

**SPLIT TYPE AIR
CONDITIONER (50Hz)**

DUCT type

SERVICE MANUAL

Models	Indoor unit	Outdoor unit
	ARY90ELB3	AOY90EPC3L



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FUJITSU GENERAL LIMITED



Большая библиотека технической документации

<https://splitsystema48.ru/instrukcii-po-ekspluatacii-kondicionerov.html>

каталоги, инструкции, сервисные мануалы, схемы.

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

INDOOR UNIT		ARY90ELB3
OUTDOOR UNIT		AOY90EPC3L
COOLING CAPACITY	(kW)	25.4 - 25.4

ELECTRICAL DATA

POWER SOURCE	(V)	380 - 415
FREQUENCY	(Hz)	50
RUNNING CURRENT	(A)	17.5 - 17.0
INPUT WATTS	(kW)	10.5 - 10.5
E.E.R.	(kW/kW)	2.42 - 2.42
MOISTURE REMOVAL	(ℓ /hr)	7.5
AIR CIRCULATION-Hi	(m ³ /hr)	4,300
REFRIGERANT	(R407C) (g)	6,000

COMPRESSOR

TYPE	Hermetic type, 2 pole, 3-phase, Induction motor
CODE	ZRT122K3E-TFD

FAN MOTOR

MODEL NO.		ARY90ELB3	AOY90EPC3L
TYPE		MFA-90GQH	MFB-90FTH
POWER SOURCE	(V)	380 - 415	220 - 240
HI-SPEED	(r.p.m.)	1,140	730
LO-SPEED	(r.p.m.)	—	360

DIMENSIONS

H x W x D	(mm)	450 x 1,550 x 700	1,380 x 1,300 x 650
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WEIGHT

GROSS / NET	(kg)	100 / 85	280 / 243
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ADDITIONAL REFRIGERANT CHARGE

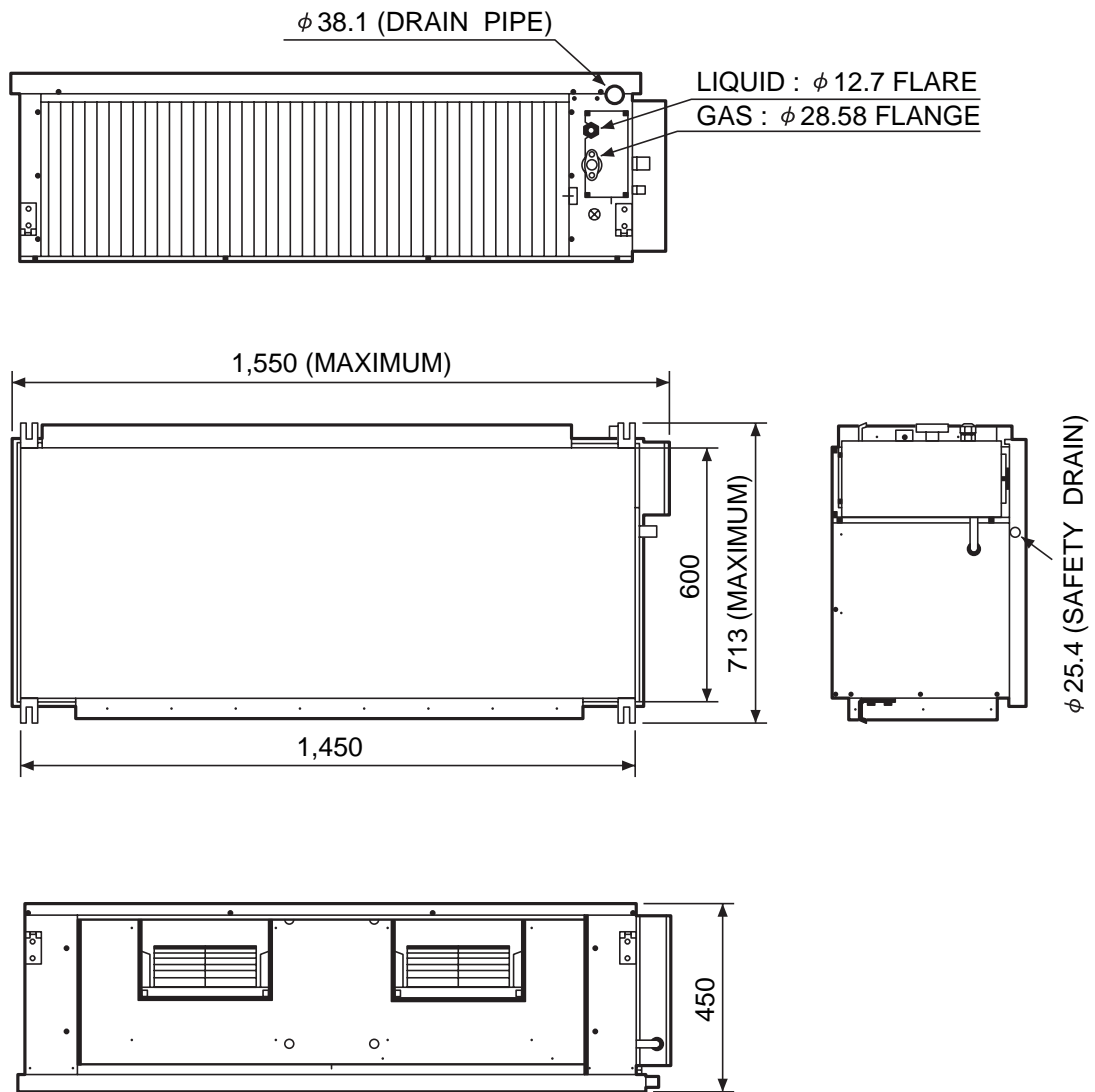
PIPE LENGTH	30 m	40 m	50 m
FULL CHARGE AMOUNT	6,000 g	6,500 g	7,000 g

- Note :
- Between 30 m and 50 m, when using a connection pipe other than that in the table, charge additional refrigerant with 50 g/1 m as the criteria.
 - The above list shows values at the external static pressure of 20 mm Aq. (196 Pa).

OUTLINE AND DIMENSIONS

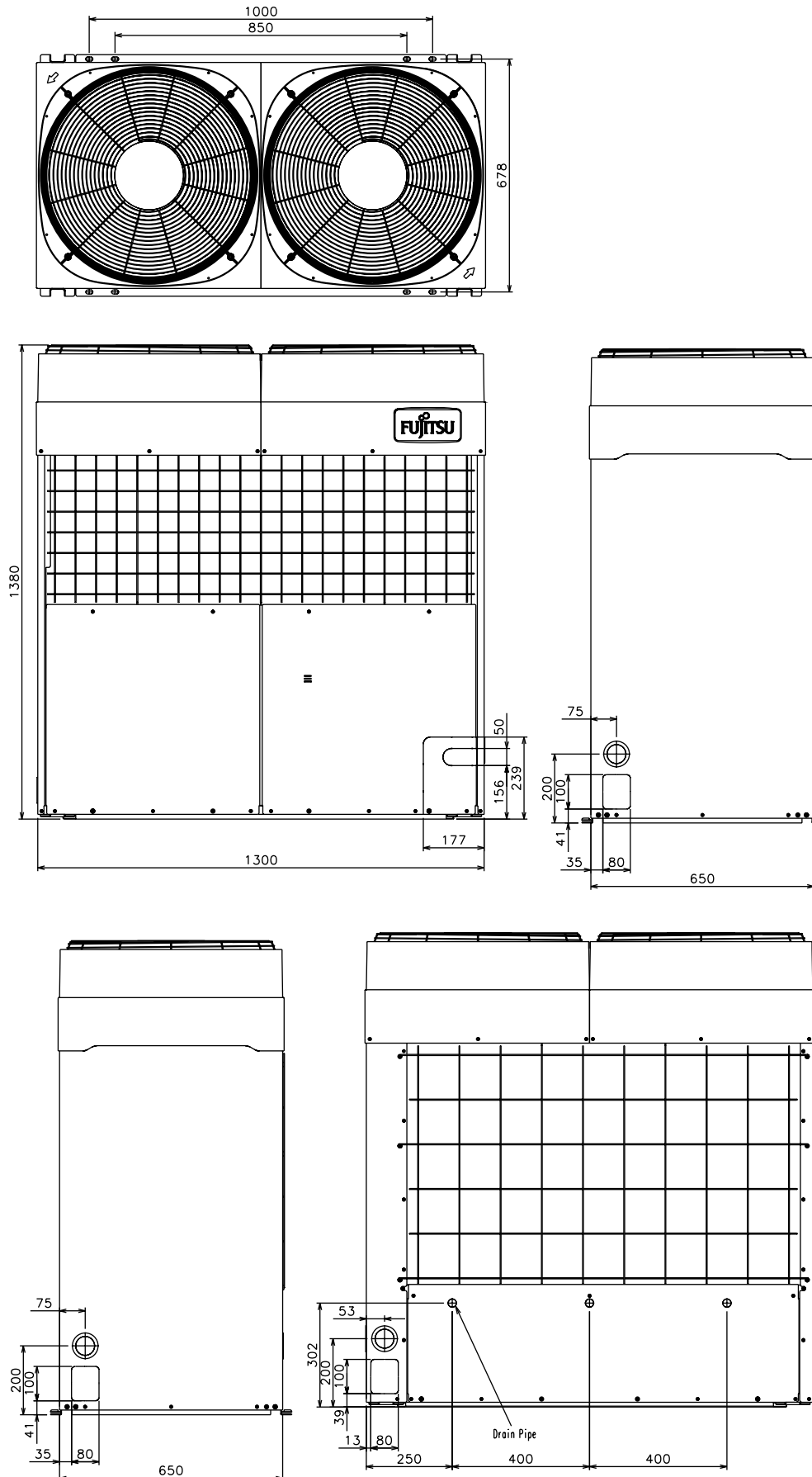
Model : ARY90ELB3

(Unit : mm)



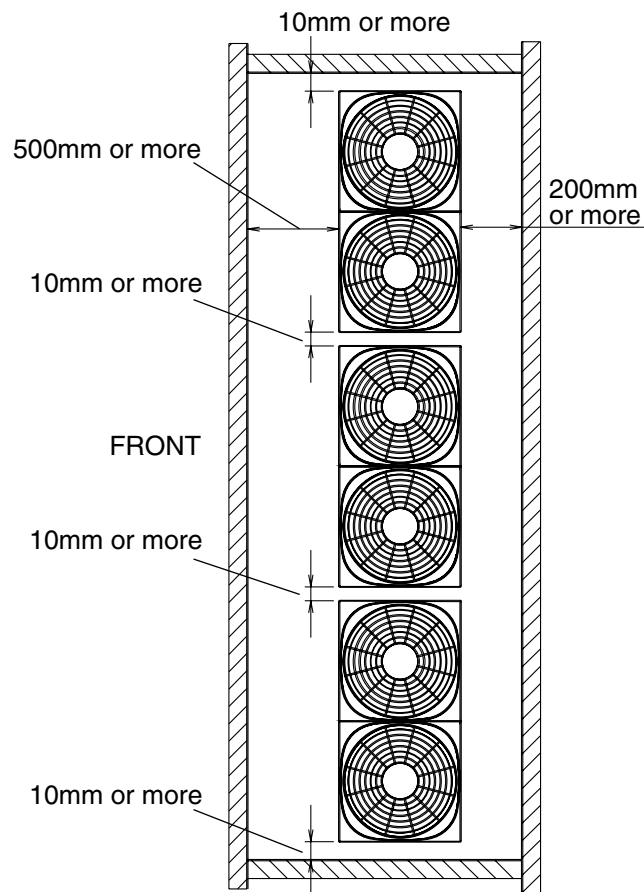
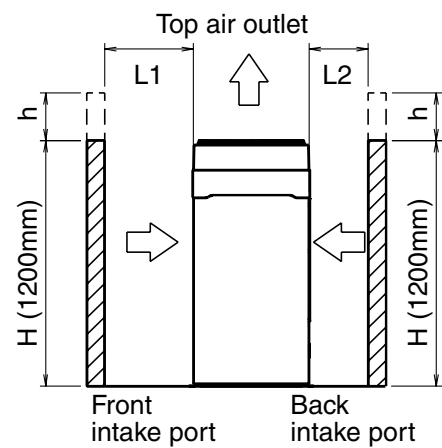
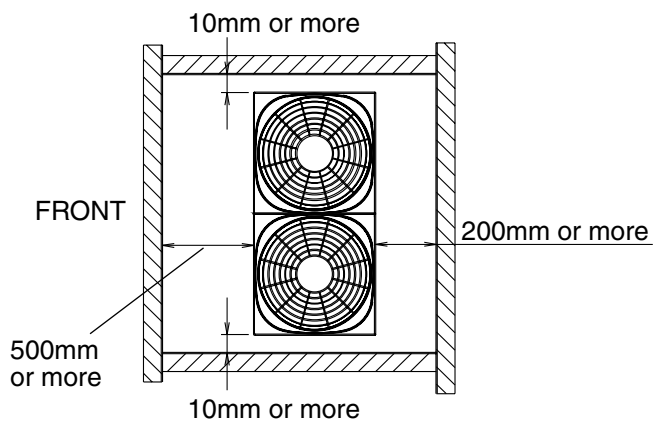
Model : AOY90EPC3L

(Unit : mm)



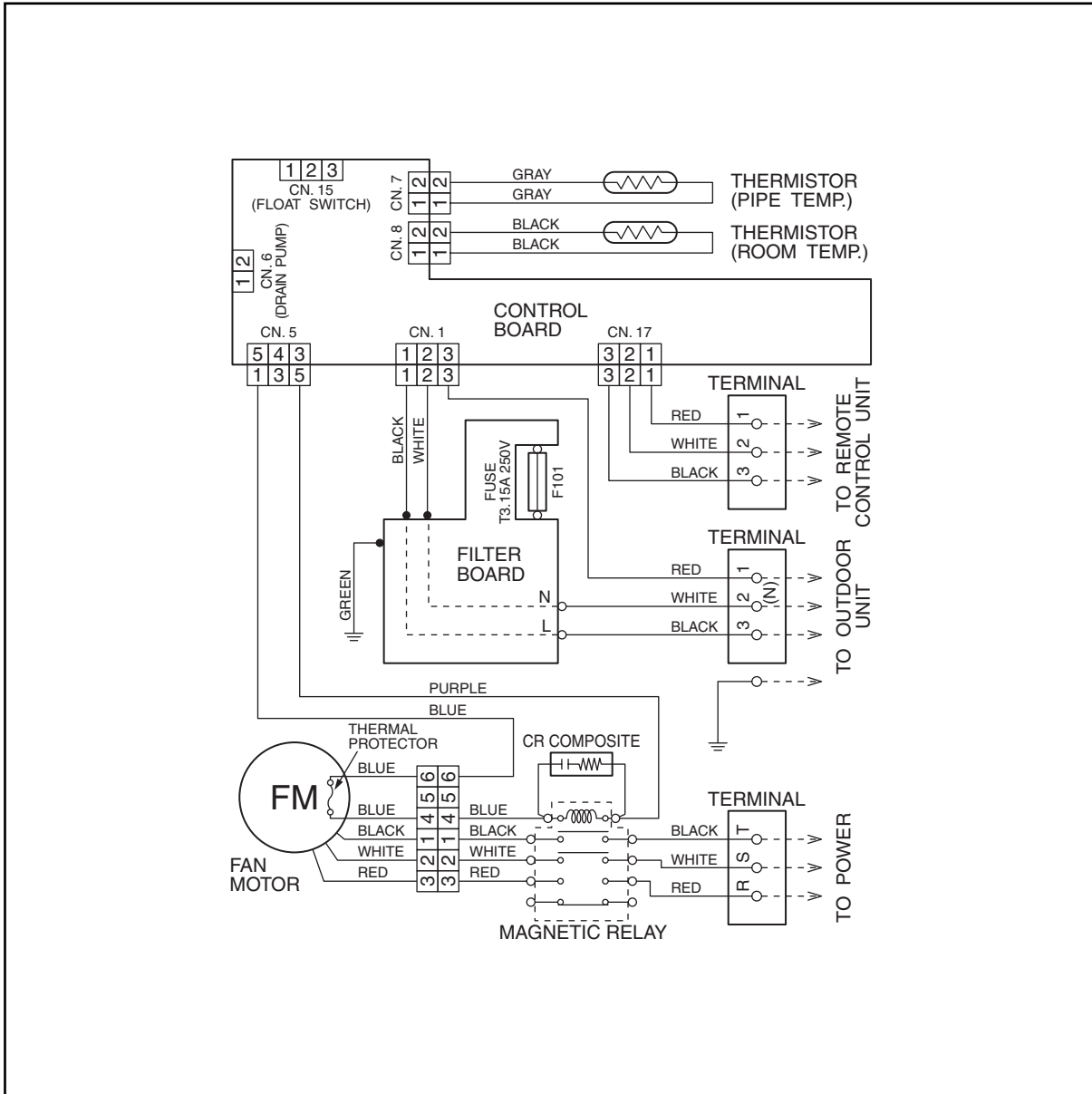
SERVICE SPACE FOR OUTDOOR UNIT

- Height of side wall is free.
- Height (H) of front wall is less than 1,200mm.
- When total height of outdoor unit is lower than front wall, add dimension h to service space for dimensions L1 and L2.

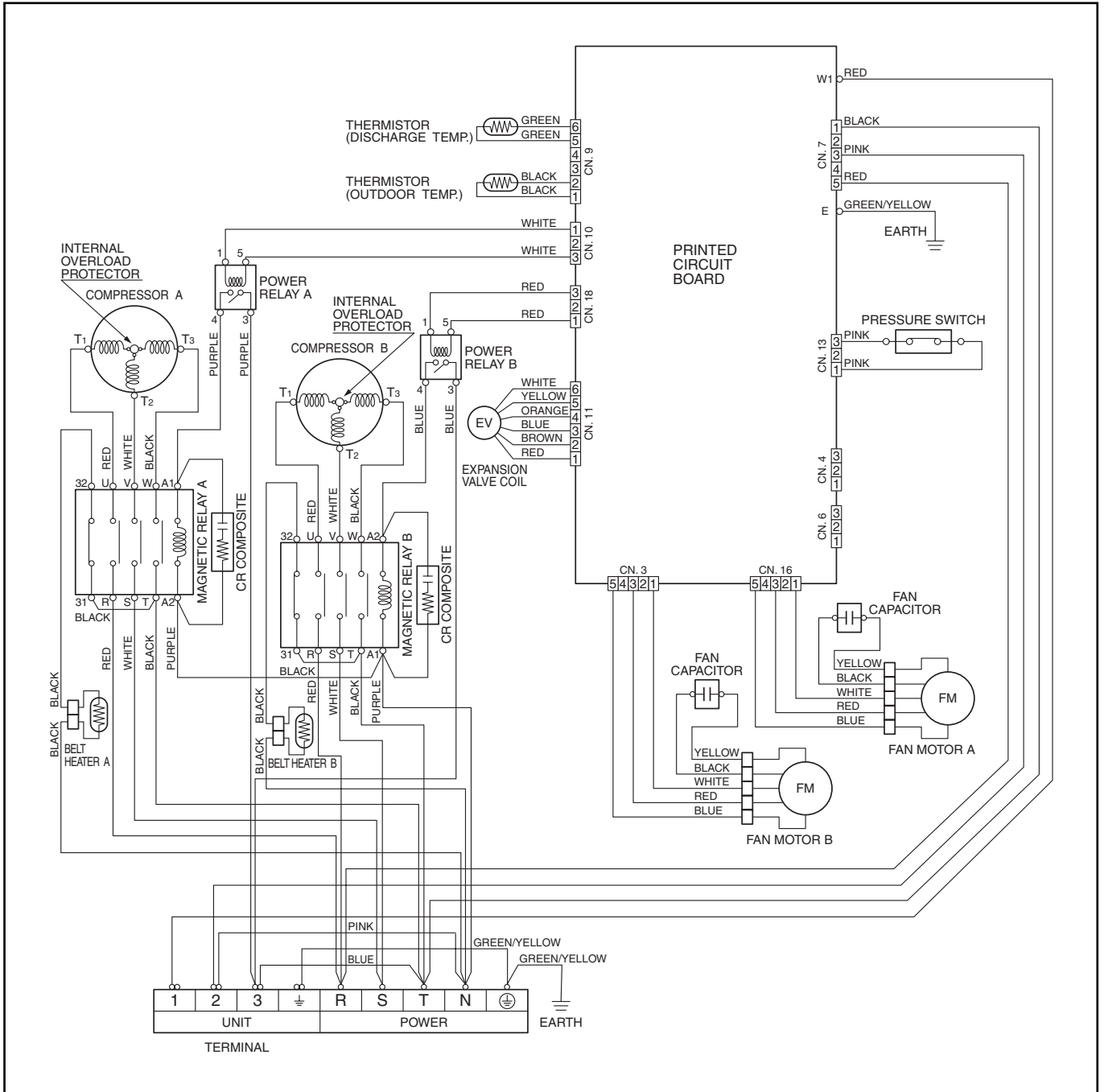


CIRCUIT DIAGRAM

Model : ARY90ELB3

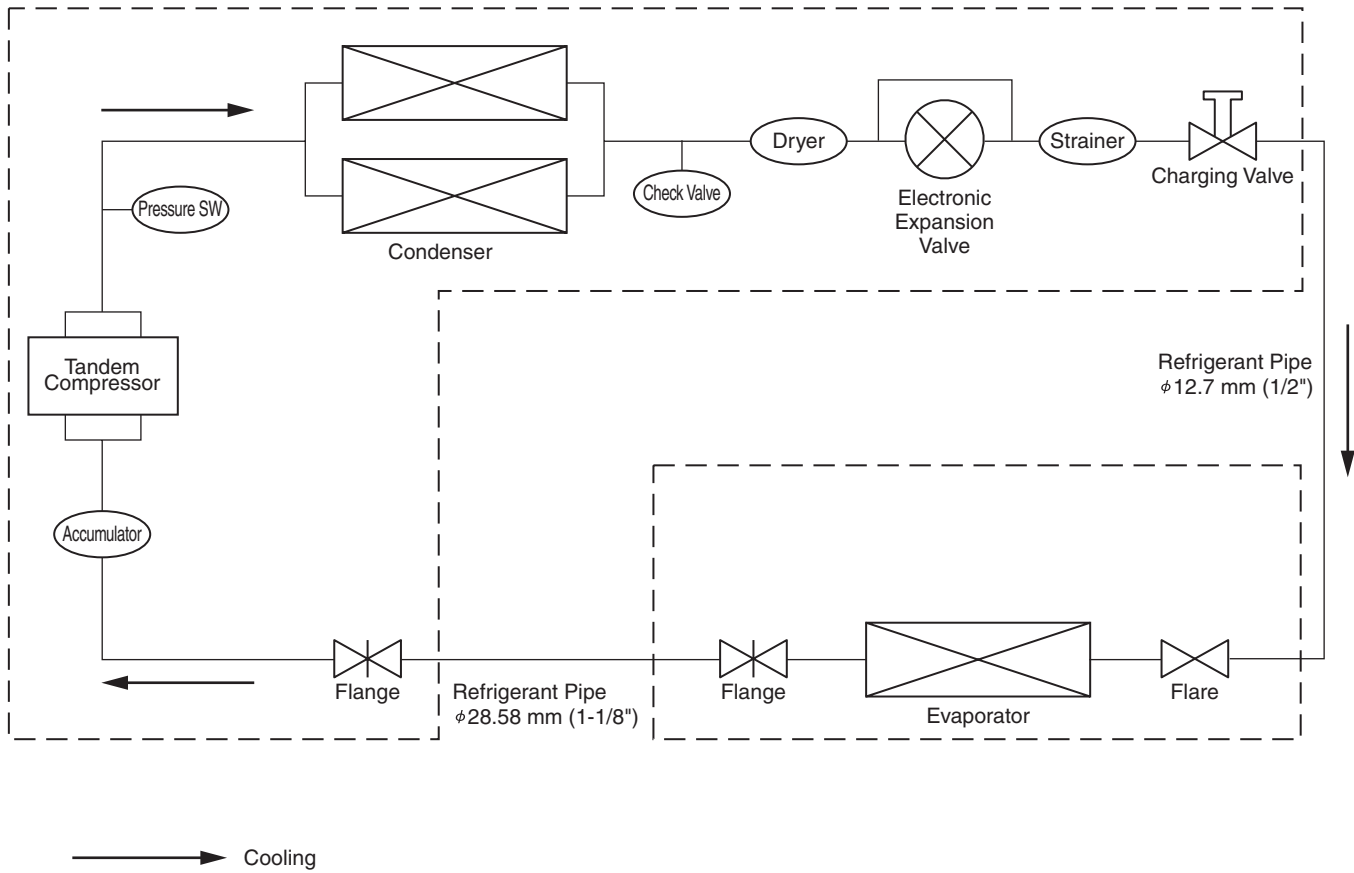


Model : AOY90EPC3L



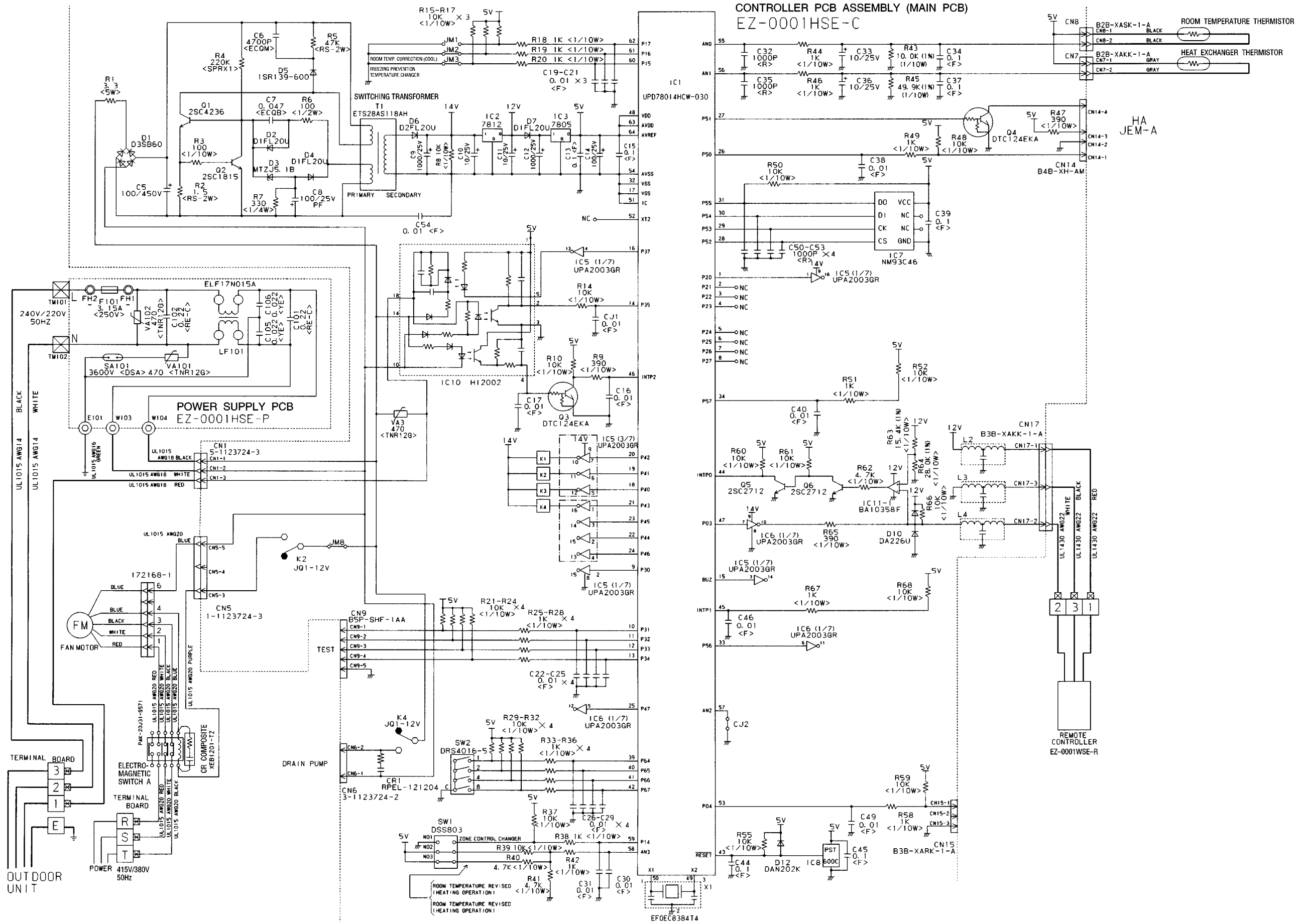
REFRIGERANT SYSTEM DIAGRAM

Models : ARY90ELB3 / AOY90EPC3L



INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

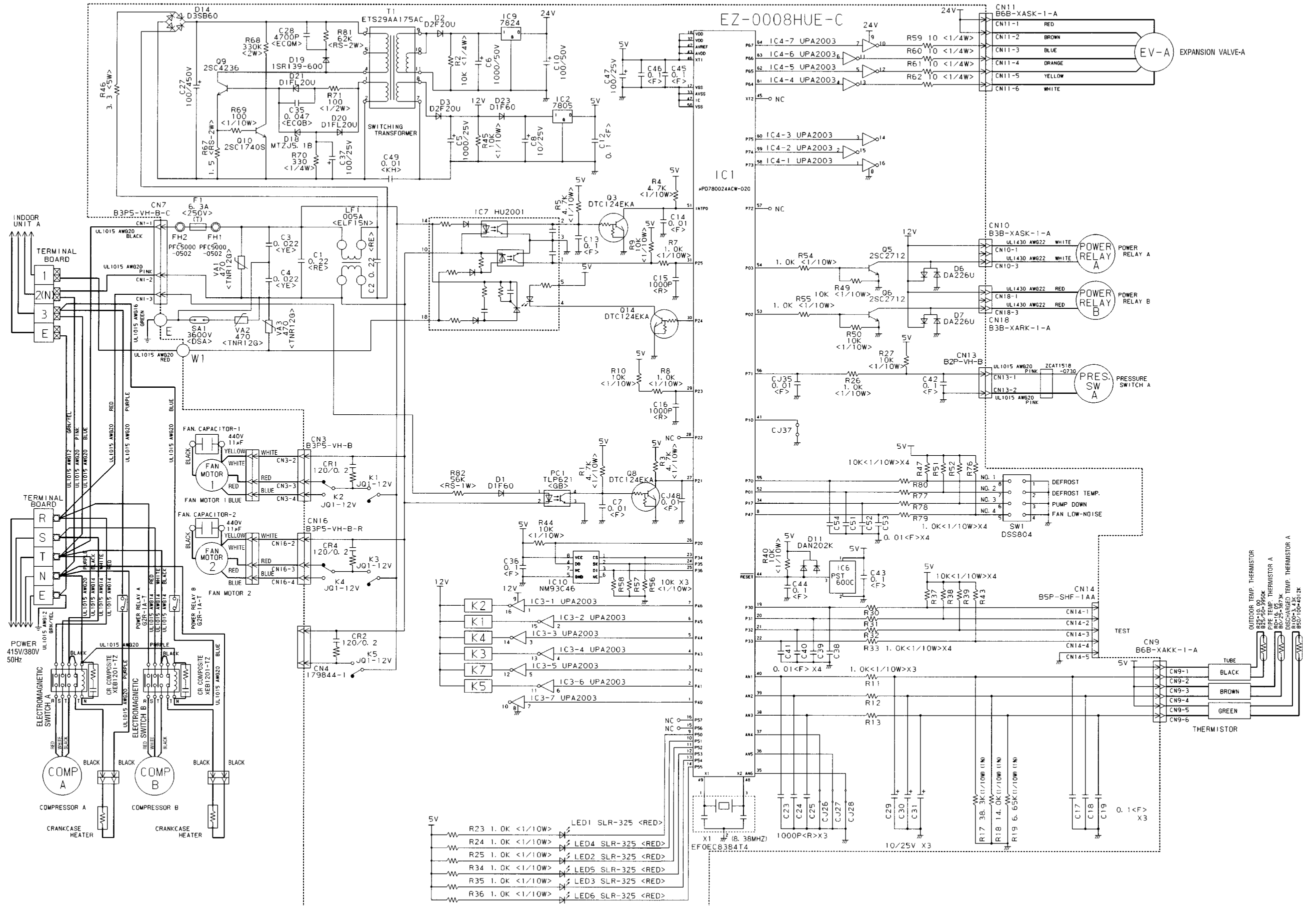
Model : ARY90ELB3



OUTDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Model : AOY90EPC3L

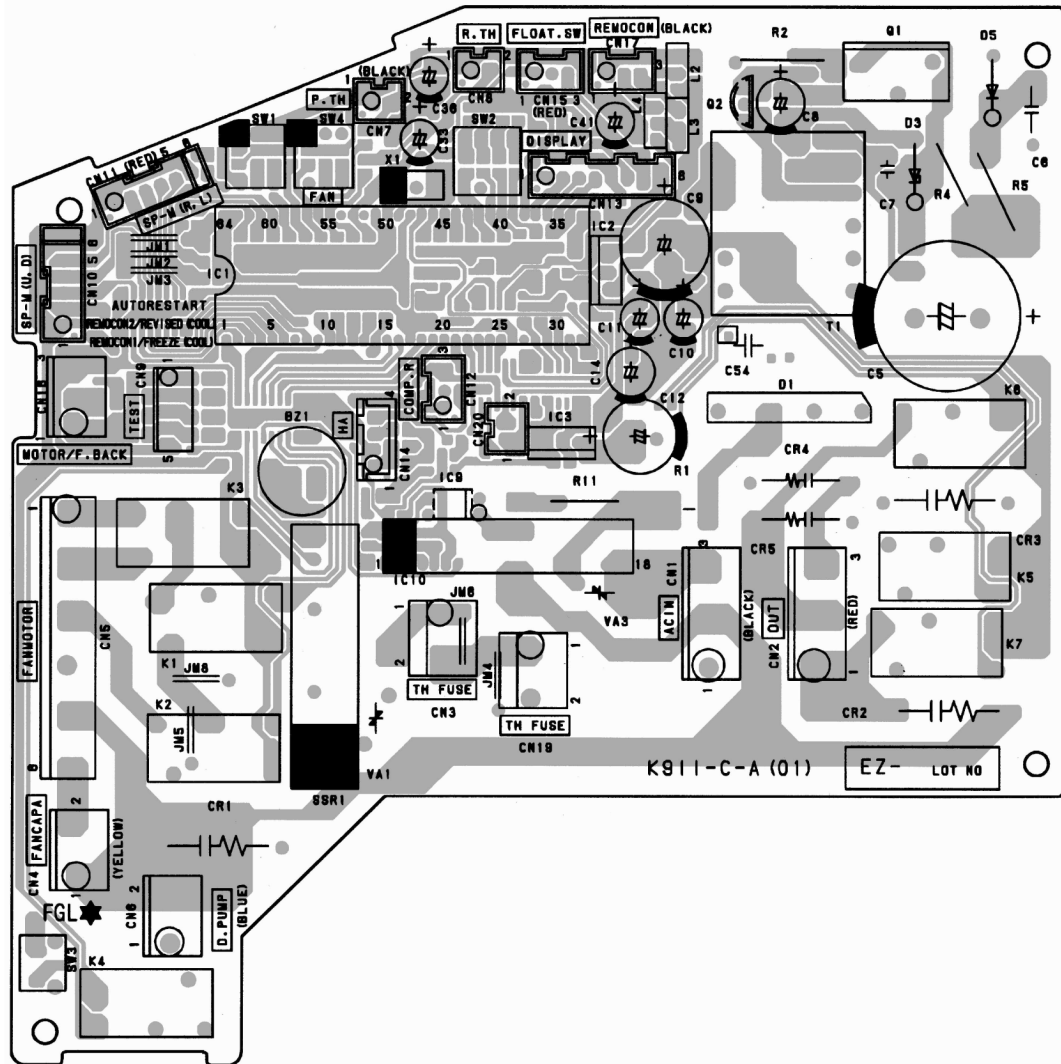
CONTROLLER PCB ASSEMBLY (MAIN PCB)



INDOOR P.C. BOARD LAYOUTS

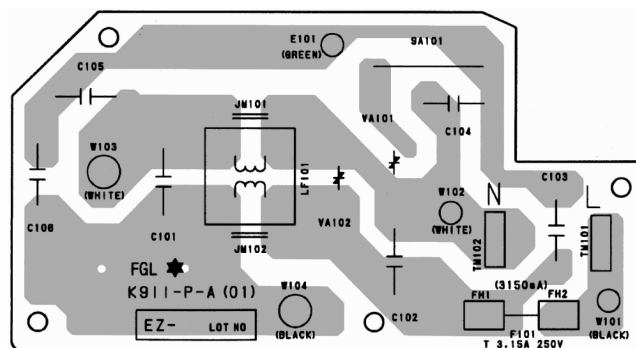
CONTROLLER P.C. BOARD ASSEMBLY (MAIN PCB)

(Viewed from the component side)



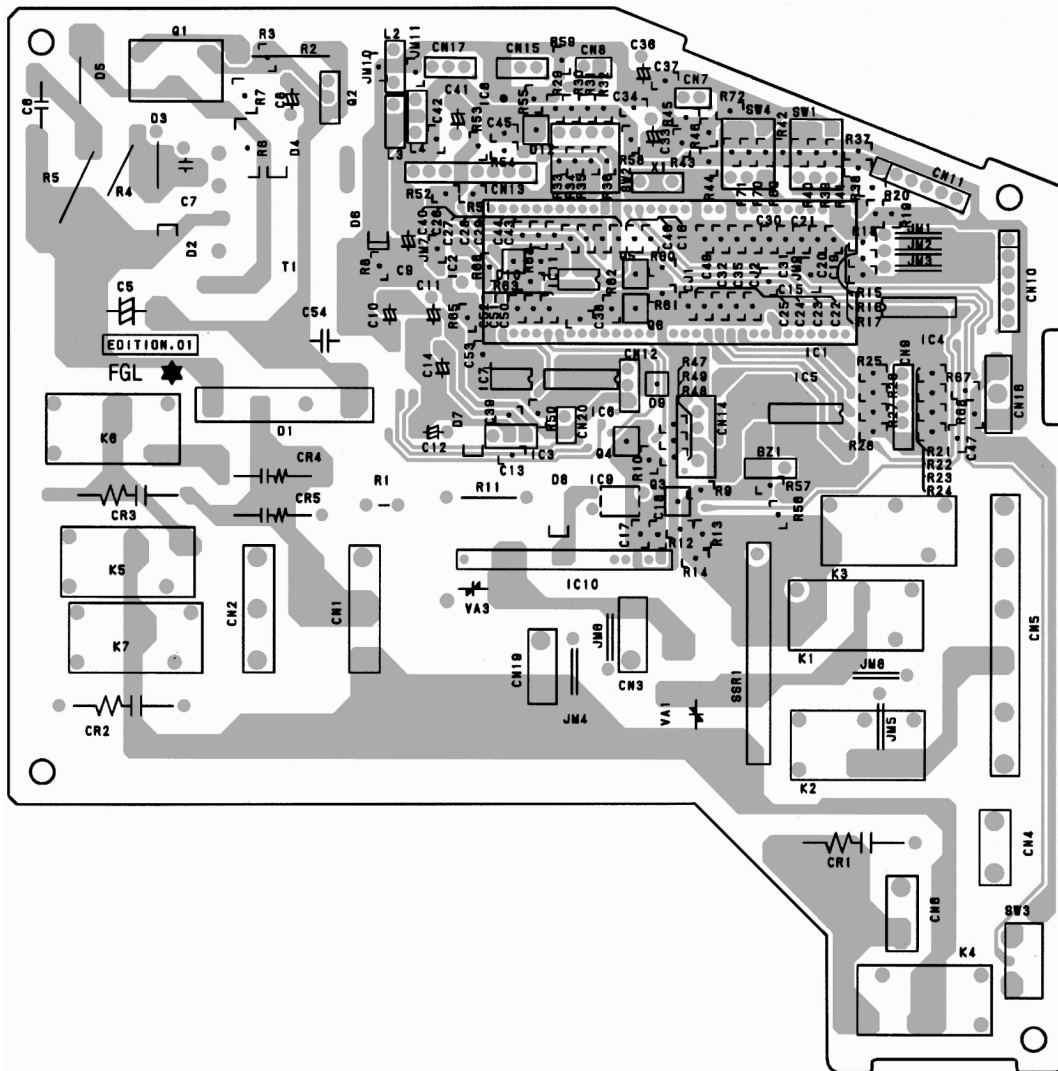
FILTER P.C. BOARD ASSEMBLY (MAIN PCB)

(Viewed from the component side)



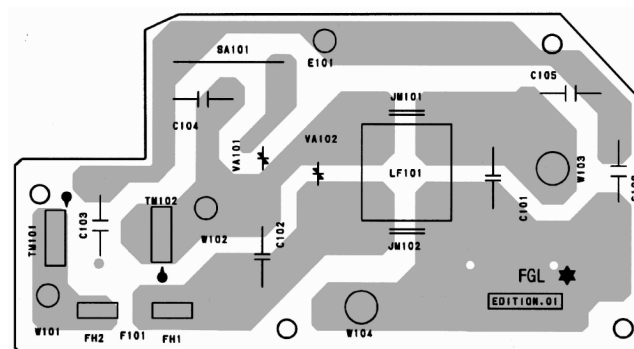
CONTROLLER P.C. BOARD ASSEMBLY (MAIN PCB)

(Viewed from the solder side)



FILTER P.C. BOARD ASSEMBLY (MAIN PCB)

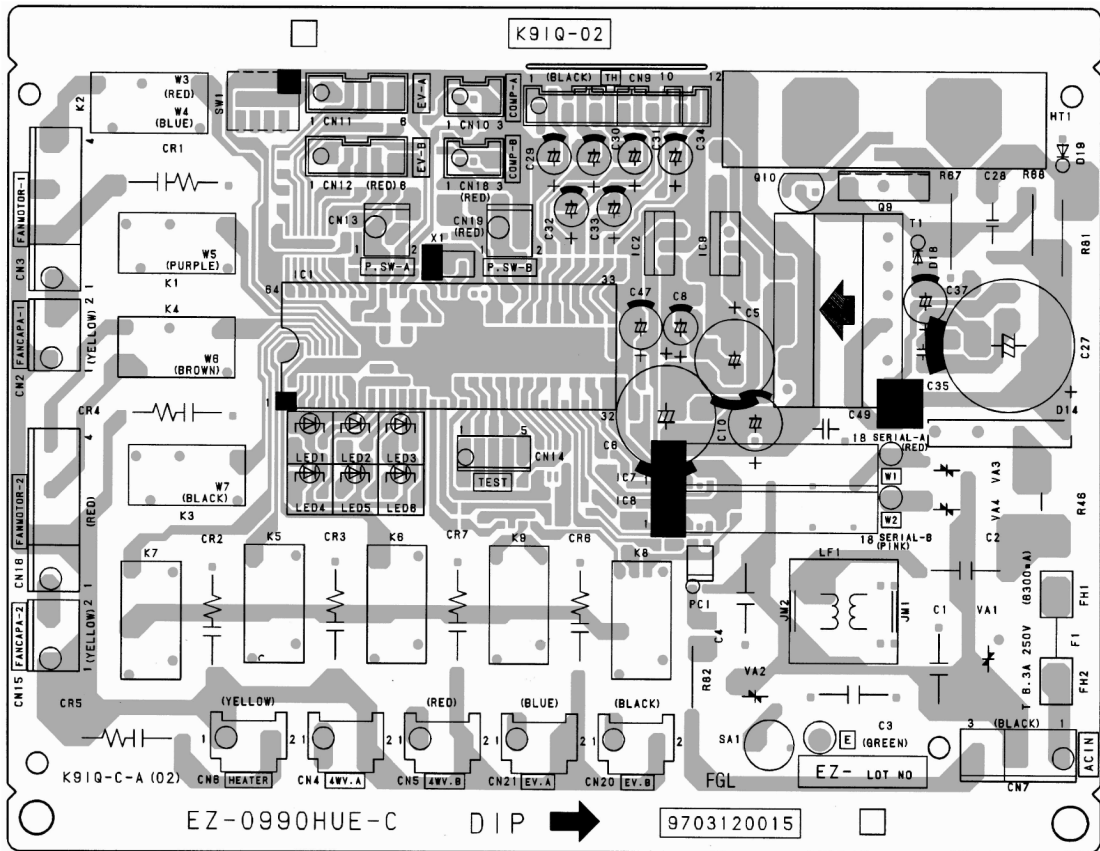
(Viewed from the solder side)



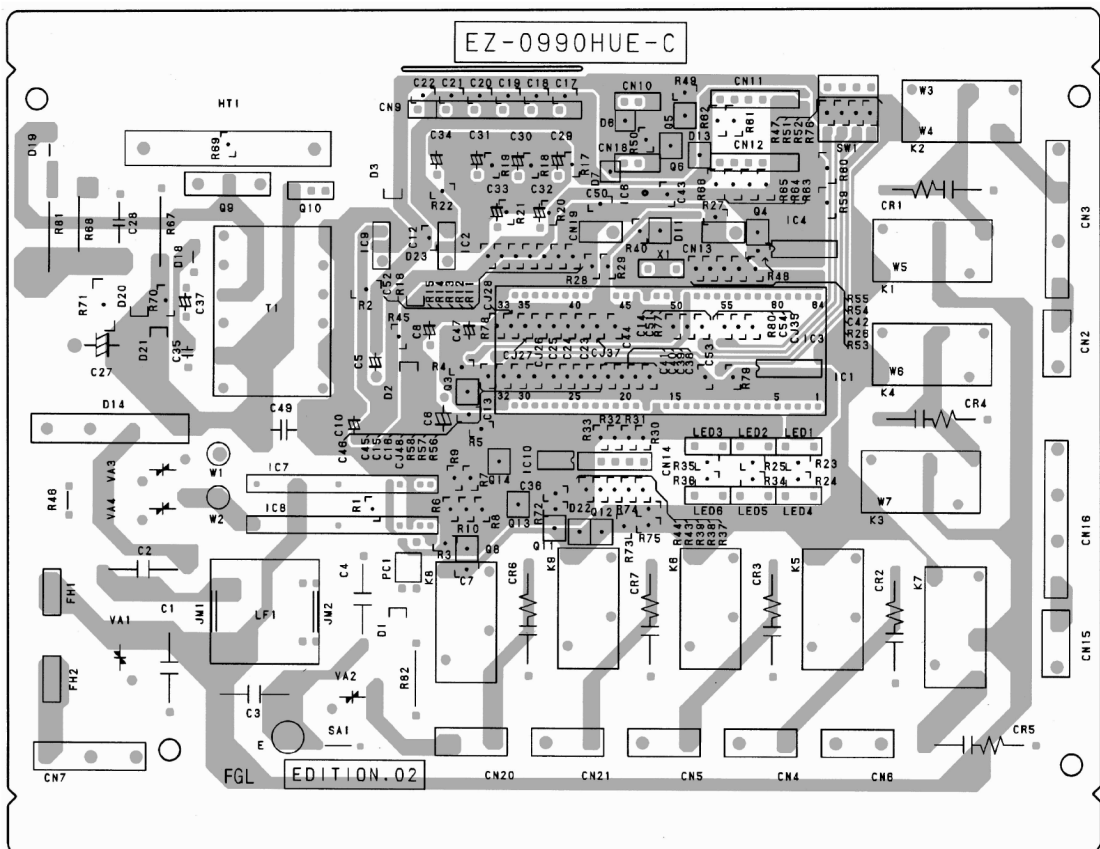
OUTDOOR P.C. BOARD LAYOUTS

CONTROLLER P.C. BOARD ASSEMBLY

(Viewed from the component side)

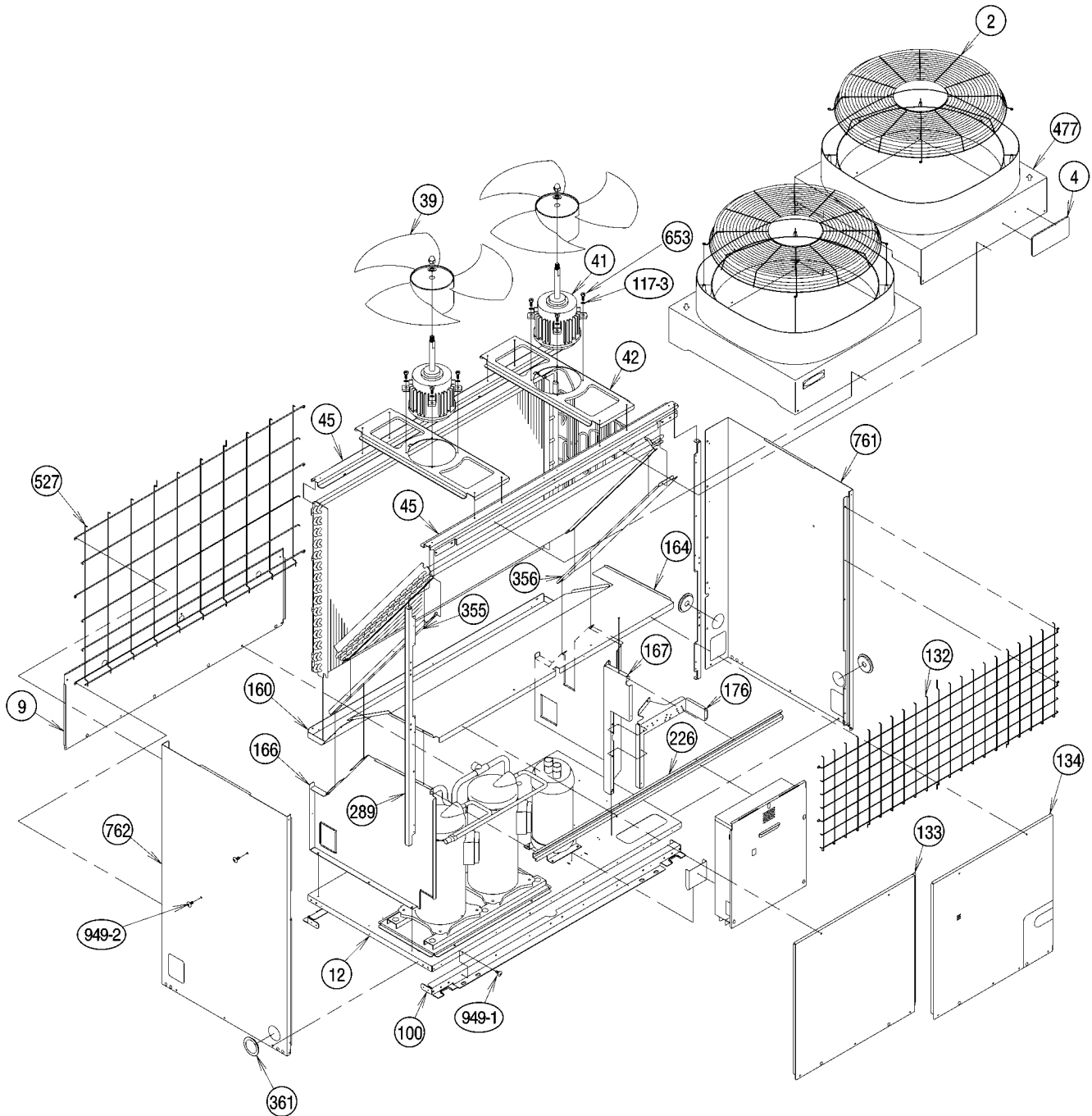


(Viewed from the solder side)

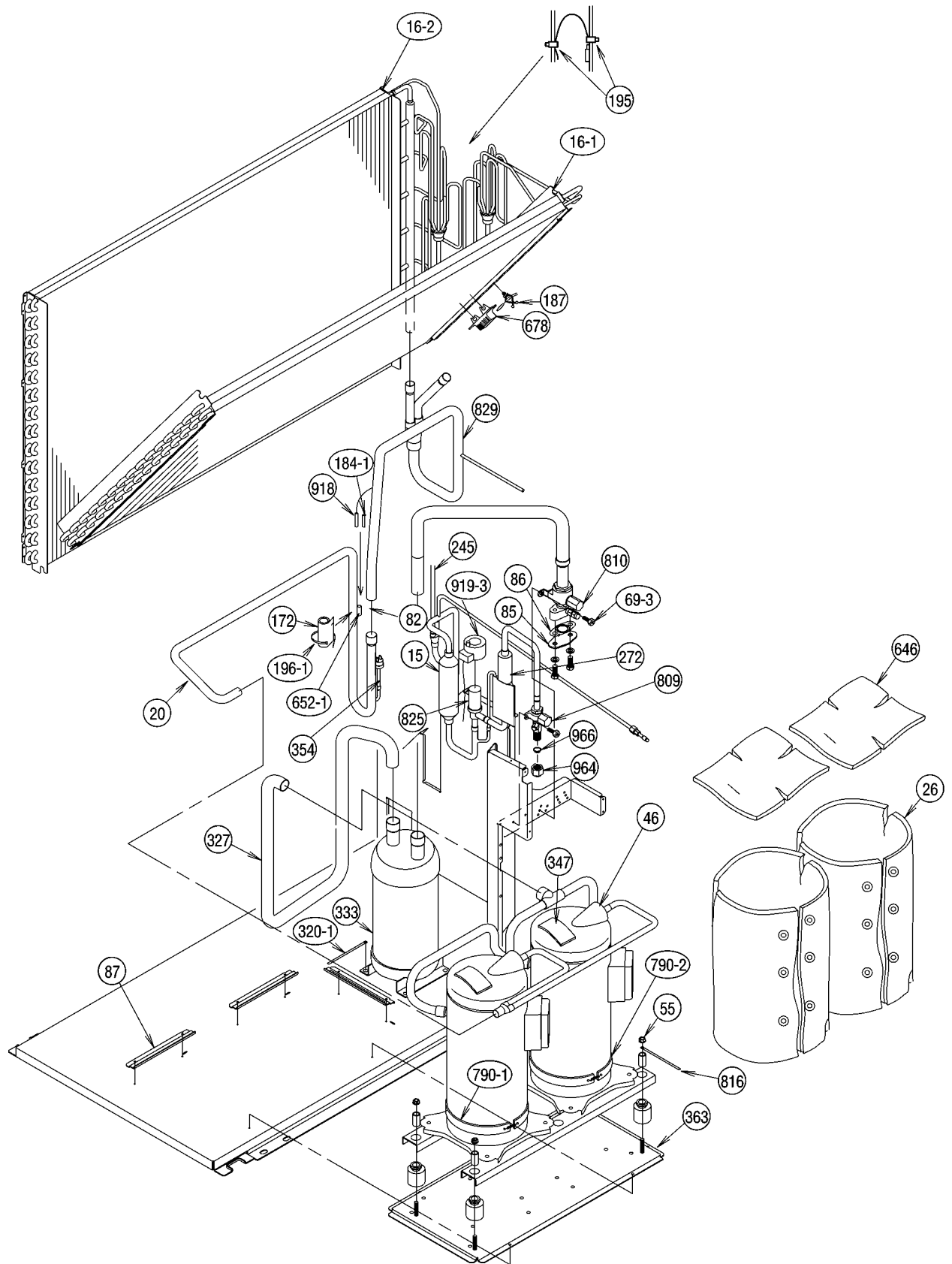


DISASSEMBLY ILLUSTRATION

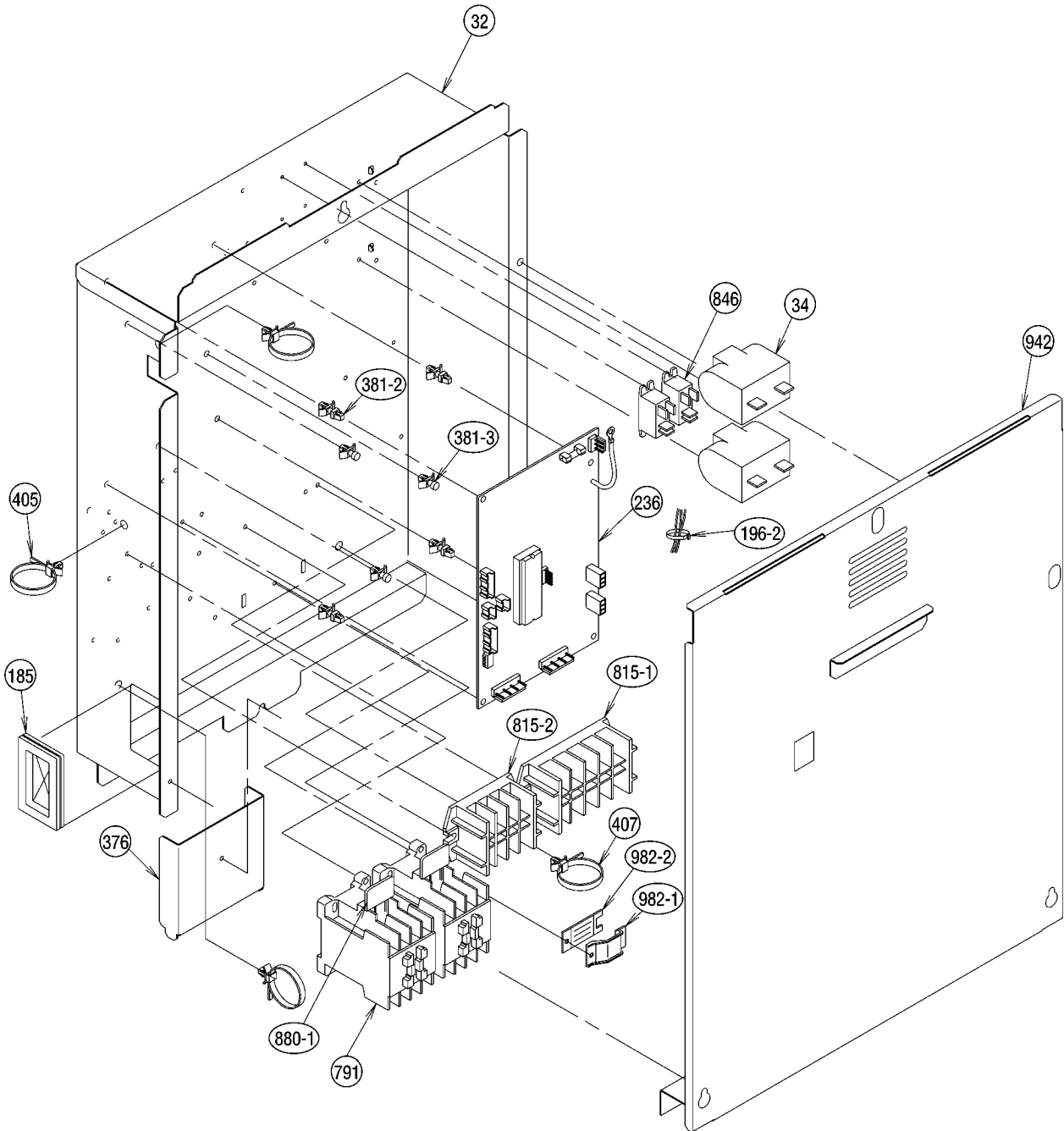
Model : AOY90EPC3L



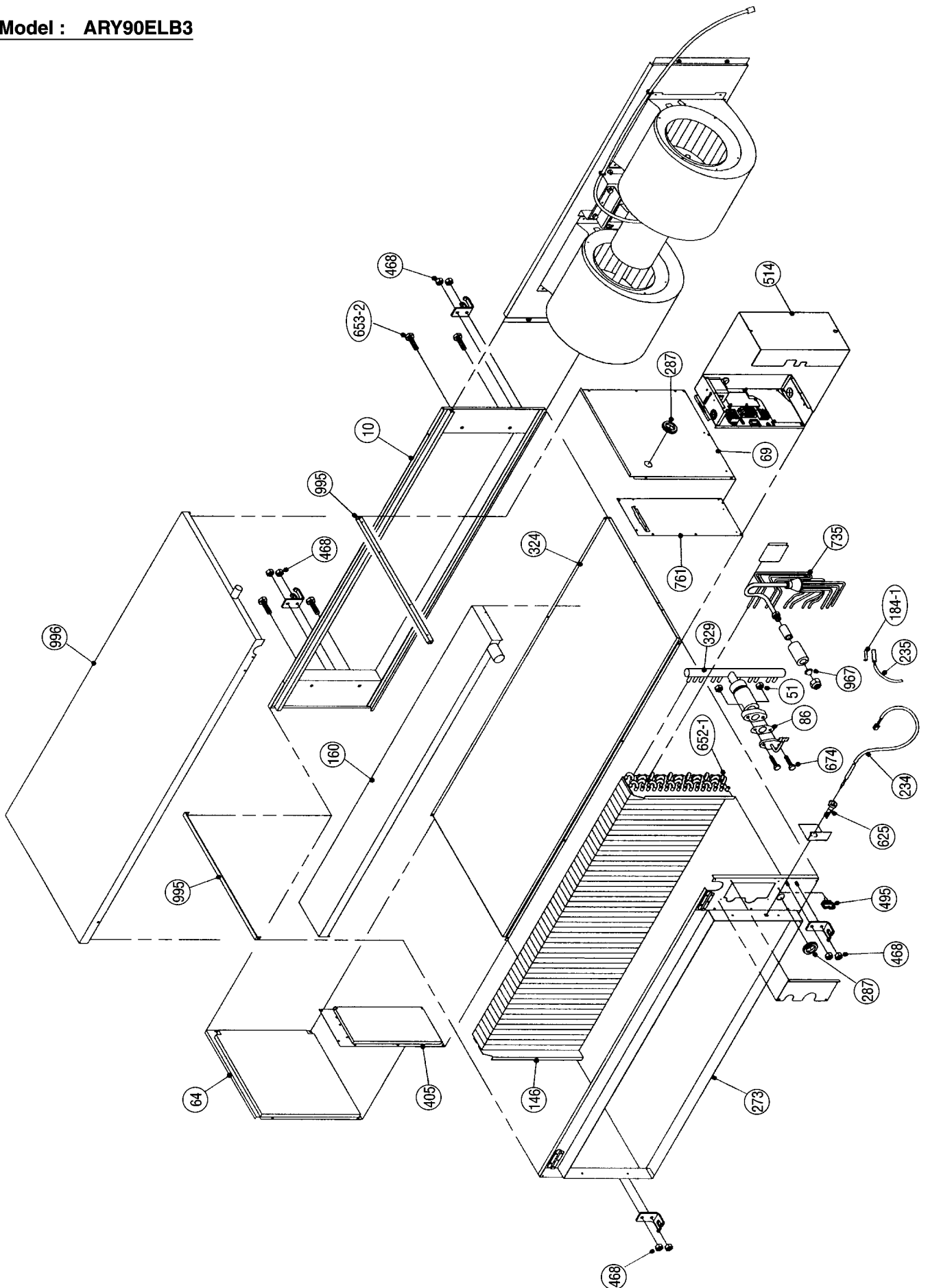
Model : AOY90EPC3L



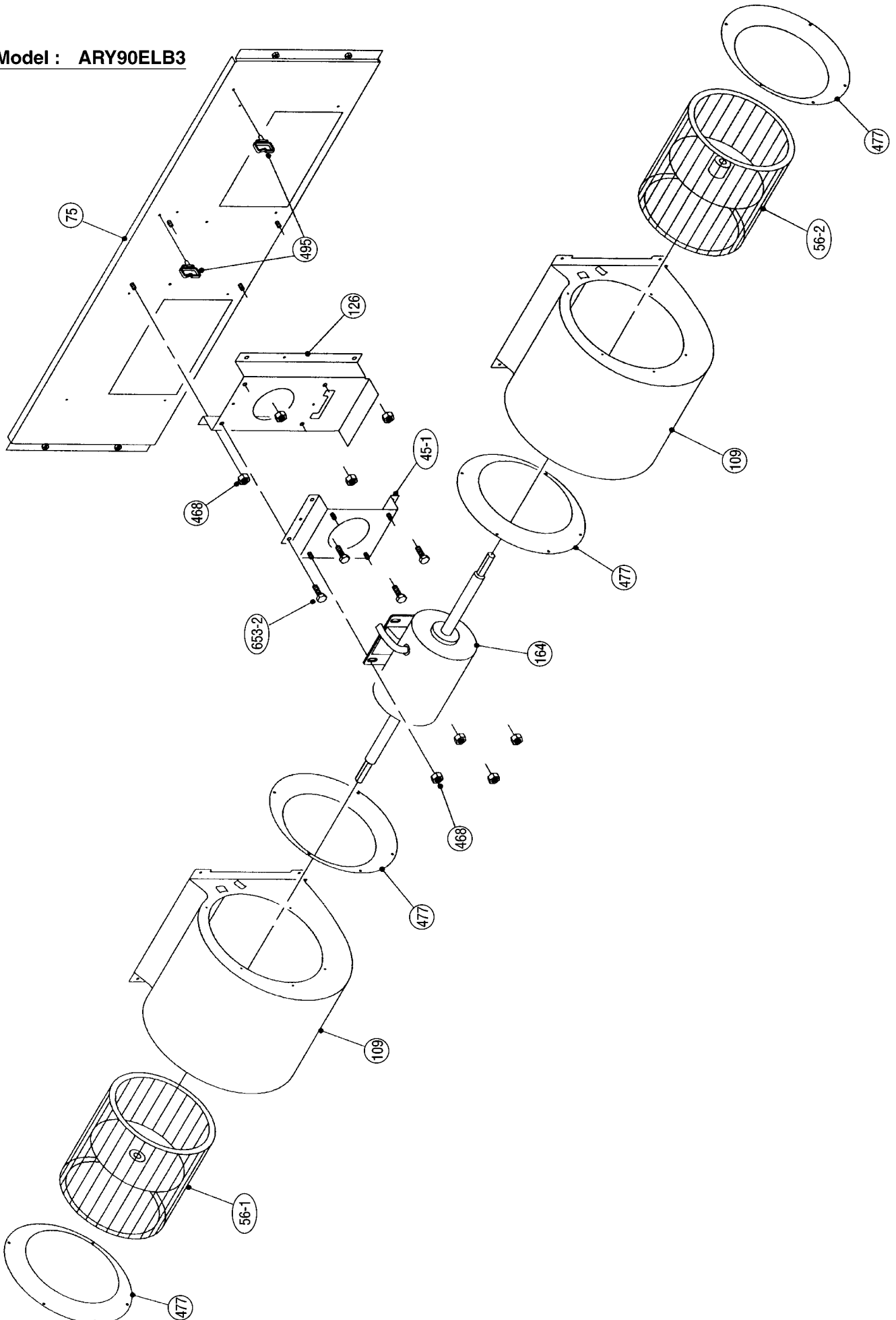
Model : AOY90EPC3L



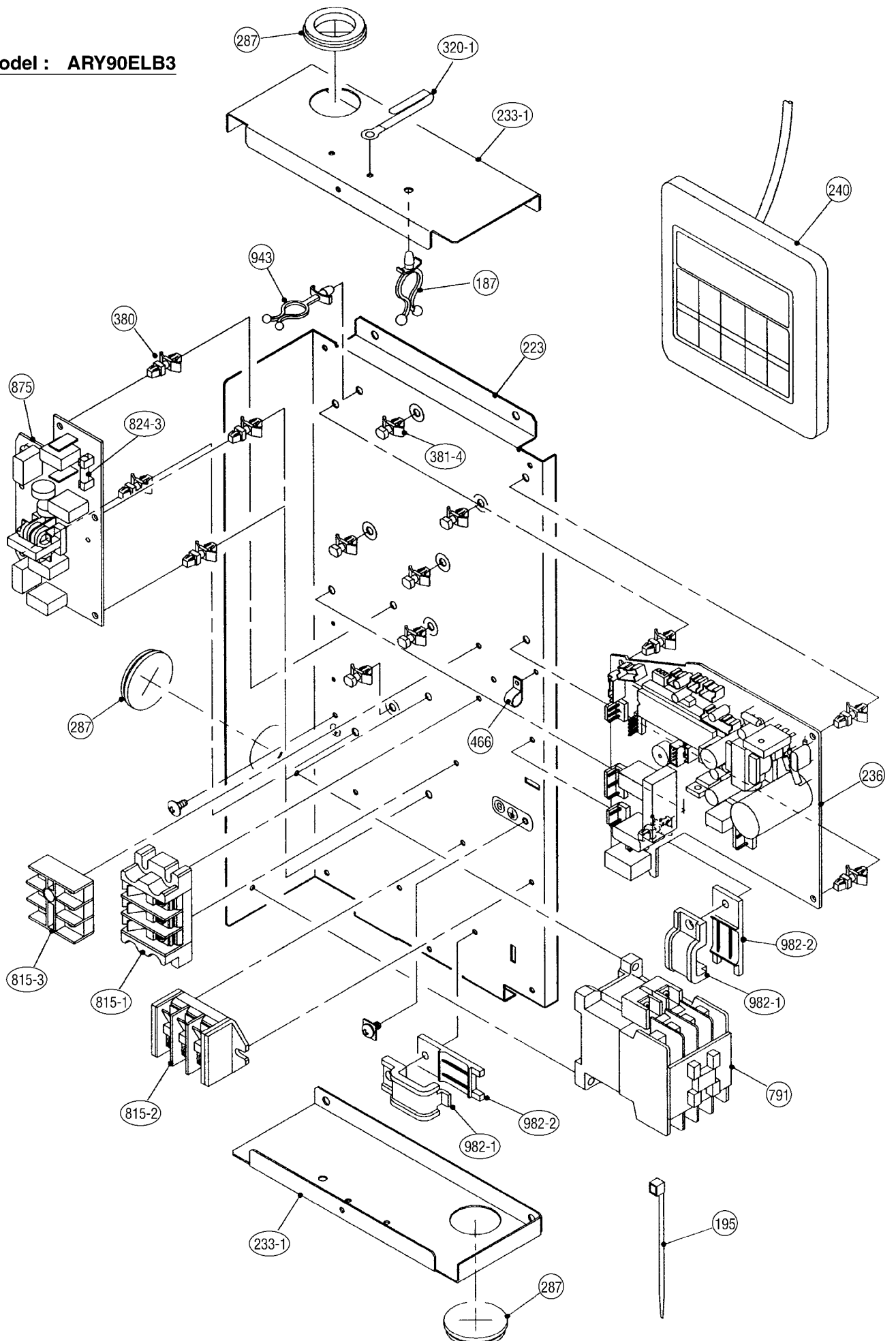
Model : ARY90ELB3



Model : ARY90ELB3



Model : ARY90ELB3



PARTS LIST

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

INDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		ARY90ELB3				ARY90ELB3	
10	Front Panel Assy	9364635002		329	Coupling Pipe Assy	9365347003	
45-1	Bracket (Motor) Assy	9364630007		380	Locking Spacer KGLS-6S	313209391403	
51	Nut	0700005091		381-4	Locking Spacer KGPS-6S	0600118075	
56-1	Sirocco Fan-R	9364665016		405	Panel Side	9364648002	
56-2	Sirocco Fan-L	9364665023		466	Clamp NK-4N	313714328805	
64	Left Panel	9364650005		468	Nut-A M8	9356998009	
69	Right Panel	9364649009		477	Bellmouth	9364664002	
75	Fan Panel	9364629001		495	Clamp No.2U46	9352715006	
86	Gasket	9363272000		514	Control Box Cover Metal	9365186008	
109	Casing Assy	9364660004		625	Cord Bushing	9359240006	
126	Motor Plate Assy	9364632001		652-1	Therm. Holder Pipe	313806262805	
146	Evaporator Assy	9364672007		653-2	Bolt HLSJ8025ZV	0700190018	
160	Drain Pan Assy	9364652023		674	Bolt LSM10045	0700145117	
164	Fan Motor Assy-In	9601004004		735	Distributor Assy	9366556008	
184-1	Thermo. Spring-A	313728262708		761	Side Panel-R Assy	9365147009	
187	Clamp No.1219	313361271706		791	Magnetic Relay	9363277005	
195	Clamp SKB-100	313361275805		815-1	Terminal 3P	9356488005	
223	Control Box Metal	9365185001		815-2	Terminal 3P	9363276046	
233-1	Plate (Box)	9365146002		815-3	Terminal 3P	9703345012	
234	Thermistor Assy-Room	9703299056		824-3	Fuse	0600285210	
235	Thermistor Assy-Pipe	9703297021		875	Filter PCB Assy	9703402029	
236	Controller PCB Assy	9703695025		943	Wire Clamp	0600231019	
240	Remote Control Unit	9703173066		967	Bonnet-B	313045417959	
273	Rear Panel Assy	9364642000		982-1	Cord Clamp	9356857009	
287	Cap (Power)	9352173011		982-2	Cord Clamp-B	9356858006	
320-1	Wire Clamp Metal	313483219905		995	Beam	9364647005	
324	Top Plate	9364634005		996	Drain Pan (S) Assy	9364893013	

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

OUTDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		AOY90EPC3L				AOY90EPC3L	
2	Fan Cover	9366142010		320-1	Wire Clamp Metal	313483219905	
4	Emblem-Rear "FUJITSU"	9359836018		327	Suction Pipe - A	9365599006	
9	Rear Panel, Painted	9361712027		333	Accumulator	9361939004	
12	Base Assy	9361684003		347	Noise Insulation - D	313712304109	
15	Dryer	9369978012		354	Pressure Switch	9704045003	
16-1	Condenser-A Assy	9363299014		355	Bracket (Condenser) - L	9361698000	
16-2	Condenser-B Assy	9363300017		356	Bracket (Condenser) - R	9361699007	
20	Discharge Pipe Assy	9365569009		361	Bushing	9361725003	
26	Compressor Cover-A	9361935006		363	Bracket Panel (Comp.)	9361691018	
32	Control Box	9361713000		376	Bracket (Control Box)	9361727007	
34	Capacitor (Fan Motor)	9703306037		381-2	Locking Spacer KGLS-8S	0600035020	
39	Propeller Fan	9361726000		381-3	Locking Spacer KGPS-8S	0600118051	
41	Fan Motor Assy-Outer	9600882009		405	Clamp No.1763	313816345304	
42	Bracket Panel (Motor)	9361703001		407	Clamp(Cable) No.1259	313739340109	
45	Bracket (Motor)	9361701007		477	Bellmouth	9361721005	
46	Compressor Assy	9361876002		527	Condenser Guard	9366143017	
55	Special Nut M8	313252257701		646	Compressor Cover - B	9361936003	
69-3	Bolt , Hex.Socket	301210060360		652-1	Thermistor Holder Pipe	313714262805	
82	Check Joint Assy	9363886009		653	Bolt, For Fan Motor	0700145087	
85	Valve Plate	9363063004		678	Bracket (Thermistor)	313557406106	
86	Gasket	9363272000		761	Side Panel - R, Painted	9361706026	
87	Bracket (Compressor)	9361694002		762	Side Panel - L, Painted	9361705029	
100	Base Foot , Painted	9361688025		790-1	Belt Heater - A	9361140042	
117-3	Special Washer M6	313306391007		790-2	Belt Heater - B	9361140059	
132	Front Protection Net	9366144014		791	Magnetic Relay	9363277005	
133	Front Panel - L	9361709027		809	Ball Valve - A	9361937000	
134	Front Panel - R	9361710047		810	Ball Valve - B	9361938007	
160	Drain Pan	9361700000		815-1	Terminal 5P	9363275018	
164	Separate Wall - Upper	9361693005		815-2	Terminal 4P	9363276015	
166	Separate Wall - L	9361695009		816	Wire Clamp Metal	313584219902	
167	Separate Wall - R	9361696006		825	Expansion Valve Assy	9366558002	
172	Pipe Cover	9363470000		829	Joint Pipe Assy	9362922005	
176	Bracket (Valve) - A	9361719002		846	Relay	9304375005	
184-1	Thermostat Spring-A	313728262708		880-1	Network (C - R)	9700987017	
185	Rubber Bushing	313005066051		918	Thermistor Assy	9703129018	
187	Clamp No.1219	313361271706		919-3	Expansion Valve Coil	9361930001	
195	Clamp SKB - 100	313361275805		942	Control Box Cover	9361716001	
196-1	Clamp SKB - 3M	312300787605		949-1	Screw, Painted	9305648009	
196-2	Clamp SKB - 150	313035356905		949-2	Screw, Painted	9302348001	
226	Reinforcement (Separate Wall)	9361697003		964	Flare Nut	9363273007	
236	Controller PCB Assy	9704051011		966	Bonnet	9363274004	
245	Condensing Pipe - M	9363031003		982-1	Cord Clamp	9356857009	
272	Strainer	9361931008		982-2	Cord Clamp - B	9356858006	
289	Reinforcement (Side Panel)	9361704008					

[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.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC μPD78014HCW-030	9703726019		R45	Res. 1/10W 49.9kΩ±1%	0200279824	
IC2	IC NJM7812FA	0100462104		R63	Res. 1/10W 15.4kΩ±1%	0200279565	
IC3	IC NJM7805FA	0100462081		R64	Res. 1/10W 28.0kΩ±1%	0201114445	
IC5,6	IC PA2003GRE2	0100028041		C5	Cap. Elec. 450V 100μF	0300256060	
IC7	IC BR93LC46RF-E2	0100295016		C6	Cap. Plastic 4700pF	0300269091	
IC8	IC PST600CMTR	0101461120		C7	Cap. Plastic 50V 0.047μF	0300169339	
IC10	IC HI2002	9701384020		C8	Cap. Elec. 25V 100μF	0301197560	
IC11	IC BA10358FE2	0101846071		C9	Cap. Elec. 25V 1000μF	0301196495	
Q1	Xstr 2SC4236	0000164047		C10,11,33,36	Cap. Elec. 25V 10μF	0301192312	
Q2	Xstr 2SC1815	0000002011		C12	Cap. Elec. 25V 1000μF	0301158264	
Q3,4	Xstr DTC124EKA	0000936033		C13,15,34,37, 39,44,45	Cap. Ceramic 50V 0.1μF	0300311752	
Q5,6	Xstr 2SC2712	0000781053		C14	Cap. Elec. 25V 100μF	0301192350	
D1	Diode D3SB60	0000689045		C16,17,19-31, 38,40,46,49, CJ1	Cap. Ceramic 50V 0.01μF	0300311738	
D2,4,7	Diode D1FL20U	0000746519		C32,35,50-53	Cap. Ceramic 50V 1000pF	0300308509	
D3	Diode MTZJ5.1B	0000852166		C54	Cap. Ceramic 0.01μF	0300209127	
D5	Diode 1SR139-600	0000353120		VA3	Varistor TNR10V471K	0000361224	
D6	Diode D2FL20U	0000906500		K2,4	Relay JQ1-12V	9701316014	
D10	Diode DA226U	0000625036		CR1	Network RPEL-121204 -C	9701125012	
D12	Diode DAN202K	0000684019		SW1	Switch, Slide DSS803	9701392018	
R1	Res. Cement 5W 3.3Ω±10%	0200153148		SW2	Switch, Rotary DRS4016-5	9701694013	
R2	Res. Metal 2W 1.5Ω±5%	0201107119		T1	Switching Transformer	9702727017	
R3	Res. 1/10W 100Ω±5%	0200212500		X1	ETS28AS118AH Ceramic Resonator EF0EC8384T4	9701261017	
R4	Res. Carbon 220kΩ±5%	0200111353		L2-4	EMI Filter EXCEMT103DT	0400406396	
R5	Res. Metal 2W 47kΩ±5%	0201107652		CJ2	Res. 0Ω	0200212012	
R6	Res. 1/2W 100Ω±5%	0200731506		JM9	Res. 0Ω	0200230016	
R7	Res. 1/4W 330Ω±5%	0200708621		CN1	Plug, PCB 5-1123724-3	0501321635	
R8,10,14-17, 21-24,29-32, 37,39,48,50, 52,55,59,60, 61,66,68	Res. 1/10W 10kΩ±5%	0200213019		CN5	Plug, PCB 1-1123724-3	0501321451	
R9,47,65	Res. 1/10W 390Ω±5%	0200212647		CN6	Plug, PCB 3-1123724-2	0501321536	
R18-20,25-28, 33-36,38,42, 44,46,49,51, 58,67	Res. 1/10W 1kΩ±5%	0200212746		CN7	Plug, PCB B2B-XAKK-1-A	0501045227	
R40,41,62	Res. 1/10W 4.7kΩ±5%	0200212906		CN8	Plug, PCB B2B-XASK-1-A	0501045012	
R43	Res. 1/10W 10kΩ±1%	0200279497		CN9	Plug, PCB B5P-SHF-1AA	0500006069	
				CN14	Plug, PCB B4B-XH-AM	0500005314	
				CN15	Plug, PCB B3B-XARK-1-A	0501045319	
				CN17	Plug, PCB B3B-XAKK-1-A	0501045357	

FILTER PCB ASSEMBLY (Ref. No.875)

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
F101	Fuse 2183.15	0600285210		C101,102	Cap. Plastic 0.22μF	0300304099	
FH1,2	Fuse Holder PFC5000-0502	0500158072		C105,106	Cap. Plastic 0.022μF	0301052098	
VA101,102	Varistor TNR10V471K	0000361224		LF101	EMI Filter ELF17N015A	0400197119	
SA101	Arrester DSA-362MA-05	0600168032		E101	Wire w/Terminal GRN L=100	9702313012	
TM101,102	Plug Contact 86028	0500536016		W103,104	Wire w/Terminal #18 3P	9703679018	

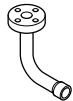



[OUTDOOR UNIT]
CONTROLLER PCB ASSEMBLY (Ref. No.236)

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

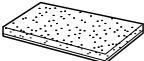
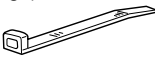



Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
IC1	IC μ PD780024ACW-020	9703727016		C1,2	Cap. Plastic 0.22 μ F	0300304099	
IC2	IC NJM7805FA	0100462081		C3,4	Cap. Plastic 0.022 μ F	0301052098	
IC3,4	Xstr Array μ PA2003GR	0100028041		C5	Cap. Elec. 25V 1000 μ F	0301196495	
IC6	IC PST600CMT	0101461120		C6	Cap. Elec. 50V 1000 μ F	0301196822	
IC7	IC HU2001	9701651016		C7,14,38-41, 51-54,CJ35, CJ48	Cap. Ceramic 50V 0.01 μ F	0300311738	
IC9	IC NJM7824FA	0100462098		C8,29-31	Cap. Elec. 25V 10 μ F	0301192312	
IC10	IC NM/FM93C46M8-X	0101622026		C10	Cap. Elec. 50V 100 μ F	0301192589	
PC1	Photocoupler TLP621(D4)-GB	0000117074		C12,13,17-19, 36,42-46	Cap. Ceramic 50V 0.1 μ F	0300311752	
Q3,8,14	Xstr DTC124EKA	0000936033		C15,16,23-25	Cap. Ceramic 50V 1000pF \pm 10%	0300308509	
Q5,6	Xstr 2SC2712	0000781053		C27	Cap. Elec. 450V 100 μ F	0300256060	
Q9	Xstr 2SC4236	0000164016		C28	Cap. Plastic 25V 4700pF	0300269091	
Q10	Xstr 2SC1815	0000002011		C35	Cap. Plastic 50V 0.047 μ F	0300169339	
D1,23	Diode D1F60	0000208024		C37	Cap. Elec. 25V 100 μ F	0301197560	
D2,3	Diode D2FL20U	0000906500		C47	Cap. Elec. 25V 100 μ F	0301192350	
D6,7	Diode DA226U	0000625036		C49	Cap. Ceramic 0.01 μ F	0300209127	
D11	Diode DAN202K	0000684019		K1-5	Relay JQ1-12V	9701316014	
D14	Diode D3SB60	0000689045		CR1,2,4	CR Absorber RPEL-121204-C	9701125012	
D18	Diode MTZJ5.1B	0000852166		HT1	Heat Sink PUE56-30	9703347016	
D19	Diode 1SR139-600	0000353120		T1	Switching Tranformer ETS 29AA175AG	9703059018	
D20,21	Diode D1FL20U	0000746519		VA1-3	Varistor TNR10V471K	0000361224	
LED1-6	Diode SLR-325VC	0000813259		SA1	Arrester RA-362M-V7-F	0600280154	
R1,3-5	Res. 1/10W 4.7k Ω \pm 5%	0200212906		LF1	EMI Filter ELF15N005A	0400165040	
R2	Res. 1/4W 10k Ω \pm 5%	0200231013		F1	Fuse BET 6.3A-250V	0600222574	
R7,8,11-13, 23-26,30-36, 54,55,77-80	Res. 1/10W 1k Ω \pm 5%	0200212746		SW1	Slide Switch DSS804	9701393015	
R9,10,27,37- 40,43-45,47, 49-52,56-58,76	Res. 1/10W 10k Ω \pm 5%	0200213019		E	Wire w/Terminal L=100 GRN	9702313012	
R17	Res. 1/10W 38.3k Ω \pm 1%	0201114575		W1	Wire w/Terminal L=330 RED	9702929015	
R18	Res. 1/10W 14k Ω \pm 1%	0201114193		X1	Ceramic Resonator EFOEC8384T4	9701261017	
R19	Res. 1/10W 6.65k Ω \pm 1%	0201113806		FH1,2	Fuse Holder PFC5000-0502	0500158072	
CJ26-28,37	Res. 1/10W 0 Ω	0200212012		CN3	Plug, PCB B3P5-VH-B	0500011735	
R46	Res. Cement 5W 3.3 Ω \pm 5%	0200153148		CN4	Plug, PCB 179844-1	0501121013	
R59-62	Res. 1/4W 10 Ω \pm 5%	0200230269		CN7	Plug, PCB B3P5-VH-B-C	0500011810	
R67	Res. Metal Oxide 2W 1.5k Ω \pm 5%	0201107119		CN9	Plug, PCB B6B-XAKK-1-A	0501045425	
R68	Res. Metal Film 2W 330k Ω \pm 5%	9703493010		CN10	Plug, PCB B3B-XASK-1-A	0501045029	
R69	Res. 1/10W 100k Ω \pm 5%	0200212500		CN11	Plug, PCB B6B-XASK-1-A	0501045050	
R70	Res. 1/4W 330 Ω \pm 5%	0200230627		CN13	Plug, PCB B2P-VH-B	0500011124	
R71	Res. 1/2W 100 Ω \pm 5%	0200731506		CN14	Plug, PCB B5P-SHF-1AA	0500006069	
R81	Res. Metal Oxide 2W 62k Ω \pm 5%	0201107997		CN16	Plug, PCB B3P5-VH-B-R	0500011803	
R82	Res. Metal Oxide 1W 56k Ω \pm 5%	0201106662		CN18	Plug, PCB B3B-XARK-1-A	0501045319	

STANDARD ACCESSORIES

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	AOY90EPC3L
Flange joint assembly 	1	For connecting the piping	9363035001
Coupler heat insulation 	1	For outdoor side pipe joint	9363828009
Gasket 	1	Installation between flange joint assembly and valve B	9363272000
Bolt 	2	For fixing the flange joint assembly	0700145100

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	ARY90ELB3
Remote control unit 	1	Use for air conditioner operation	9703173066 (EZ-0001WSE-R)
Flange joint 	1	For connecting the piping	9365352007
Gasket 	1	Installation between flange joint and indoor unit	9363272000
Special nut A (Large flange) 	4	For suspending the indoor unit from ceiling	313005446653
Special nut B (Small flange) 	4		313005446759
Washer 	8		9364938004
Coupler heat insulation 	1	For indoor side pipe joint (small)	9350716029
Flange joint insulation 	1	For indoor side pipe joint (large)	9364937007
Binder (Large) 	1	For fixing the connection pipe (Large and small)	9366156000
Binder (Small) 	1		
Remote control unit cord clamp 	10	For installing the remote control unit cord	313714181904
Screw 	10	For installing the remote control unit cord clamp	301141153027
	2	For installing the remote control unit	301141134166



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<https://splitsystema48.ru/instrukcii-po-ekspluatácii-kondicionerov.html>

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