

FUJITSU

February 1999
**SPLIT TYPE AIR
CONDITIONER (50Hz)
DUCT type**

SERVICE MANUAL

Models	Indoor unit	Outdoor unit
	ARY60ALA3	AOY60ABA3L
	ARY60RLA3	AOY60RBA3L

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Большая библиотека технической документации

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каталоги, инструкции, сервисные мануалы, схемы.

S P E C I F I C A T I O N S

INDOOR UNIT	ARY60ALA3	ARY60RLA3
OUTDOOR UNIT	A0Y60ABA3L	A0Y60RBA3L
COOLING CAPACITY (kW)	16.4 - 17.0	16.4 - 17.0
HEATING CAPACITY (kW)	—	17.0 - 17.6

ELECTRICAL SPECIFICATIONS

POWER SUPPLY (V)	380 - 415	
FREQUENCY (Hz)	50	
RUNNING CURRENT (A)	COOLING	9.8 - 9.8
	HEATING	—
INPUT (kW)	COOLING	5.8 - 5.9
	HEATING	—
EER (kW/kW)	COOLING	2.83 - 2.88
	HEATING	—
MOISTURE REMOVAL (ℓ/hr)	6.5	
AIR CIRCULATION-Hi (m ³ /hr)	3.000	

COMPRESSOR

TYPE	Hermetic type, 2 pole, 3 - phase, Induction motor
CODE	H26A72QDBEA

FAN MOTOR

	ARY60ALA3	ARY60RLA3	A0Y60ABA3L	A0Y60RBA3L
TYPE	MFA-60ETM		MFB-362F	
POWER SUPPLY (V)	380 - 415		380 - 415	
HI-SPEED (r. p. m.)	1,150		820	
MED-SPEED (r. p. m.)	1,075		—	
LO-SPEED (r. p. m.)	1,000		—	

DIMENSIONS

HEIGHT (mm)	400	1.355
WIDTH (mm)	1.250	940
DEPTH (mm)	800	370

WEIGHT

GROSS WEIGHT (kg)	90	136	144
NET WEIGHT (kg)	75	121	129

REFRIGERANT CHARGING

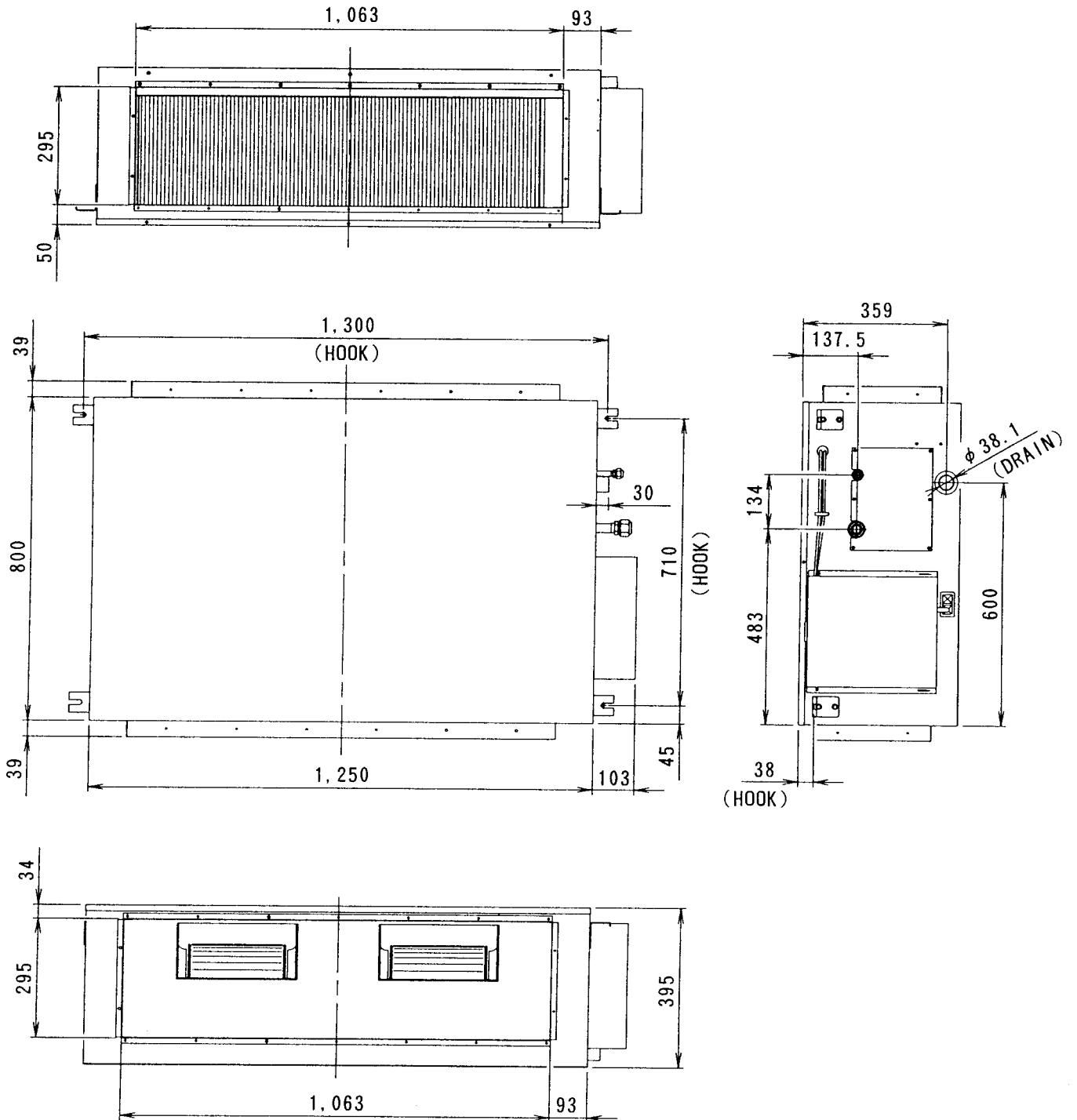
PIPE LENGTH	20 m	30 m	40 m	50 m
FULL CHARGE AMOUNT	4,800g	5,400g	6,000g	6,600g

Note : • Between 20 m and 50 m, when using a connection pipe other than that in the table, charge additional refrigerant with 60 g/l m as the criteria.
• The above list shows values at the external static pressure of 20 mm Aq (196 Pa).

OUTLINE AND DIMENSIONS

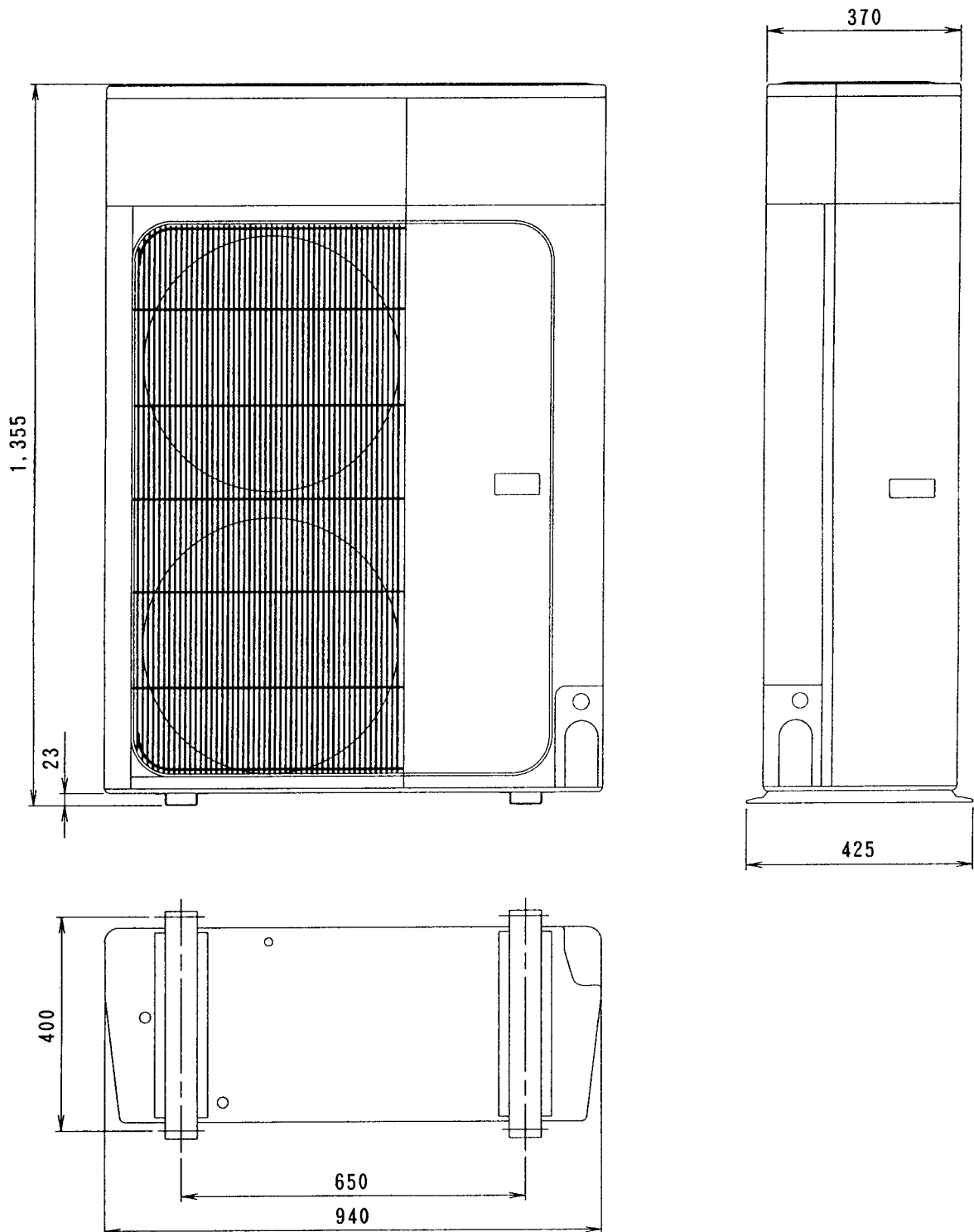
Models : ARY60ALA3
ARY60RLA3

(Unit : mm)



Models : ADY60ABA3L
ADY60RBA3L

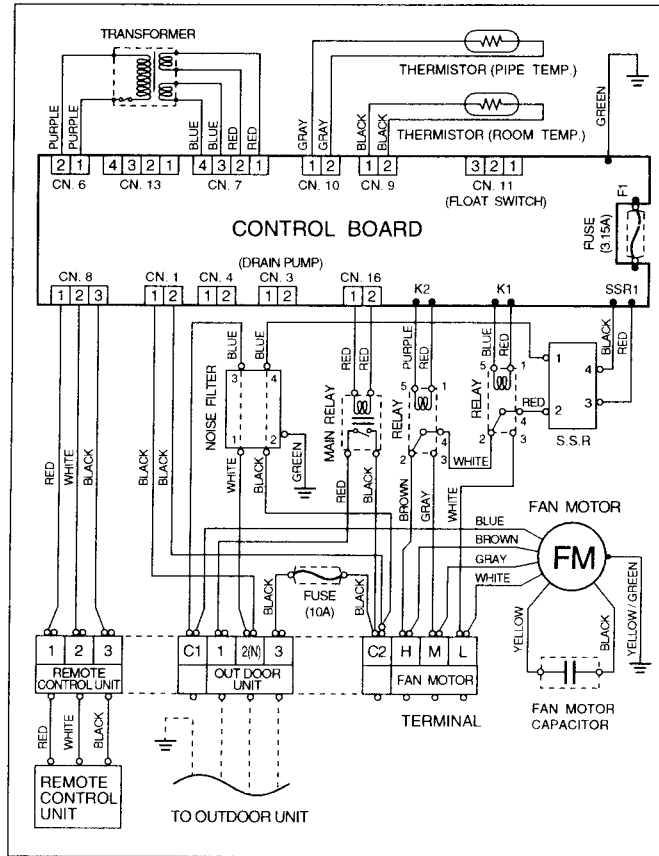
(Unit : mm)



CIRCUIT DIAGRAM

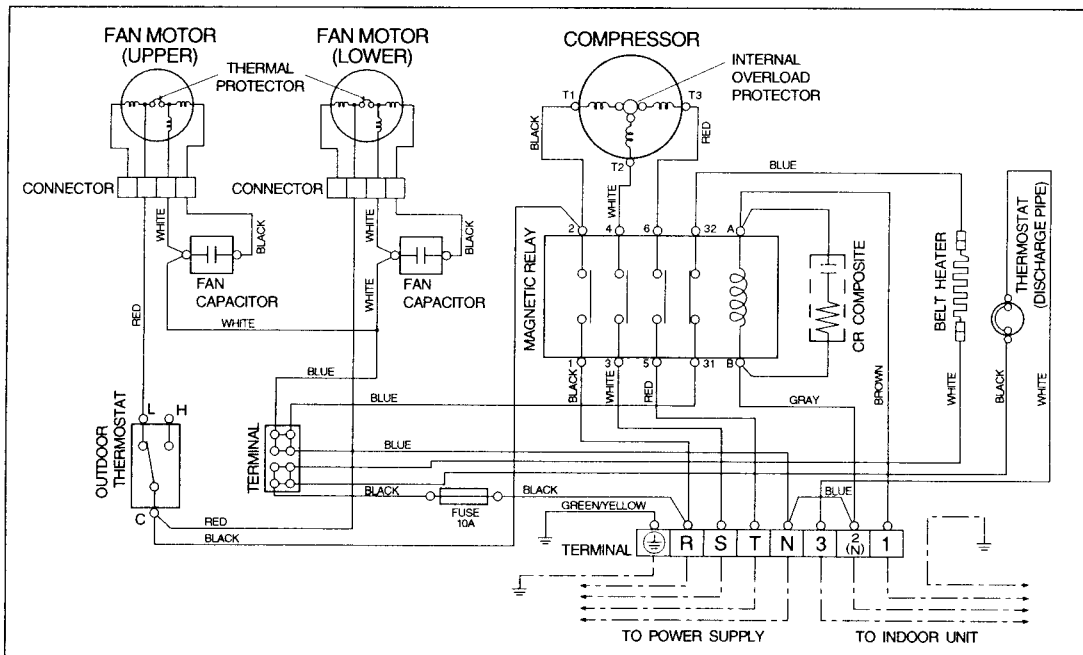
Models : ARY60ALA3/AOY60ABA3L

INDOOR UNIT



FAN MOTOR CAPACITOR	15 μ F
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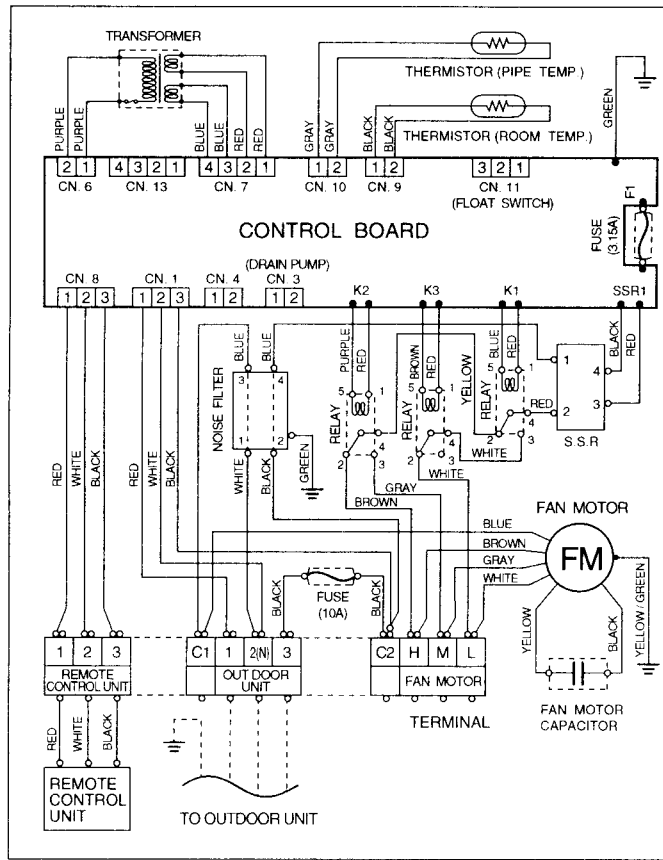
OUTDOOR UNIT



FAN MOTOR CAPACITOR	4 μ F
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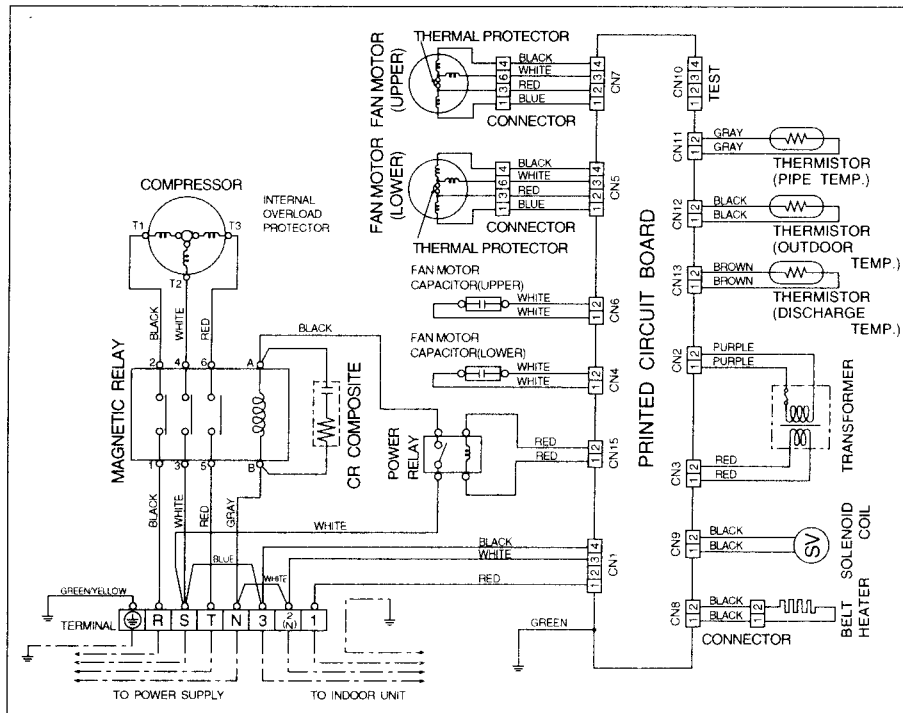
Models : ARY60RLA3/AOY60RBA3L

INDOOR UNIT



FAN MOTOR CAPACITOR 15 μF

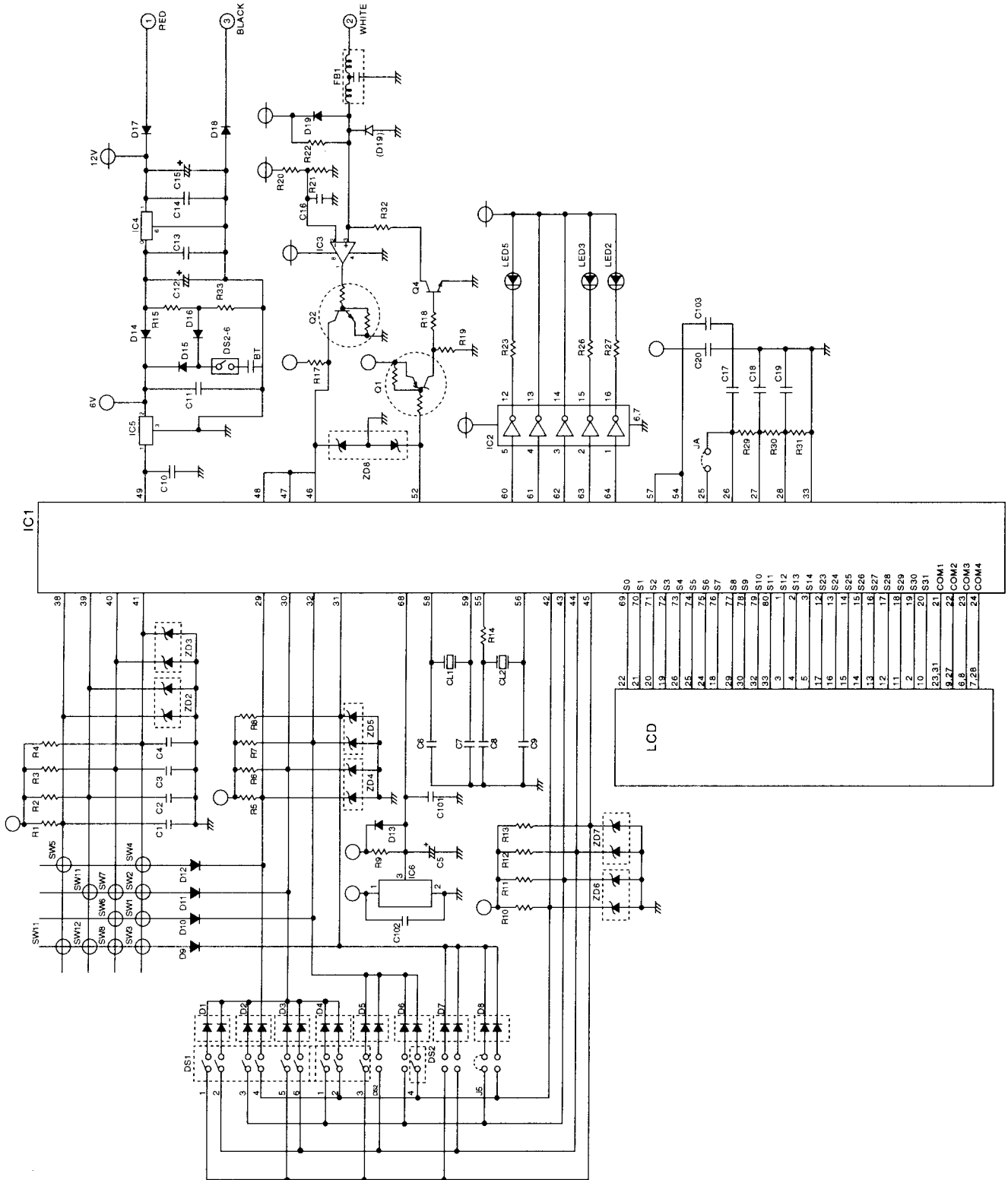
OUTDOOR UNIT



FAN MOTOR CAPACITOR 4 μF

REMOTE CONTROL UNIT CIRCUIT DIAGRAM

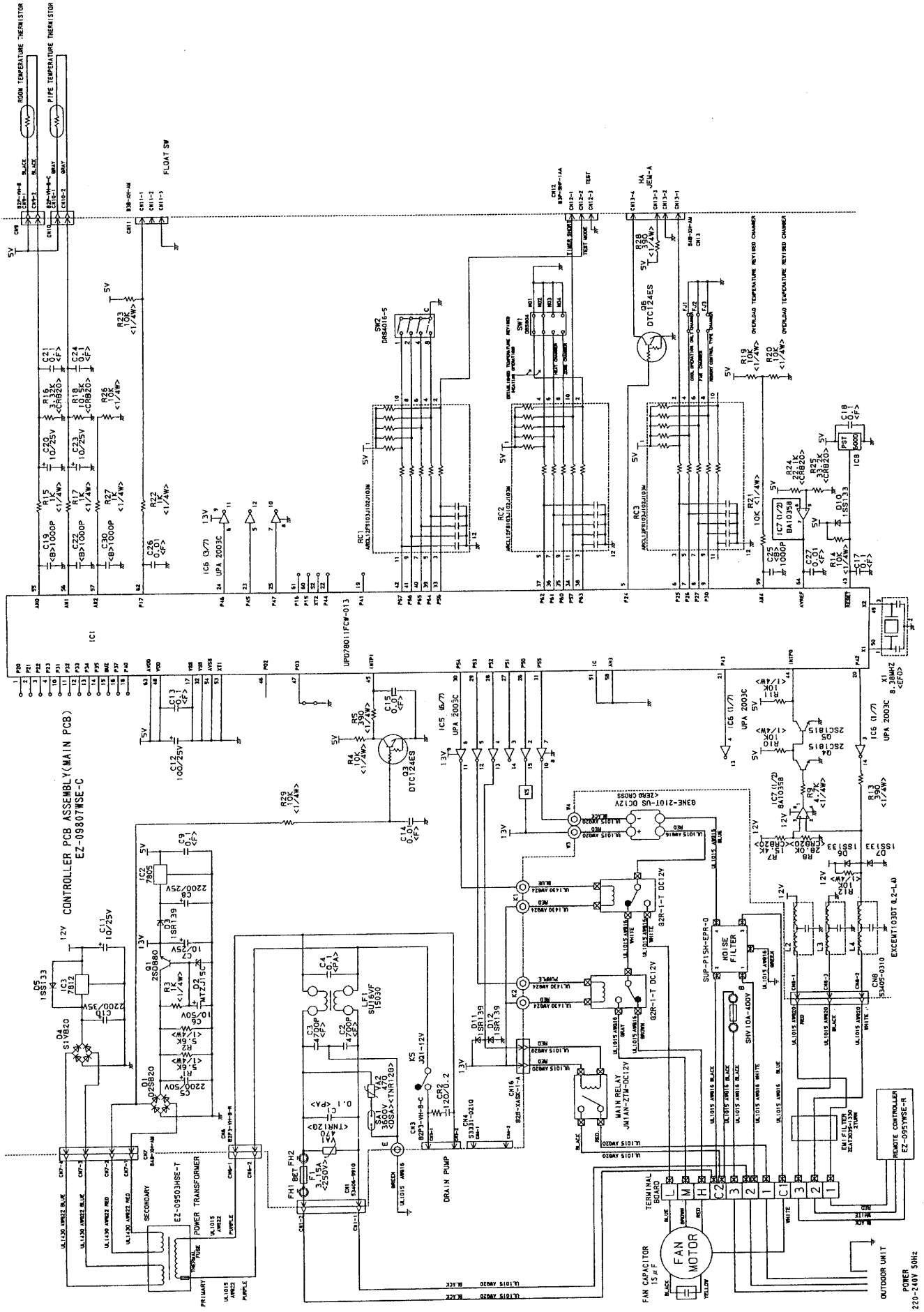
Model : ARY60ALA3



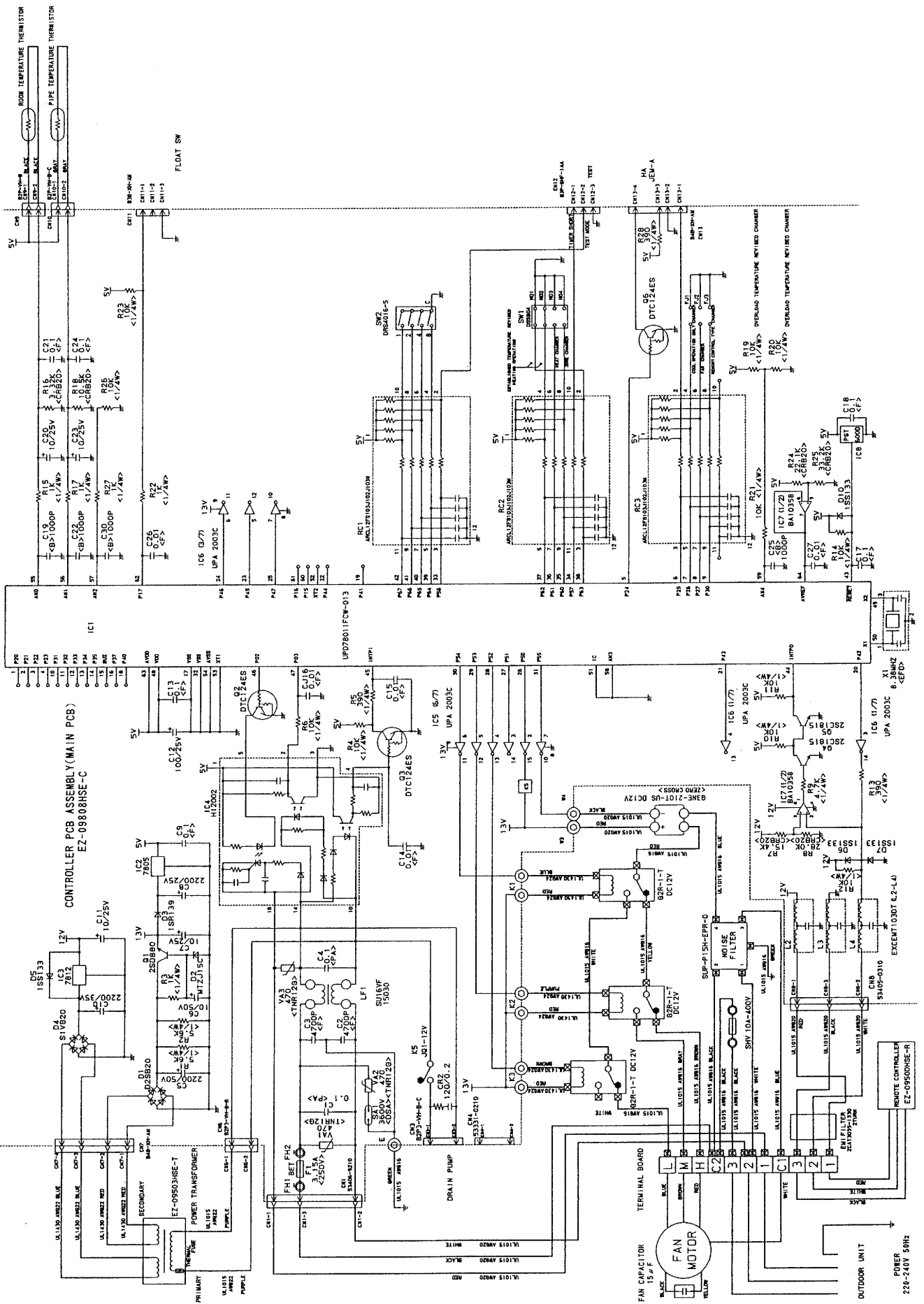
INDOOR PRINTED CIRCUIT BOARD

CIRCUIT DIAGRAM

Model : ARY60ALA3

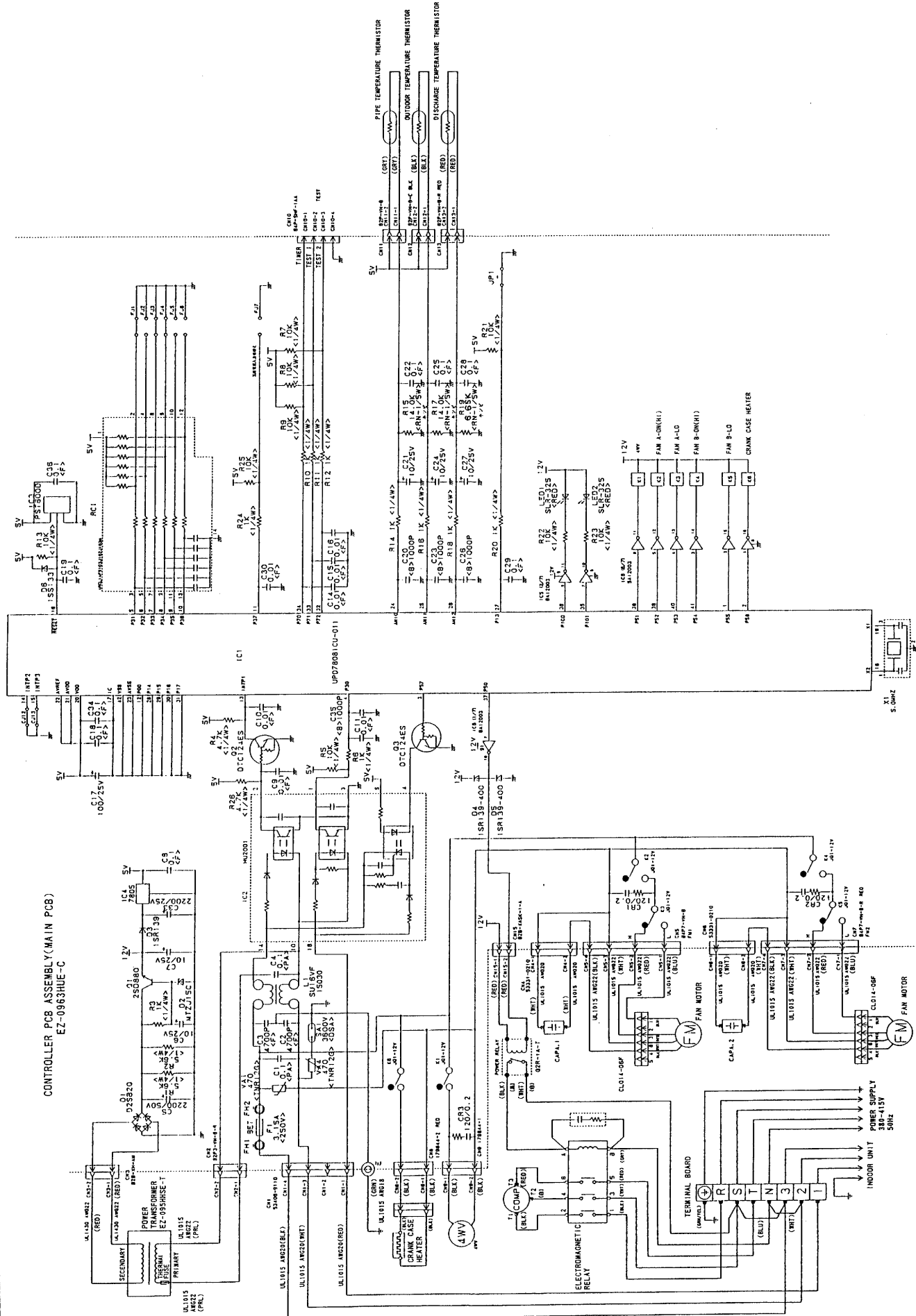


Model : ARY60RLA3



OUTDOOR PRINTED CIRCUIT BOARD

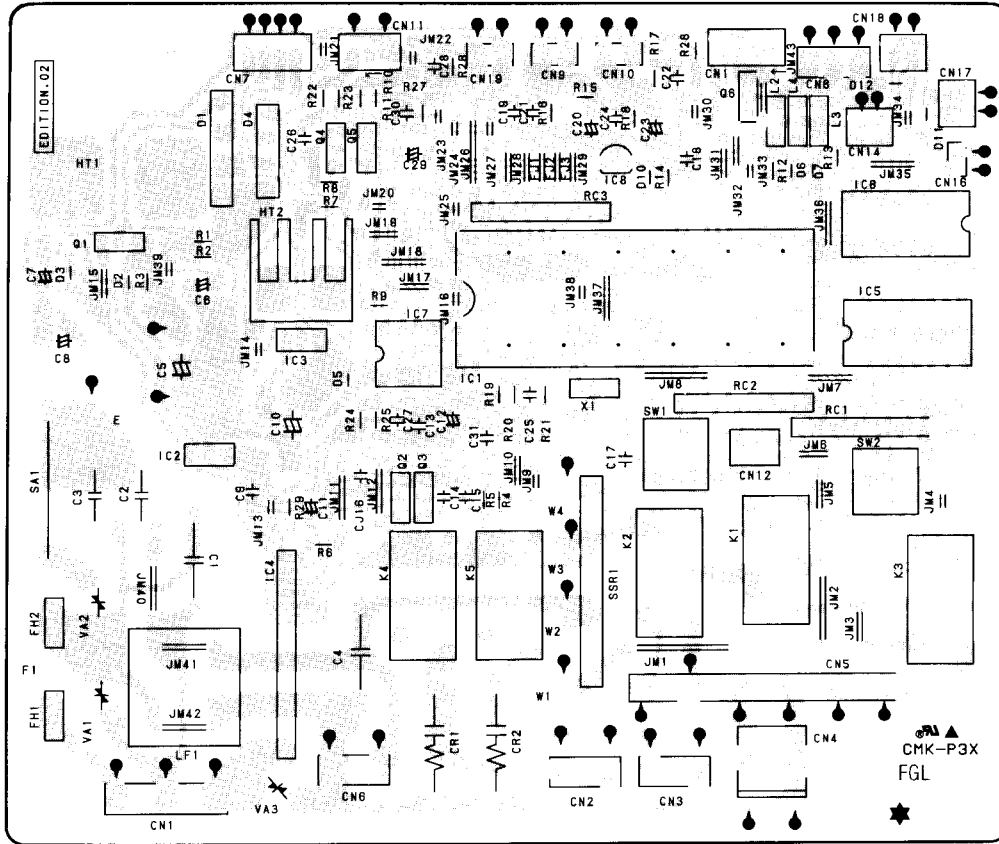
Model : A0Y60RBA3L



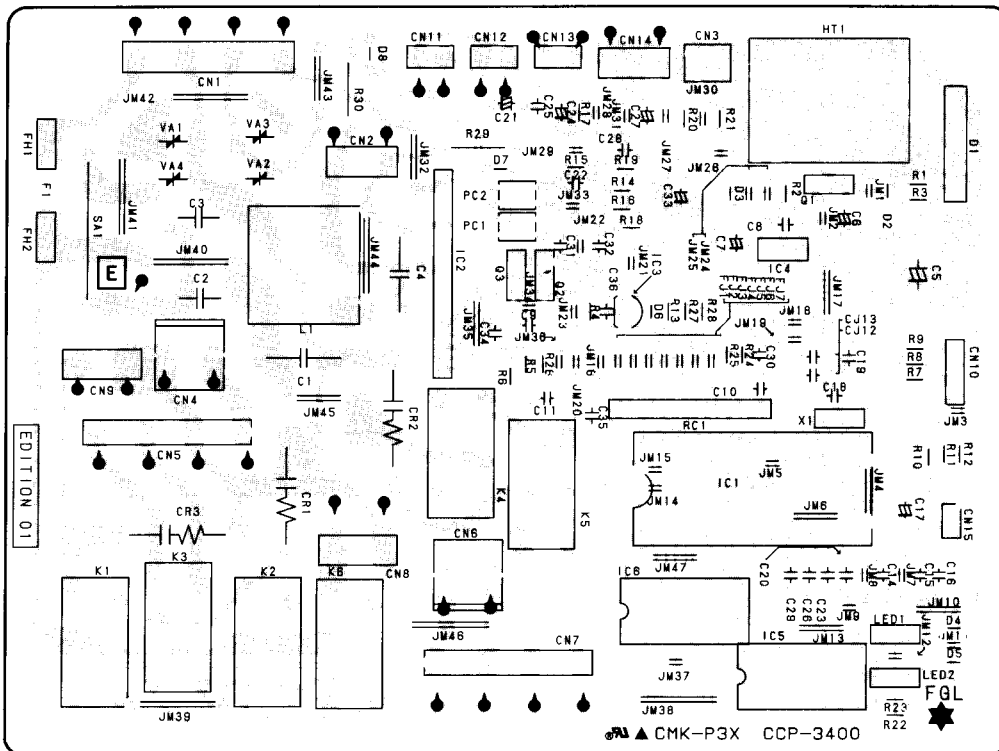
P. C. BOARD LAYOUTS

INDOOR UNIT

(Viewed from the solder side)

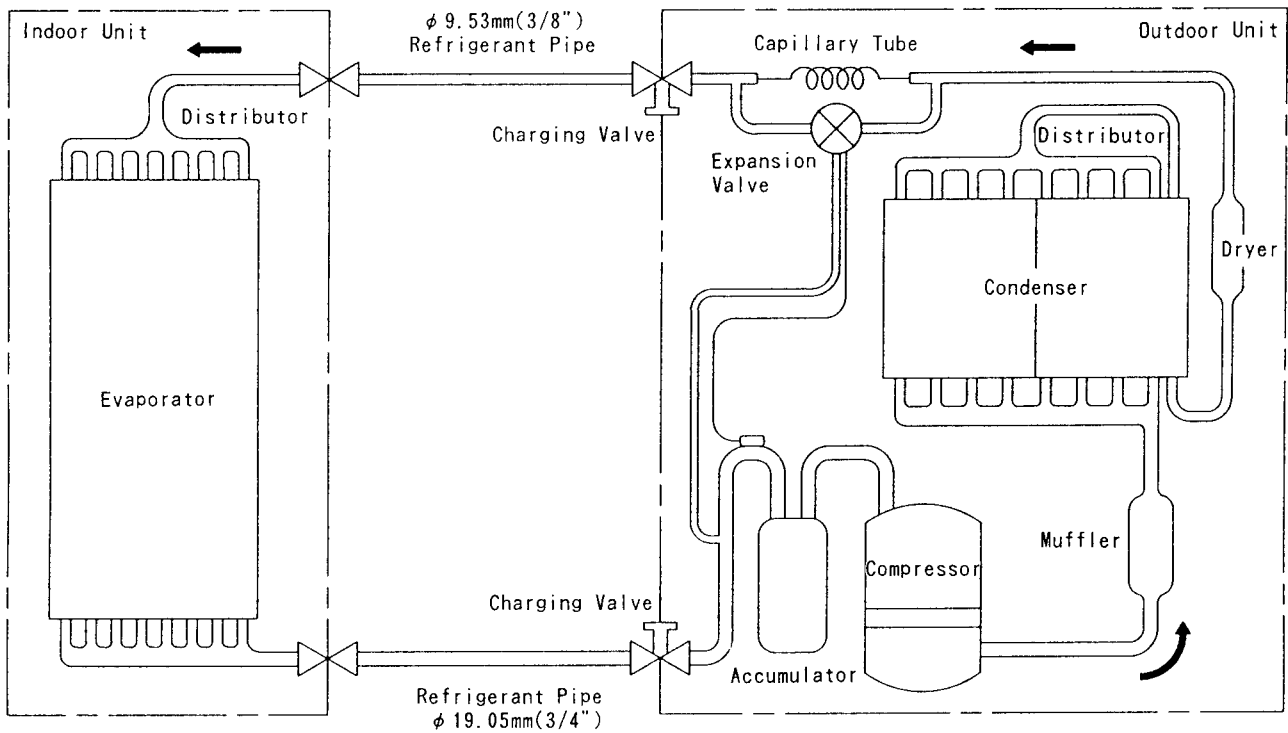


OUTDOOR UNIT

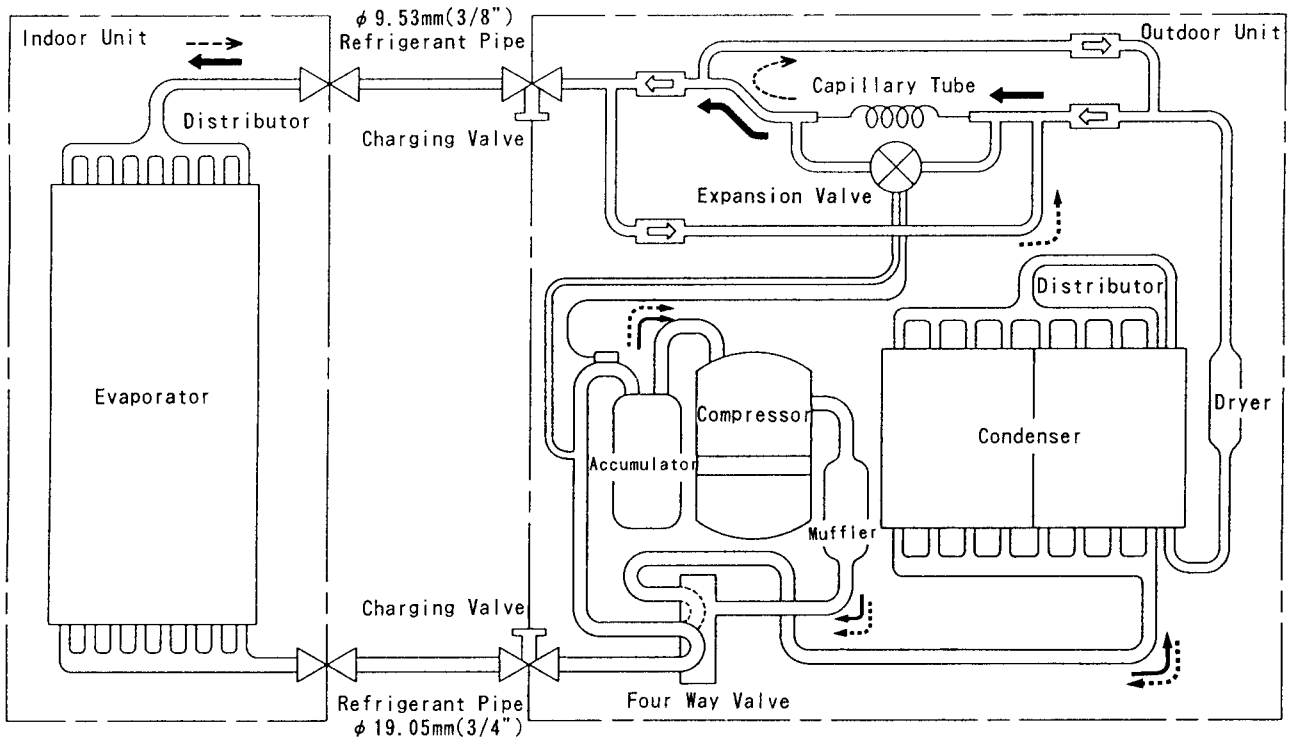




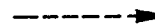

REFRIGERANT SYSTEM DIAGRAM

Models : ARY60ALA3/AOY60ABA3L



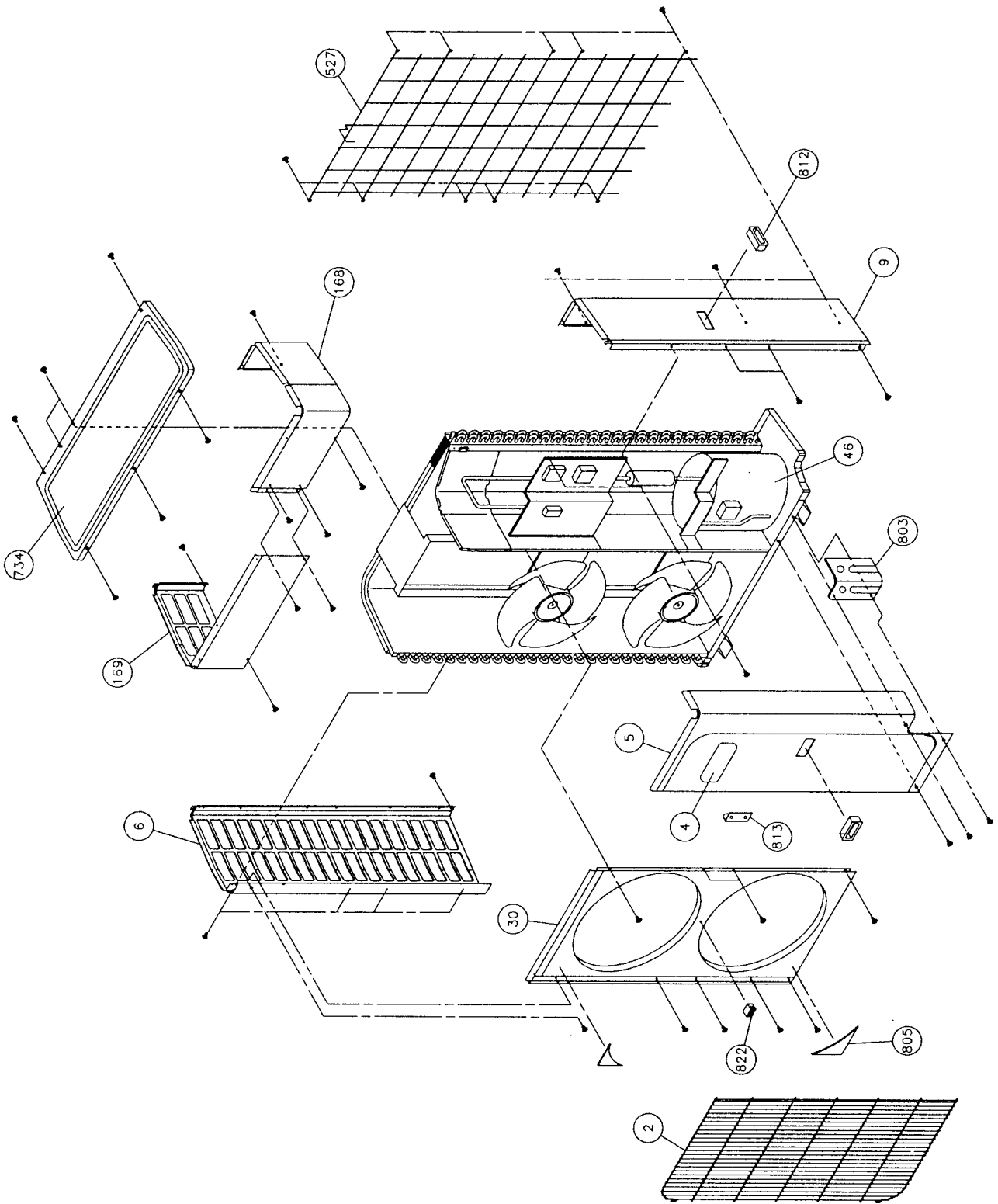
Models : ARY60RLA3/AOY60RBA3L



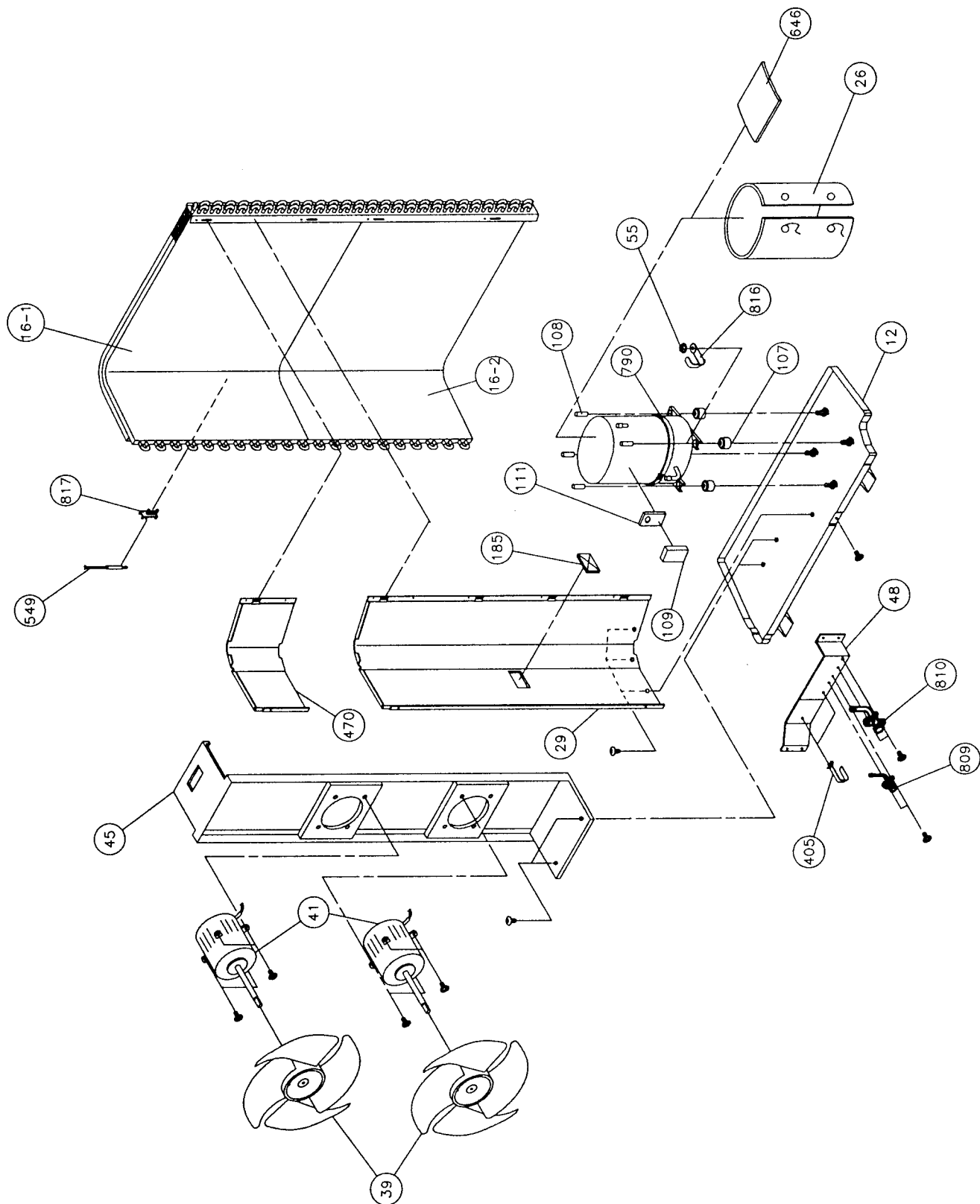
-  : Flare coupling
-  Cooling
-  Heating
-  Check Valve

DISASSEMBLY ILLUSTRATION

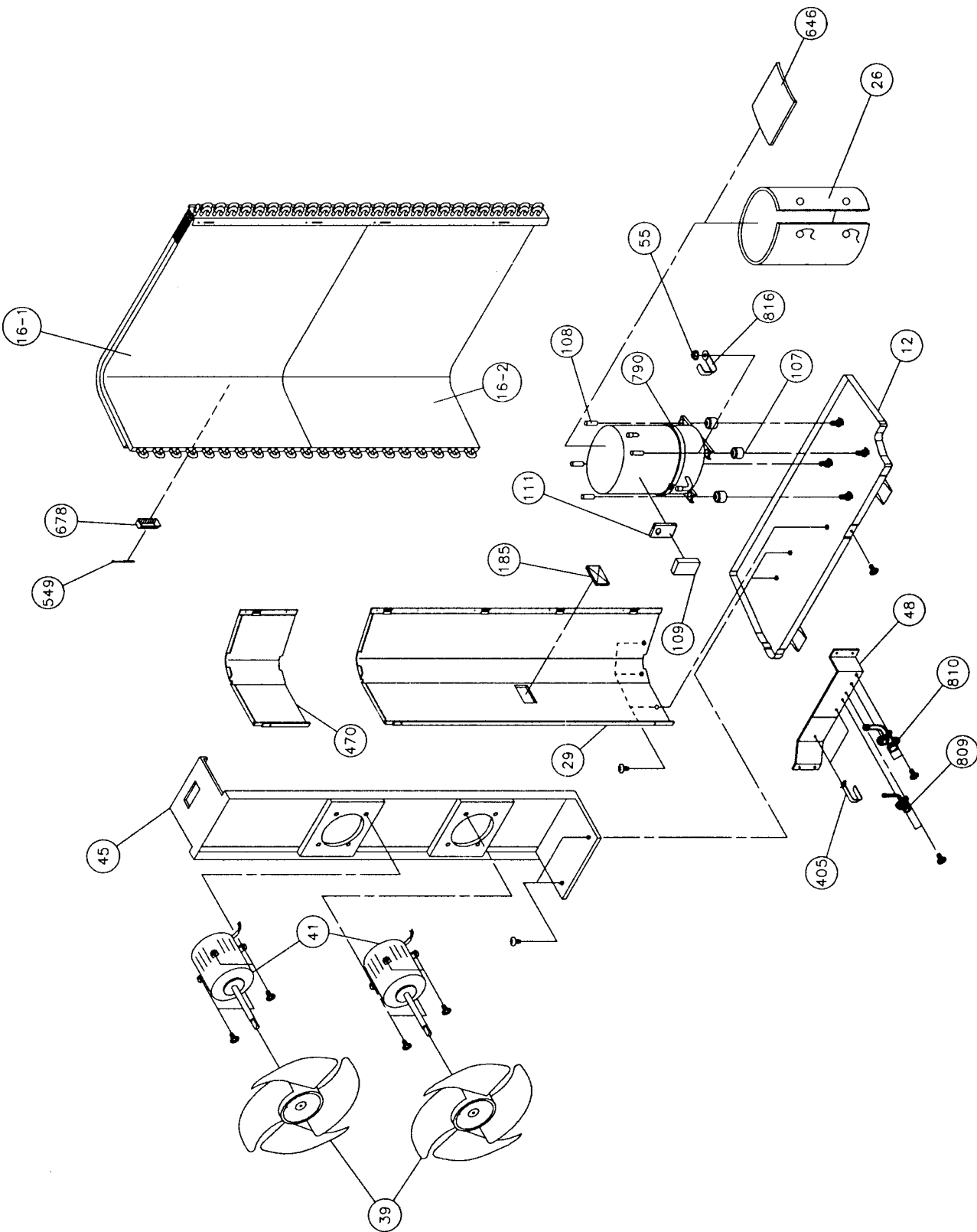
Models : ADY60ABA3L
ADY60RBA3L



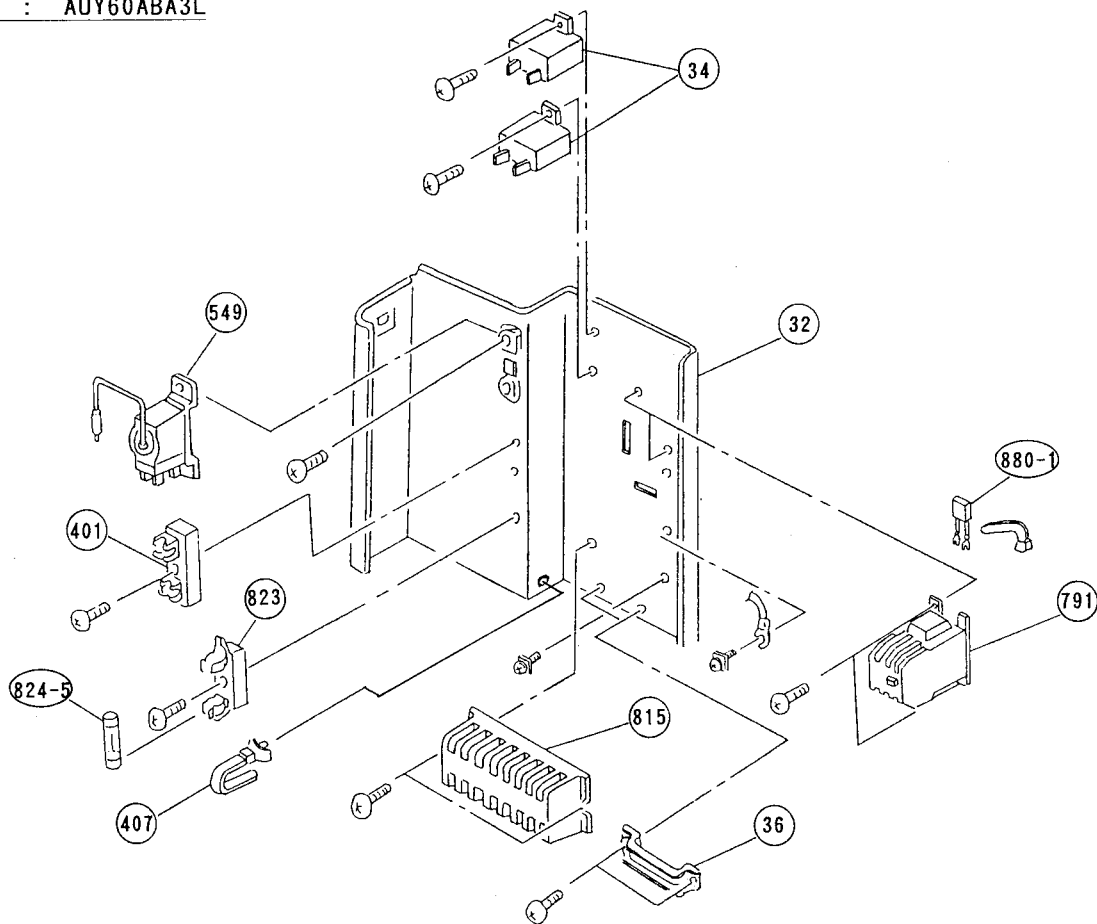
Model : AOY60ABA3L



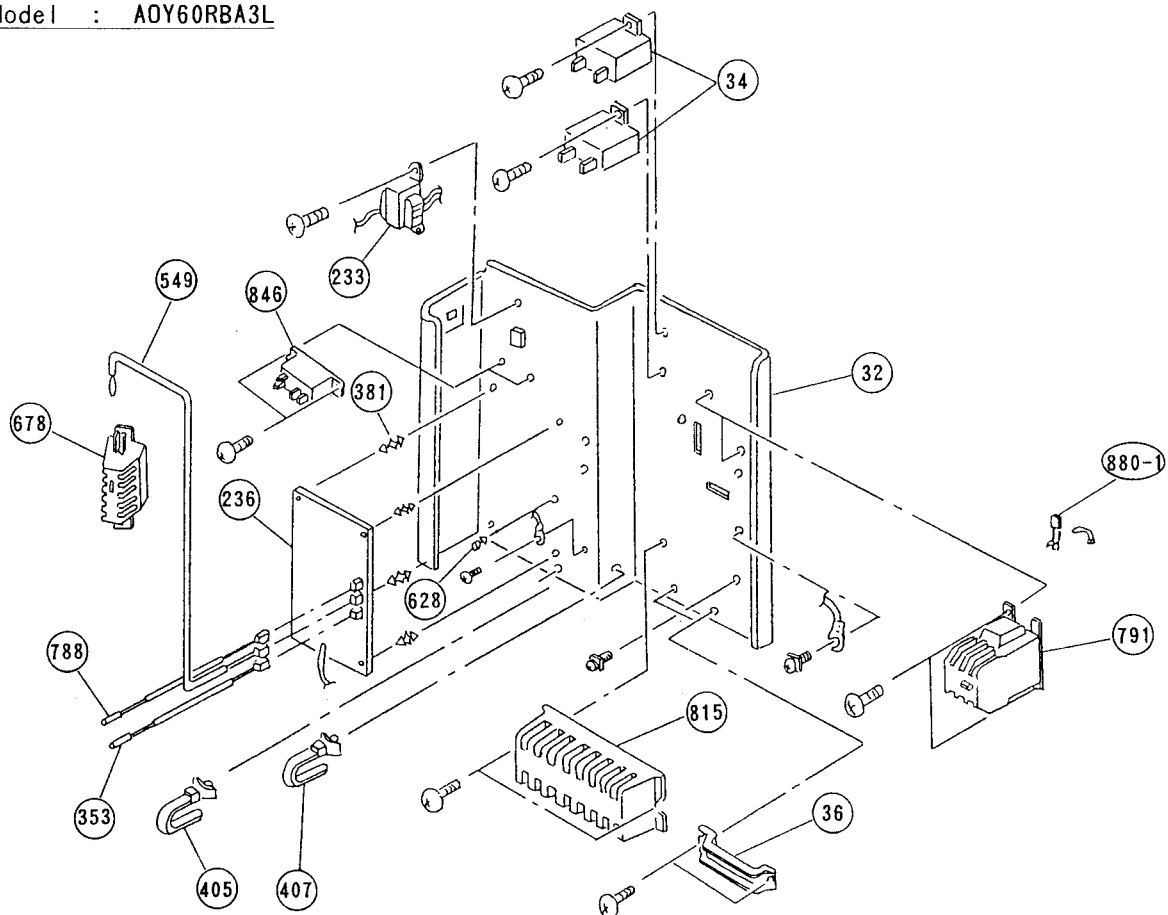
Model : AOY60RBA3L



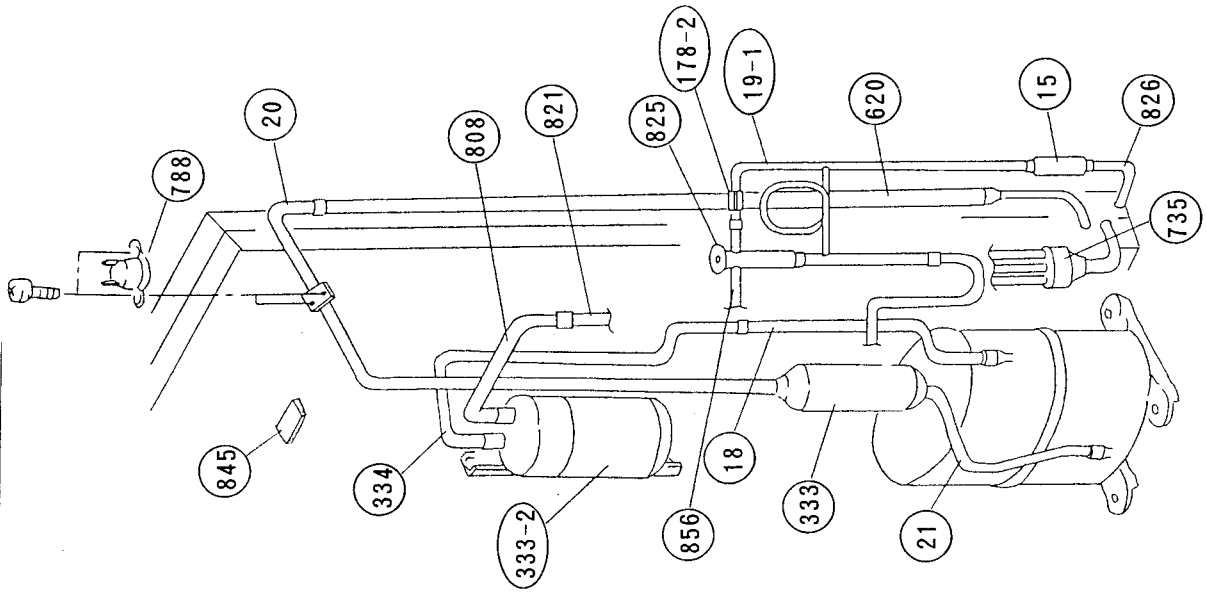
Model : AOY60ABA3L



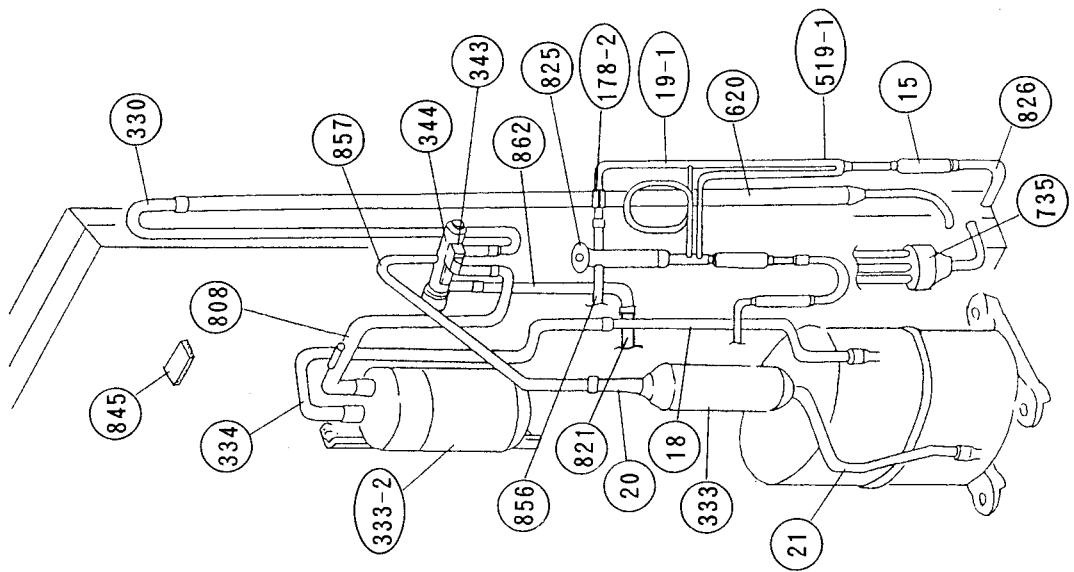
Model : AOY60RBA3L



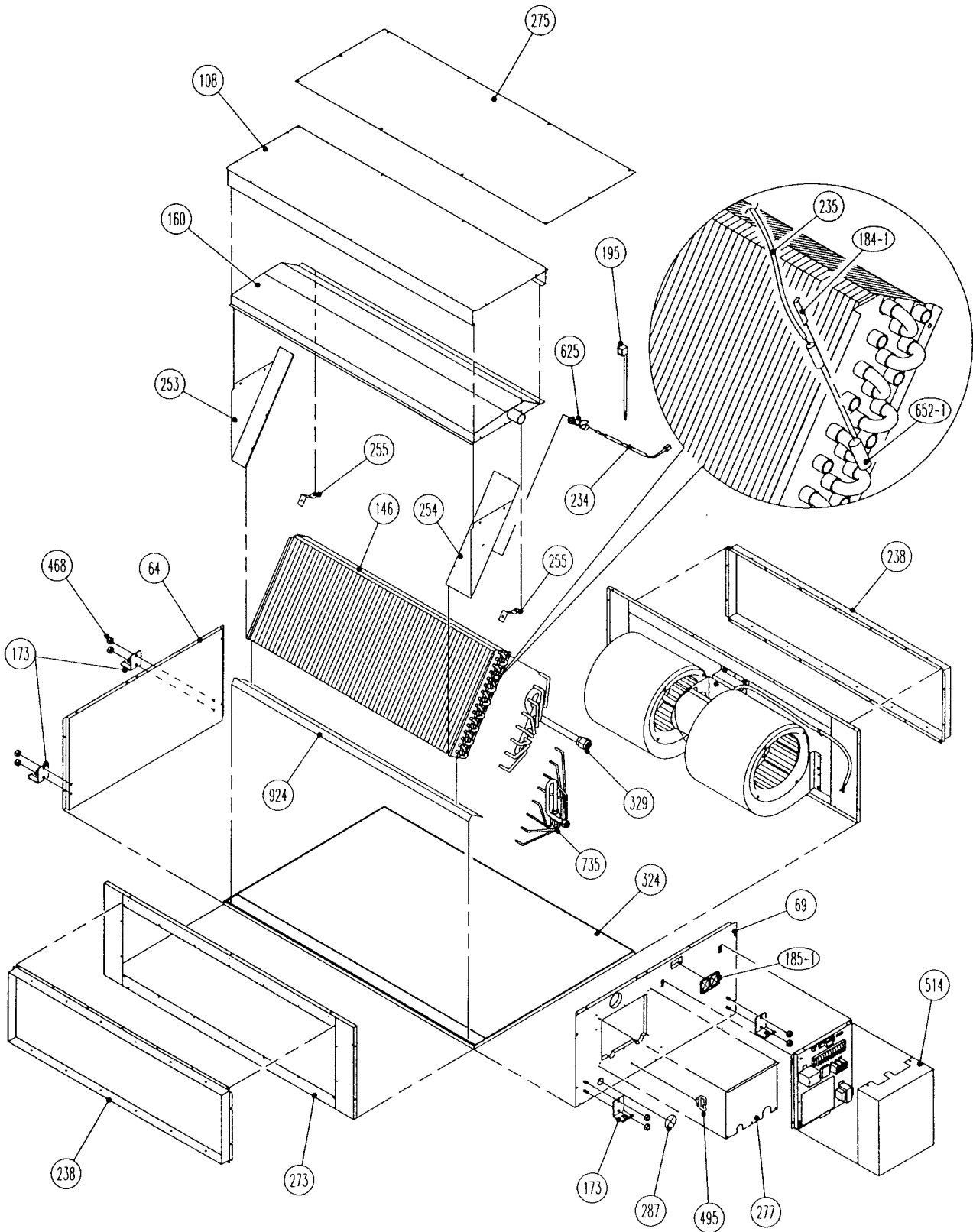
Model : AOY60ABA3L

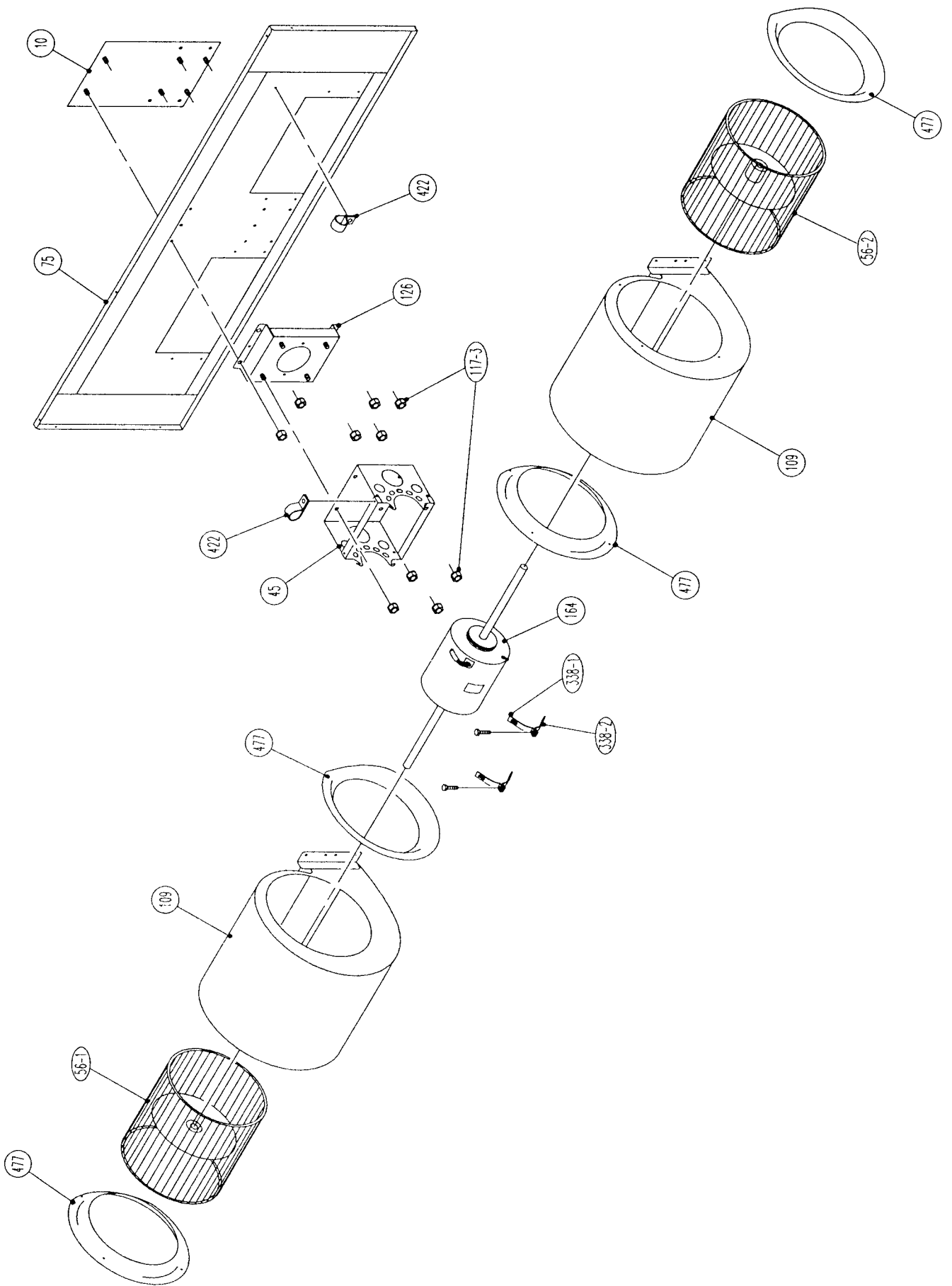


Model : AOY60RBA3L

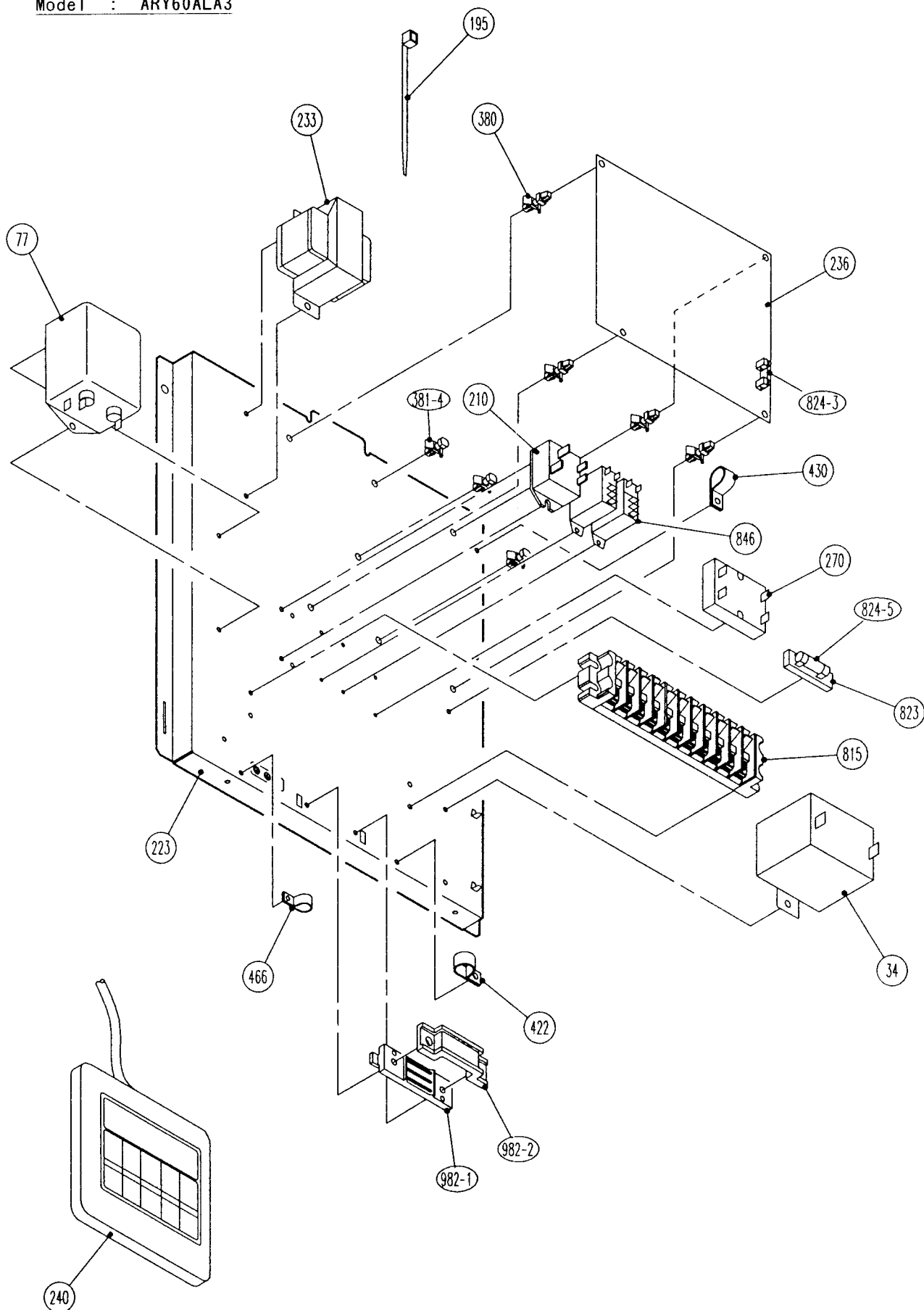


Models : ARY60ALA3
 ARY60RLA3

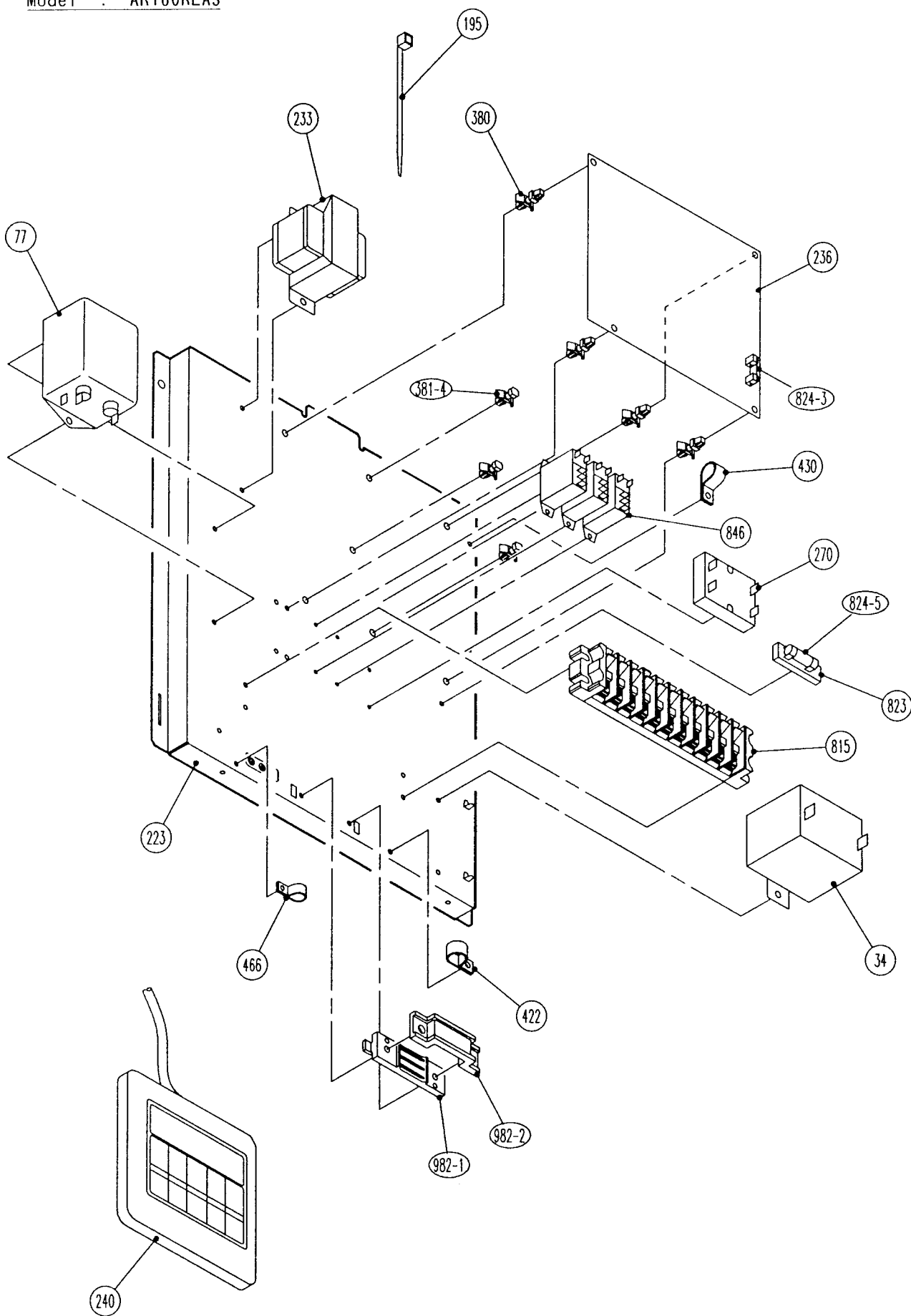




Model : ARY60ALA3



Model : ARY60RLA3



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

OUTDOOR UNIT (Continued)

Ref. No.	Description	Part No.		Ref. No.	Description	Part No.	
		AOY60ABA3L	AOY60RBA3L			AOY60ABA3L	AOY60RBA3L
821	Joint Pipe(Valve-B)	9352284007	9353307002	845	Insulation (Expansion valve)	9353370006	9353370006
822	Fan Cover Fixture-A	9352158018	9352158018	846	Relay	—	9304375005
823	Fuse Holder	0500487011	0500158072	856	Equalizing Pipe-C	9361952003	9353304001
824-5	Fuse	0600315023	—	857	Inlet Pipe(Accumulator)-B	—	9353199003
825	Expansion Valve Assy	9361822009	9361574007	862	Valve-B Coupler Pipe Assy	—	9353309006
826	Condensing Pipe-B	9361557000	9361557000	880-1	Network	9700987017	9700987017

[Indoor Unit] CONTROLLER PCB ASSEMBLY (Ref. No. 236)

() : Reverse cycle models

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC μ PD780801W-013	9701722013		C9, 13, 17, 18, 21, 24	Cap. Ceramic 0.1 μ F	0300988251	
IC2	IC μ PC7805AHF	0100008036		C10	Cap. Elec. 35V 2200 μ F	0300915042	
IC3	IC μ PC7812AHF	0100008104		C12	Cap. Elec. 24V 100 μ F	0300051375	
(IC4)	IC H12002	9701384020		C14, 15, 26, 27, (CJ16)	Cap. Ceramic 50V 0.01 μ F	0300013113	
IC5, 6	IC μ PA2003C	0100028010		C19, 22, 25, 30	Cap. Ceramic 50V 1000pF	0300011096	
IC7	IC BA10358	0101854014		X1	Ceramic Resonator EFOEC838474	9701261017	
IC8	IC PST600D-2-TP	0101461113		LF1	EMI Filter SU16VF-15030	0400134114	
Q1	Xstr 2SD880	0000001014		L2-4	EMI Filter EXCEMT103DT	0400406396	
Q(2), 3, 6	Xstr DTC124ES	0000517010		F1	Fuse BET3. 15A - 250V	0600222512	
Q4, 5	Xstr 3SC1815	0000002011		FH1, 2	Fuse Holder PFC5000-0502	0500158072	
D1	Diode D2SB20	0000599023		VA1, 2, (3)	Varistor TNR12G471K	0000038010	
D2	Diode MTZJ15C	0000852203		K1, 2, (3), 5	Relay JQ1-12V	9701316014	
D3, 11, 12	Diode 1SR139-400	0000353137		CR2	CR Absorber RPEL-121204	9701125012	
D4	Diode S1VB20	0000292054		RC1-3	CR Module ARCL12FS103J102J103M	0200301013	
D5-7, 10	Diode 1SS133	0000572019		SA1	Arrester	0600168032	
R1, 2	Res. Carbon 1/4W 5.6k Ω \pm 5%	0200994192		SW1	Switch, Slide DSS804	9701393015	
R3, 15, 17, 22, 27	Res. Carbon 1/4W 1k Ω \pm 5%	0200994017		SW2	Switch, Rotary DRS4016-3	9701694013	
R4, (6), 10-12, 14, 19-21, 23, 26, 29	Res. Carbon 1/4W 10k Ω \pm 5%	0200994253		HT1	Heat Sink PUG-26-25	9701428014	
R5, 13, 28	Res. Carbon 1/4W 390 Ω \pm 5%	0200993874		HT2	Heat Sink B. PUE-16	9701376018	
R7	Res. Metal 15.4k Ω	0201028759		(CN1)	Plug, PCB 53406-9210	0500951062	
R8	Res. Metal 28.0k Ω	0201028742		CN1	Plug, PCB 53406-9910	0500951048	
R9	Res. Carbon 1/4W 4.7k Ω \pm 5%	0200994178		CN3	Plug, PCB B2P3-VH-B-C	0500011773	
R16	Res. Metal 3.32k Ω	0201028568		CN4	Plug, PCB 53331-0210	0501033019	
R18	Res. Metal 10.5k Ω	0201028537		CN6	Plug, PCB B2P3-VH-B-R	0500011766	
R24	Res. Metal 22.1k Ω	0201028513		CN7, CN13	Plug, PCB B4B-XH-AM	0500005314	
R25	Res. Metal 33.2k Ω	0201028544		CN8	Plug, PCB 53405-0310	0500940035	
C1, 4	Cap. Plastic 250V 0.1 μ F	0300894835		CN9	Plug, PCB B2P-VH-B	0500011124	
C2, 3	Cap. Ceramic 4700pF	0300727546		CN10	Plug, PCB B2P-VH-B-C	0500011568	
C5	Cap. Elec. 50V 2200 μ F	0301206026		CN11	Plug, PCB B3B-XH-AM	0500005338	
C6	Cap. Elec. 50V 10 μ F	0300003145		CN12	Plug, PCB B2B-XASK-1-A	0500006021	
C7, 11, 20, 23	Cap. Elec. 25V 10 μ F	0300004258		CN16	Wire w/Terminal GRN L=300	0501045012	
C8	Cap. Elec. 25V 2200 μ F	0300915417		E	Wire w/Terminal GRN L=100	9702313012	

[OUTDOOR P. C. B.] CONTROLLER PCB ASSEMBLY (Ref. No. 236)

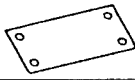


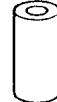

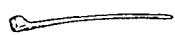
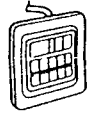





Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC μ PD78081CJ-011	9701721016		C2, 3	Cap. Ceramic 4700pF	0300727546	
IC2	IC HJ2001	9701651016		C5	Cap. Elec. 50V 2200 μ F	0301206026	
IC3	IC PST600D-2-T	0101461113		C6, 7, 21, 24, 27	Cap. Elec. 50V 10 μ F	030004258	
IC4	IC NJM7805FA	0100462081		C8, 18, 19, 22, 25, 28, 29, 34, 36	Cap. Ceramic 0.1 μ F	0300988251	
IC5, 6	IC BA12003	0101650012		C9-11, 14-16, 30	Cap. Ceramic 50V 0.01 μ F	0300013113	
Q1	Xstr 2SD880	0000001014		C17	Cap. Elec. 25V 100 μ F	0300051375	
Q2, 3	Xstr DTC124ES	0000517010		C20, 23, 26, 35	Cap. Ceramic 50V 1000pF	0300011096	
D1	Diode D2SB20	0000599023		C33	Cap. Elec. 50V 2200 μ F	0300915417	
D2	Diode MTZJ15C	0000852203		F1	Fuse 3.15A - 250V	0600222512	
D3-5	Diode 1SR139-400	0000353137		RC1	CR Module ARCL12FS103J102J103M	0200301020	
D6	Diode 1SS133	0000572019		CR1-3	CR Absorbar RPEL-121204	9701125012	
R1, 2	Res. Carbon 1/4W 5.6k Ω \pm 5%	0200994192		SA1	Arrester DSA-362MA-05	0600168032	
R3, 6, 10-12, 14, 16, 18, 20, 24	Res. Carbon 1/4W 1k Ω \pm 5%	0200994017		K1-6	Relay JQ1-12V	9701316014	
R4, 26	Res. Carbon 1/4W 4.7k Ω \pm 5%	0200994178		L1	EMI Filter SU16VF-15030	0400134114	
R5, 7-9, 13, 21-23, 25	Res. Carbon 1/4W 10k Ω \pm 5%	0200994253		VA1, 4	Varistor TNR12G471K	0000038010	
R15, 17	Res. Metal 14.0 Ω	0201028612		HT1	Heat Sink PUG26-25	9701428014	
R19	Res. Metal 6.65k Ω	0201028766		FH1, 2	Fuse Holder PFC5000-0502	0500158072	
C1, 4	Cap. Plastic 250V 0.1 μ F	0300894835		X1	Ceramic Resonator EFOEC500474Z	9701261024	

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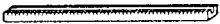



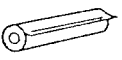



[OUTDOOR P. C. B.] CONTROLLER PCB ASSEMBLY (Ref. No. 236) (Continued)

Ref. No.	Description	Part No.	Ord. Q' ty	Ref. No.	Description	Part No.	Ord. Q' ty
LED1, 2	LED SLR-325VC	0000813259		CN9	Plug, PCB 179844-1	0501121013	
CN1	Plug, PCB 53406-9110	0500951086		CN10	Plug, PCB B4P-SHF-1AA	0500006038	
CN2	Plug, PCB B2P3-VH-B-R	0500011766		CN11	Plug, PCB B2P-VH-B	0500011124	
CN3	Plug, PCB B2B-XH-AM	0500005321		CN12	Plug, PCB B2P-VH-B-C	0500011568	
CN4, 6	Plug, PCB 53331-0210	0501033019		CN13	Plug, PCB B2P-VH-B-R	0500011148	
CN5	Plug, PCB B4P7-VH-B	0500011742		CN15	Plug, PCB B2B-XASK-1-A	0501045012	
CN7	Plug, PCB B4P7-VH-B-R	0500011797		E	Wire w/Terminal GRN L=210	9701325016	
CN8	Plug, PCB 179844-2	0501121020					

INDOOR UNIT ACCESSORIES

Name and Shape	Q' ty	Application	ARY60ALA3	ARY60RLA3
Installation template 	1	For positioning the indoor unit	9361644007	9361644007
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling	313005446653	313005446653
Special nut B (small flange) 	4		313005446759	313005446759
Coupler heat insulation (large) 	2	For indoor side pipe joint (large pipe)	9350716029	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)	9352766015	9352766015
Nylon fastener 	1	For fixing the drain hose	312300787605	312300787605
Remote control unit 	1		9701673032	9701673025
Remote control unit cord clamp 	10	For installing the remote control unit cord	313714181904	313714181904
Tapping screw (flush heads) 	10	For installing the remote control unit cord clamp	301141153027	301141153027
Auxiliary pipe assembly 	1	For wiring conduit(gas side) connection	9357038001	9357038001
Drain hose insulation 	1	Insulates the drain pipe and drain hose connection	9361646001	9361646001
Drain pipe insulation 	1	For insulating the drain pipe	9361796003	9361796003

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	ADY60ABA3L	ADY60RBA3L
Power cap 	1	For power supply cord installation	9352173011	9352173011
Auxiliary pipe assembly 	1	For wiring conduit(gas side) connection (May not be supplied, depending on the model)	9355292016	9355292016
Edge cover 	1	For wiring conduit installation hole edge protection	9352436000	9352436000
Tapping screw 	2	• For cabinet A and cabinet D mounting(1) • Spare(1)	301463040100	301463040100
Binder 	1	For power supply cord binding	313035356905	313035356905
Putty 	1	For sealing	303020200114	303020200114
Coupler heat insulation 	1	For outdoor side pipe joint	313005074759	313005074759
Pipe(drain) 	2	For outdoor unit drain piping work(May not be supplied, depending on the model.)	—————	313728031005
Flexible tube 	2		—————	313013042915
Cap(drain) 	2		—————	313166024302

FUJITSU
FUJITSU GENERAL LIMITED

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