

SPLIT TYPE ROOM AIR CONDITIONER WALL MOUNTED type

SERVICE MANUAL

Models	Indoor unit	Outdoor unit
	ASY20RGB-W	AOY20RMAL
	ASY24RGB-W	AOY24RMAL

CONTENTS

SPECIFICATIONS	1
OUTLINE AND DIMENSIONS	2
REFRIGERANT SYSTEM DIAGRAM.....	3
CIRCUIT DIAGRAM	4
INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM	5
INDOOR P.C. BOARD LAYOUTS	6
DISASSEMBLY ILLUSTRATION	8
PARTS LIST	15

SPECIFICATIONS

TYPE		COOL & HEAT	
INDOOR UNIT		ASY20RGB-W	ASY24RGB-W
OUTDOOR UNIT		AOY20RMAL	AOY24RMAL
COOLING CAPACITY	(kW)	5.55 - 5.70	6.70 - 6.80
HEATING CAPACITY	(kW)	5.90 - 6.10	7.70 - 7.80

ELECTRICAL DATA

POWER SOURCE		(V)	220 - 240	
FREQUENCY		(Hz)	50	
RUNNING CURRENT	(A)	COOLING	9.7 - 9.7	11.7 - 10.9
		HEATING	8.8 - 9.0	11.4 - 10.8
INPUT WATTS	(kW)	COOLING	2.05 - 2.15	2.55 - 2.60
		HEATING	1.85 - 1.97	2.46 - 2.55
EER	(kW/kW)	COOLING	2.71 - 2.65	2.71 - 2.65
		HEATING	3.19 - 3.10	3.13 - 3.06
MOISTURE REMOVAL		(ℓ /hr)	2.0	2.8
AIR CIRCULATION-Hi		(m³/hr)	840	1,000

COMPRESSOR

TYPE		Hermetic type,Permanent split condenser,2pole,Single phase,Induction motor	
CODE		PH36VTTT	NH44VNBT
REFRIGERANT	R-22 (g)	1,950	2,120

FAN MOTOR

POWER SOURCE		(V)	220 - 240	
INDOOR UNIT	TYPE		MFA-20GTT	MFA-24GTT
	HI-SPEED (r.p.m.)		1,130 - 1,160	1,230 - 1,290
	MED-SPEED (r.p.m.)		960 - 1,000	1,030 - 1,130
	LO-SPEED (r.p.m.)		820 - 850	840 - 930
OUTDOOR UNIT	TYPE		MFB - 252TA	
	(r.p.m.)		735	

DIMENSIONS

INDOOR UNIT	H x W x D (mm)	320 x 1,250 x 195	
OUTDOOR UNIT		643 x 840 x 336	

WEIGHTS

INDOOR UNIT	GROSS / NET(kg)	25/18	
OUTDOOR UNIT		68 / 76	69 / 77

ADDITIONAL REFRIGERANT CHARGE

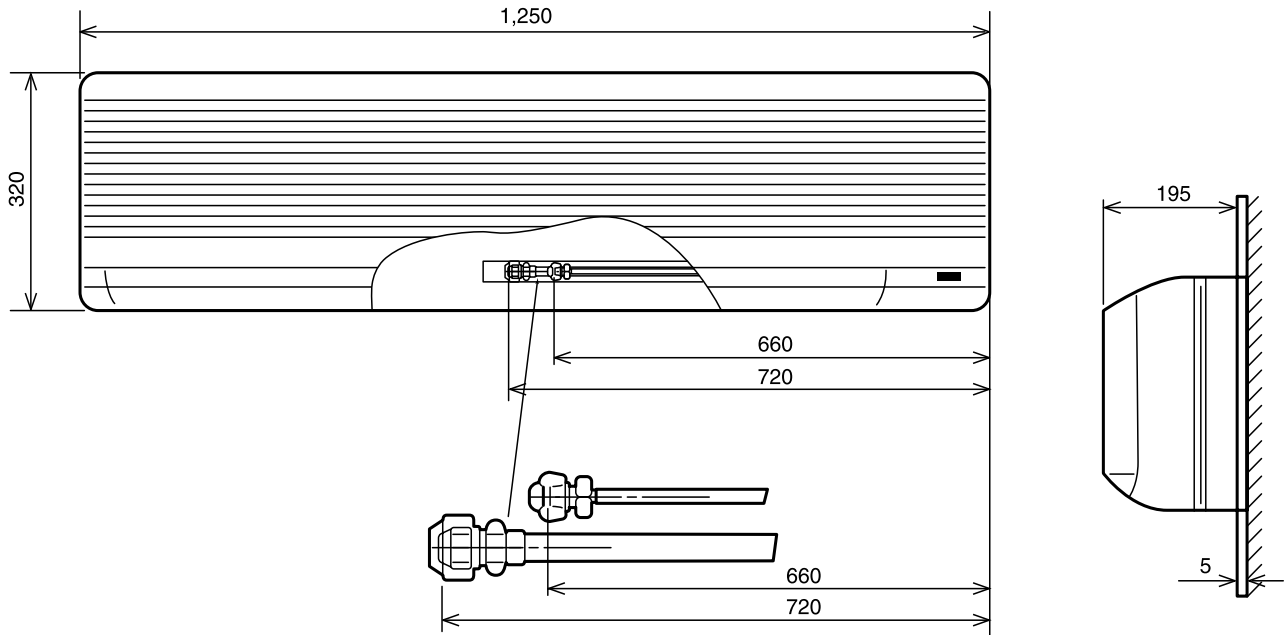
PIPE LENGTH		16 ft(5 m)	33 ft(10 m)	49 ft(15 m)	66 ft(20 m)
FULL CHARGE AMOUNT	ASY20R	1,950 g (68.8 oz)	2,100 g (74.1 oz)	2,250 g (79.4 oz)	2,400 g (84.7 oz)
	ASY24R	2,120 g (74.8 oz)	2,270 g (80.1 oz)	2,420 g (85.4 oz)	2,570 g (90.7 oz)

Note : In the case that 5 m are exceeded, when using a connection pipe other than that in the table, charge additional refrigerant with 30 g(1.76 oz)/1 m(3.3 ft) as the criteria.

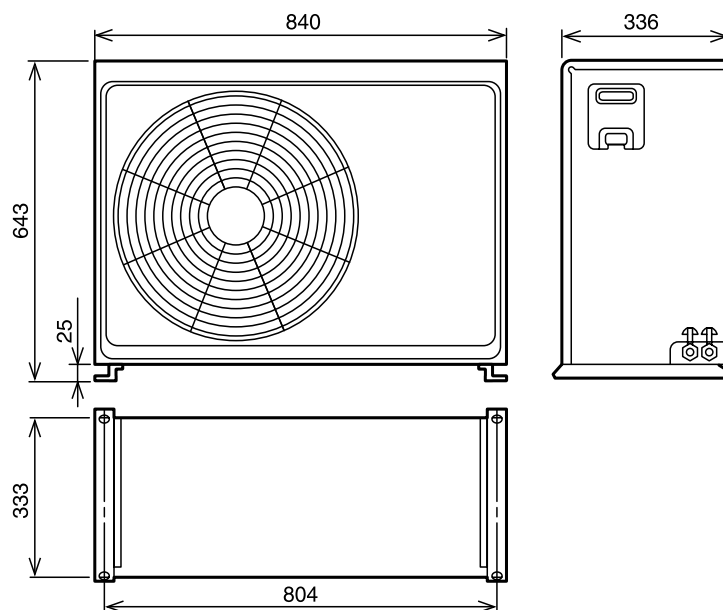
OUTLINE AND DIMENSIONS

INDOOR UNIT

Unit : mm

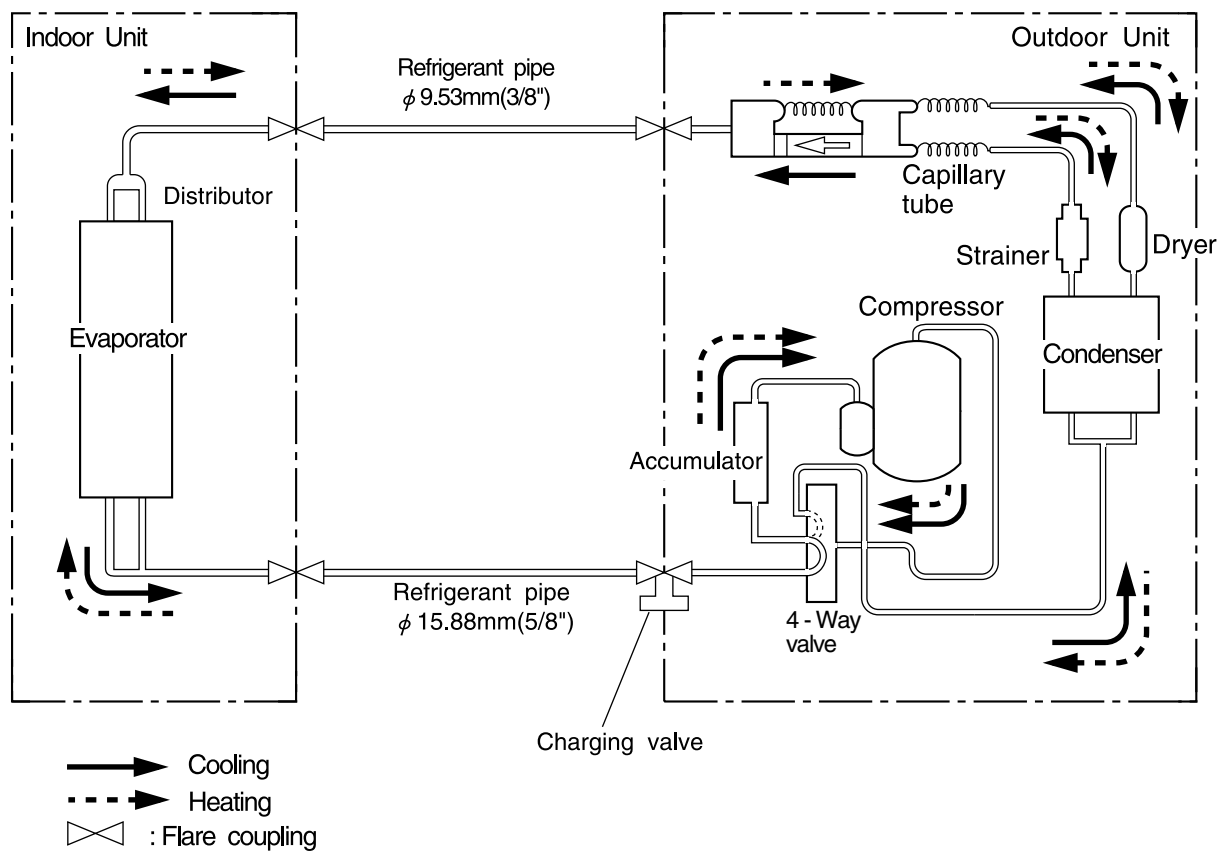


OUTDOOR UNIT

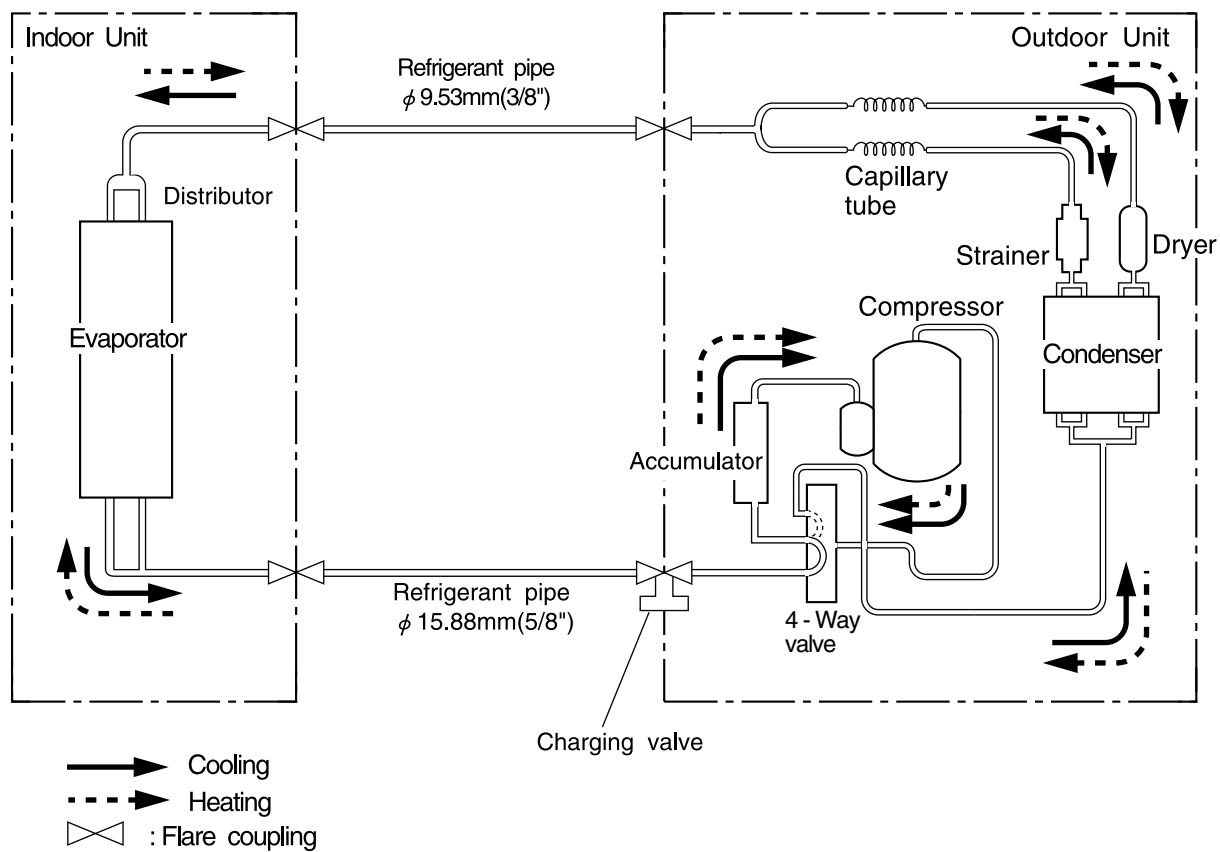


REFRIGERANT SYSTEM DIAGRAM

Models : ASY20RGB-W / AOY20RMAL

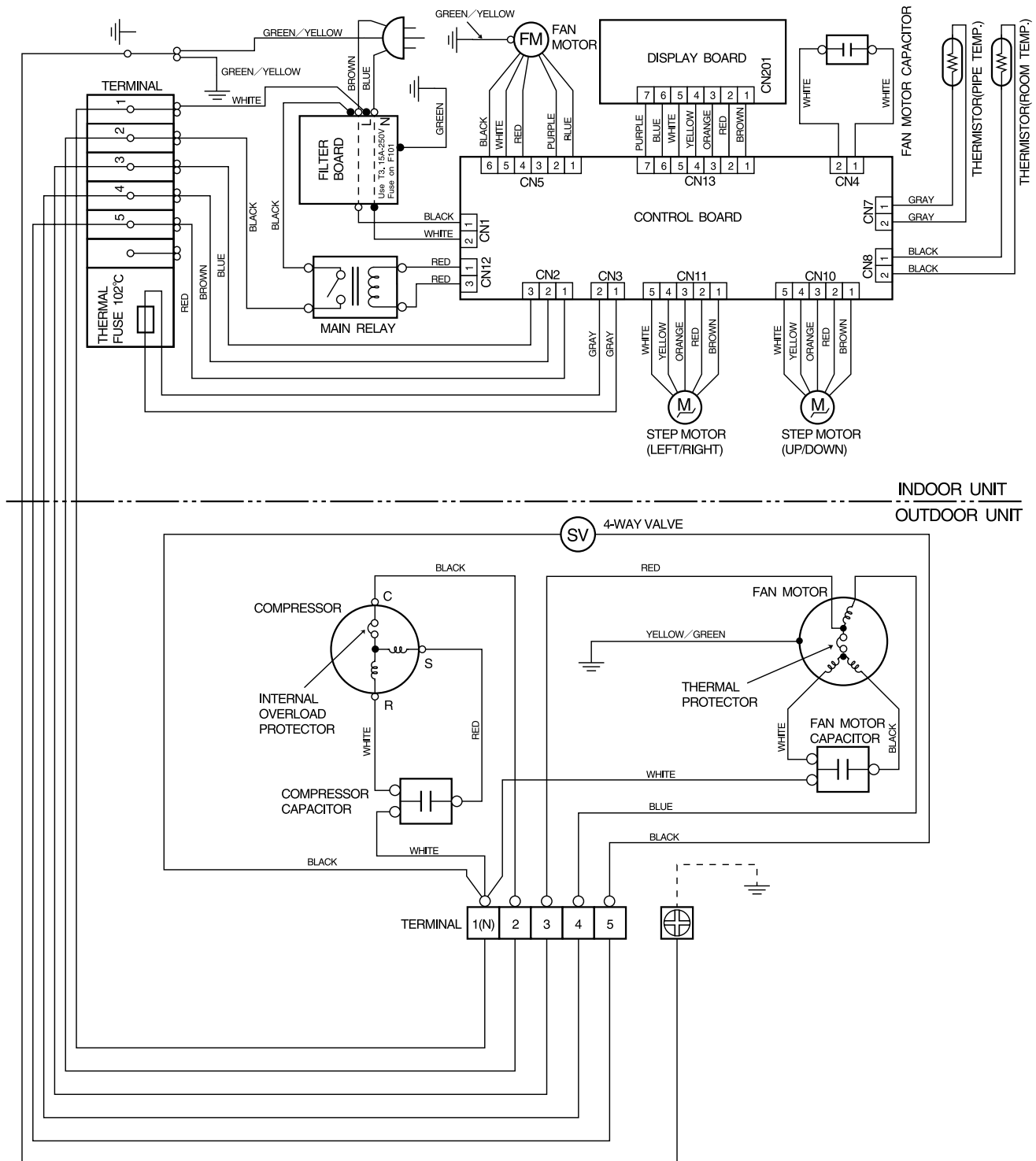


Models : ASY24RGB-W / AOY24RMAL

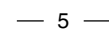


CIRCUIT DIAGRAM

Models : ASY20RGB-W / AOY20RMAL
ASY24RGB-W / AOY24RMAL

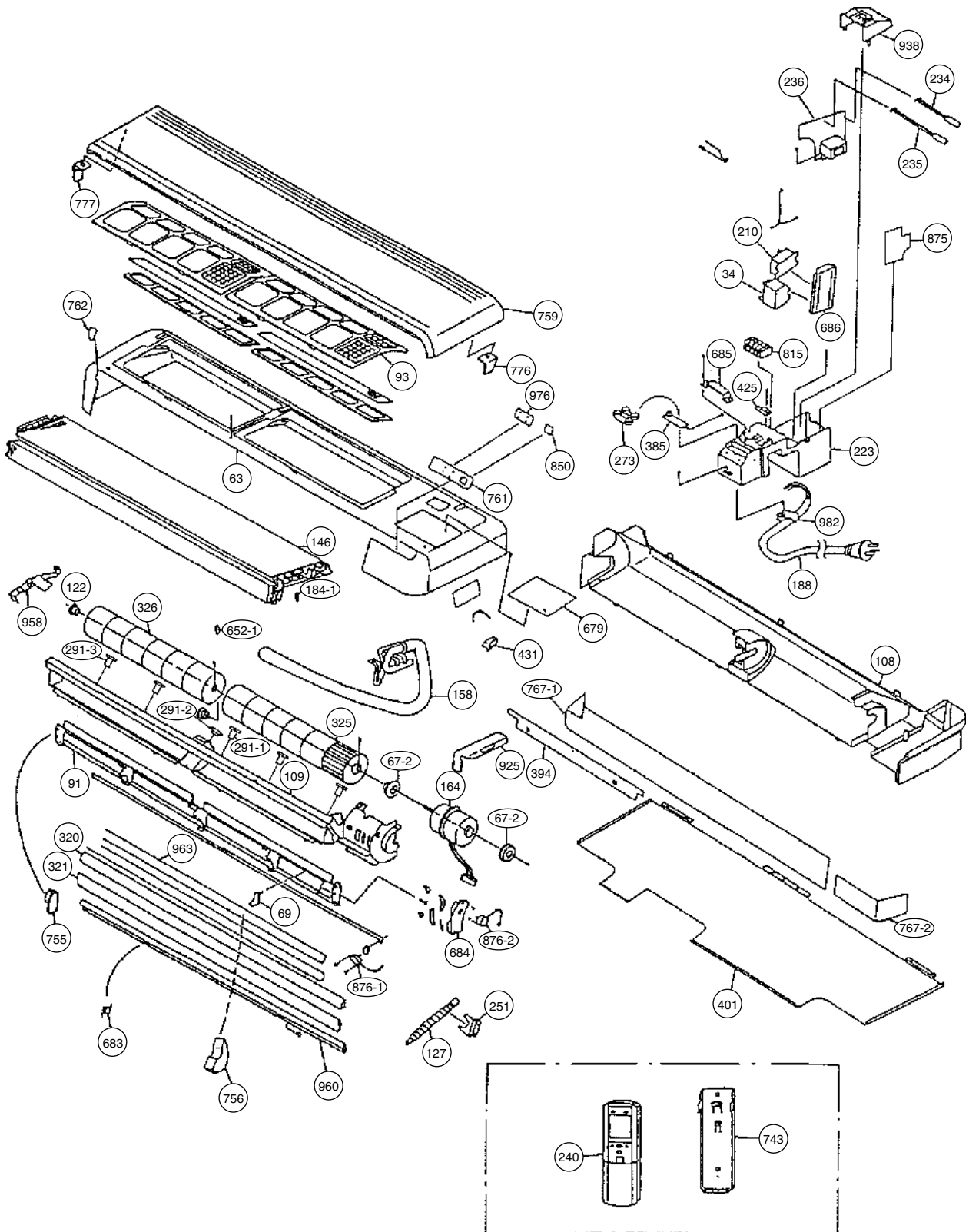


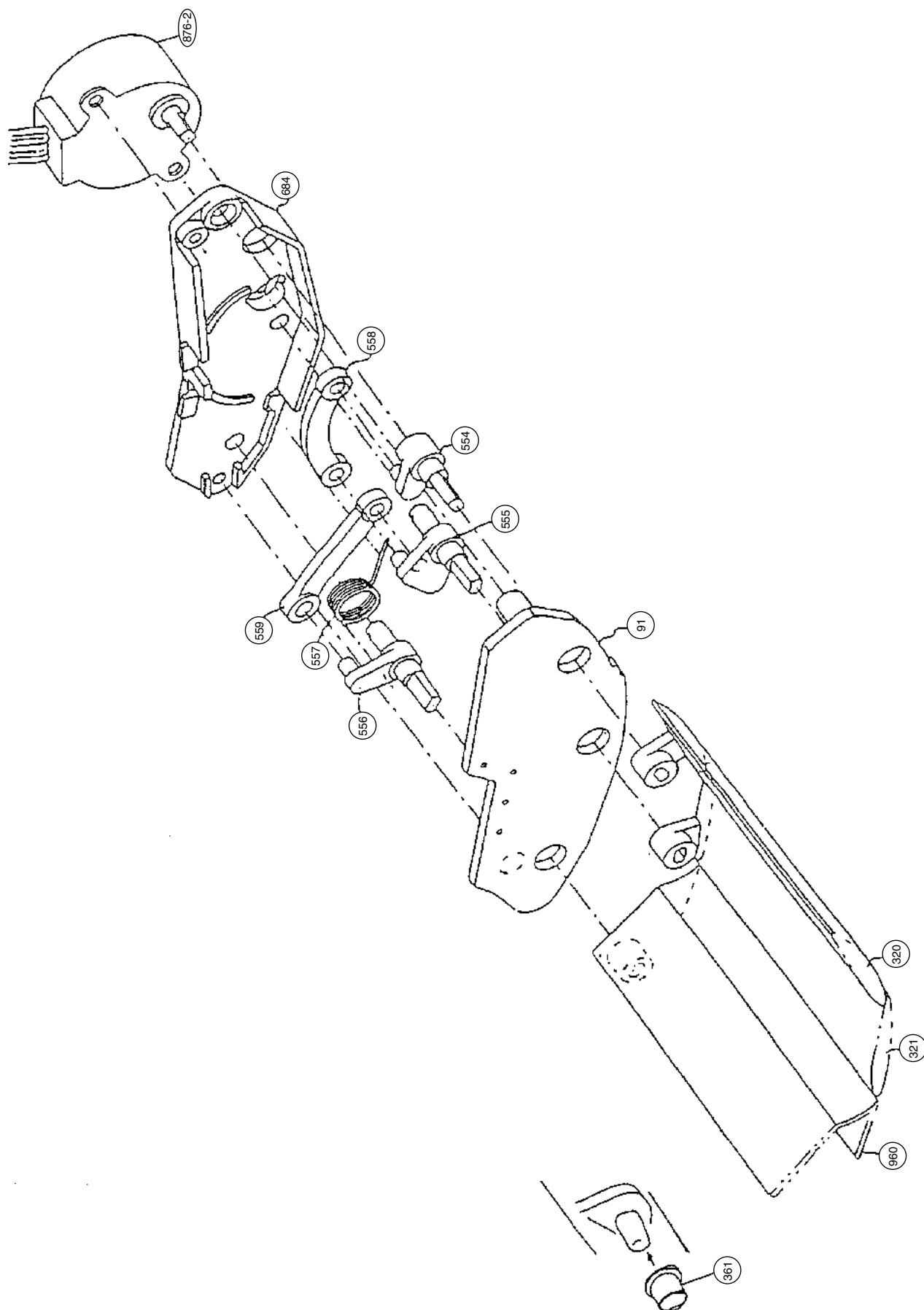
Models : ASY20RGB-W
ASY24RGB-W

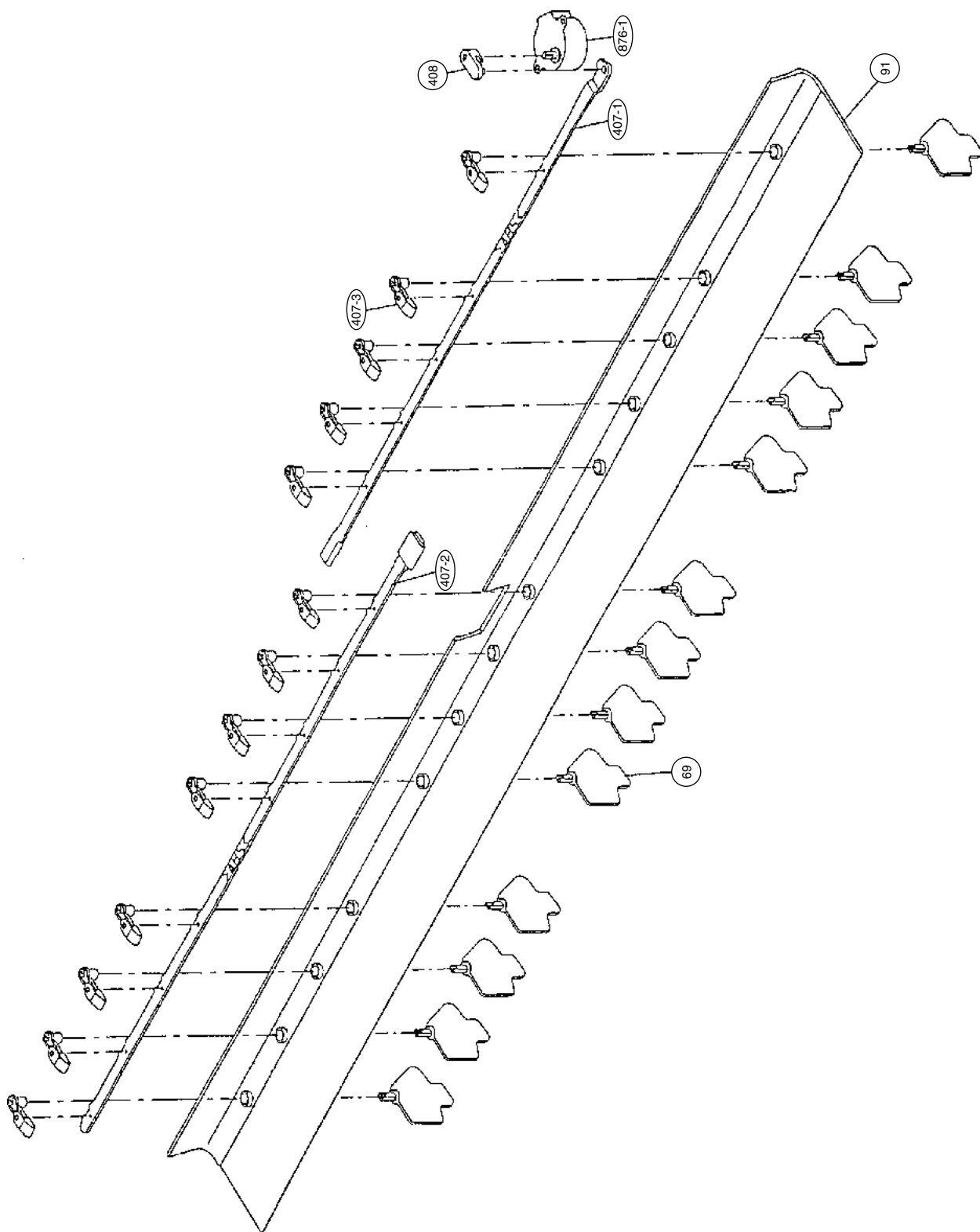


DISASSEMBLY ILLUSTRATION

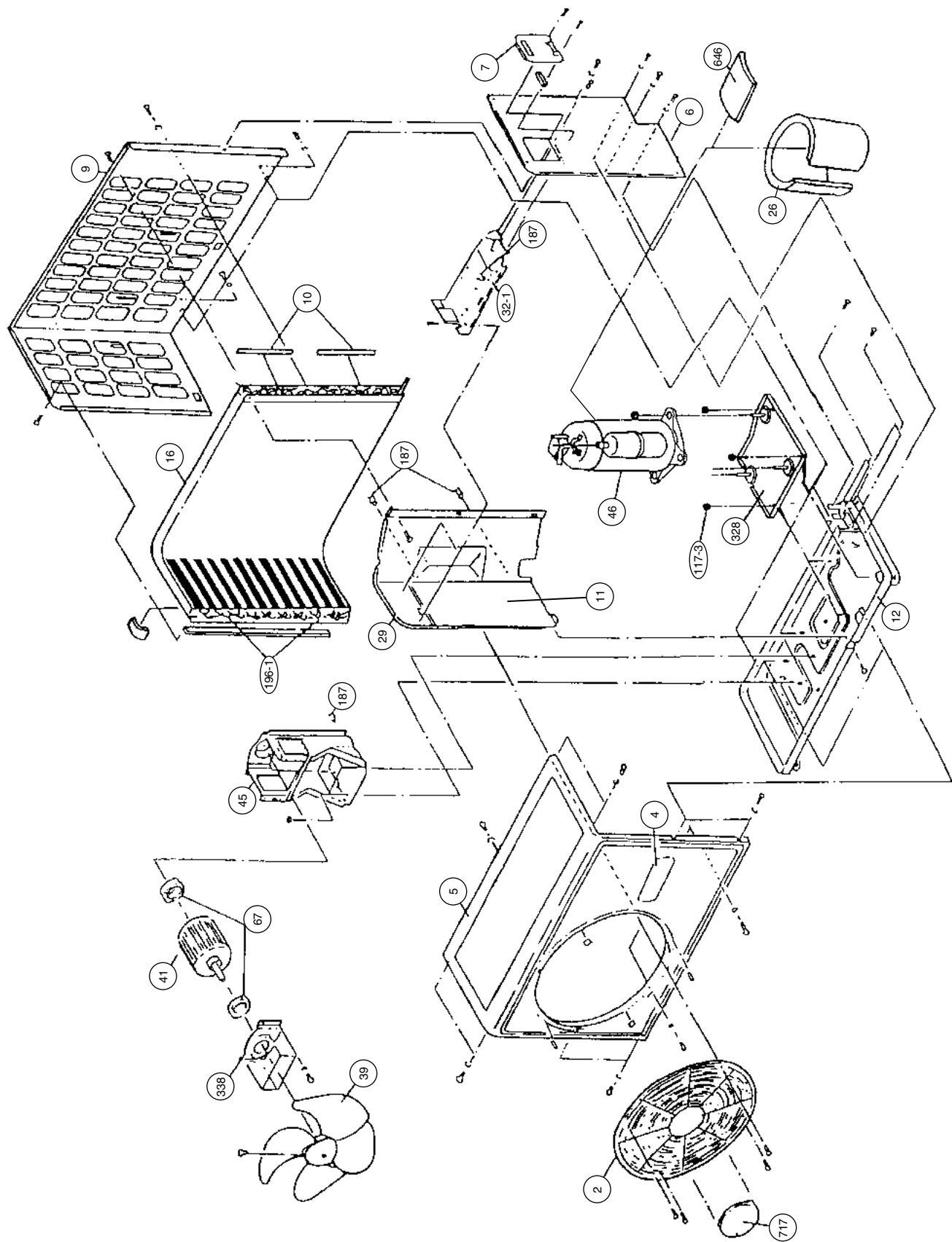
Models : ASY20RGB-W
ASY24RGB-W



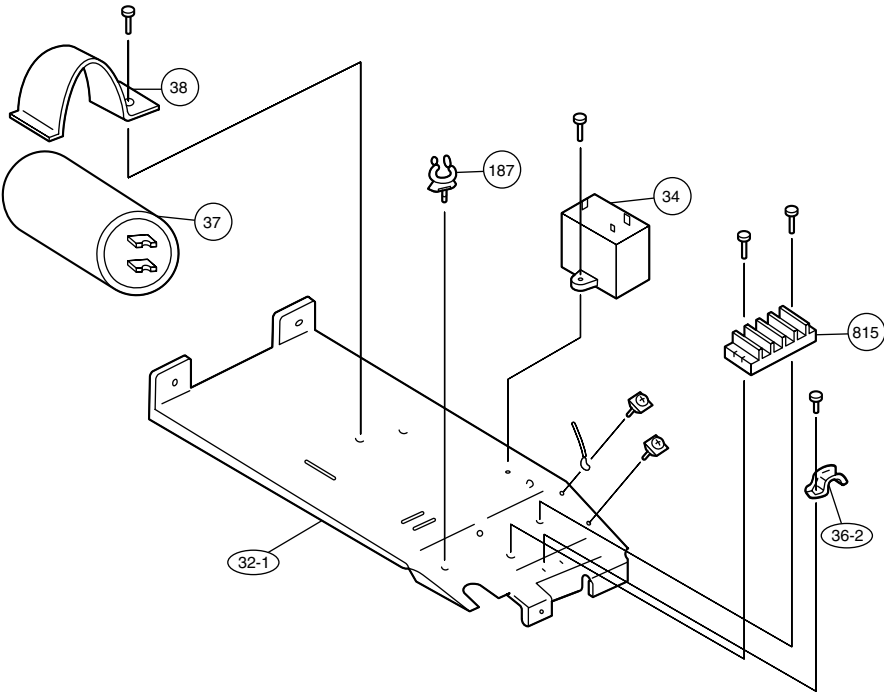
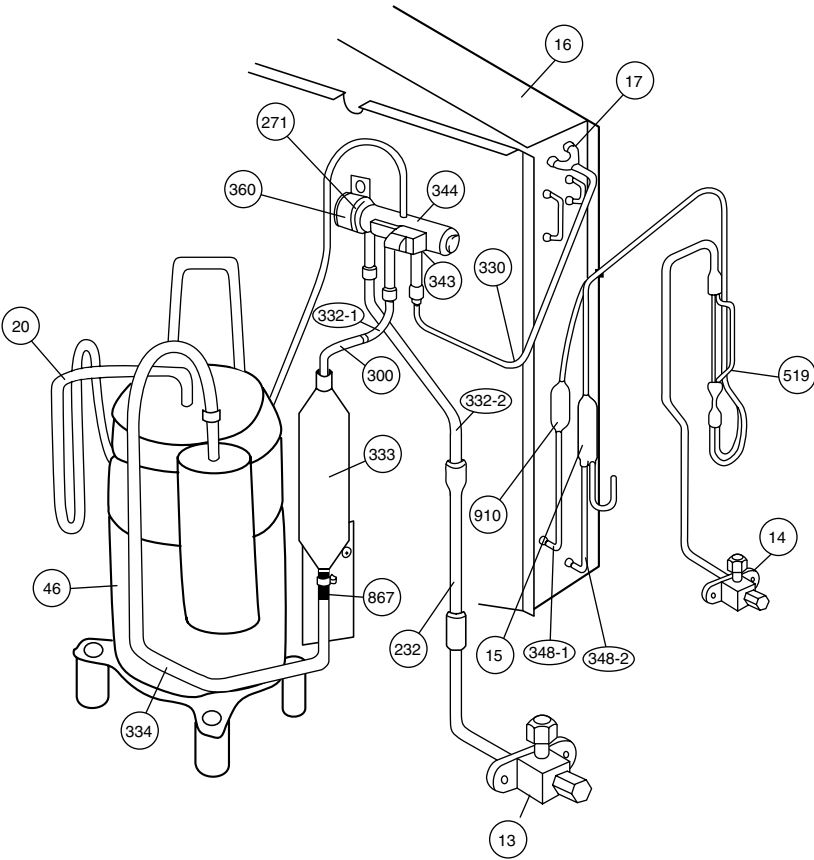




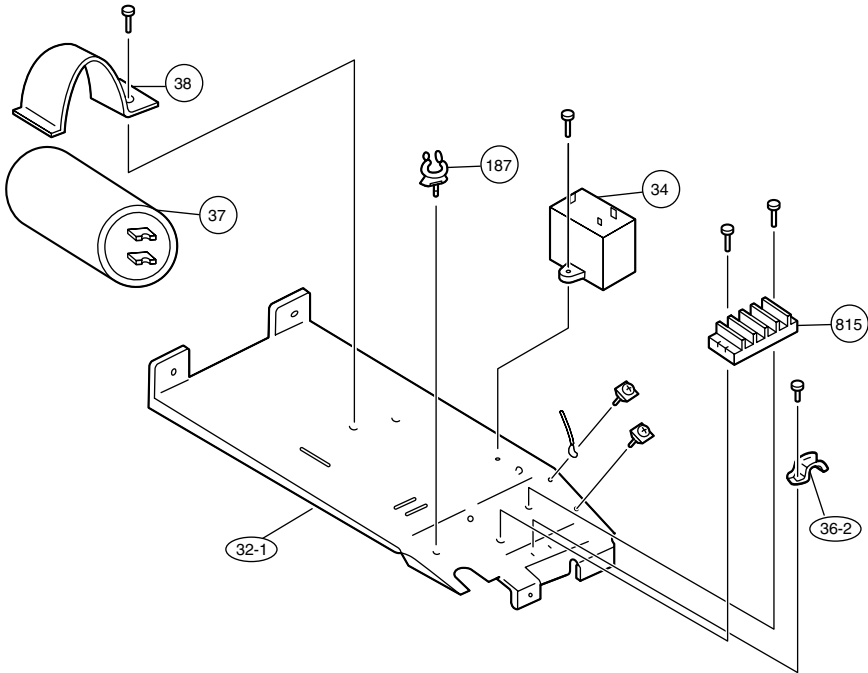
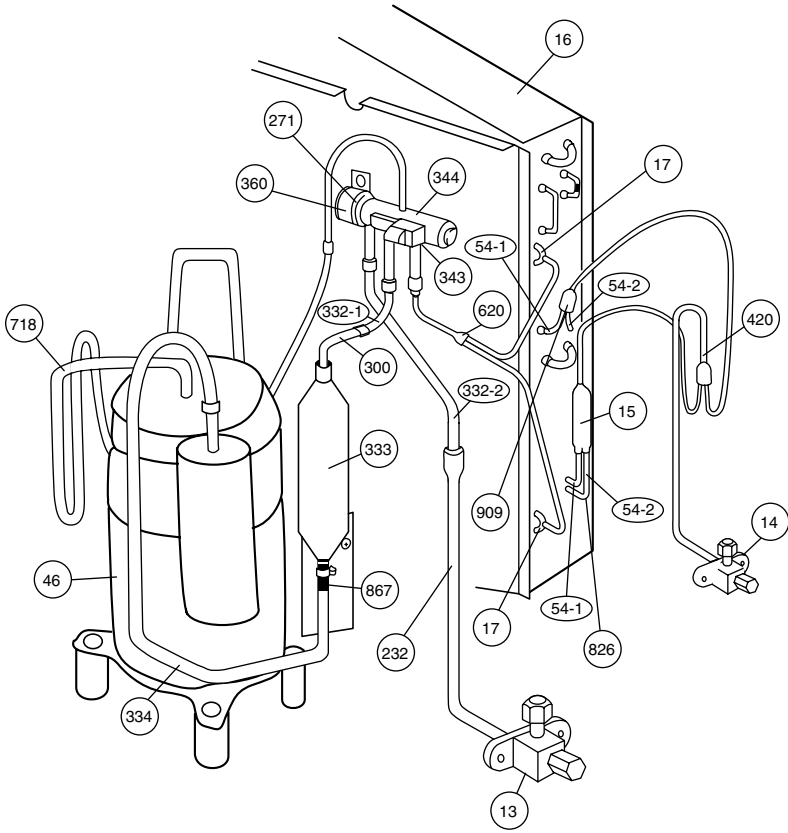
Models : AOY20RMAL
AOY24RMAL



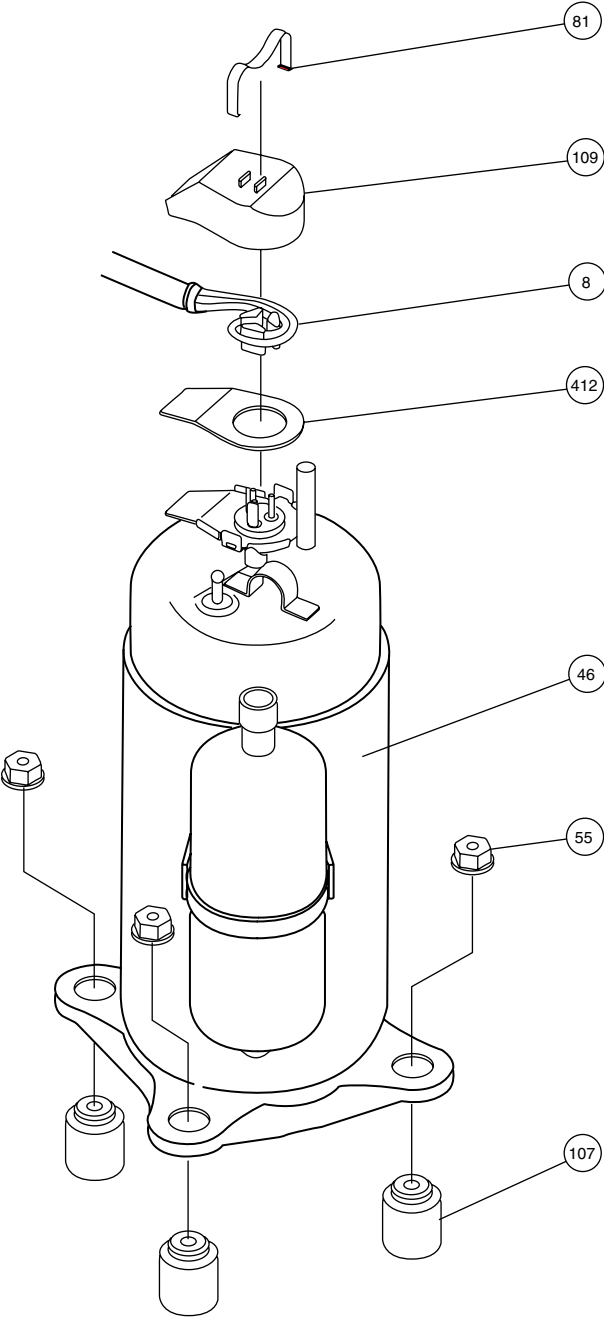
Model : AOY20RMAL



Model : AOY24RMAL



Models : AOY20RMAL
AOY24RMAL



PARTS LIST

ASY20RGB-W
ASY24RGB-W
AOY20RMAL
AOY24RMAL

INDOOR UNIT

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.		Ord. Q'ty	Ref. No.	Description	Part No.		Ord. Q'ty
		ASY20RGB-W	ASY24RGB-W				ASY20RGB-W	ASY24RGB-W	
34	Capacitor(Fan Motor)	9700468073	9700468073		408	Louver Link	9357935003	9357935003	
63	Panel(Front) Total Assy	9358181010	9358181010		425	Earth Plate	9357957005	9357957005	
67-2	Rubber-B(Vibration-proof)	9366485018	9366485018		431	Fixture-A	313546156408	313546156408	
69	Louver	9357933016	9357933016		554	Flap Link-Upper	9357924007	9357924007	
91	Hinge Plate	9361281011	9361281011		555	Flap Link-Lower	9357925004	9357925004	
93	Air Filter	9364577012	9364577012		556	Diffuser Link	9357926001	9357926001	
108	Base	9357948010	9357948010		557	Diffuser Spring	9357947006	9357947006	
109	Casing	9361280014	9361280014		558	Rod-A	9357927008	9357927008	
122	Shaft Holder-B	9357921006	9357921006		559	Rod-B	9357928005	9357928005	
127	Drain Hose Assy	9364231006	9364231006		652-1	Thermistor Holder Pipe	313806262805	313806262805	
146	Evaporator Assy	9361995000	9361995000		679	Cover(Power)	9357916019	9357916019	
158	Joint Pipe Assy-E	9364296005	9364296005		683	Balance Spring	9358151006	9358151006	
164	Fan Motor Assy-In	9601016021	9601016014		684	Motor Base	9357929002	9357929002	
184-1	Thermistor Spring-A	313728262708	313728262708		685	Cover(Terminal)	9357955001	9357955001	
188	Power Cord Assy	9360713018	9360713018		686	Holder(Relay)	9357960005	9357960005	
210	Main Relay	9353611017	9353611017		743	Remote Control Unit Holder	9359955016	9359955016	
223	Control Box	9357953007	9357953007		755	Cover(Casing)-L	9363786019	9363786019	
234	Thermistor Assy-Room	9703299018	9703299018		756	Cover(Casing)-B	9363787016	9363787016	
235	Thermistor Assy-Pipe	9701947038	9701947038		759	Intake Grille-F	9357896014	9357896014	
236	Controller PCB Assy	9701941063	9701941018		761	Cover(Side)-R	9357901015	9357901015	
240	Remote Control Unit	9359913016	9359913016		762	Cover(Side)-L	9357902012	9357902012	
251	Bracket(Hose)-B	9362208017	9362208017		767-1	Bottom Cover-A	9357949017	9357949017	
273	Holder(Lamp)	9357958002	9357958002		767-2	Bottom Cover-B	9357950013	9357950013	
291-1	Casing Spacer-A	9364151007	9364151007		776	Hook(Grille)-R	9357986012	9357986012	
291-2	Casing Spacer-B	9364152004	9364152004		777	Hook(Grille)-L	9357985015	9357985015	
291-3	Casing Spacer-C	9364177007	9364177007		815	Terminal-6P	9357954004	9357954004	
320	Flap(Upper)-F	9357938011	9357938011		850	Receiver Window	9357917016	9357917016	
321	Flap(Lower)	9357940014	9357940014		875	Filter PCB Assy	9702017026	9702017026	
325	Cross Flow Fan-R Assy	9357918006	9357918006		876-1	Step Motor-H	9359763000	9359763000	
326	Cross Flow Fan-L Assy	9357919003	9357919003		876-2	Step Motor-V	9359762003	9359762003	
361	Bushing	9357942001	9357942001		925	Panel(Eva.Right)-B	9357909004	9357909004	
385	Indicator PCB Assy	9701869015	9701869015		938	Cover(Switch)	9357956015	9357956015	
394	Bracket, Panel(Pipe)	9357951003	9357951003		958	Bracket, Panel(Eva.)	9358626009	9358626009	
401	Bracket, Panel	9357952000	9357952000		960	Diffuser	9357941011	9357941011	
407-1	Motor Rod	9357931005	9357931005		963	Fan Guard	9357936000	9357936000	
407-2	Louver Rod	9357932002	9357932002		976	Display Window	9357903019	9357903019	
407-3	Louver Stopper	9357934006	9357934006		982	Cord Clamp	9357886008	9357886008	

OUTDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty	Ref. No.	Description	Part No.		Ord. Q'ty
		AOY20RMAL	AOY24RMAL				AOY20RMAL	AOY24RMAL	
2	Fan Cover "FUJITSU"	9350214020	9350214020		107	Rubber Seat-A(For Comp.)	9362368001	9362368001	
4	Emblem-Rear	9351355005	9351355005		109	Terminal Cover(For Comp.)	9362369008	9362369008	
5	Cabinet-A, Painted	9303876015	9303876015		117-3	Hex. Nut w/Spring Washer	301721180114	301721180114	
6	Cabinet-C, Painted	9353549013	9353549013		187	Clamp No. 1219	313361271706	313361271706	
7	Connector Cover	9358011010	9358011010		196-1	Clamp SKB-3M	312300787605	—	
8	Shield Tube Assy-D	9359904052	9359904052		232	Joint Pipe	9365312032	9365312032	
9	Cabinet-B, Painted	9303874011	9303874011		271	Rubber(4-Way Valve)	313728251908	313728251908	
10	Noise Insulation-E	313791106305	313791106305		300	Suction Pipe-C	9367138005	9367125005	
11	Noise Insulation-B	—	313791106100		328	Compressor Plate Assy	9367128020	9367128013	
12	Base Assy, Painted	9353452054	9353452061		330	Inlet Pipe-A Assy	9366859017	—	
13	3-Way Valve Assy	9364523002	9364523002		332-1	Suction Pipe-D	9367135004	9367126002	
14	2-Way Valve Assy	9365021002	9365021002		332-2	Suction Pipe-E	9350600007	9350600007	
15	Dryer	9353789006	9365109014		333	Accumulator	9350363018	313986117201	
16	Condenser Assy	9353455048	9363794014		334	Suction Pipe-B	9367137008	9367124008	
17	"U" Pipe-Y	313728127102	9305523009		335	Insulation(Accumulator)	313681188608	313681188608	
20	Discharge Pipe	9367136001	—		338	Motor Fixture Metal	313029297108	313029297108	
26	Compressor Cover	9367296002	9367134007		343	Solenoid Coil	9359616092	9359616092	
29	Separate Wall	313986033213	313986033213		344	4-Way Valve	313943302804	9300604017	
32-1	Control Box Metal-A	9353595003	9353595003		348-1	Outlet Pipe-B	9365391020	—	
34	Capacitor(Fan Motor)	9357965024	9357965024		348-2	Outlet Pipe-A	9365391075	—	
36-2	Cord Holder Metal	9356362008	9356362008		360	4-Way Valve Band	313986251802	313986251802	
37	Running Capacitor	9703107153	9703107122		412	Terminal Gasket (For Comp.)	9362370004	9362370004	
38	Capacitor Clamp Metal	9351770013	9351770013		420	Capillary Assy	—	9367121007	
39	Propeller Fan	9300855013	9300855013		519	Restrictor Valve Assy	9365392058	—	
41	Fan Motor Assy-Out	9600738047	9600738047		646	Compressor Cover-B	9367297009	—	
45	Motor fixing Table Assy	313029311100	313029311100		717	Center Plate	9350216017	9350216017	
46	Compressor Assy	9361733000	9367112005		718	Discharge Pipe-C	—	9367123001	
54-1	Outlet Pipe-A	—	9365391014		815	Terminal-5P	9356497021	9356497021	
54-2	Outlet Pipe (Cond.)-B	—	9365391068		867	Accumulator Holder Rubber	9354022027	9354022027	
55	Special Nut M8	9355091008	9355091008		909	Strainer-A	—	9365112014	
67	Rubber (Vibration-proof)	313659068604	313659068604		910	Strainer-B	9365099018	—	
81	Strap	9362371001	9362371001						

[INDOOR UNIT]**CONTROLLER PCB ASSEMBLY (Ref. No.236)**

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC PD78014HCW-013	9702426026	JM9	Res.	0 ohm	0200230016
IC3	IC NJM7805FA	0100462081	C5	Cap. Elec. 450V	100mfd	0300256060
IC4-6	Xstr Array RA2003GR	0100028041	C6	Cap. Plastic	4700pF	0300269091
IC7	IC BR93LC46RF-E2	0100295016	C7	Cap. Plastic 50V	0.047mfd	0300169339
IC8	IC PST600CMT	0101461120	C8	Cap. Elec. 25V	100mfd	0301197560
IC9	Photocoupler TLP 621(D4)-GB	0000117074	C9	Cap. Elec. 25V	1000mfd	0301196495
Q1	Xstr 2SC4236	0000164047	C10,11,33,36,41	Cap. Elec. 25V	10mfd	0301192312
Q2	Xstr 2SC1815	0000002011	C12	Cap. Elec. 25V	1000mfd	0301158264
Q3,4	Xstr DTC124EKA	0000936033	C13,15,34,37,39,44,45	Cap. Ceramic 50V	0.1mfd	0300311752
D1	Diode D3SB60	0000689045	C14	Cap. Elec. 25V	100mfd	0301192350
D2,4,7	Diode D1FL20U	0000746519	C16-31,38,40,42,46,49	Cap. Ceramic 50V	0.01mfd	0300311738
D3	Diode MTZJ5.1B	0000852166	C32,35,43,50-53	Cap. Ceramic 50V	1000pF	0300308509
D5	Diode 1SR139-600	0000353120	C54	Cap. Ceramic	0.01mfd	0300727539
D6	Diode D2FL20U	0000906500	K1,3,6,7	Relay JQ1-12V		9701316014
D8	Diode D1F60	0000208024	K5	Relay JQ1P-12V		9701794010
D9	Diode DA226U	0000625036	SSR1	Relay G3M-202P-UTU		9701829019
D12	Diode DAN202K	0000684019	SW1	Switch Side DSS803		9701392018
R1	Res. Cement 5W 3.3ohm+-10%	0200153148	SW3	Switch Side KSM0632B		9703476013
R2	Res. Metal Oxide 2W 1.5ohm+-5%	0201107119	CR2,3	Network RPEL-121204 -C		9701125012
R3	Res. 1/10W 100ohm+-5%	0200212500	T1	Power Transformer ETS28AS118AH		9702727017
R4	Res. Carbon 1W 220kohm+-5%	0200111353	X1	Ceramic Resonator EF0EC8384T4		9701261017
R5	Res. Metal Oxide 2W 47kohm+-5%	0201107652	BZ1	Buzzer PKM13EPY-4000-TF01		9701298013
R6	Res. 1/2W 100ohm+-5%	0200731506	CN1	Plug, PCB 5-1123724-2		0501321574
R7	Res. 1/4W 330ohm+-5%	0200708621	CN2	Plug, PCB 4-1123724-3		0501321628
R8,10,13,15-17,21-24,29-32,37,39,48,50,52,53,55,59,68	Res. 1/10W 10kohm+-5%	0200213019	CN3	Plug, PCB 53406-9910		0500951048
R9,47	Res. 1/10W 390ohm+-5%	0200212647	CN4	Plug, PCB 2-1123724-2		0501321529
R11	Res. Metal Oxide 1W 56kohm+-5%	0201106662	CN5	Plug, PCB 5430C063		0500957026
R12,18-20,25-28,33-36,38,42,44,46,49,51,56-58,67	Res. 1/10W 1kohm+-5%	0200212746	CN7	Plug, PCB B2B-XAKK-1-A		0501045227
R40,41	Res. 1/10W 4.7kohm+-5%	0200212906	CN8	Plug, PCB B2B-XASK-1-A		0501045012
R43	Res. 1/10W 10.0kohm+-1%	0200279497	CN9	Plug, PCB B5P-SHF-1AA		0500006069
R45	Res. 1/10W 49.9kohm+-1%	0200279824	CN10	Plug, PCB B5B-XASK-1-A		0501045043
R54	Res. 1/10W 47ohm+-5%	0200212425	CN11	Plug, PCB B5B-XARK-1-A		0501045517
CJ1,2,JM7	Res. 0 ohm	0200212012	CN12	Plug, PCB B3B-XASK-1-A		0501045029
			CN13	Plug, PCB B7B-XASK-1-A		0501045067
			CN14	Plug, PCB B4B-XH-AM		0500005314

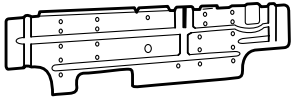
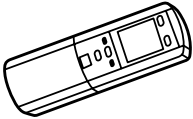
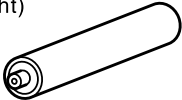
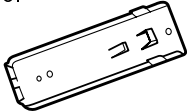
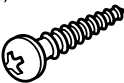
INDICATOR PCB ASSEMBLY (Ref. No.385)

Ref. No.	Description	Part No.	Ref. No.	Description	Part No.	Ord. Q'ty
PHA201	Remote Control Amplifier SBX 1810-22	0101525129	CN201	Wire w/Connector L=430	9701856015	
D201	Diode SLR-325VC RED	0000813259	C201	Cap. Ceramic 0.1mfd	0300988251	
D202	Diode SLR-325MC GRN	0000813242	C202	Cap. Elec. 25V 10mfd	0300004258	
D203,D204	Diode SLR-325DC ORG	0000813235	R201-R204	Res. Carbon 1/4W 330ohm+-5%	0201038659	
				Lamp Holder	9357958002	

FILTER PCB ASSEMBLY (Ref. No.875)

Ref. No.	Description	Part No.	Ref. No.	Description	Part No.	Ord. Q'ty
C101,C102	Cap. Plastic 0.22mfd	0300304099	F101	Fuse 2183.15	0600285210	
C105,C106	Cap. Plastic 0.022mfd	0301052098	FH1,FH2	Fuse Holder PFC5000-0502	0500158072	
SA101	Arrester DSA-362MA-05	0600168032	E101	Wire w/Terminal GRN L=250	9701880010	
VA101,102	Varistor TNR12G471K	0000038010	W101	Wire w/Terminal BLK L=120	9702060039	
TM101,102	Plug Contact 86028	0500536016	W102	Wire w/Terminal WHT L=180	9702060046	
LF101	EMI Filter ELF17N015A	0400197119	W103,W104	Wire Assy #18 2P	9702080013	

INDOOR UNIT ACCESSORIES

Name and Shape	Part No.
Wall hook bracket 	9357952000
Remote control unit 	9359913016
Battery (penlight) 	0600185534
Remote control unit holder 	9359955016
Tapping screw (big) (ϕ 4 x 20) 	301141164200
Tapping screw (small) (ϕ 3 x 12) 	301141533125

OUTDOOR UNIT ACCESSORIES

Name and Shape	Part No.
Hexagon wrench 	9351228019

