

SPLIT TYPE  
AIR CONDITIONER  
DUCT TYPE (50Hz)

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# SERVICE MANUAL

Indoor unit	Outdoor unit
ARG45ALC3	AOG45APA3L
ARG45RLC3	AOG45RPA3L
ARY45ALC3	AOY45APA3L
ARY45RLC3	AOY45RPA3L
ART45RLC3	AOT45RPA3L

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

INDOOR UNIT		ARG45ALC3, ARY45ALC3	ARG45RLC3, ARY45RLC3, ART45RLC3
OUTDOOR UNIT		AOG45APA3L, AOY45APA3L	AOG45RPA3L, AOY45RPA3L, AOT45RPA3L
COOLING CAPACITY	(kW)	12.4 - 12.7	12.4 - 12.7
HEATING CAPACITY	(kW)	—	13.4 - 13.7

## ELECTRICAL DATA

POWER SOURCE	(V)	380 - 415	
FREQUENCY	(Hz)	50	
RUNNING CURRENT	(A)	COOLING	8.10 - 8.30
		HEATING	—
INPUT WATTS	(kW)	COOLING	4.50 - 4.57
		HEATING	—
E.E.R.	(kW/kW)	COOLING	2.76 - 2.78
		HEATING	—
MOISTURE REMOVAL	(ℓ /hr)	6.0	4.5
AIR CIRCULATION-Hi	(m <sup>3</sup> /hr)	2,200	2,200

## COMPRESSOR

TYPE	Hermetic type, 2 pole, Three phase, Induction motor
CODE	ZR61KC-TFD-559

## FAN MOTOR

		ARG45ALC3, ARG45RLC3 ARY45ALC3, ARY45RLC3, ART45RLC3	AOG45APA3L AOY45APA3L	AOG45RPA3L AOY45RPA3L AOT45RPA3L
TYPE		MFA-45BTT	MFB-362FT	
POWER SOURCE	(V)	380 - 415		
HI-SPEED	(r.p.m.)	1,320	770	790
MED-SPEED	(r.p.m.)	1,270	—	—
LO-SPEED	(r.p.m.)	1,200	—	—

## DIMENSIONS

HEIGHT	(mm)	270	1,152
WIDTH	(mm)	1,210	940
DEPTH	(mm)	700	370

## WEIGHT

GROSS WEIGHT	(kg)	60	116	124
NET WEIGHT	(kg)	45	102	110

## REFRIGERANT CHARGE (R-22)

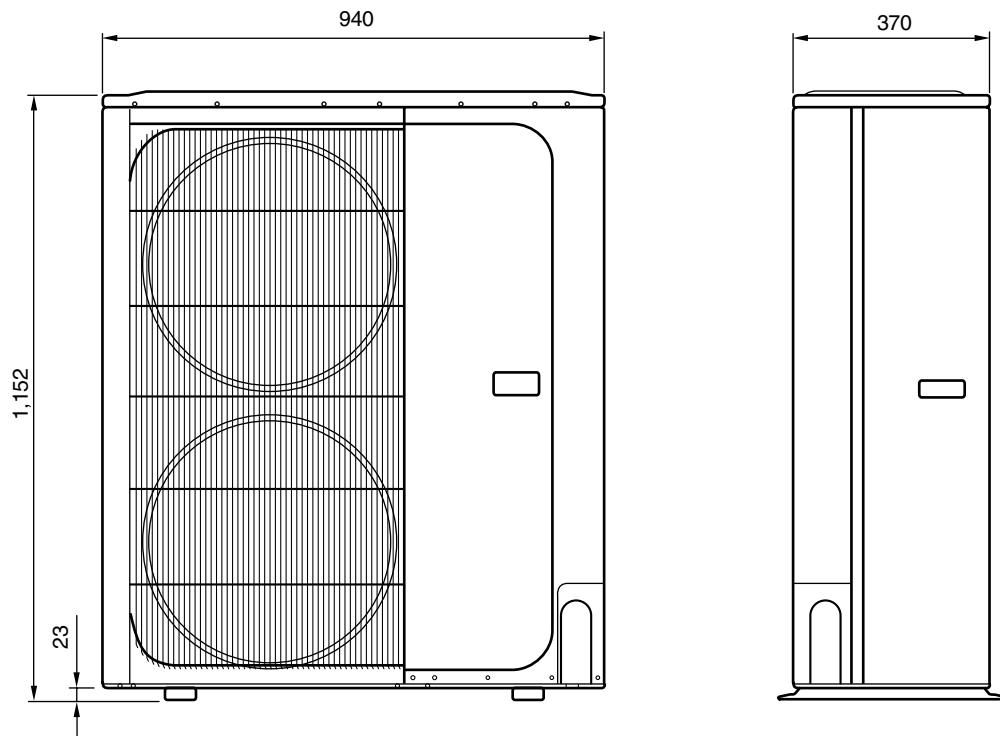
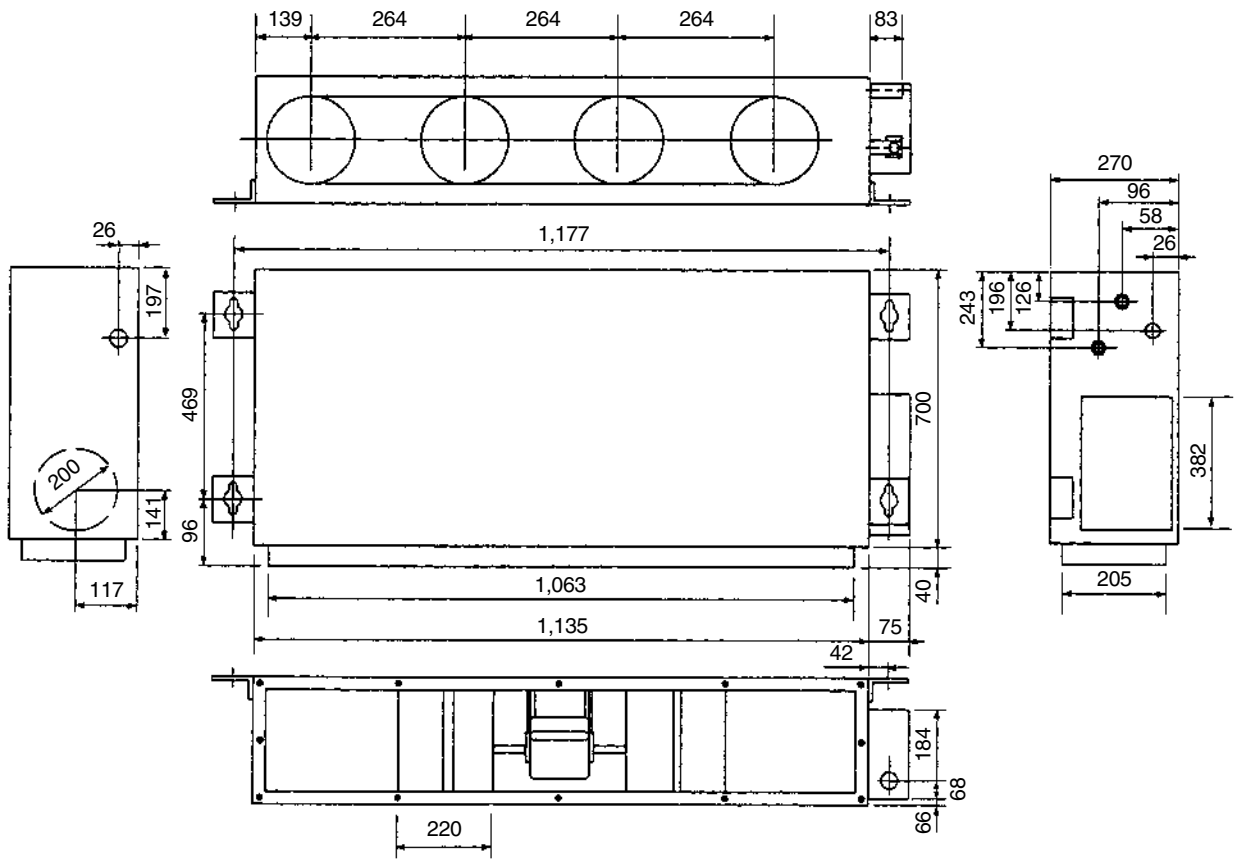
MODELS		PIPE LENGTH					
		5 m (16 ft)	10 m (33 ft)	20 m (66 ft)	30 m (99 ft)	40 m (132 ft)	50 m (164 ft)
FULL CHARGE AMOUNT	ARG45ALC3	3,150 g			3,550 g	3,950 g	4,350 g
	ARY45ALC3	(111.1 oz)			(125.2 oz)	(139.3 oz)	(153.4 oz)
	ARG45RLC3	3,400 g			3,800 g	4,200 g	4,600 g
	ARY45RLC3 ART45RLC3	(119.9 oz)			(134.0 oz)	(148.2 oz)	(162.3 oz)

Notes : • Between 5 m and 50 m, when using a connection pipe other than that in the table, charge additional refrigerant with 40 g (1.41oz) / 1 m (3.3 ft) as the criteria.

• The above list shows values at the external static pressure of 10 mm Aq (98 Pa).

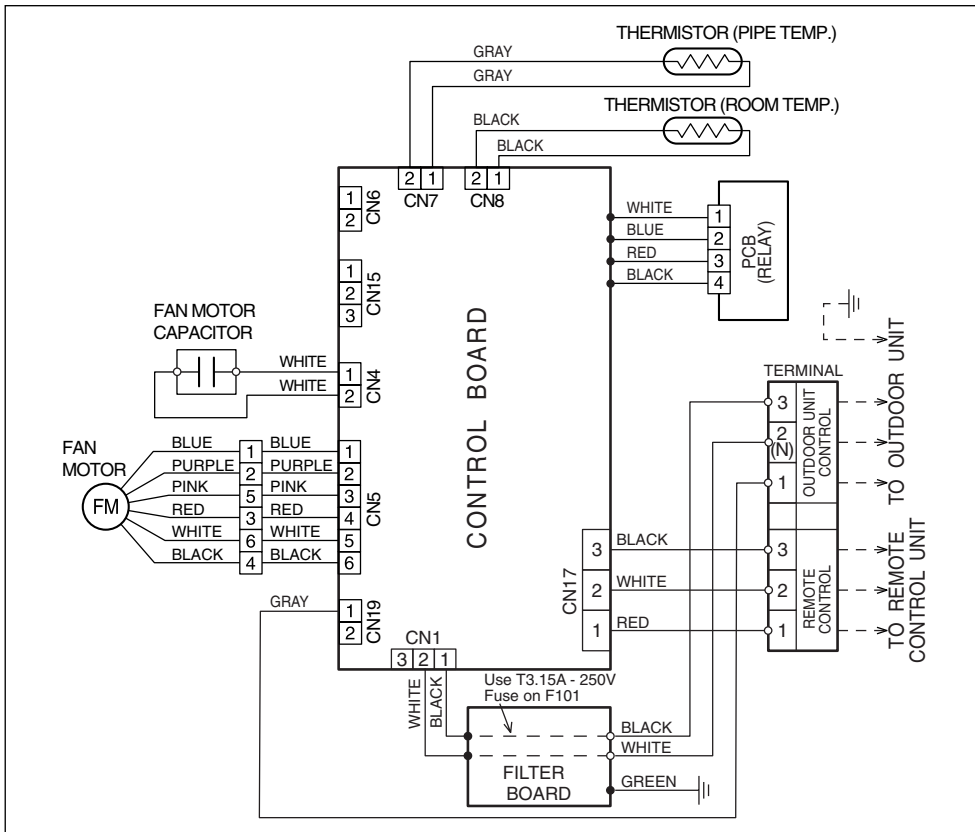
# DIMENSIONS

Unit : mm



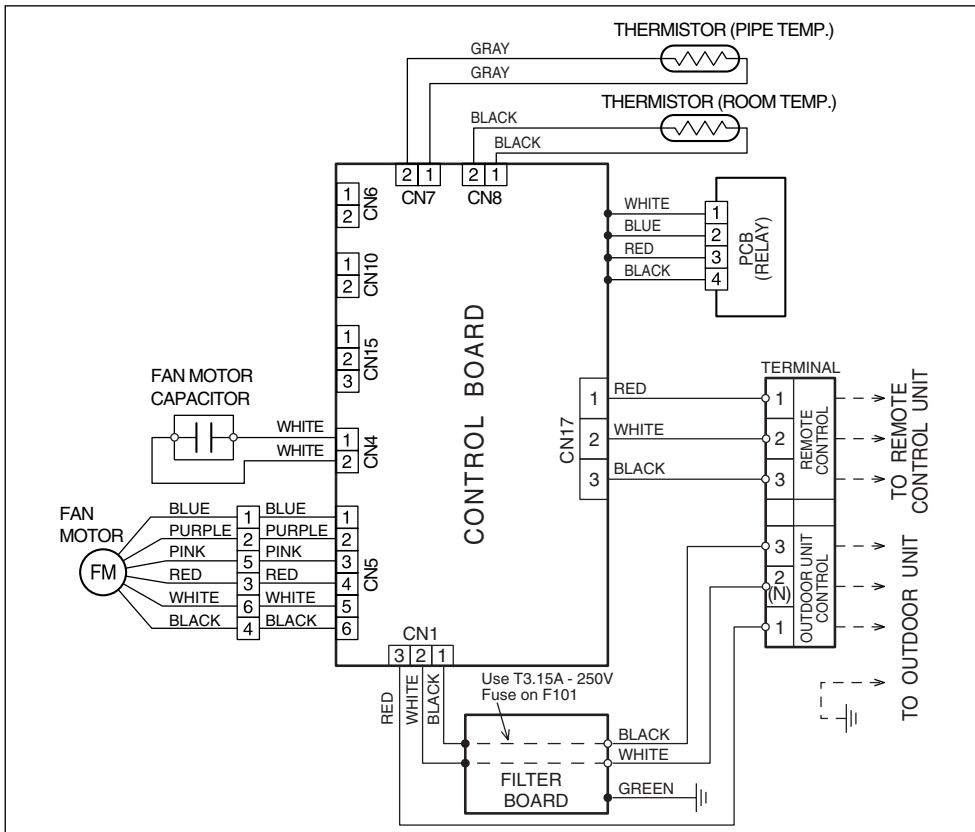
# C I R C U I T   D I A G R A M

**Models : ARG45ALC3, ARY45ALC3**



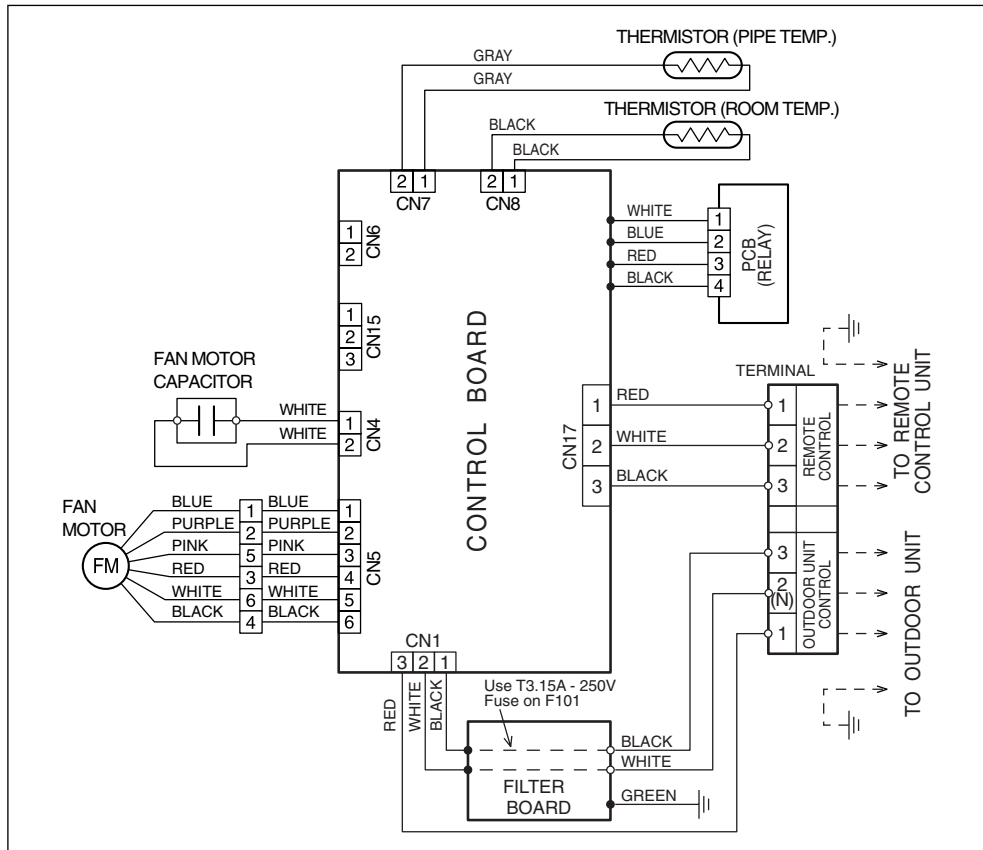
FAN MOTOR CAPACITOR	3.5 $\mu$ F
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**Models : ARG45RLC3, ARY45RLC3**

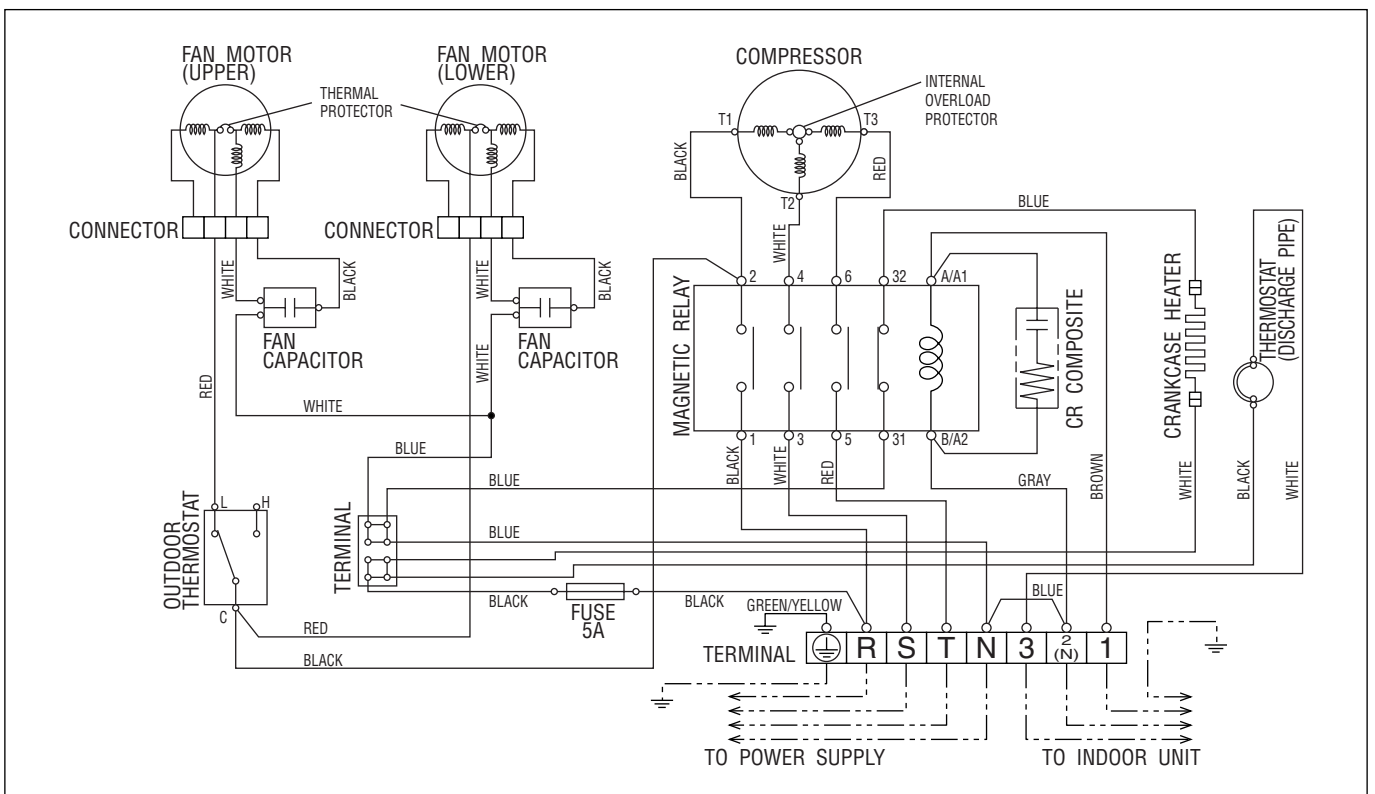


	ARG45RLC3	ARY45RLC3
FAN MOTOR CAPACITOR	10.0 $\mu$ F	15.0 $\mu$ F

**Model : ART45RLC3**

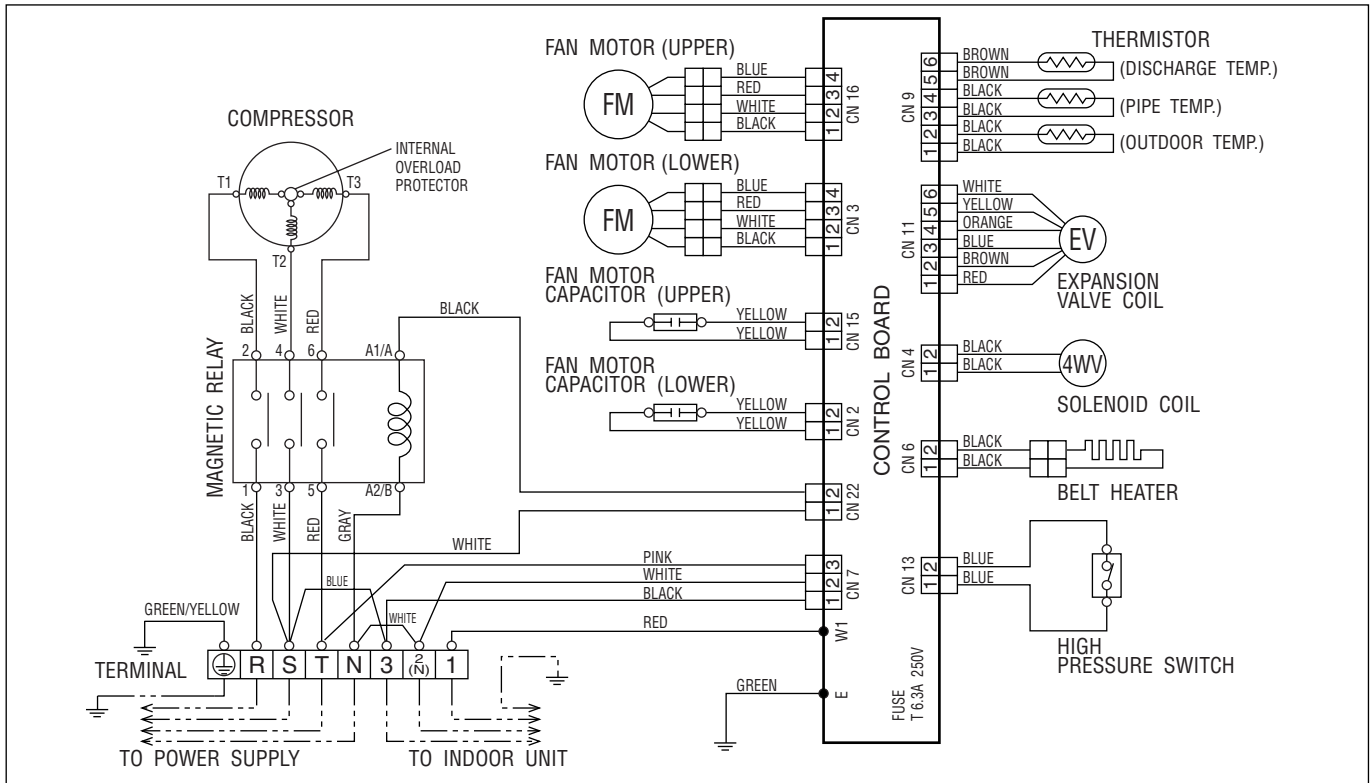


**Models : AOG45APA3L, AOY45APA3L**



<b>FAN MOTOR CAPACITOR</b>	<b>3.5 μF</b>
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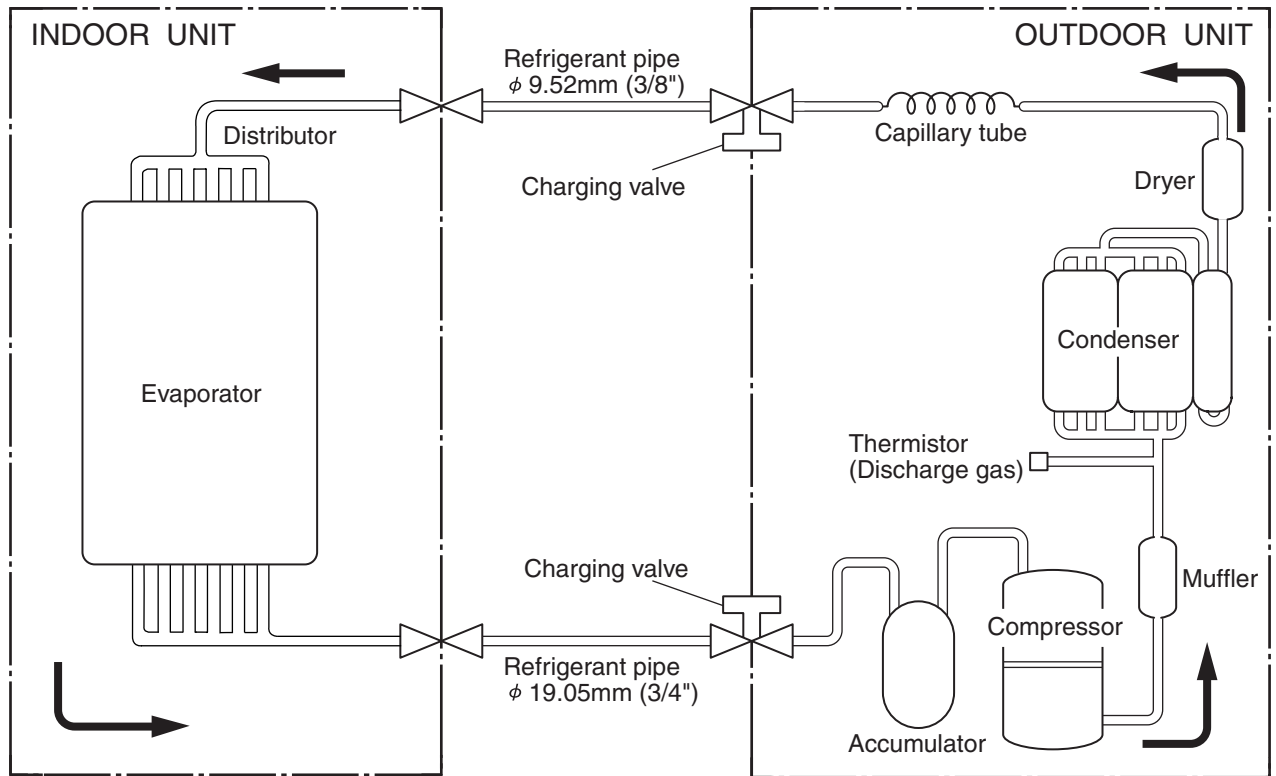
**Models : AOG45RPA3L, AOY45RPA3L, AOT45RPA3L**



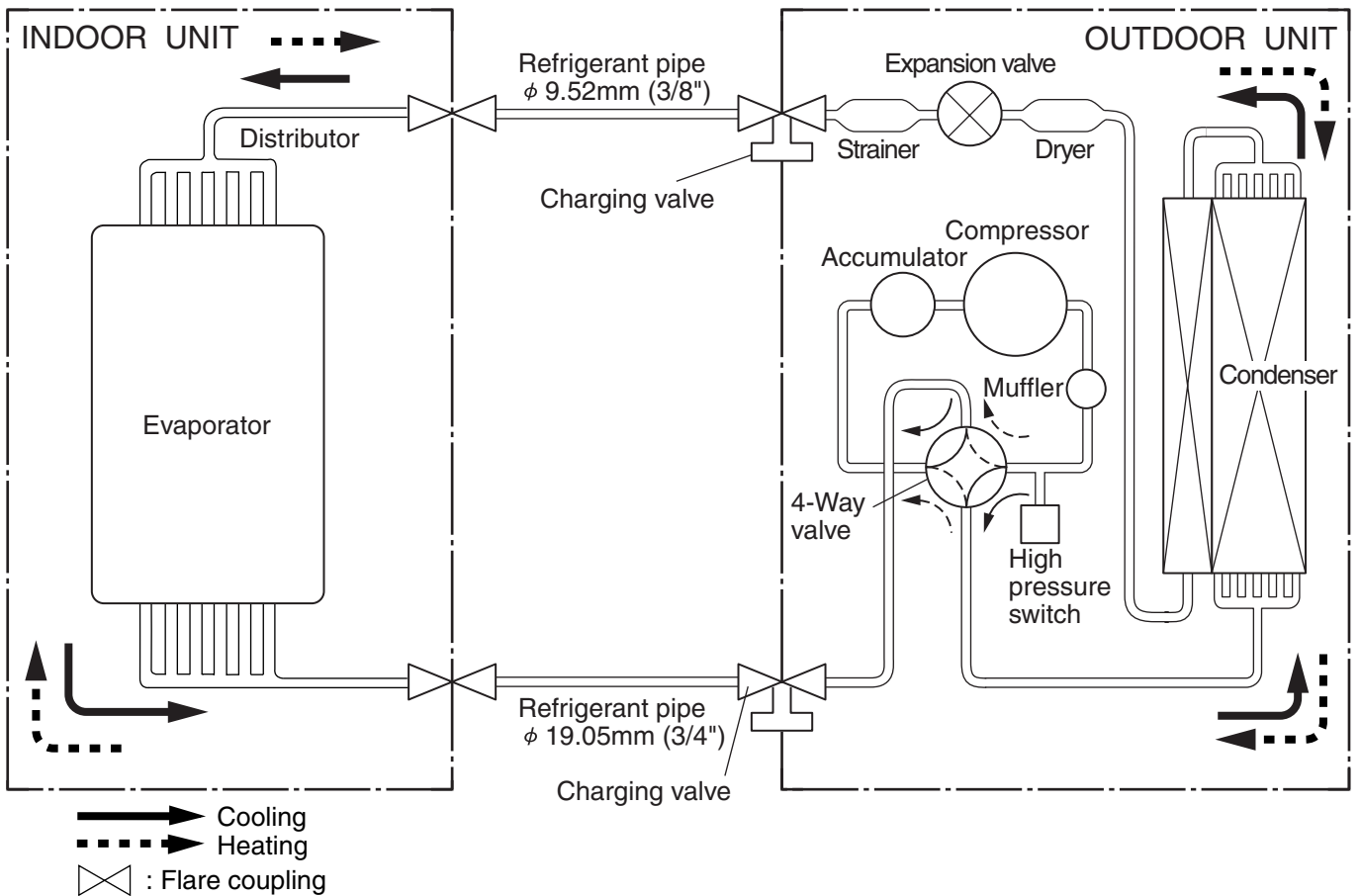
FAN MOTOR CAPACITOR	3.5 $\mu$ F
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# REFRIGERANT SYSTEM DIAGRAM

Models : ARG45ALC3 / AOG45APA3L  
 ARY45ALC3 / AOY45APA3L



Models : ARG45RLC3 / AOG45RPA3L  
 ARY45RLC3 / AOY45RPA3L  
 ART45RLC3 / AOT45RPA3L



# ERROR CONTENTS

Models : AR □ 45ALC3 / AO □ 45APA3L, AR □ 45RLC3 / AO □ 45RPA3L

## 1. INDOOR UNIT

- When EE : EE blinks at the current time display, there is an error inside the air conditioner. If the SET TIME button (▼) and TEMP./DAY button (▼) are pressed simultaneously for more than three seconds, the self diagnosis check will start and the error contents will be displayed at the current time display. When the operation lamp lights, press the START/STOP button and after operation lamp goes off, perform the same operation. Process the error contents by referring to (Table 1).

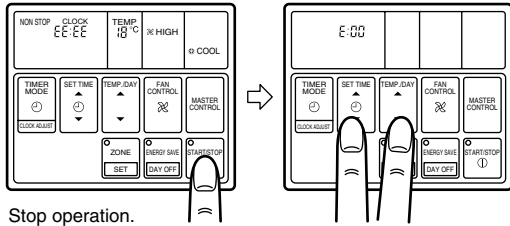


Table 1

Error code	Error contents
E:00	Communication error (indoor unit ↔ remote controller)
E:01	Communication error (indoor unit ↔ outdoor unit)
E:02	Room temperature sensor open
E:03	Room temperature sensor short-circuited
E:04	Indoor heat exchanger temperature sensor open
E:05	Indoor heat exchanger temperature sensor short-circuited
E:06	Outdoor heat exchanger temperature sensor open
E:07	Outdoor heat exchanger temperature sensor short-circuited
E:08	Power source connection error
E:09	Float switch operated
E:0A	Outdoor temperature sensor open
E:0B	Outdoor temperature sensor short-circuited
E:0C	Discharge pipe temperature sensor open
E:0D	Discharge pipe temperature sensor short-circuited
E:0E	Outdoor high pressure abnormal
E:0F	Discharge pipe temperature abnormal
E:11	Model abnormal
E:12	Indoor fan abnormal
E:13	Outdoor signal abnormal
E:14	Outdoor EEPROM abnormal

- To stop test running, press the START/STOP button.
- For the operation method, refer to the operating manual and perform operation check.
- Check that there are no abnormal sounds or vibration sounds during test running.

## 2. OUTDOOR UNIT

When the outdoor temperature drops, the outdoor unit's fans may switch to low speed, or one of the fans may stop intermediately.

### ERROR : Heat & Cool model (Reverse cycle) only

The LED lamps operate as follows (Table 2) according to the error contents.

The LED lamps are on the outdoor unit board.

Table 2

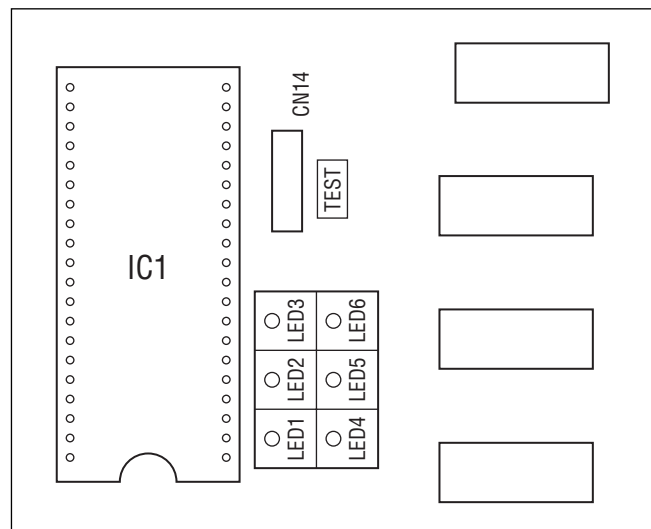
Error contents	LED1	LED2	LED3	LED4	LED5	LED6
Signal abnormal	—	—	X	○	X	X
Indoor unit abnormal	—	—	X	X	○	X
Discharge pipe temperature abnormal	—	—	X	X	X	○
Outdoor heat exchanger temperature abnormal	—	—	X	X	○	○
Outdoor temperature abnormal	—	—	X	○	X	○
Power source connection error	—	—	○	X	X	X
EEPROM abnormal	—	—	○	○	○	○
	◎	◎	◎	◎	◎	◎
Outdoor high pressure abnormal	○	—	—	—	—	—
Discharge pipe temperature abnormal	—	○	—	—	—	—

- : 0.5s ON / 0.5s OFF (flash)    X : OFF
- ◎ : 0.1s ON / 0.1s OFF (flash)    — : Indefinite

When the fault is cleared, the LED lamp goes off.

However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

### ERROR LED DISPLAY LAYOUT

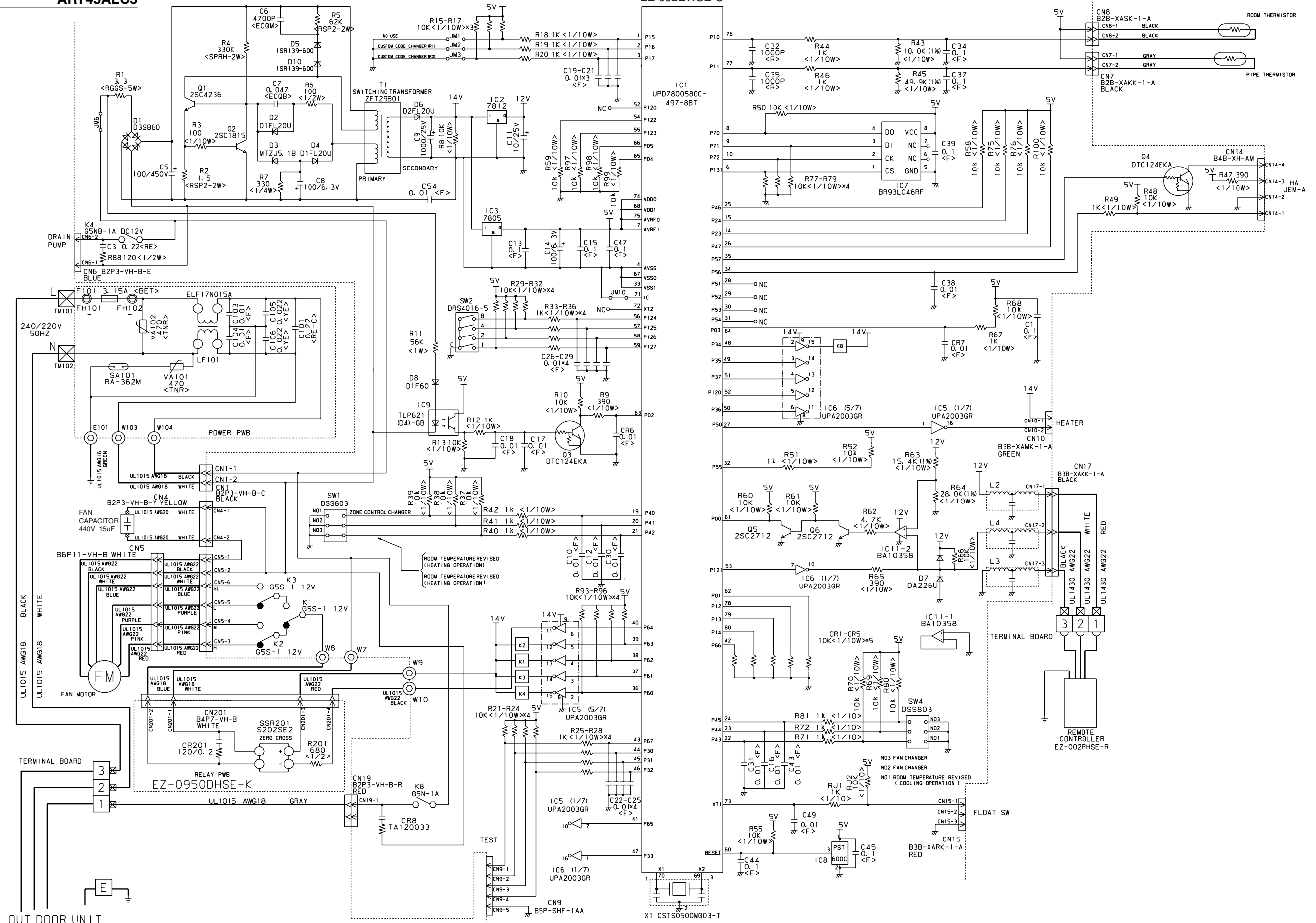




# INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

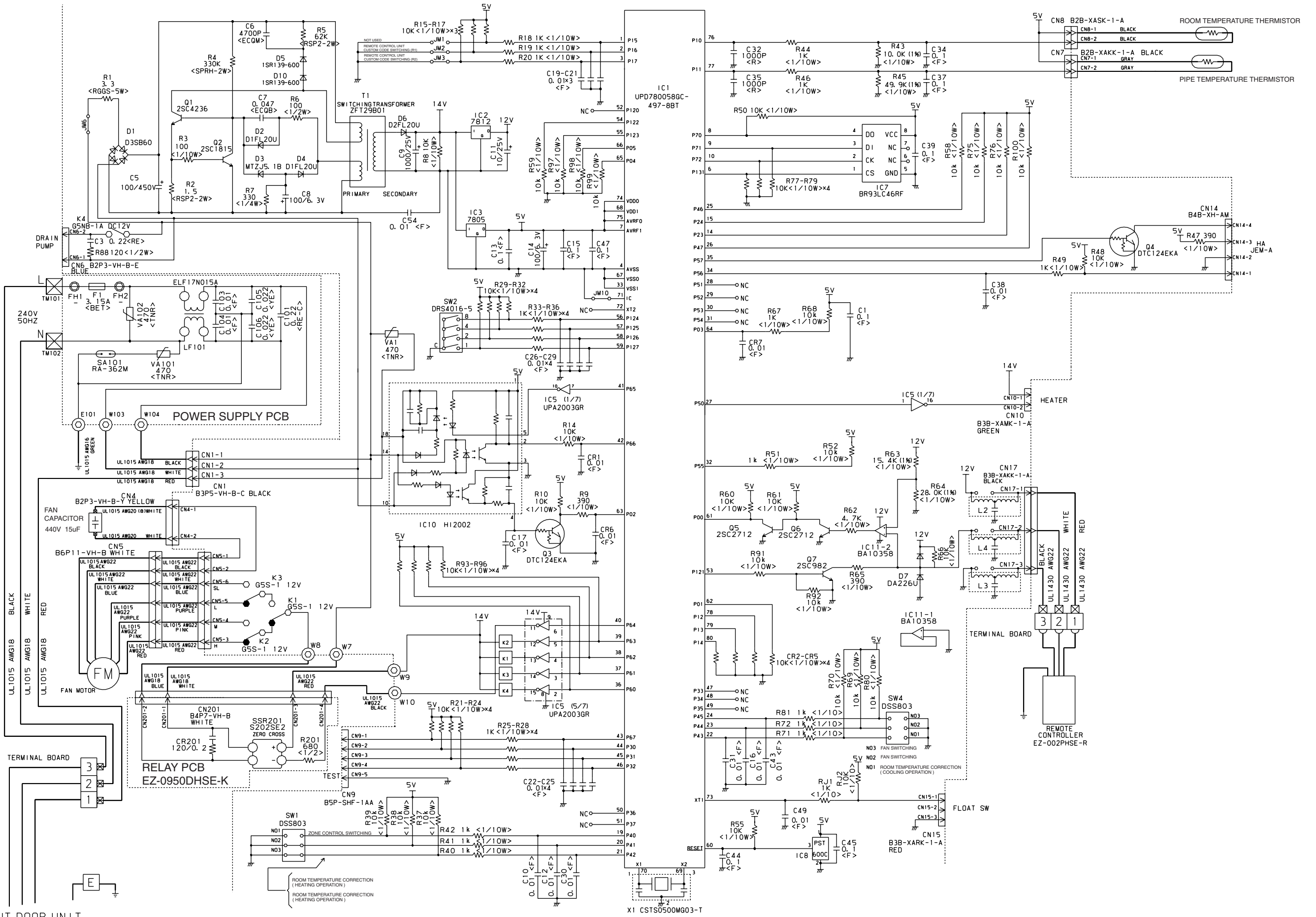
**Models : ARG45ALC3  
ARY45ALC3**

CONTROLLERPCB ASSEMBLY ( MAIN PCB )  
EZ-002EWSE-C



Models : ARG45RLC3  
 ARY45RLC3  
 ART45RLC3

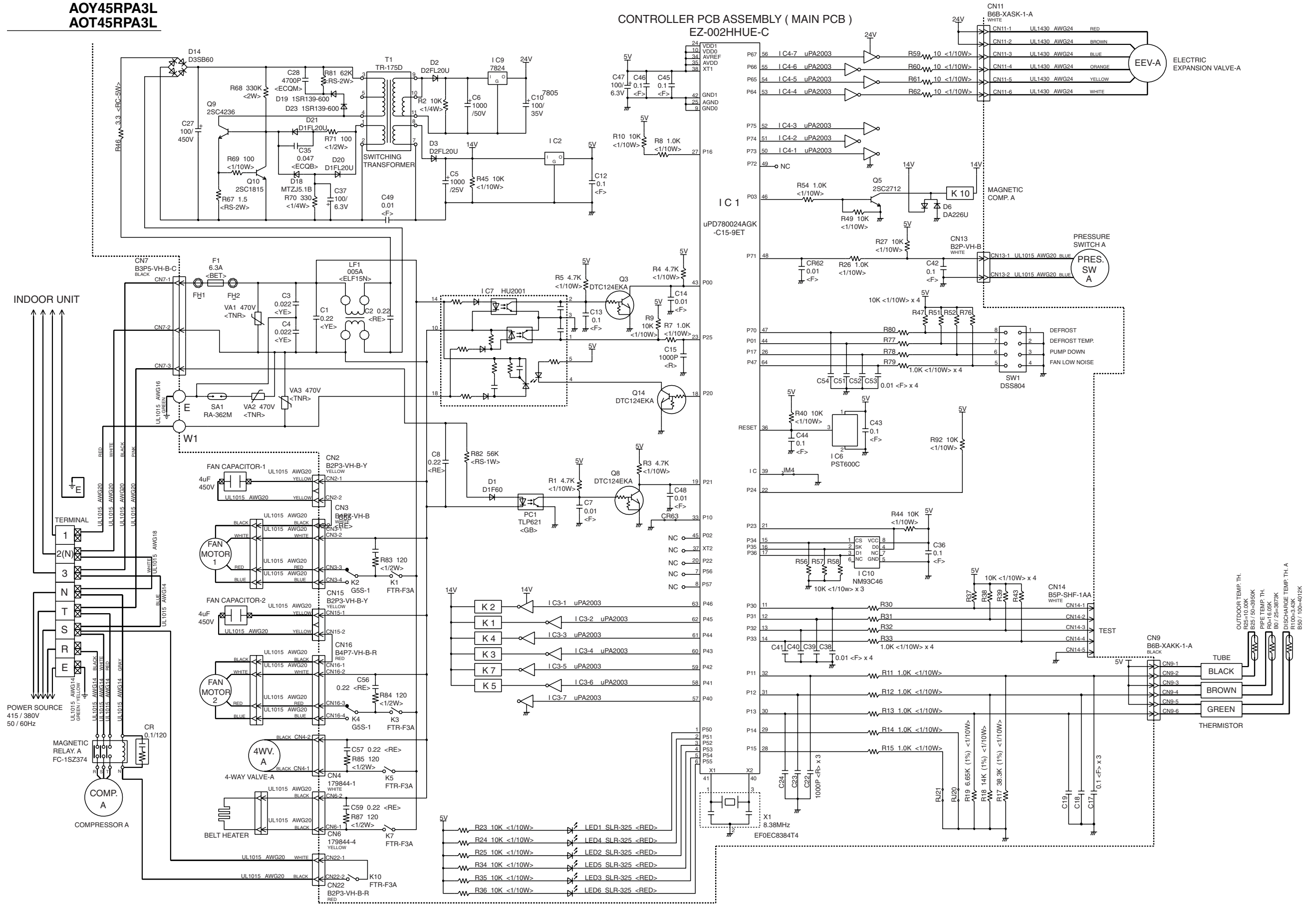
CONTROLLER PCB ASSEMBLY ( MAIN PCB )  
 EZ-002PHSE-C



OUT DOOR UNIT

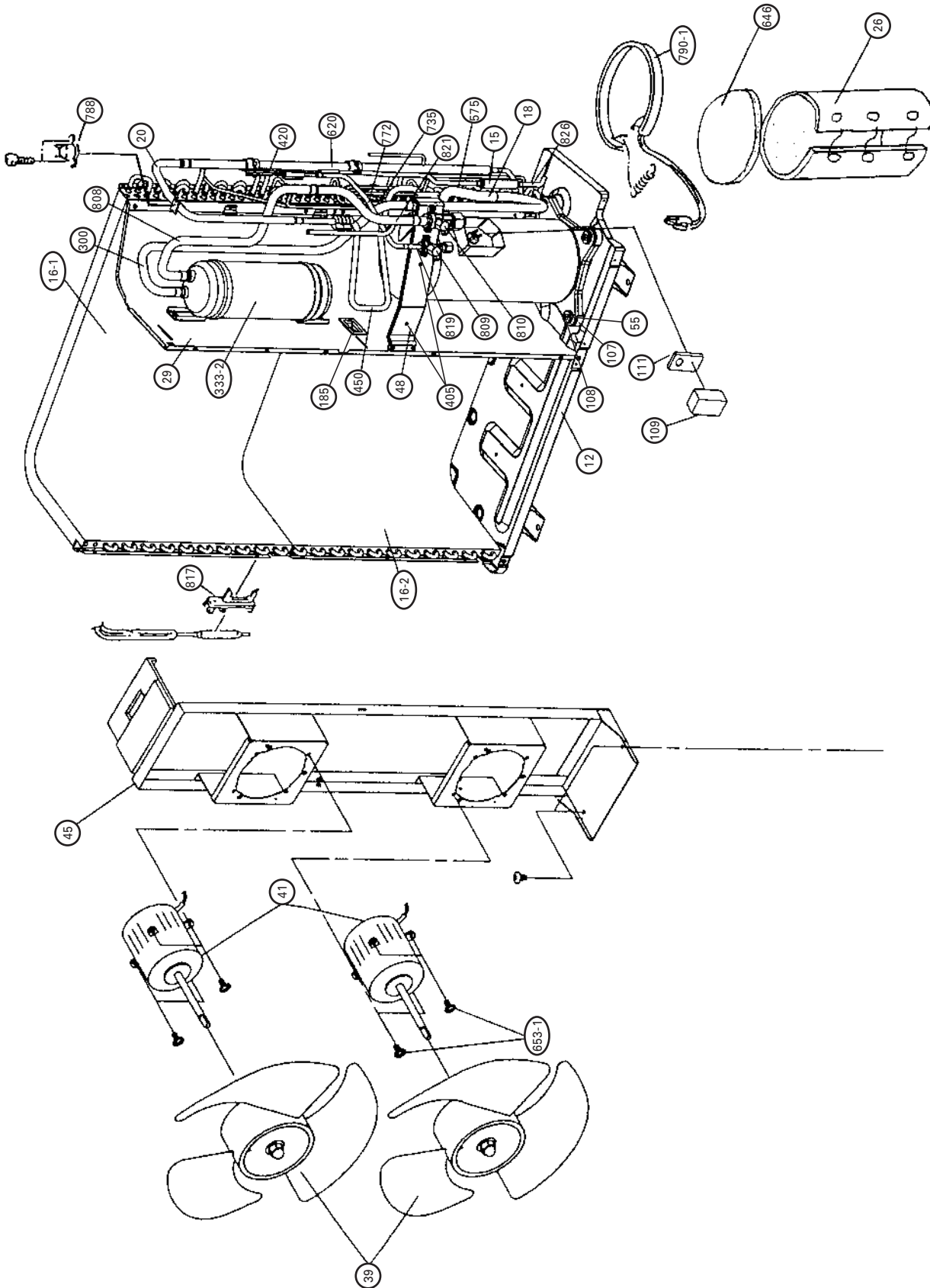
# OUTDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

**Models : AOG45RPA3L  
AOY45RPA3L  
AOT45RPA3L**

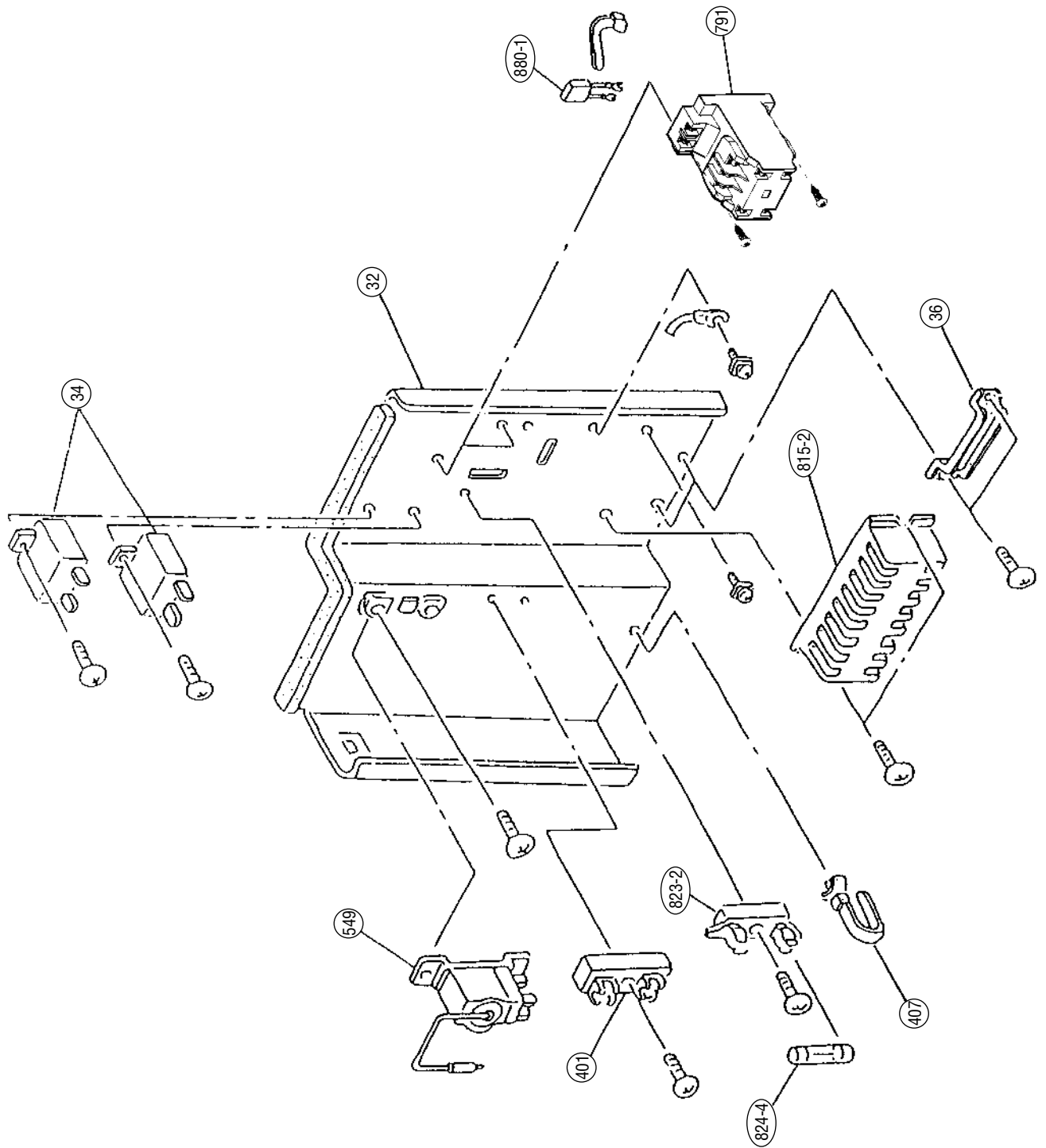




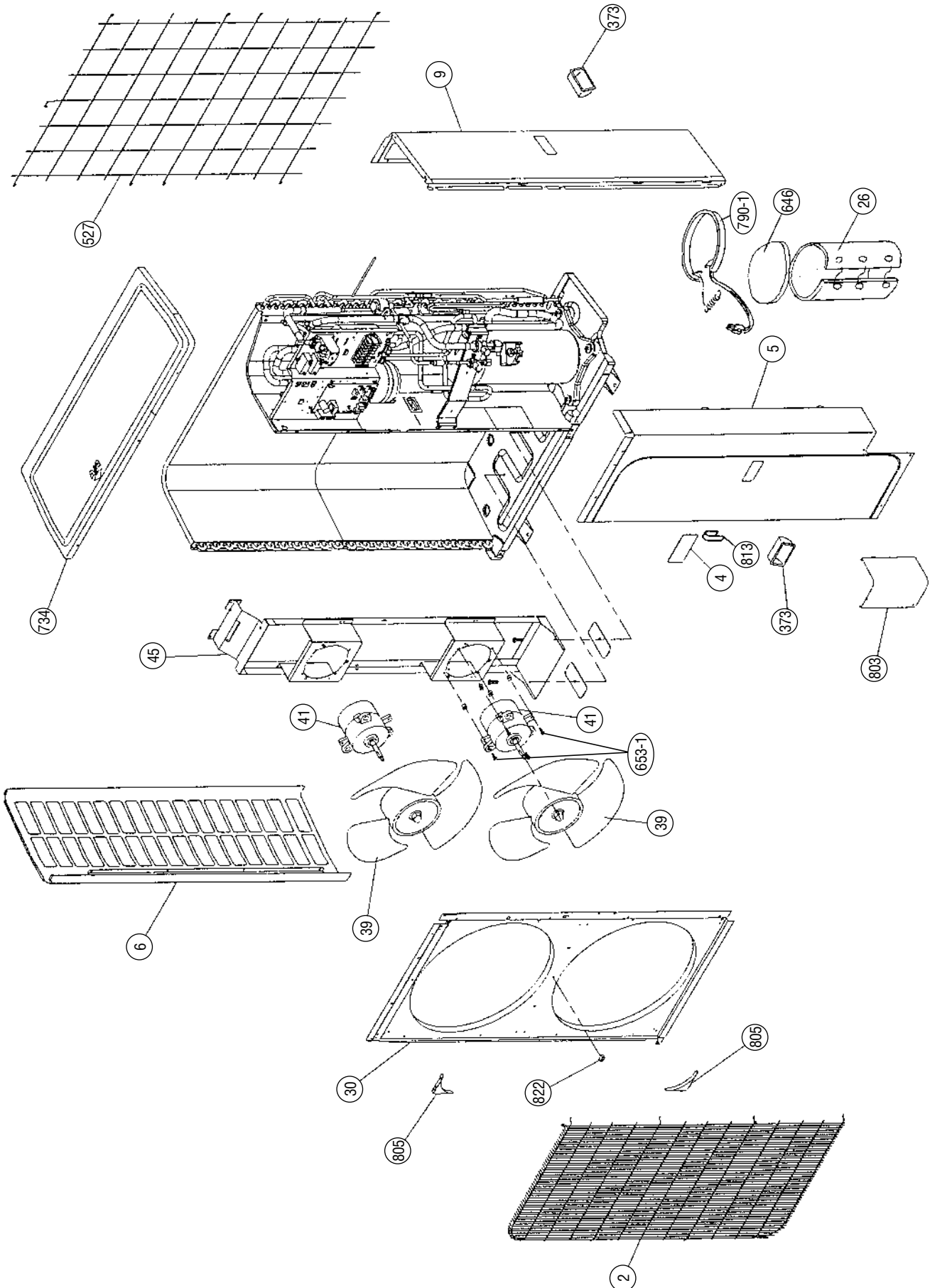
Models : AOG45APA3L  
AOY45APA3L



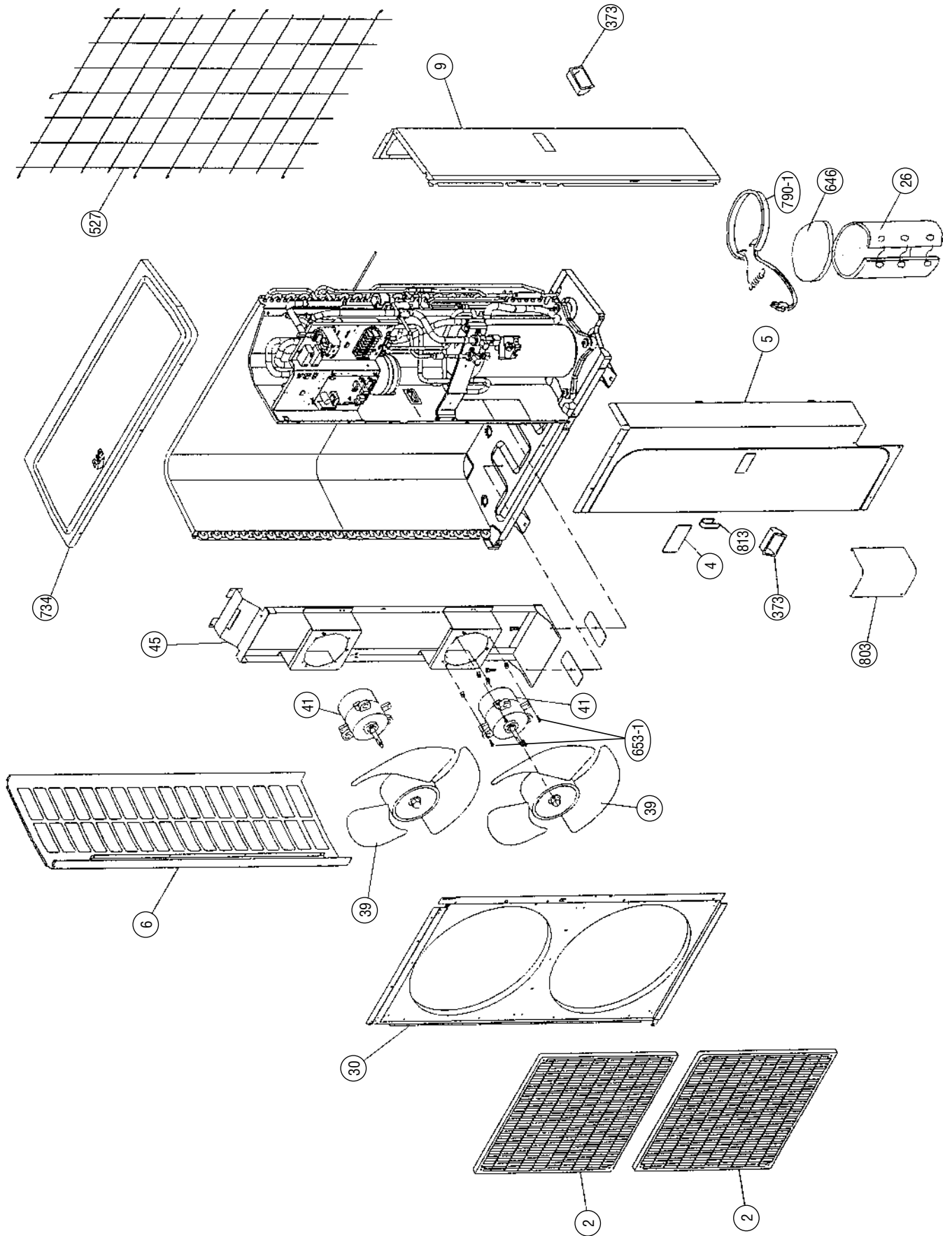
Models : AOG45APA3L  
AOY45APA3L



Models : AOG45RPA3L  
 AOY45RPA3L

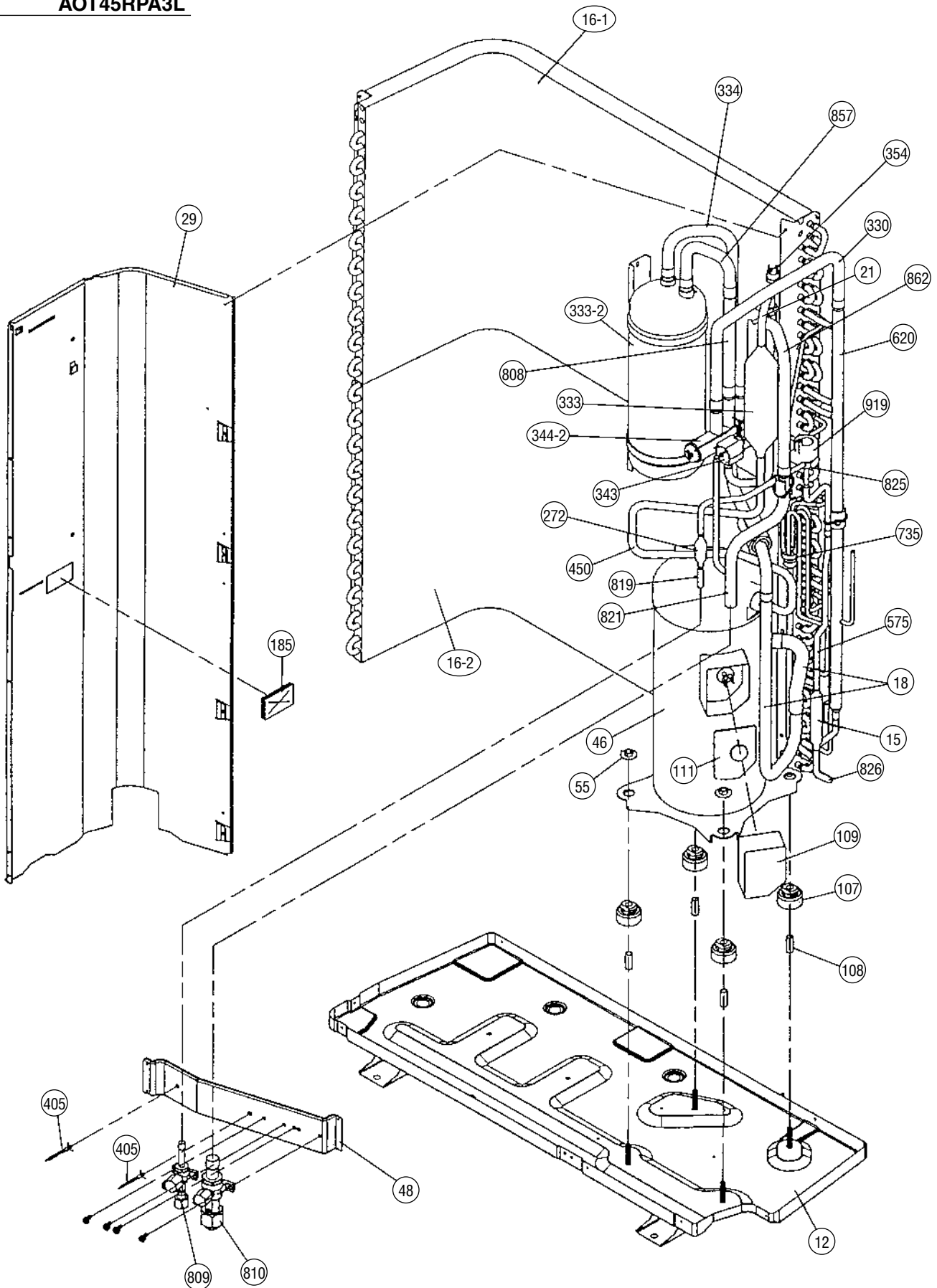


**Model : AOT45RPA3L**

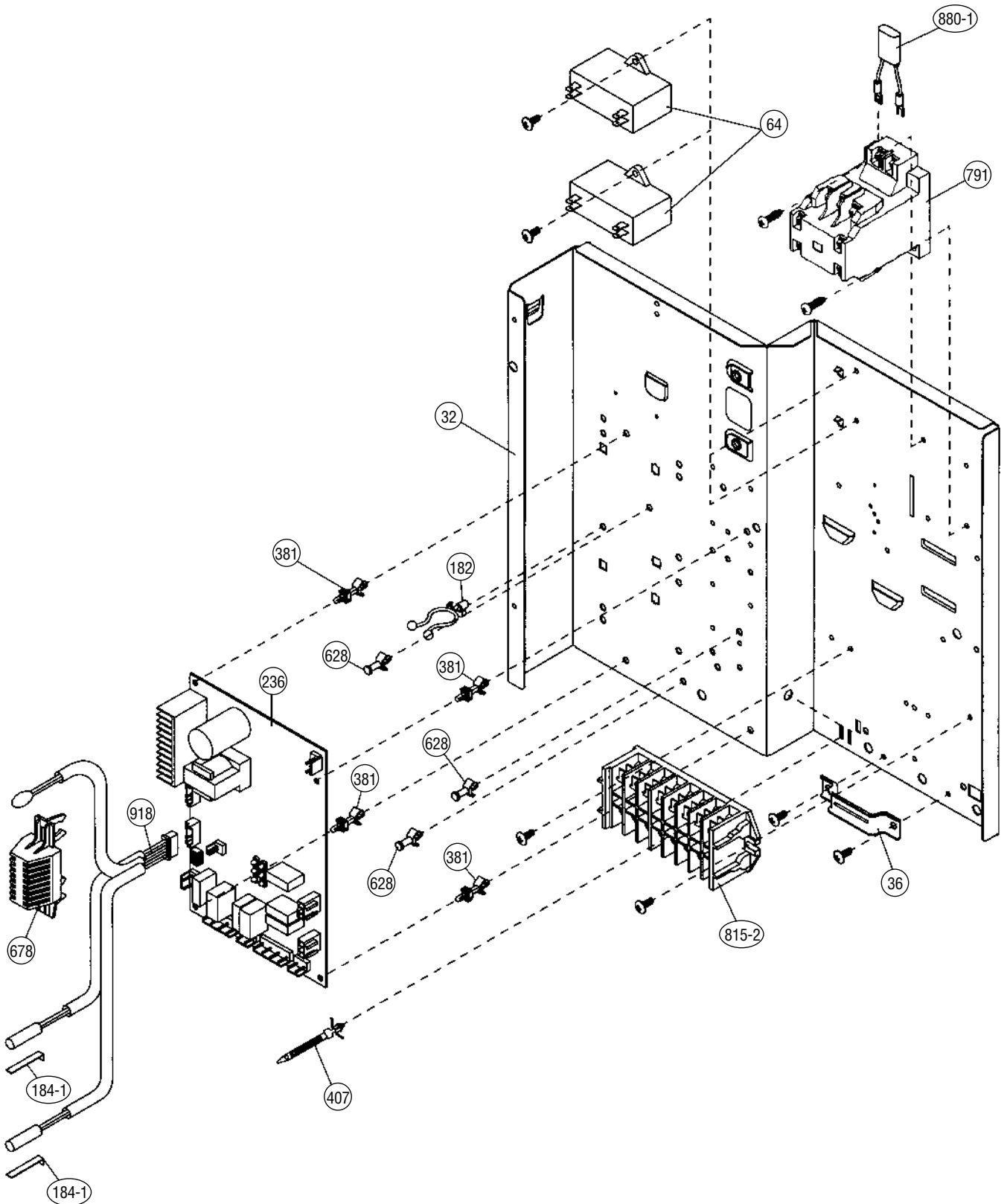




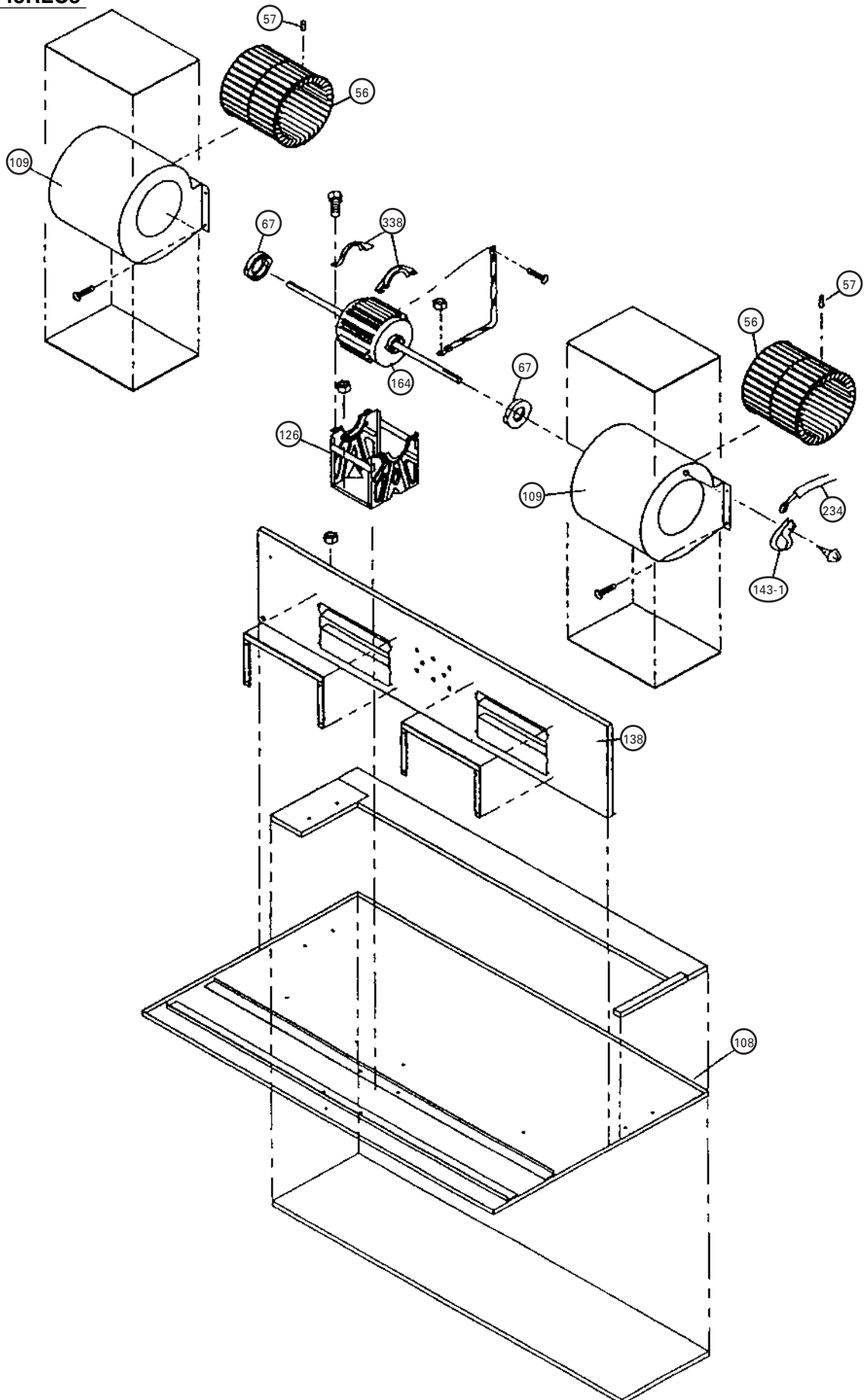
Models : AOG45RPA3L  
 AOY45RPA3L  
 AOT45RPA3L



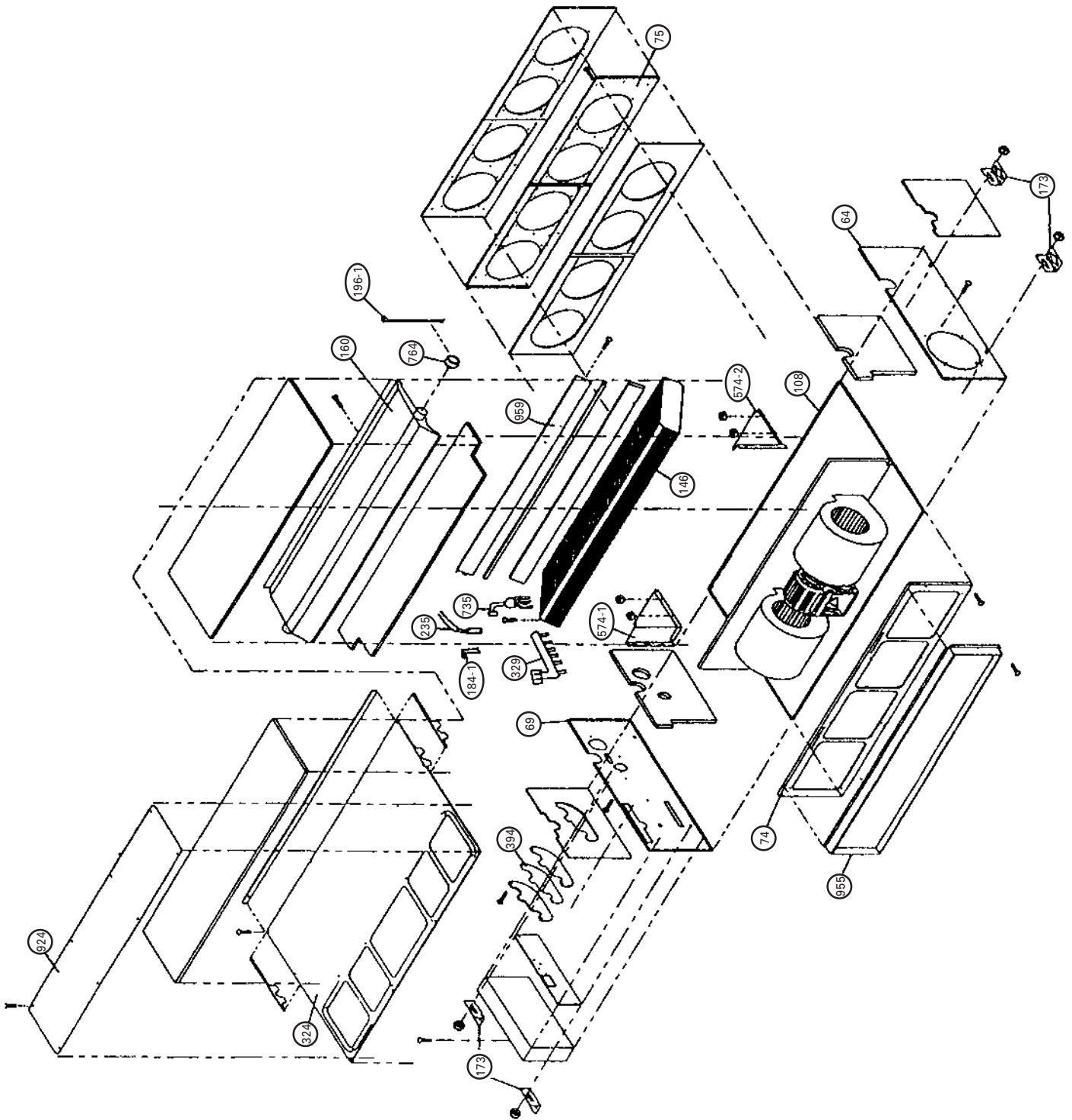
Models : AOG45RPA3L  
AOY45RPA3L  
AOT45RPA3L



Models : ARG45ALC3  
ARY45ALC3  
ARG45RLC3  
ARY45RLC3  
ART45RLC3



Models : ARG45ALC3  
ARY45ALC3  
ARG45RLC3  
ARY45RLC3  
ART45RLC3





# PARTS LIST

## INDOOR UNIT

Ref. No.	Description	Part No.				Ord. Q'ty
		ARG45ALC3 ARY45ALC3	ARG45RLC3	ARY45RLC3	ART45RLC3	
34	Capacitor (Fan Motor)	9700468042	9700468042	9700468042	9700468042	
36-2	Cord Holder Metal	9356362008	9356362008	9356362008	9356362008	
56	Sirocco Fan Assy	9356531022	9356531022	9356531022	9356531022	
57	Hex. Socket Screw	313616213202	313616213202	313616213202	313616213202	
64	Cabinet-Left Metal	9356551006	9356551006	9356551006	9356551006	
67	Rubber (Vibration-proof)	313659068604	313659068604	313659068604	313659068604	
69	Cabinet-Right Metal	9356547009	9356547009	9356547009	9356547009	
74	Intake Panel	9356537000	9356537000	9356537000	9356537000	
75	Outlet Panel Assy	9356538007	9356538007	9356538007	9356538007	
108	Base Assy	9356518009	9356518009	9356518009	9356518009	
109	Casing Assy	9356527001	9356527001	9356527001	9356527001	
126	Motor Fixing Table Assy	9356533002	9356533002	9356533002	9356533002	
138	Separate Wall	9356523003	9356523003	9356523003	9356523003	
143-1	Clamp NK-3N	313361274700	313361274700	313361274700	313361274700	
146	Evaporator Sub Assy	9356986143	9356986143	9356986143	9356986143	
160	Drain Pan Assy	9356542028	9356542028	9356542028	9356542028	
164	Fan Motor Assy-IN	9600830017	9600830017	9600830017	9600830017	
173	Hanger Bracket	9356563009	9356563009	9356563009	9356563009	
184-1	Thermo. Spring-A	313728262708	313728262708	313728262708	313728262708	
185-1	Rubber Bushing	9357376004	9357376004	9357376004	9357376004	
187	Clamp No.1219	313361271706	313361271706	313361271706	313361271706	
192	Clamp No.062	313361271402	313361271402	313361271402	313361271402	
195	Clamp SKB-100	313361275805	313361275805	313361275805	313361275805	
196-1	Clamp SKB-3M	312300787605	312300787605	312300787605	312300787605	
223	Control Box Metal Assy	9356558005	9356558005	9356558005	9356558005	
234	Thermistor Assy-Room	9703299056	9703299056	9703299056	9703299056	
235	Thermistor Assy-Pipe	9703297045	9703297045	9703297045	9703297045	
236	Controller PCB Assy	9704557056	9704557049	9704557049	9704557049	
240	Remote Control (No brand)	9371438047	9371438030	9371438030	9703173097	
	Remote Control (GENERAL)	-	9362837248	-	-	
287	Cap (Power)	9352173011	9352173011	9352173011	9352173011	
324	Top Plate	9356546002	9356546002	9356546002	9356546002	
329	Coupling Pipe Assy	9357005003	9357005003	9357005003	9357005003	
338	Motor Fixture	9356536003	9356536003	9356536003	9356536003	
381	Locking Spacer	313209391506	313209391506	313209391506	313209391506	
394	Pipe Fixing Plate	9356554007	9356554007	9356554007	9356554007	
448	Control Box Metal-B	9356560008	9356560008	9356560008	9356560008	
466	Clamp NK-4N	313714328805	313714328805	313714328805	313714328805	
574-1	Eva. Fixing Plate-R	9356521009	9356521009	9356521009	9356521009	
574-2	Eva. Fixing Plate-L	9356522006	9356522006	9356522006	9356522006	
628	Locking Spacer	313005446558	313005446558	313005446558	313005446558	
735	Distributor Assy	9357004006	9357004006	9357004006	9357004006	
764	Drain Cap	9356541007	9356541007	9356541007	9356541007	
815	Terminal-7P	9703403019	9703403019	9703403019	9703403019	
875	Filter PCB Assy	9704561053	9704561046	9704561046	9704561046	
924	Intake Seal Plate	9356553000	9356553000	9356553000	9356553000	
955	Square Flange Assy	9356555004	9356555004	9356555004	9356555004	
956	Control Box Metal-E	9356900002	9356900002	9356900002	9356900002	
959	Eva. Seal Plate	9356540000	9356540000	9356540000	9356540000	
968	Relay PCB Assy	9701594030	9701594030	9701594030	9701594030	

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. Qty
		AOG45APA3L	AOG45RPA3L	AOY45APA3L	AOY45RPA3L	AOT45RPA3L	
2	Fan Cover	9352159015	9352159015	9352159015	9352159015	9365905012	
4	Emblem-Rear	313791088308	313791088308	9351355005	9351355005	9351355005	
5	Cabinet-A, Painted	9352146015	9352146015	9352146015	9352146015	9352146015	
6	Cabinet-C, Painted	9352149016	9352149016	9352149016	9352149016	9352149016	
9	Cabinet-B, Painted	9352147012	9352147012	9352147012	9352147012	9352147012	
12	Base Assy, Painted	9352136016	9352136016	9352136016	9352136016	9352136016	
15	Dryer	9368111014	9368111014	9368111014	9368111014	9368111014	
16-1	Condenser-A Sub Assy	9355285193	9355285056	9355285193	9355285056	9355285056	
16-2	Condenser-B Aub Assy	9369545009	9355286237	9369545009	9355286237	9355286237	
18	Suction Pipe Assy	9372226018	9372226018	9372226018	9372226018	9372226018	
20	Discharge Pipe Assy	9370950052	—	9370950052	—	—	
21	Discharge Pipe-B	—	9372246016	—	9372246016	9372246016	
26	Compressor Cover-A	9370774030	9370774030	9370774030	9370774030	9370774030	
29	Separate Wall Assy	9355277013	9355277013	9355277013	9355277013	9355277013	
30	Blower Cover, Painted	9352151019	9352151019	9352151019	9352151019	9352151019	
32	Control Box Metal	9352134012	9352134012	9352134012	9352134012	9352134012	
34	Capacitor (Fan Motor)	9357965024	—	9357965024	—	—	
36	Cord Holder Metal	9356934007	9356934007	9356934007	9356934007	9356934007	
39	Propeller Fan Assy	9366378013	9366378013	9366378013	9366378013	9366378013	
41	Fan Motor Assy-Out	9600832028	9600832028	9600832028	9600832028	9600832028	
45	Bracket (Motor) Assy	9368108007	9368108007	9368108007	9368108007	9368108007	
46	Compressor Assy	9371396026	9371396026	9371396026	9371396026	9371396026	
48	Bracket (Coupler) Assy	9355281010	9355281010	9355281010	9355281010	9355281010	
55	Special Nut M8 (For Comp.)	9355091008	9355091008	9355091008	9355091008	9355091008	
64	Capacitor (Fan Motor)	—	9357965024	—	9357965024	9357965024	
107	Rubber Seat-A (For Comp.)	9364084008	9364084008	9364084008	9364084008	9364084008	
108	Sleeve-A (For Comp.)	9364085005	9364085005	9364085005	9364085005	9364085005	
109	Terminal Cover (For Comp.)	9364087009	9364087009	9364087009	9364087009	9364087009	
111	Terminal Packing	9364086002	9364086002	9364086002	9364086002	9364086002	
182	Clamp No. 249	—	313361271505	—	313361271505	313361271505	
184-1	Thermo. Spring-A	—	313728262708	—	313728262708	313728262708	
185	Rubber Bushing	313005066051	313005066051	313005066051	313005066051	313005066051	
236	Controller PCB Assy	—	9704764096	—	9704764096	9704764096	
272	Strainer Assy	—	9354139008	—	9354139008	9354139008	
300	Suction Pipe-C	9372227015	—	9372227015	—	—	
330	Inlet Pipe (Cond.)-A	—	9372239018	—	9372239018	9372239018	
333	Accumulator	—	9350363018	—	9350363018	9350363018	
333-2	Accumulator Assy (B)	9371615011	9371615011	9371615011	9371615011	9371615011	
334	Suction Pipe-B	—	9372227015	—	9372227015	9372227015	
343	Solenoid Coil	—	9900165024	—	9900165024	9900165024	
344-2	4-Way Valve	—	9970035012	—	9970035012	9970035012	
354	Pressure Switch	—	9704045003	—	9704045003	9704045003	
373	Grip	9352157004	9352157004	9352157004	9352157004	9352157004	
381	Locking Spacer	—	313209391506	—	313209391506	313209391506	
401	Terminal-2P	9701971015	—	9701971015	—	—	
405	Clamp No. 1763	313816345304	313816345304	313816345304	313816345304	313816345304	
407	Clamp (Cable) No. 1259	313739340109	313739340109	313739340109	313739340109	313739340109	
420	Capillary Assy	9371224084	—	9371224084	—	—	
450	Discharge Pipe-A	9370951097	9372229019	9370951097	9372229019	9372229019	
527	Protection Net	9352163012	9352163012	9352163012	9352163012	9352163012	
549	Thermostat-Outdoor	9352426001	—	9352426001	—	—	
575	Condensing Pipe-C	9372225011	9372225011	9372225011	9372225011	9372225011	
620	Inlet Pipe (Cond.) Assy	9372224014	9372224014	9372224014	9372224014	9372224014	
628	Locking Spacer	—	313005446558	—	313005446558	313005446558	
646	Compressor Cover-B	9370774047	9370774047	9370774047	9370774047	9370774047	
653-1	Bolt (Fan Motor Fixing)	9385089020	9385089020	9385089020	9385089020	9385089020	
678	Bracket (Thermistor)	—	313557406106	—	313557406106	313557406106	
734	Cabinet Top Plate	9352161018	9352161018	9352161018	9352161018	9352161018	
735	Distributor Assy	9372230015	9372230015	9372230015	9372230015	9372230015	
772	Joint Pipe (Valve-A)	9370739039	—	9370739039	—	—	

**OUTDOOR UNIT (Continued)**

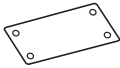







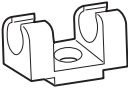


When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

Ref. No.	Description	Part No.					Ord. Q'ty
		AOG45APA3L	AOG45RPA3L	AOY45APA3L	AOY45RPA3L	AOT45RPA3L	
788	Thermostat-Overheat	9354061002	—	9354061002	—	—	
790-1	Belt Heater-A	9361140042	9361140042	9361140042	9361140042	9361140042	
791	Magnetic Relay	9900078010	9900078010	9900078010	9900078010	9900078010	
803	Cabinet-D, Painted	9352150012	9352150012	9352150012	9352150012	9352150012	
805	Blower Cover Corner	9352160011	9352160011	9352160011	9352160011	—	
808	Inlet Pipe (Accumulator)	9352285004	—	9352285004	—	—	
808	Inlet Pipe (Accumulator)-A	—	9372244012	—	9372244012	9372244012	
809	Ball Valve-A	9371799049	9371799049	9371799049	9371799049	9371799049	
810	Ball Valve-B	9371799056	9371799056	9371799056	9371799056	9371799056	
813	Cabinet Hook	9352148002	9352148002	9352148002	9352148002	9352148002	
815-2	Terminal 8P	9363276022	9363276022	9363276022	9363276022	9363276022	
817	Thermostat Fixture	9352164019	—	9352164019	—	—	
819	Valve-A Couple. Pipe	9370739039	9363457001	9370739039	9363457001	9363457001	
821	Joint Pipe Assy (Valve-B)	9352284007	9352284007	9352284007	9352284007	9352284007	
822	Fan Cover Fixture-A	9352158018	9352158018	9352158018	9352158018	—	
823-2	Fuse Holder	0500063024	—	0500063024	—	—	
824-4	Fuse	0600222529	—	0600222529	—	—	
825	Expansion Valve	—	9900170028	—	9900170028	9900170028	
826	Condensing Pipe-B	9372231012	9372231012	9372231012	9372231012	9372231012	
857	Inlet Pipe (Accumulator)-B	—	9372244036	—	9372244036	9372244036	
862	Valve-B Couple. Pipe	—	9372243015	—	9372243015	9372243015	
880-1	Network	9700987017	9700987017	9700987017	9700987017	9700987017	
918	Thermistor Assy	—	9900129019	—	9900129019	9900129019	
919	Expansion Valve Coil	—	9900172015	—	9900172015	9900172015	





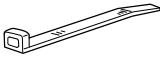




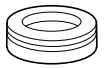


## ACCESSORIES

### INDOOR UNIT

Name and Shape	Q'ty	Application	Parts No.			
			ARG45ALC3 ARY45ALC3	ARG45RLC3	ARY45RLC3	ART45RLC3
Installation template 	1	For positioning the indoor unit	9357036007	9357036007	9357036007	9357036007
Hanger 	4	For suspending the indoor unit from ceiling	9356563009	9356563009	9356563009	9356563009
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling	313005446653	313005446653	313005446653	313005446653
Special nut B (small flange) 	4		313005446759	313005446759	313005446759	313005446759
Coupler heat insulation (large) 	1	For indoor side pipe joint (large pipe)	9350716029	9350716029	9350716029	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (large pipe)	9352766015	9352766015	9352766015	9352766015
Nylon fastener 	1	For fixing the drain hose	312300787605	312300787605	312300787605	312300787605
Remote control 	1		9703173066	<del>9371438030</del> <b>9362837248</b>	9371438030	9703173097
Remote control cord clamp 	10	For installing the remote controller cord	313714181904	313714181904	313714181904	313714181904
Tapping screw (flush heads) 	10	For installing the remote control unit cord clamp	301141153027	301141153027	301141153027	301141153027
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708	313806217708	313806217708	313806217708

## OUTDOOR UNIT

Name and Shape	Q'ty	Application	Parts No.	
			AOG45APA3L AOY45APA3L	AOG45RPA3L AOY45RPA3L AOT45RPA3L
Power cap 	1	For power 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 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	—	313728031005
Flexible tube 	2		—	313013042915
Cap (drain) 	2		—	313166024302

