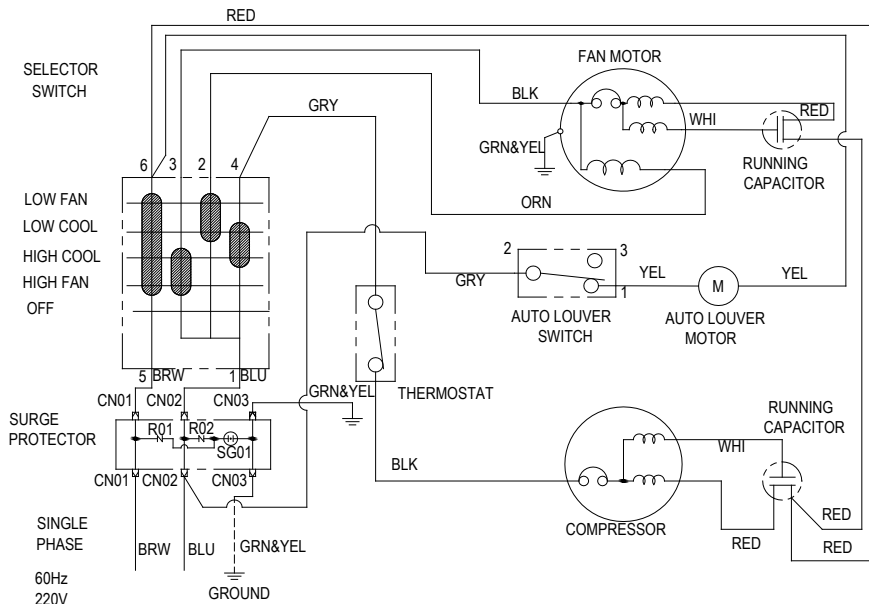
No.	Parts name		Model	Specifications		
1	Compressor		PH440X3CJ-4MTS	Output (Rated) 2,200W, 2 poles, Single phase, 220-240V, 50Hz		
				Winding resistance ( $\Omega$ ) (at 20°C)	Red-Black	White-Black
2	Fan motor		FG-240-200A	Output (Rated) 145W, 4 poles, Single phase, 230V, 50Hz		
				Winding resistance ( $\Omega$ ) (at 20°C)	Red-Black	White-Black
3	Running capacitor	for fan motor	DS441805BPQJ	8.0 $\mu$ F, 440VAC		
		for compressor	RS44B606U0220S	60 $\mu$ F, 440VAC		

### 4. WIRING DIAGRAM

#### 4-1. RAC-24GE2B

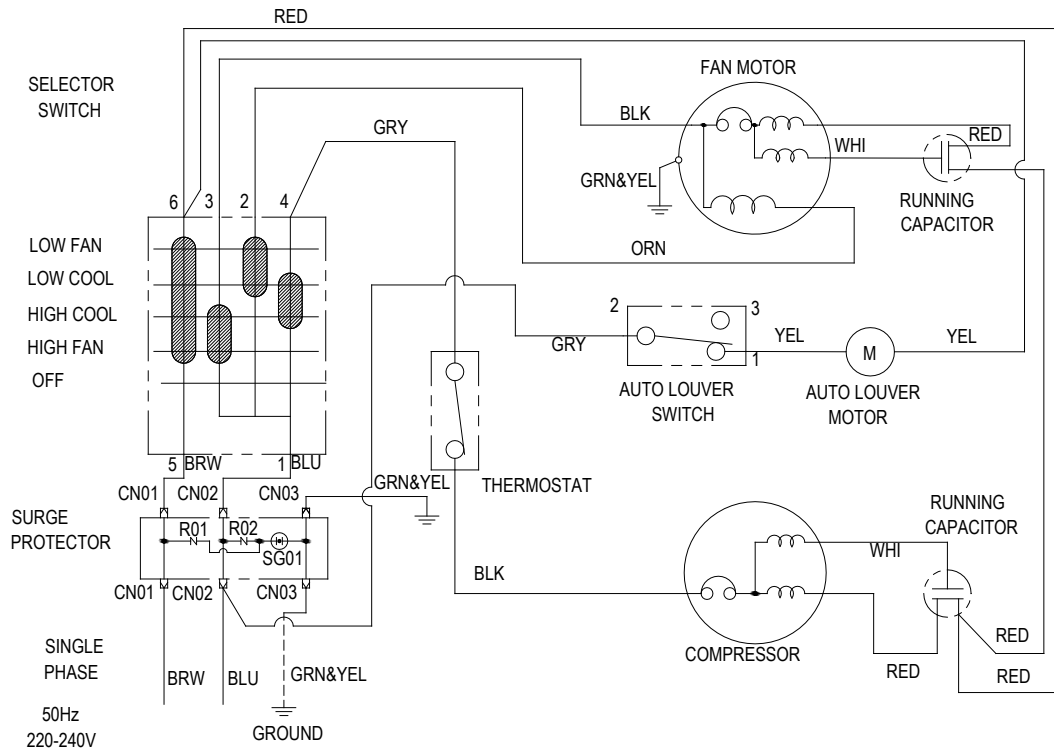


#### 4-2. RAC-24G2B/24G2L



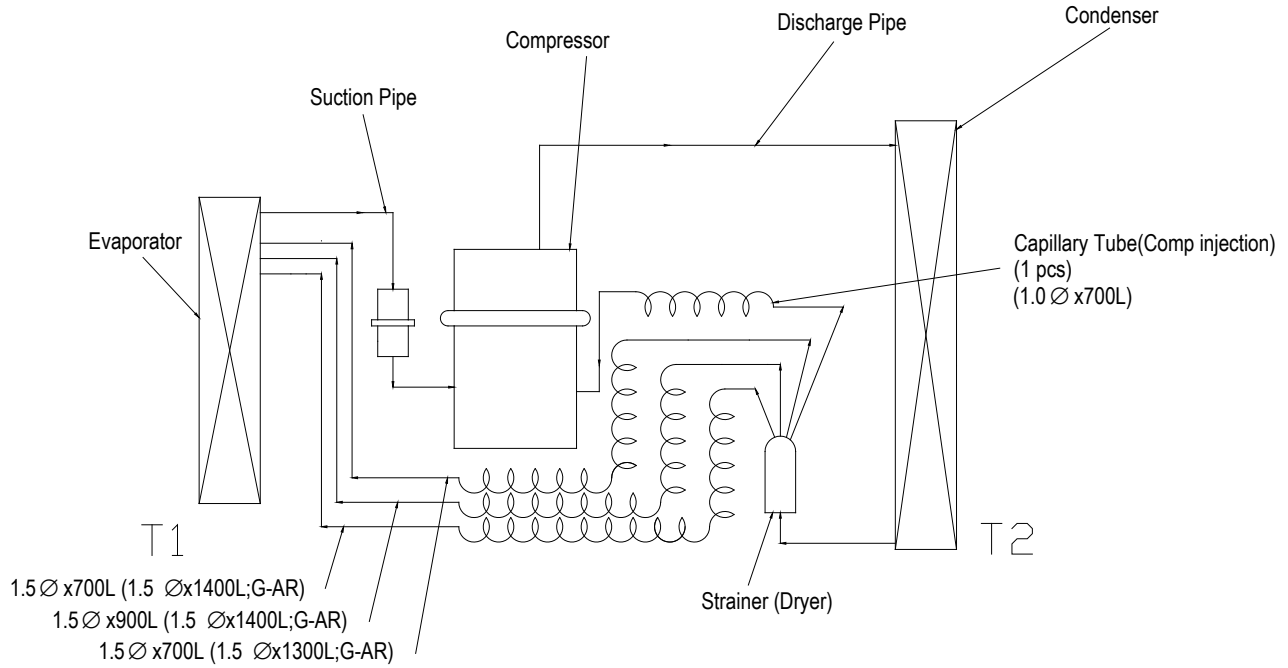
Color Identification	
BLK : Black	WHI : White
BLU : Blue	GRY : Gray
BRW : Brown	GRN : Green
ORN : Orange	YEL : Yellow
RED : Red	GRN & YEL : Green and Yellow

4-3. RAC-24G-AR



Color Identification	
BLK :	Black
BLU :	Blue
BRW :	Brown
ORN :	Orange
RED :	Red
WHI :	White
GRY :	Gray
GRN :	Green
YEL :	Yellow
GRN & YEL :	Green and Yellow

### 5. REFRIGERATING CYCLE DIAGRAM



\* When servicing the cycle, be sure to change the strainer for the dryer.

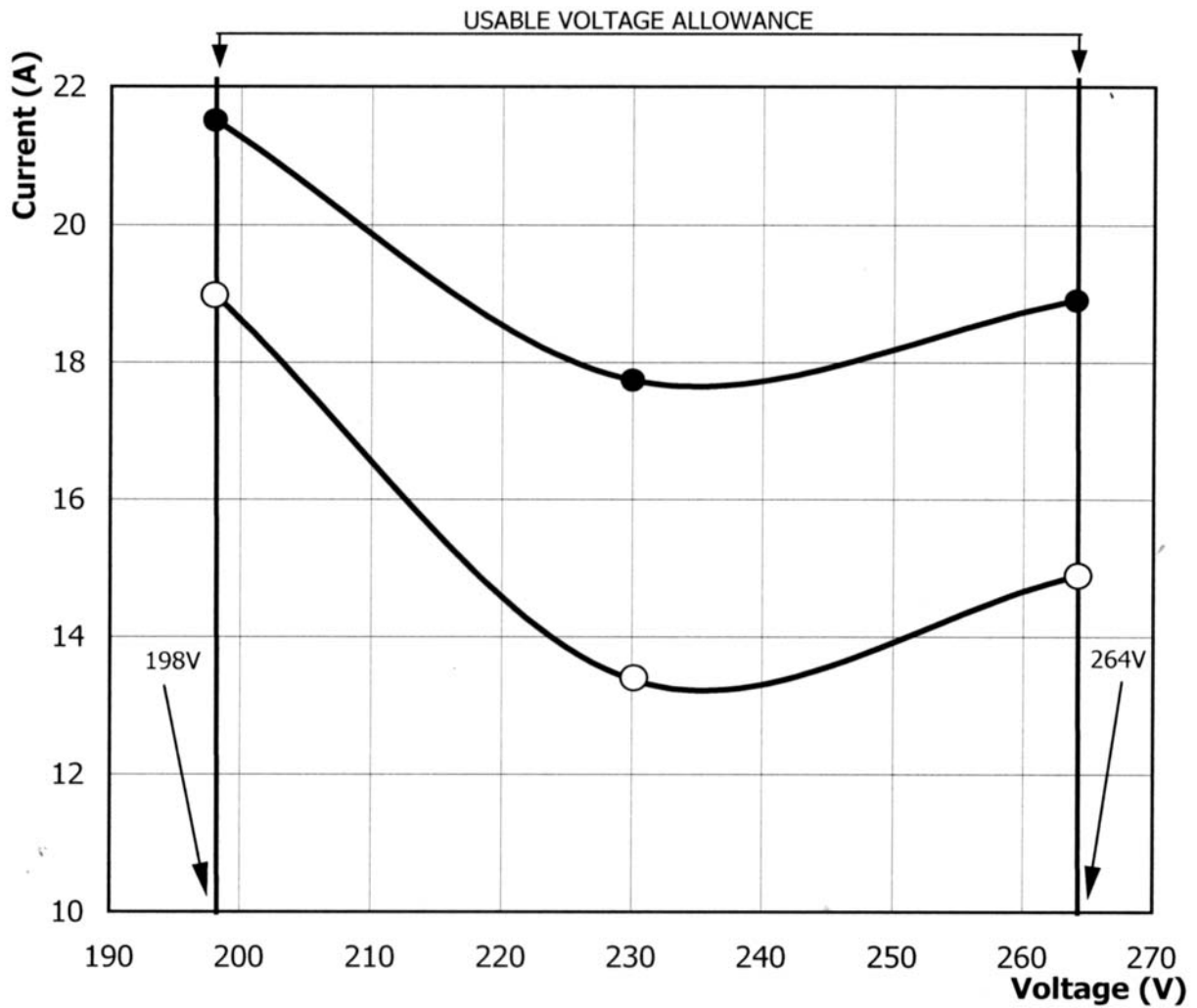
Conditions		Surface temp. of heat exchanger interchanging pipe (°C)		Ambient temp. conditions DB/WB (°C)	
		T <sub>1</sub>	T <sub>2</sub>	Indoor	Outdoor
RAC-24G-AR	Standard	8	54	27/19.5	35/24
	High temperature	14	73	32/22.5	52/24
	Low temperature	-1	40	21/15.5	21/15.5
RAC-24G2B, 24GE2B, 24G2L	Standard	8	51	29/19	46/24
	High temperature	13	74	32/22.5	52/24
	Low temperature	0	41	21/16	21/16

**Note :** Measure the heat exchanger temperature at the center of U-bend.  
 (By means of thermistor thermometer)



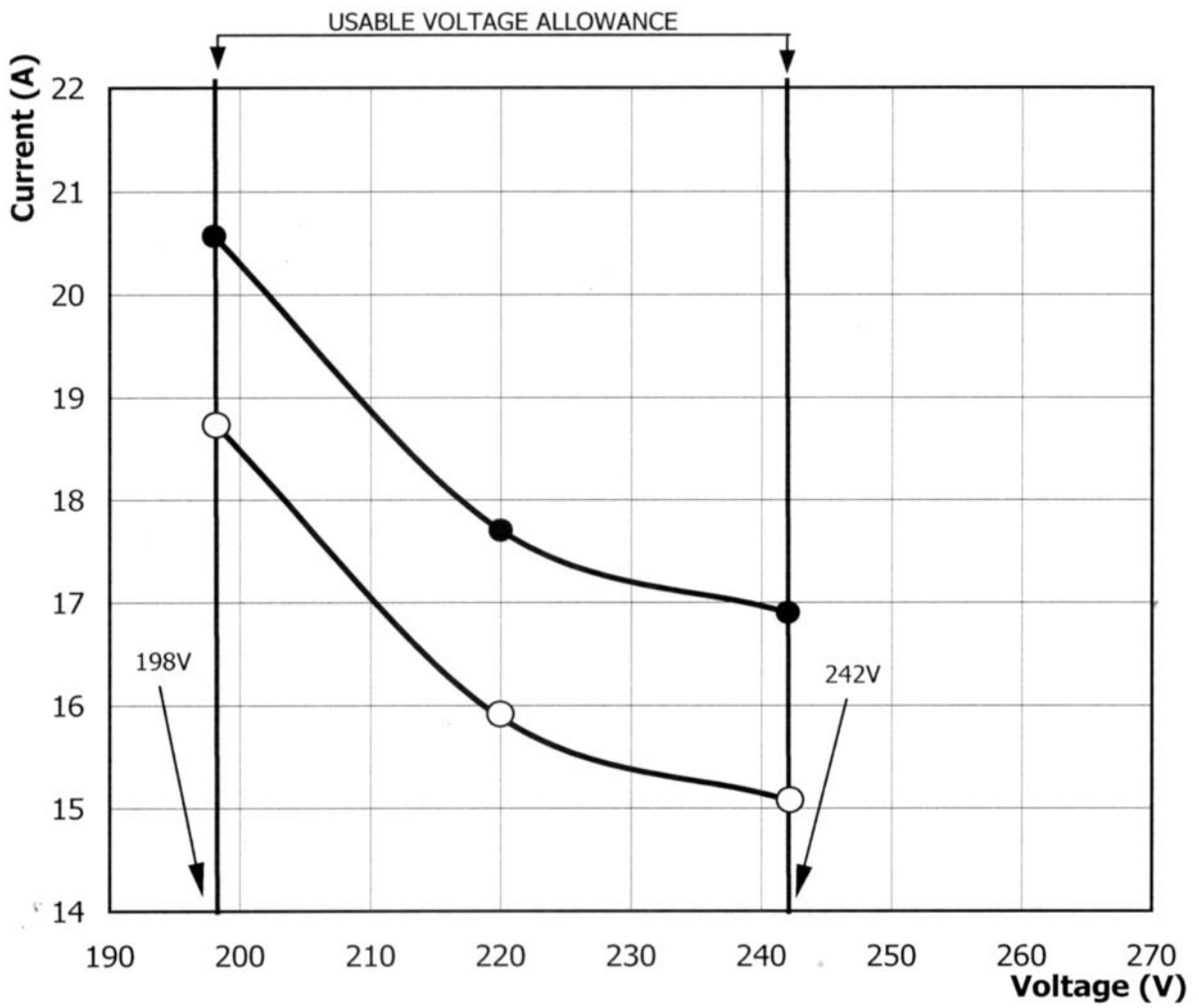
## 6. PERFORMANCE CHARACTER

### 6-1. RAC-24G-AR



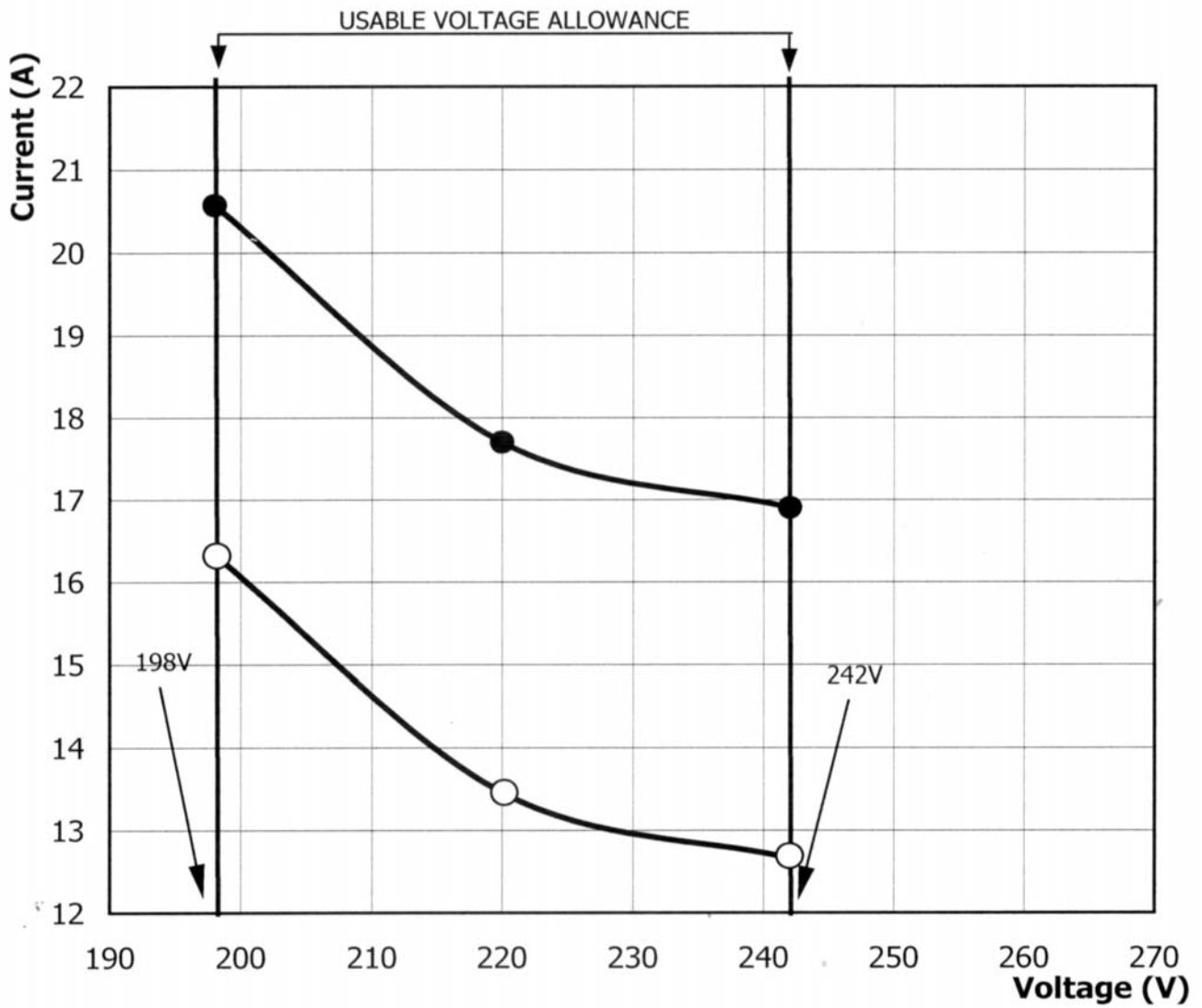
- High Temperature Condition
- Standard Condition

6-2. RAC-24G2B,24GE2B



- High Temperature Condition
- Standard Condition

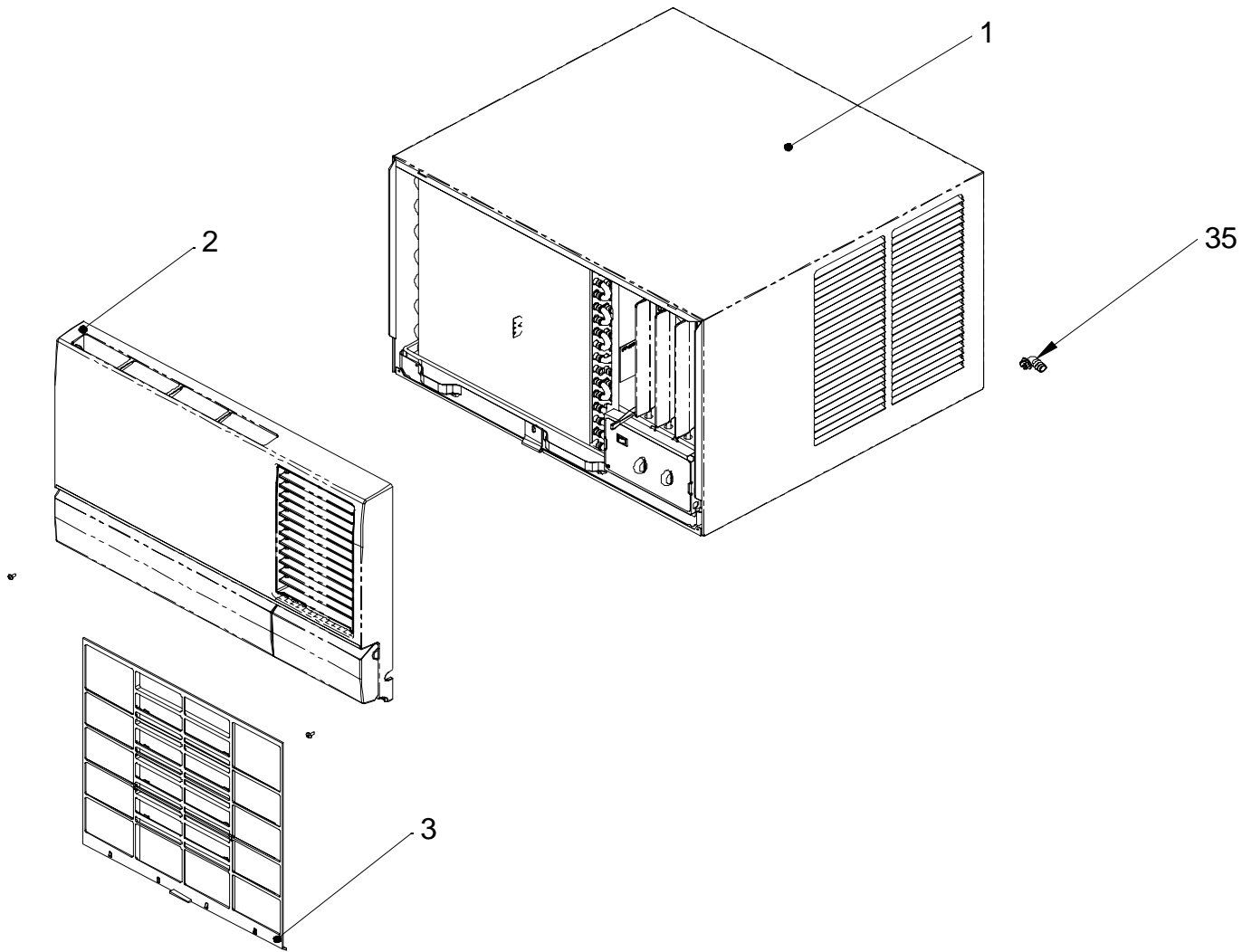
6-3. RAC-24G2L



- High Temperature Condition
- Standard Condition

## 7. EXPLODED VIEWS AND PARTS LIST

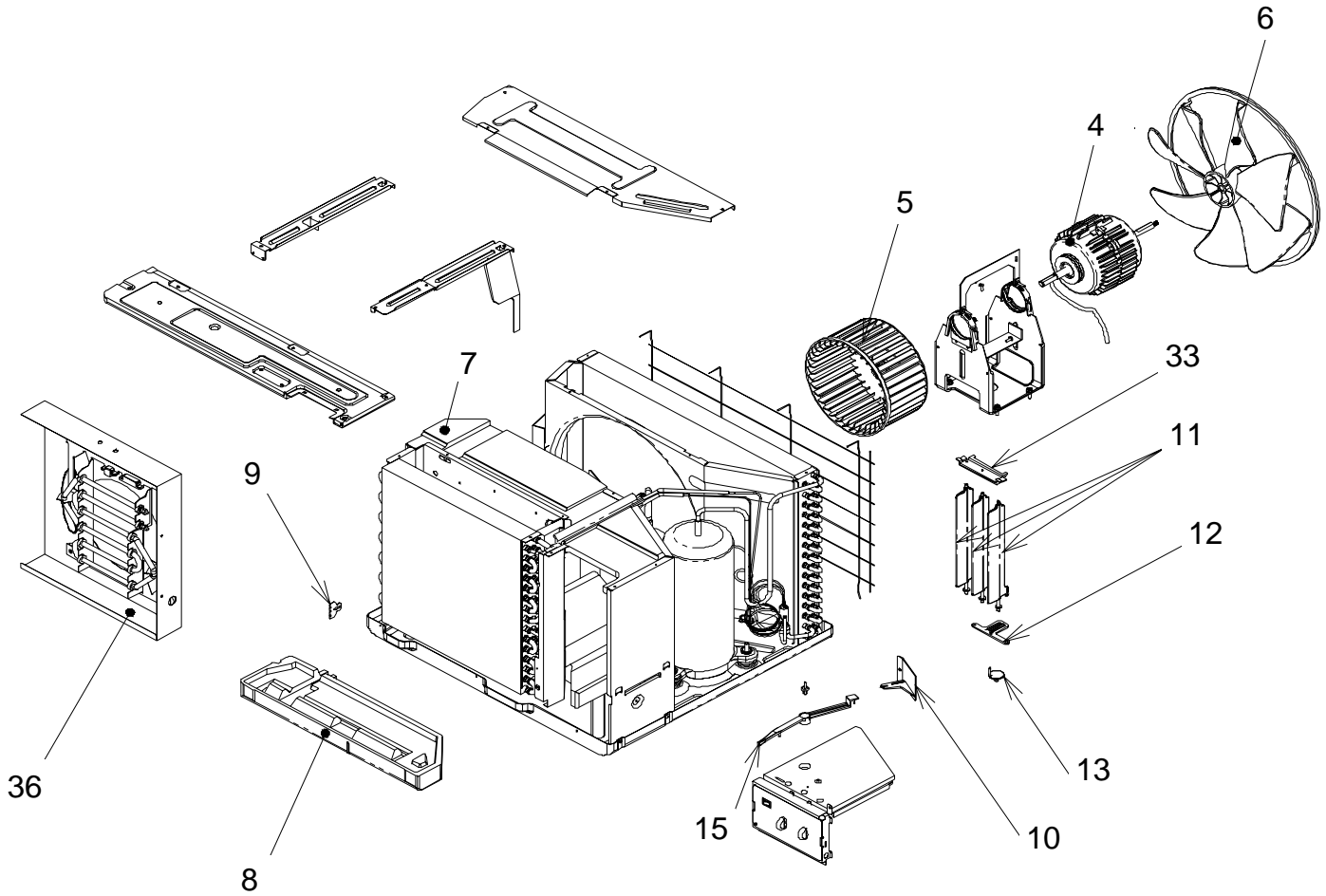
### 7-1. Cabinet Assy



Location No.	Part No.	Description
1	43T00467	CABINET ASSY
2	43T00465	FRONT PANEL ASSY

Location No.	Part No.	Description
3	43T80316	AIR FILTER
35	43T79005	ASM-D-ELBOW

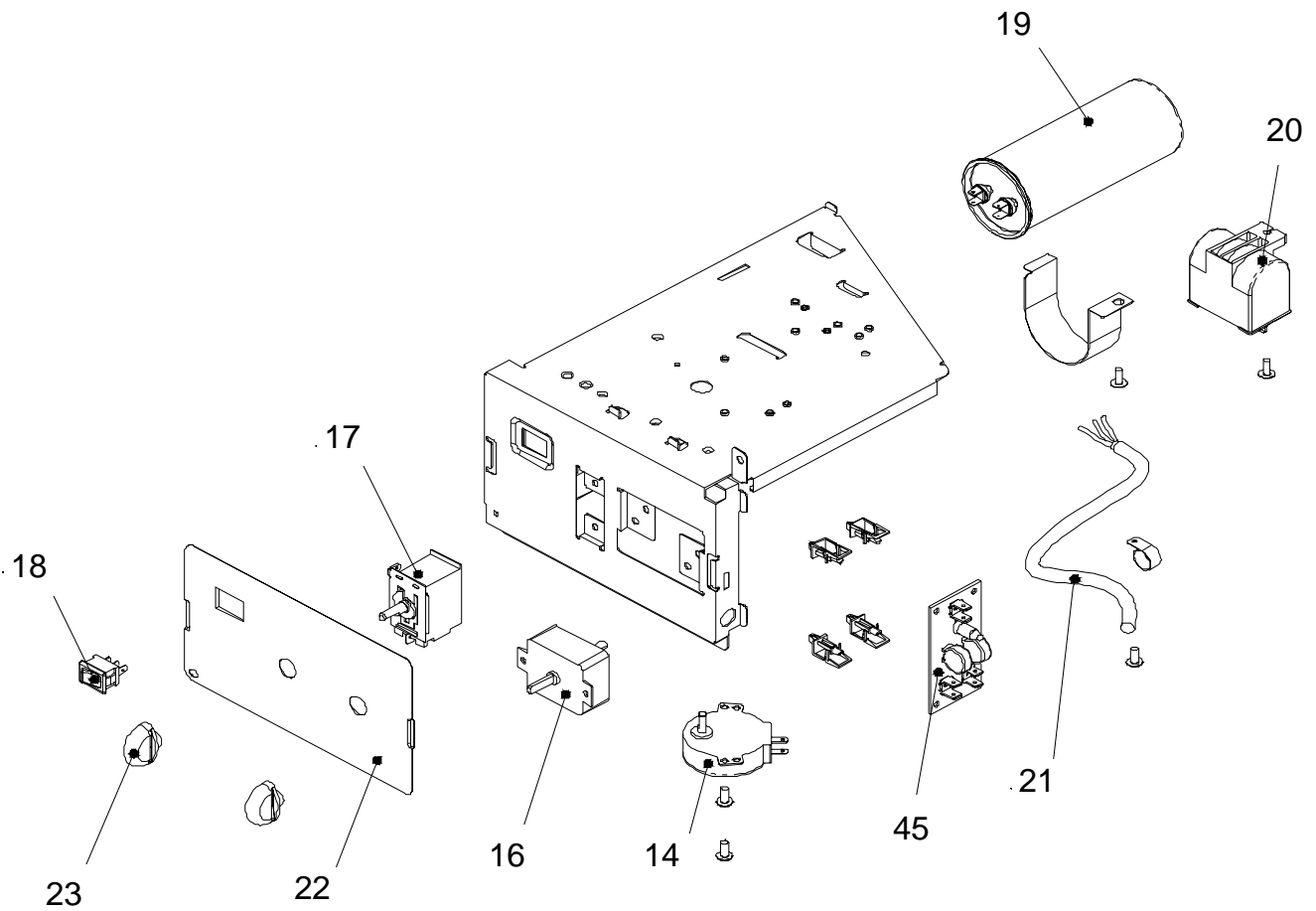
7-2. Main Assy



Location No.	Part No.	Description
4	43T21382	FAN MOTOR (FG-240-145C) (24G-AR)
4	43T21383	FAN MOTOR (FG-230-150D)
5	43020242	SIROCCO FAN ASSY (24G-AR,G2B,G2L)
5	43020245	SIROCCO FAN ASSY (24GE2B)
6	43T20002	PROPELLER FAN
7	43T22009	INDOOR FAN CASE ASSY (24G-AR,G2B,G2L)
7	43T22302	INDOOR FAN CASE ASSY (24GE2B)

Location No.	Part No.	Description
8	43T72004	DRAIN-PAN (24G-AR,G2B,G2L)
8	43T72306	DRAIN PAN ASSY (24GE2B)
9	43T63003	C-THERMO-HOLDER (24G-AR,G2B,G2L)
9	43T63009	HOLDER;THERMOSAT (24GE2B)
10	43T07007	VENTILATION DOOR
11	43T09394	GRILLE
12	43T09011	GRILLE CONNECTION PLATE
13	43T09002	ROTARY PLATE
15	43T07312	VENTILATION LEVER
33	43T09012	GRILLE CONNECTION PLATE

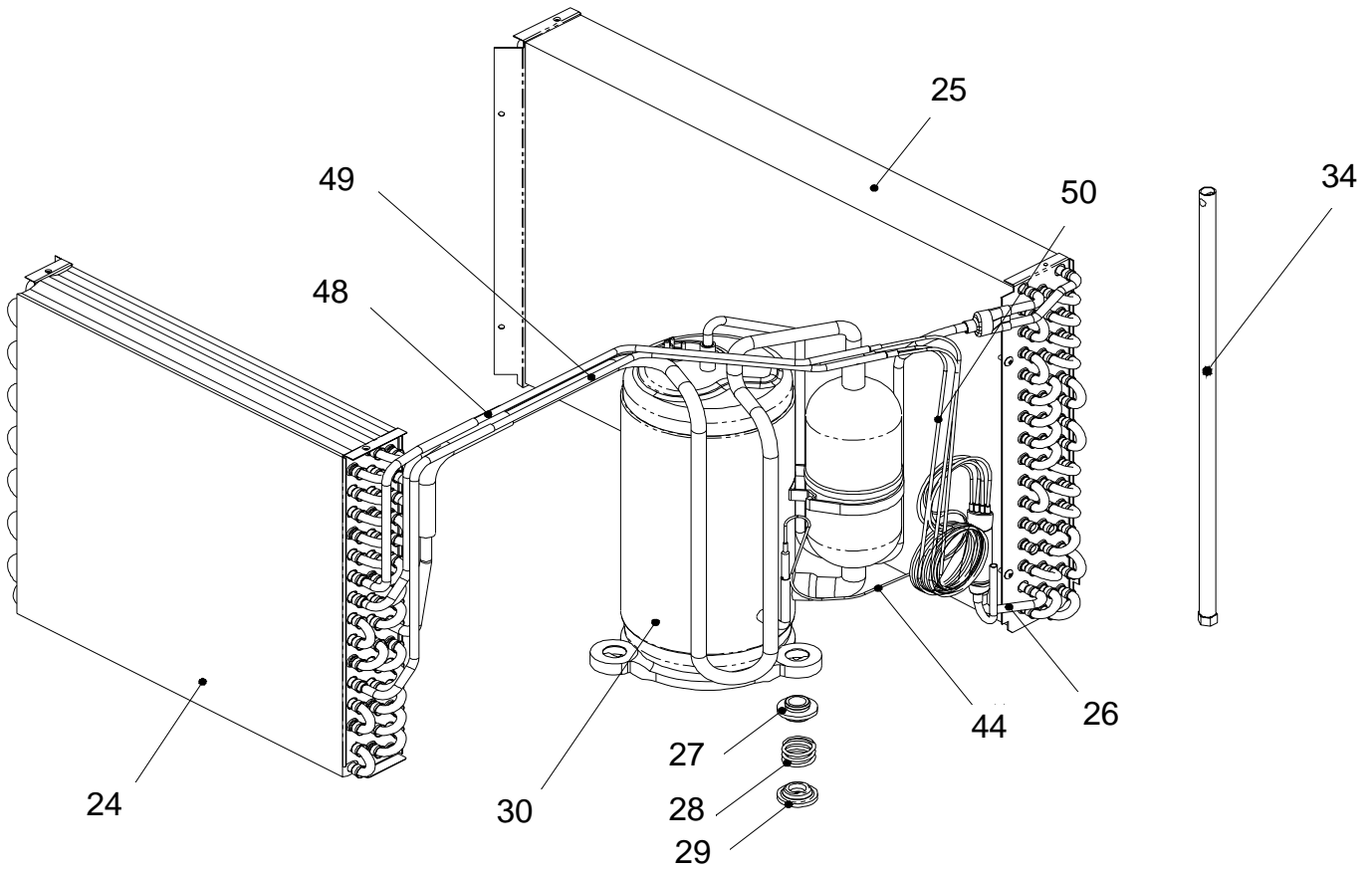
7-3. E-Parts Assy



Location No.	Part No.	Description
14	43T67304	GEAR-MOTOR-ASSY
16	43051320	ROTARY SWITCH (24G-AR,G2B,G2L)
16	43051321	ROTARY SWITCH (24GE2B)
17	43T50319	THERMOSTAT (24G-AR,G2B,G2L)
17	43T50011	THERMOSTAT (24GE2B)
18	43T51005	SWITCH SEESAW
19	43T55345	MF-CAPACITOR, (24G-AR)
19	43T55346	MF-CAPACITOR, (24G2B, G2L,GE2B)
20	43T55344	MF-CAPACITOR, (24G-AR)

Location No.	Part No.	Description
20	43T55343	Capacitor, (24G2B, G2B, G2L)
21	43T60368	Power Cord ASSY(24G-AR,G2B,G2L)
21	43T60369	Power Cord ASSY(24GE2B)
22	43T08415	SWITCH PANEL (24G-AR,G2B)
22	43T08416	SWITCH PANEL (24GE2B)
22	43T08417	SWITCH PANEL (24G2L)
23	43T67303	KNOB ASSY
45	43T54315	SURGE PROTECTOR ASSY

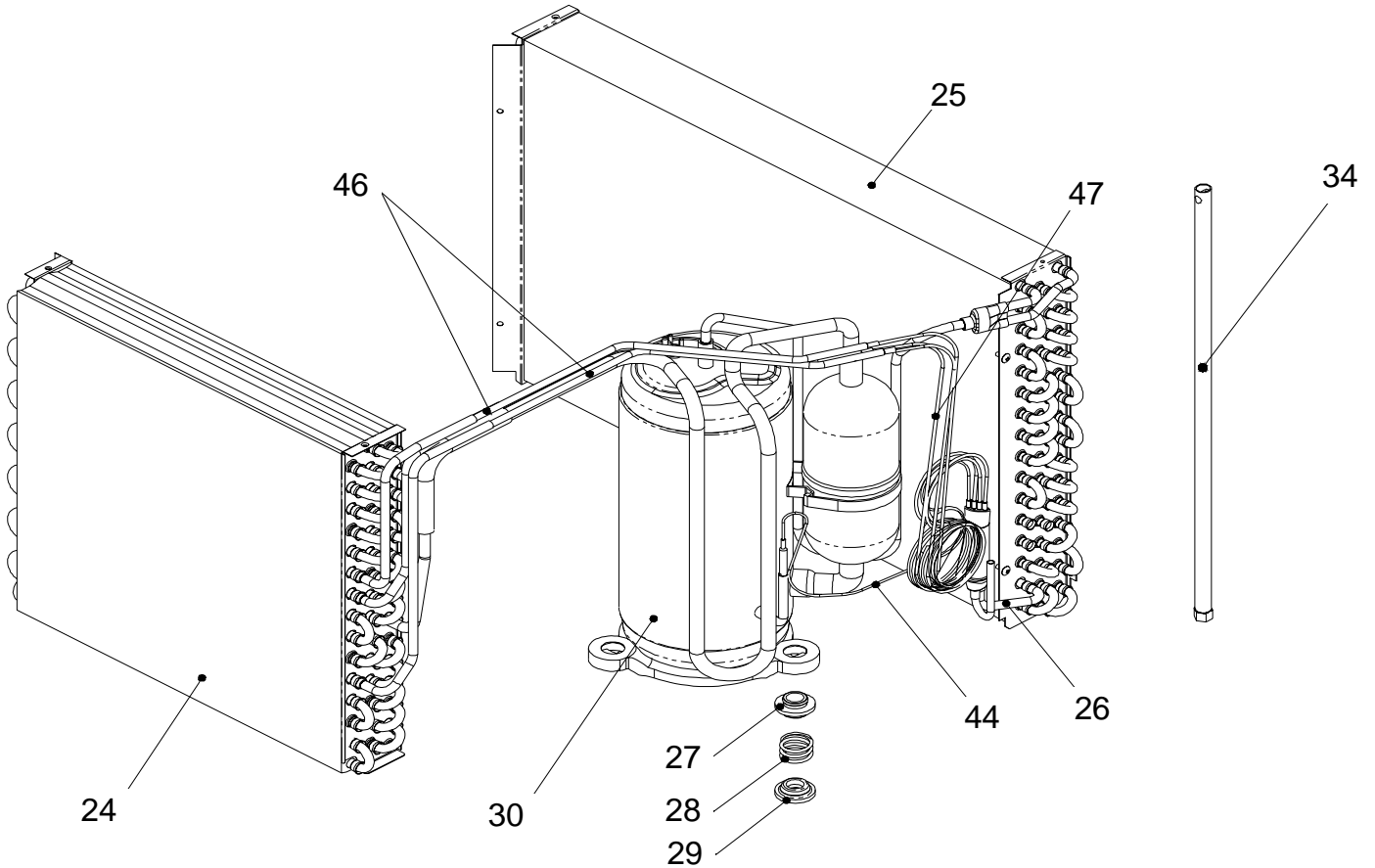
7-4. Refrigerator Assy (RAC-24G-AR)



Location No.	Part No.	Description
24	43T44005	EVAPORATOR-ASSY
25	43T43378	ASM-COND
26	43T47362	STRAINER ASSY
27	43T49011	SPRING BASE(UPPER)
28	43T49012	SPRING BASE(LOWER)
29	43T49019	SPRING; BUFFER
30	43T41393	COMPRESSOR (PH440X3CJ-4MTS)

Location No.	Part No.	Description
34	43T89006	BOX-SPANNER
44	43T47368	INJ CAPI ASSY
48	43T47365	AUX PIPE C ASSY
49	43T47366	AUX PIPE D ASSY
50	43T47367	AUX PIPE E ASSY

7-4. Refrigerator Assy (RAC-24G2B, 24G2L, 24GE2B)

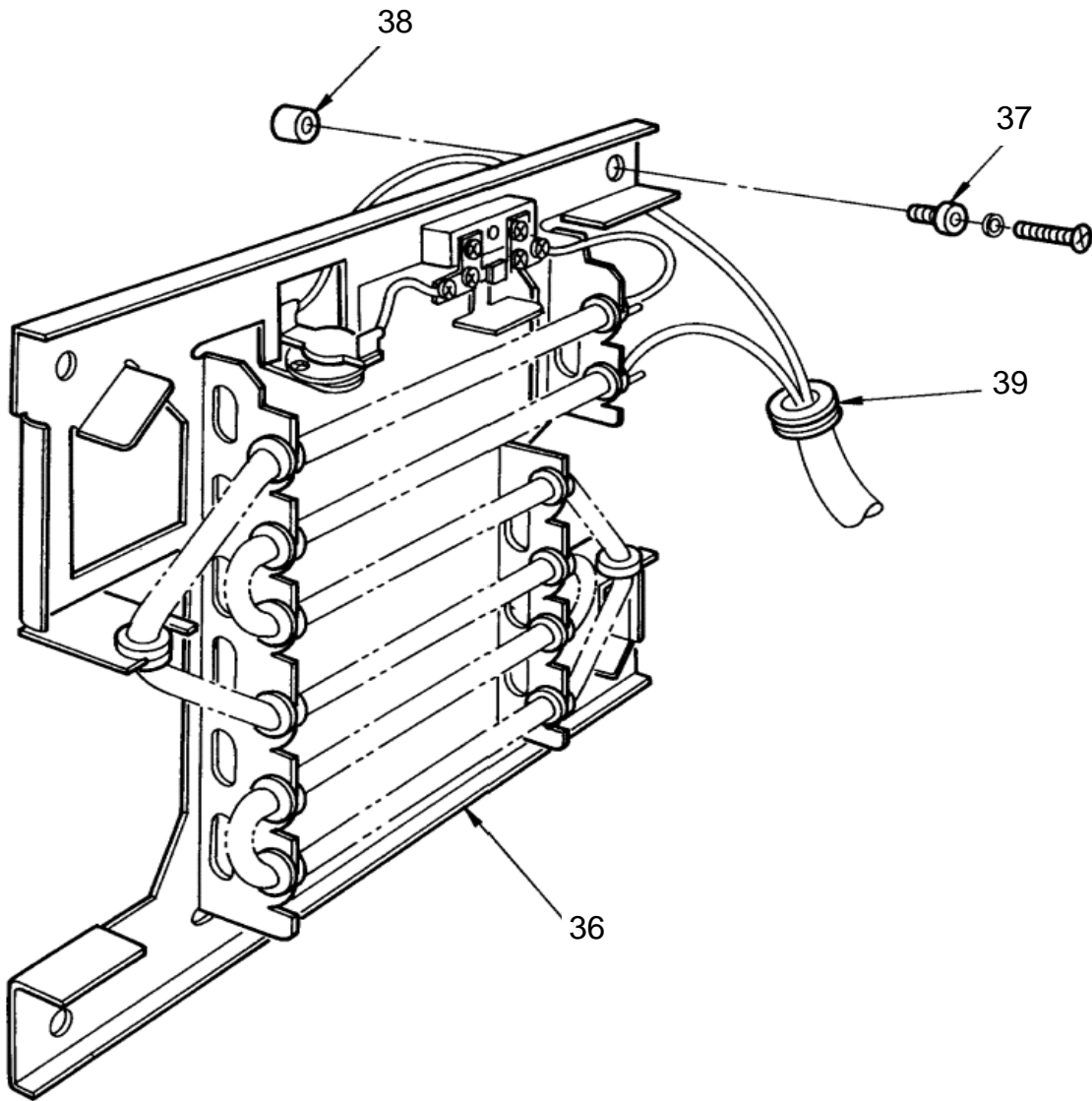


Location No.	Part No.	Description
24	43T44005	EVAPORATOR-ASSY
25	43T43378	ASM-COND
26	43T47361	PIPE CAPI ASSY (24G2B)
26	43047362	PIPE CAPI ASSY (24G2L,GE2B)
27	43T49011	SPRING BASE (UPPER)
28	43T49012	SPRING BASE (LOWER)
29	43T49019	SPRING BUFFER

Location No.	Part No.	Description
30	43T41392	COMPRESSOR (PH370X3CJ-3MTS)
34	43T89006	BOX-SPANNER
44	43T47368	INJ CAPI ASSY
46	43T47363	AUX PIPE A ASSY
47	43T47364	AUX PIPE B ASSY



7-5. Heater Assy (RAC-24GE2B)



Location No.	Part No.	Description
36	43T57301	HEATER
37	43T11003	INSULATOR (A)

Location No.	Part No.	Description
38	43T11005	INSU-SPACER-B
39	43T96002	BUSHING

**TOSHIBA CARRIER (THAILAND) CO., LTD.**

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