

**INVERTER MULTI  
AIR CONDITIONER  
DUCT type**

**SERVICE  
MANUAL**



**Models**

**Indoor unit**

ARY9LUAB  
ARY12LUAD  
ARY14LUAD  
ARY18LUAD

**Outdoor unit**

AOY24LMAM2

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# SPECIFICATIONS

TYPE	COOL & HEAT			
INDOOR UNIT	ARY9LUAB	ARY12LUAD	ARY14LUAD	ARY18LUAD
OUTDOOR UNIT	AOY24LMAM2			

## ELECTRICAL DATA ( INDOOR UNIT )

COOLING CAPACITY	(kW)	2.6	3.5	4.3	5.4
HEATING CAPACITY	(kW)	3.1	4.0	4.9	6.0
MOISTURE REMOVAL	( ℓ /hr)	1.0	1.2	1.5	1.7
AIR CIRCULATION-HI	(m <sup>3</sup> /hr)	450	600	800	800

## ELECTRICAL DATA ( OUTDOOR UNIT )

POWER SOURCE	(V)	230			
FREQUENCY	(Hz)	50			
COOLING CAPACITY (MAX)	(kW)	5.8 (7.8)			
HEATING CAPACITY (MAX)	(kW)	6.4 (9.0)			
RUNNING CURRENT (MAX)	(A)	COOLING	7.6 (12.2)		
		HEATING	7.2 (12.2)		
INPUT WATTS (MAX)	(kW)	COOLING	1.73 (2.77)		
		HEATING	1.64 (2.77)		
E.E.R.	(kW / kW)	COOLING	3.35		
		HEATING	3.90		

## COMPRESSOR

TYPE	Hermetic type, Inverter, 4 poles, Three phase, DC motor, Rotary			
DISCRIMINATION	TNB 220 FPCM			
REFRIGERANT	R410A	(g)	1,900	

## FAN MOTOR

POWER SOURCE	(V)	230				
INDOOR UNIT	DISCRIMINATION	MFA-9NTAT	MFA-18NTT	MFA-18NTT	MFA-18NTT	
	HI	(r.p.m.)	955	750	1,000	1,040
	MED	(r.p.m.)	870	680	860	890
	LO	(r.p.m.)	800	610	720	750
OUTDOOR UNIT	(r.p.m.)	780				

## DIMENSIONS

INDOOR UNIT	H x W x D	(mm)	217 x 663 x 595	217 x 953 x 595	
OUTDOOR UNIT	H x W x D	(mm)	650 x 830 x 320		

## WEIGHT

INDOOR UNIT	GROSS / NET	(kg)	22 / 18	29 / 25	30 / 26
OUTDOOR UNIT	GROSS / NET	(kg)	62 / 56		

## NOISE LEVEL

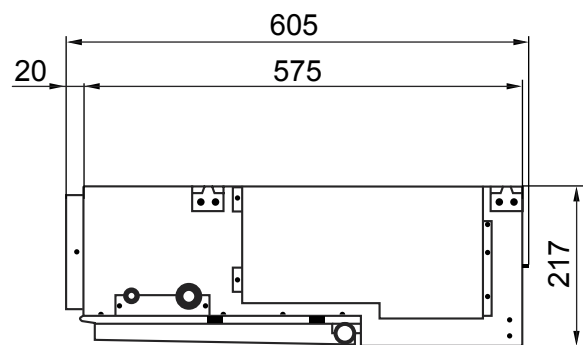
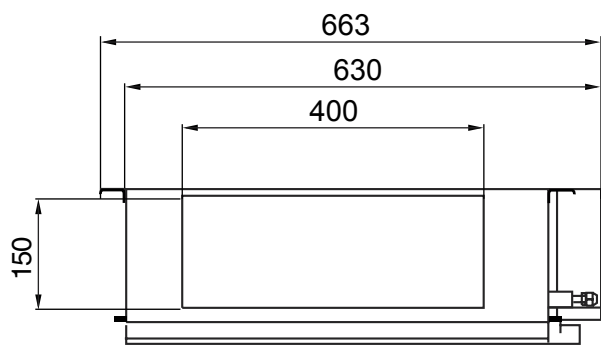
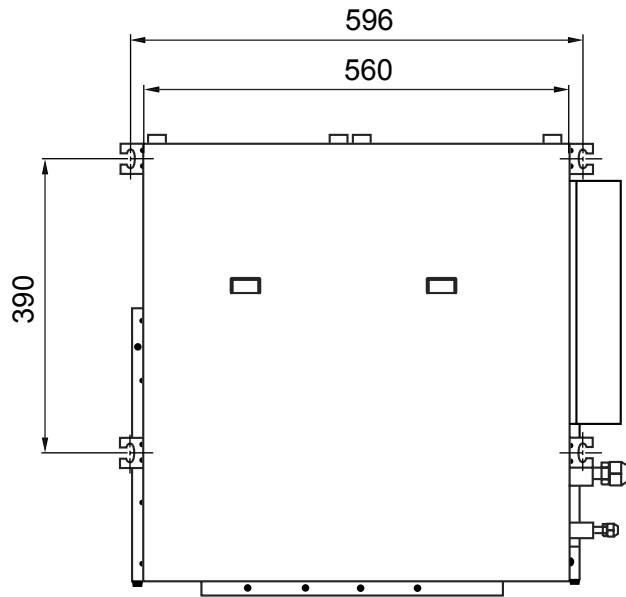
INDOOR UNIT	HI	(dB)	39	33	40	41
	LO	(dB)	34	27	30	30
OUTDOOR UNIT	COOLING	(dB)	49			
	HEATING	(dB)	50			

# OUTLINE AND DIMENSIONS

(unit : mm)

## INDOOR UNIT

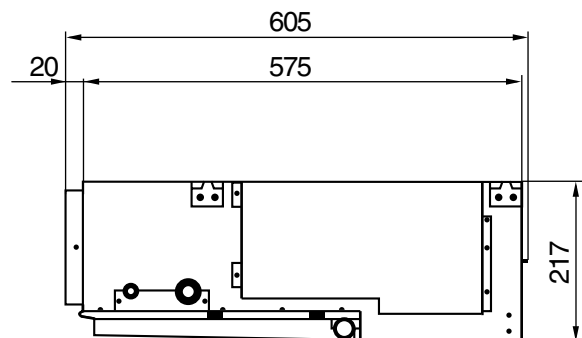
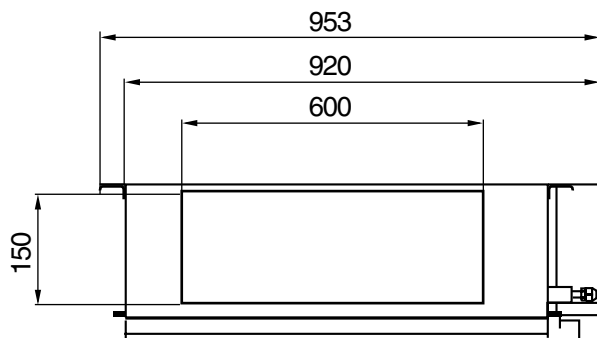
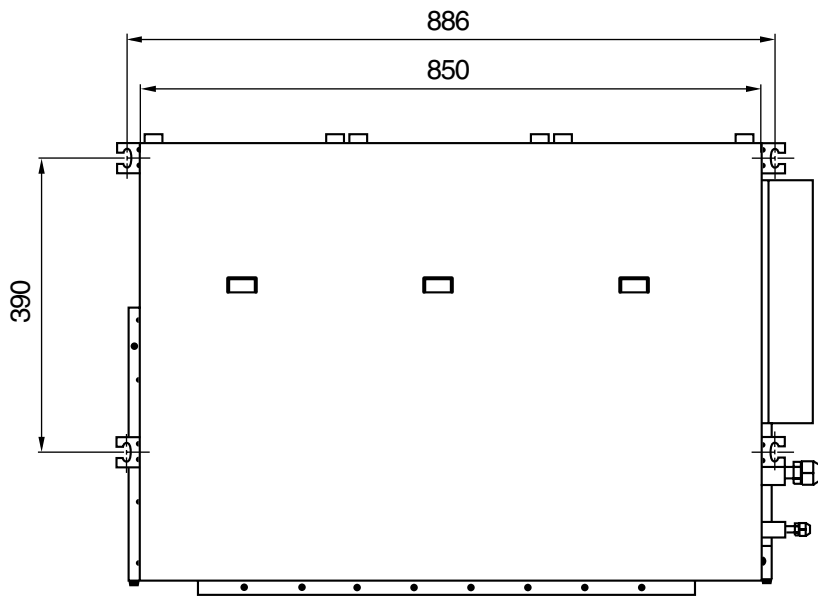
Model : ARY9LUAB



Unit : mm

**Models : ARY12LUAD  
ARY14LUAD  
ARY18LUAD**

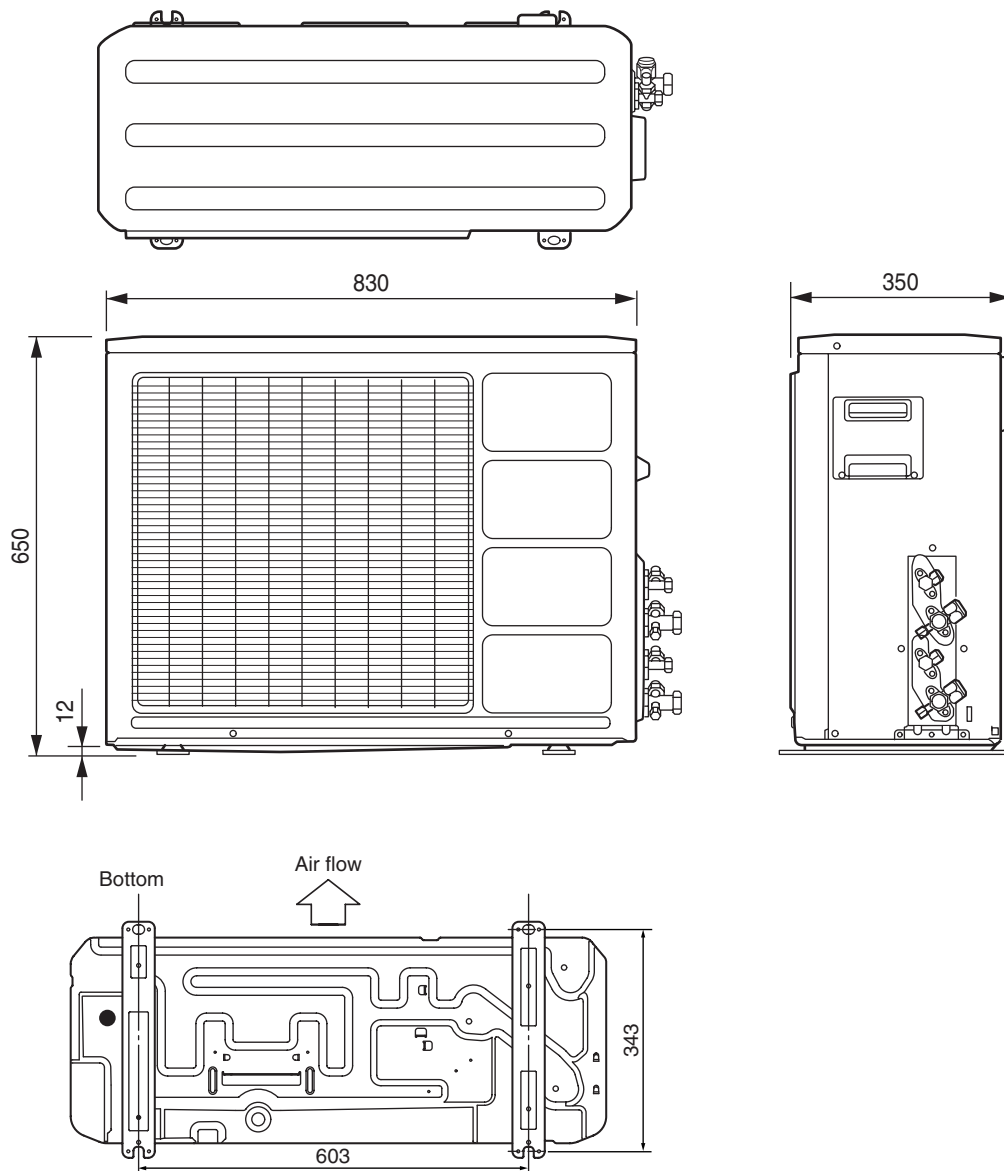
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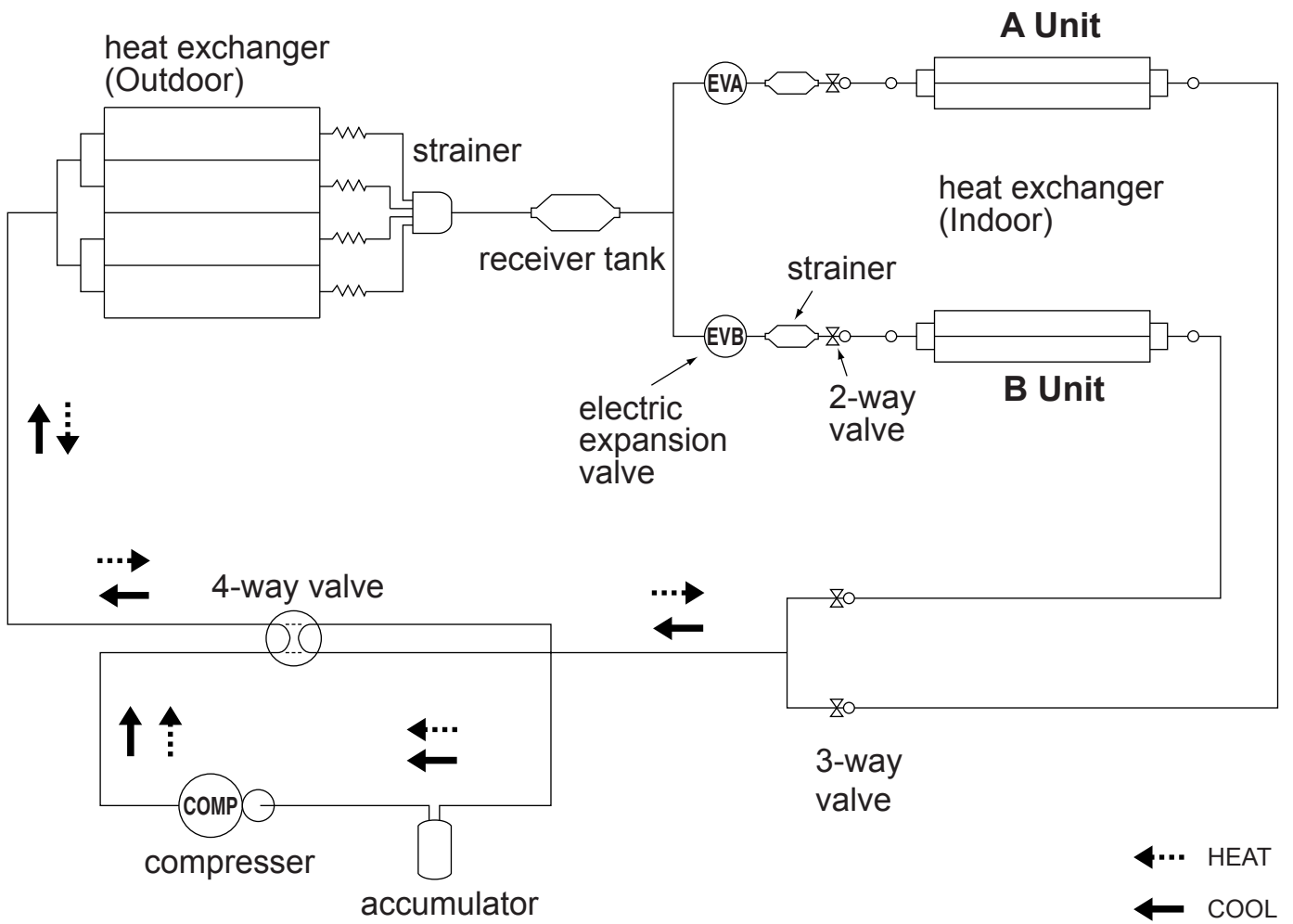
# OUTDOOR UNIT

Unit : mm

Model : AOY24LMAM2



# REFRIGERANT SYSTEM DIAGRAM

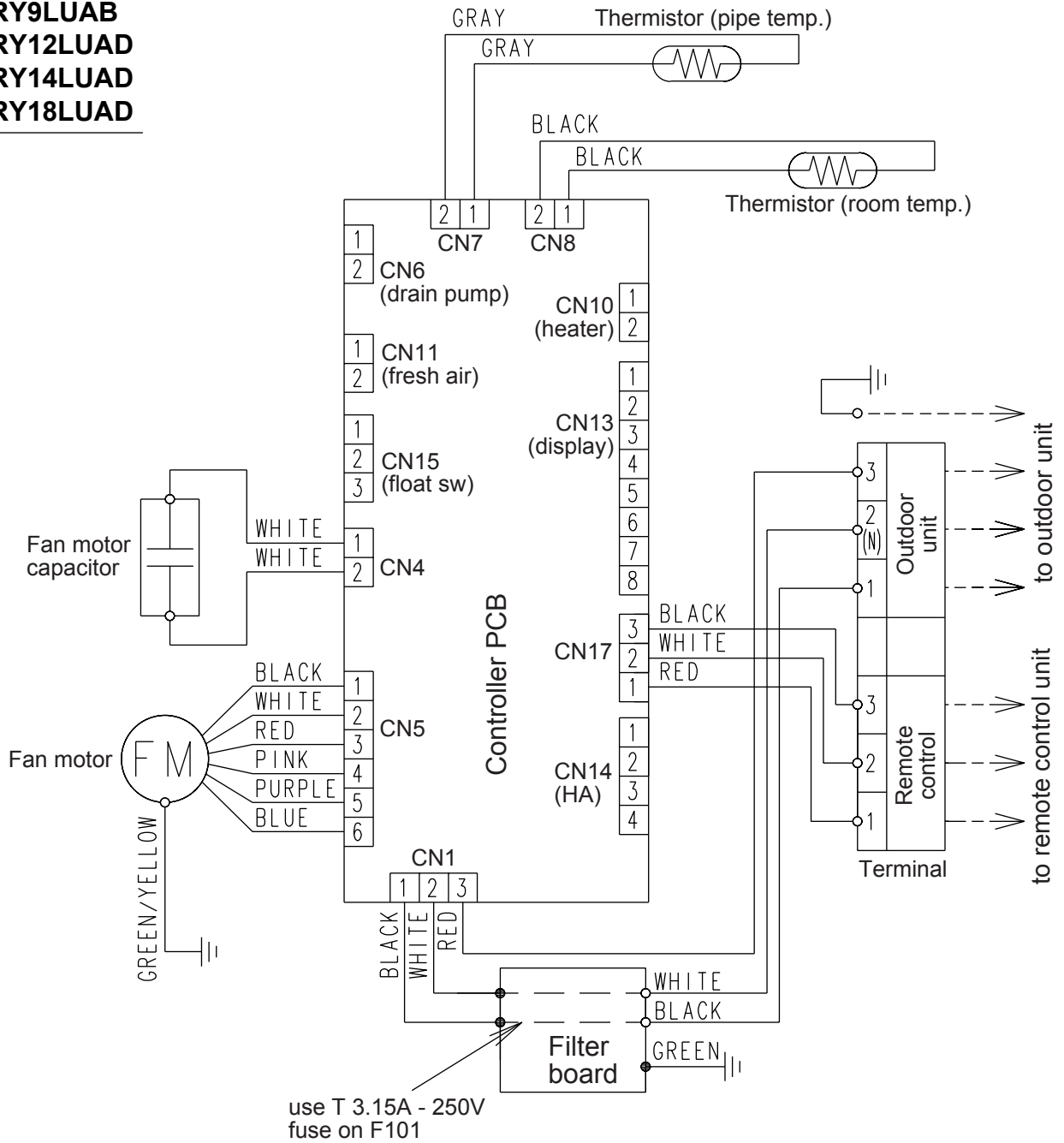


# CIRCUIT DIAGRAM

## INDOOR UNIT

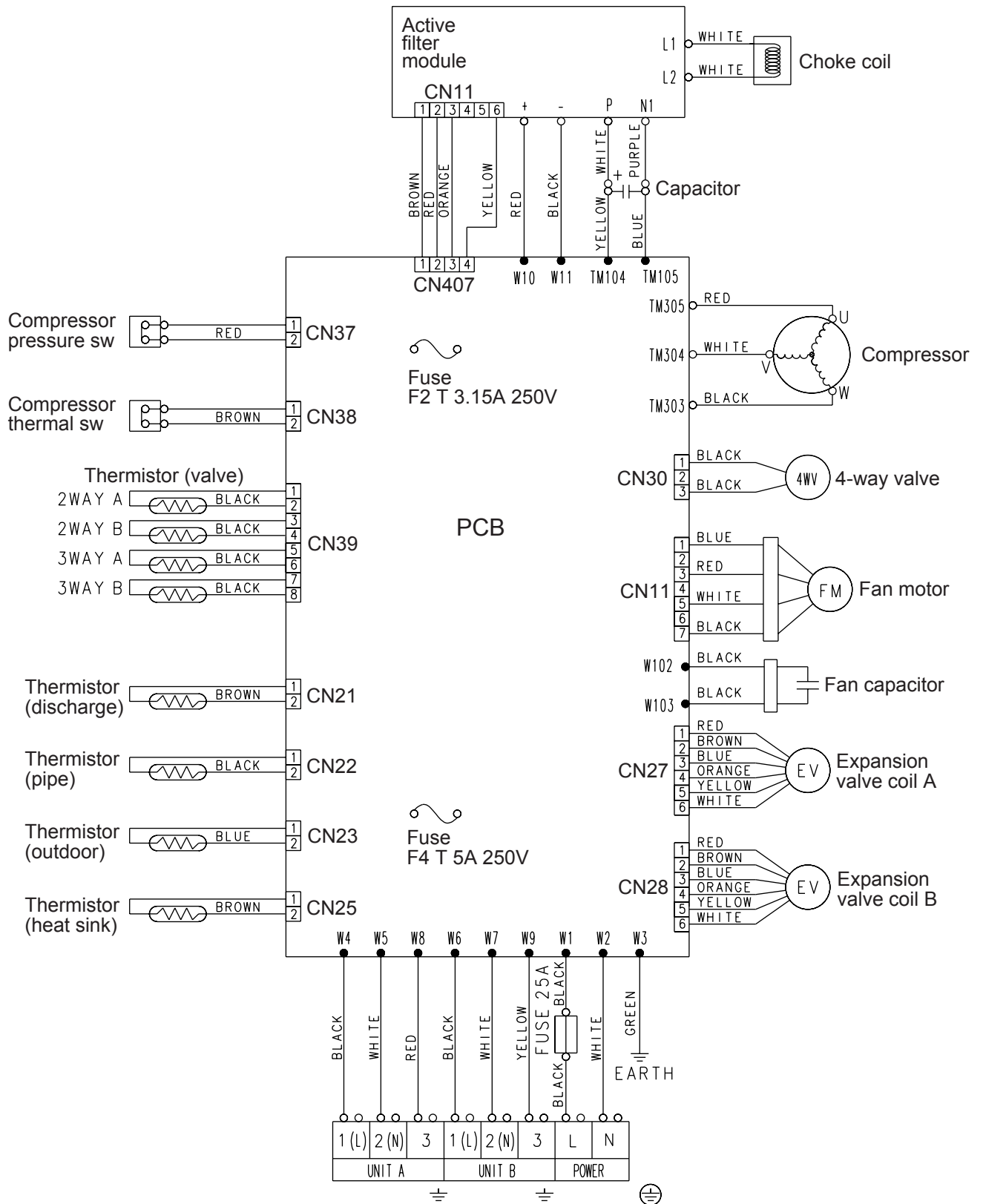
Models :

- ARY9LUAB
- ARY12LUAD
- ARY14LUAD
- ARY18LUAD



# OUTDOOR UNIT

**Model : AOY24LMAM2**



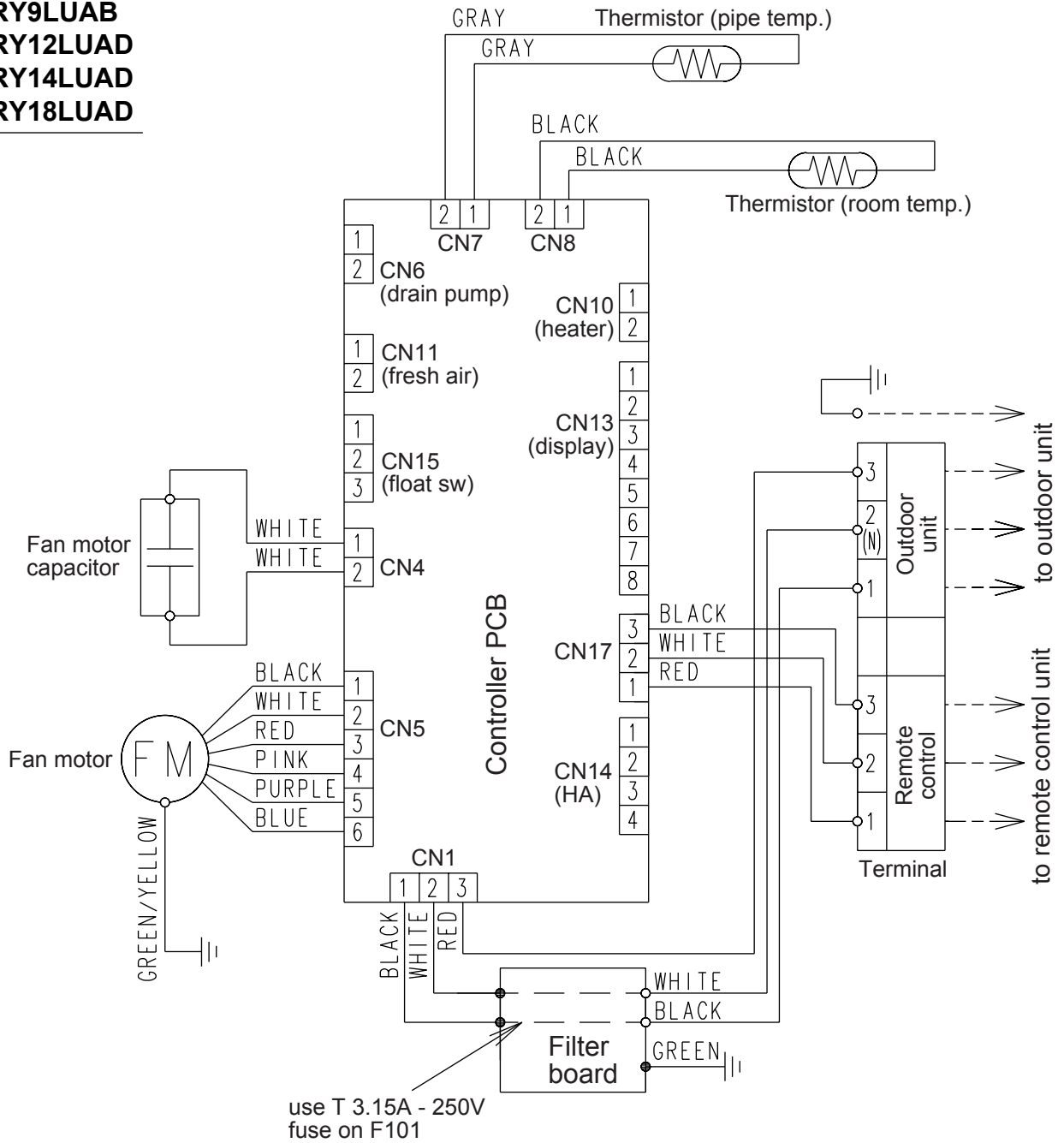


# CIRCUIT DIAGRAM

## INDOOR UNIT

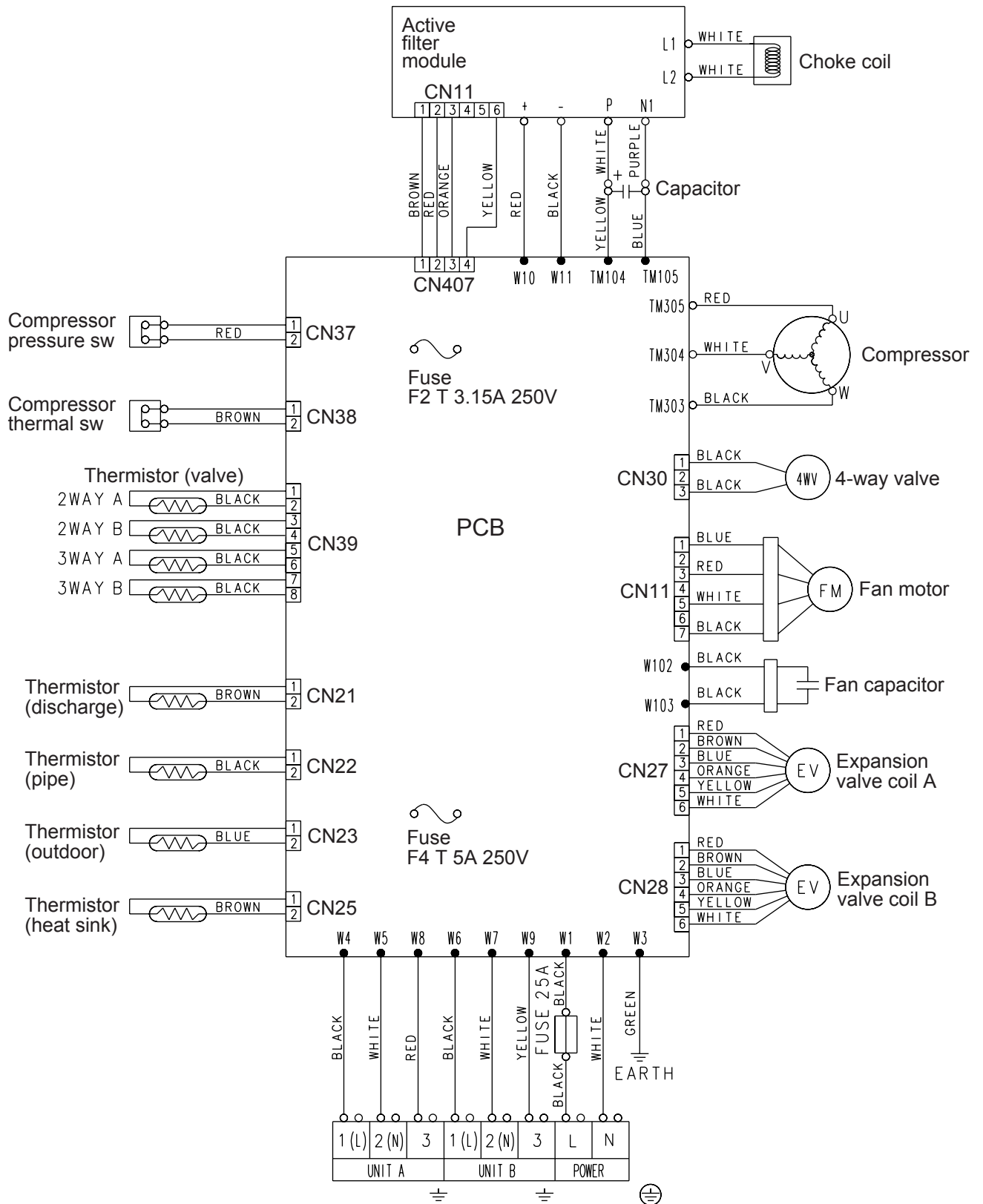
Models :

- ARY9LUAB
- ARY12LUAD
- ARY14LUAD
- ARY18LUAD



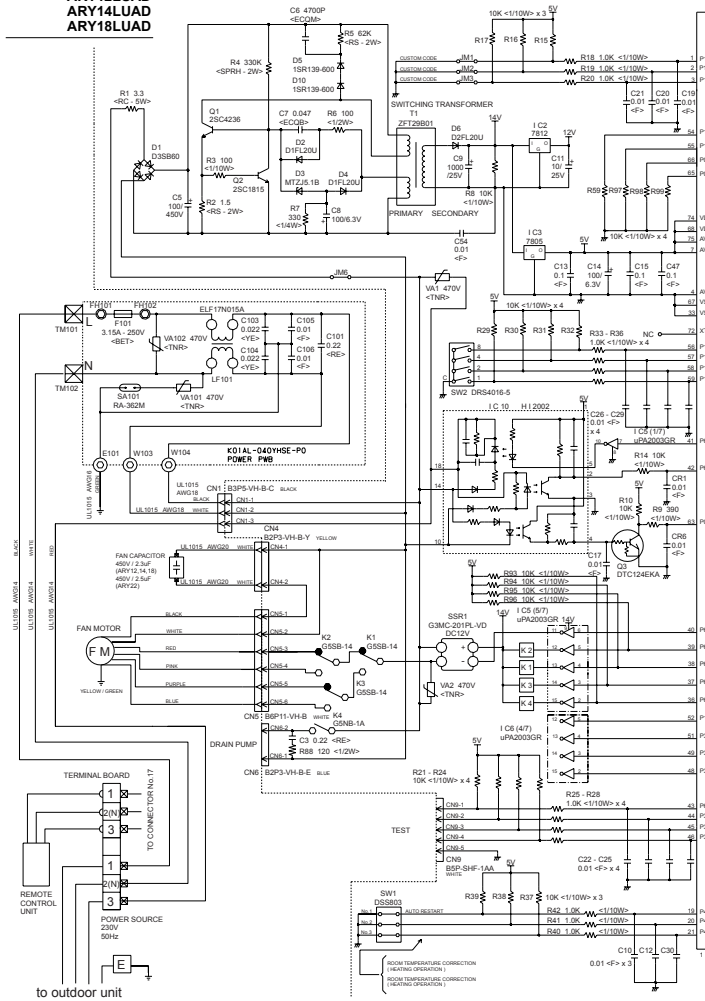
# OUTDOOR UNIT

**Model : AOY24LMAM2**



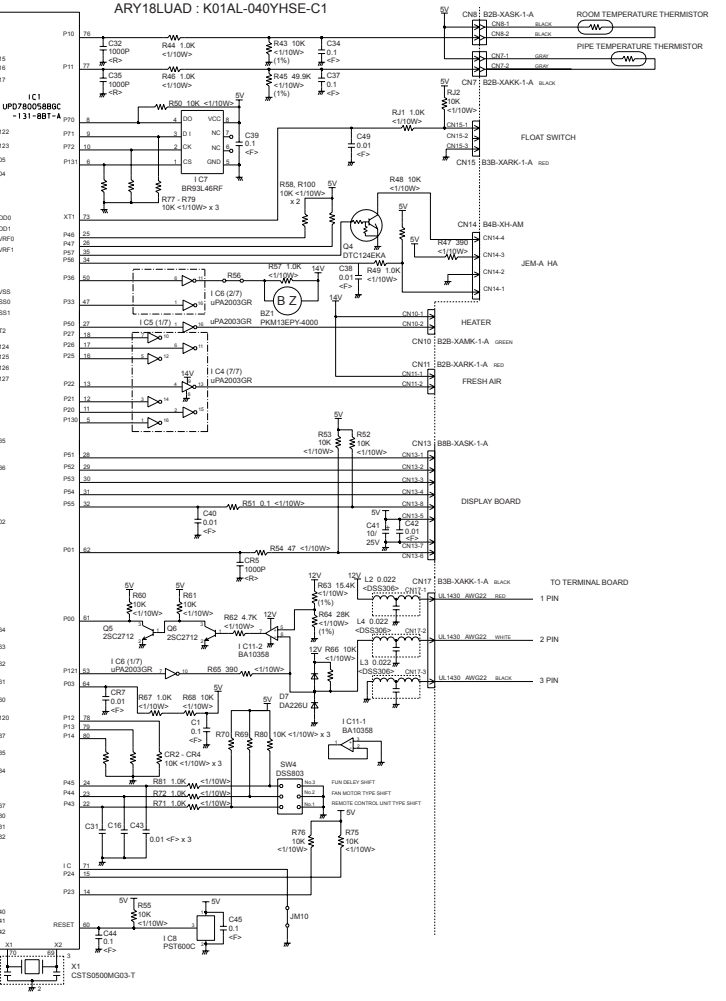
# INDOOR PCB CIRCUIT DIAGRAM

Models : ARY9LUAB  
ARY12LUAD  
ARY14LUAD  
ARY18LUAD



# CONTROLLER PCB ASSY (main PCB)

ARY9LUAB : K01AL-0413HSE-C1  
ARY12LUAD : K01AL-0412HSE-C1  
ARY14LUAD : K01AL-0411HSE-C1  
ARY18LUAD : K01AL-040YHSE-C1

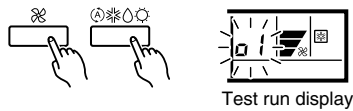




# ERROR CONTENTS

## INDOOR UNIT

- (1) Stop the air conditioner operation.
- (2) Press the master control button and the fan control button simultaneously for 2 seconds or more to start the test run.



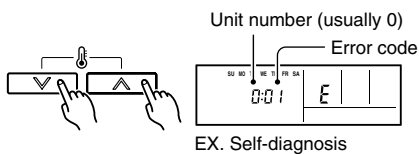
- (3) Press the start/stop button to stop the test run.

### [SELF-DIAGNOSIS]

When the error indication "E:EE" is displayed, follow the following items to perform the self-diagnosis. "E:EE" indicates an error has occurred.

#### 1. REMOTE CONTROLLER DISPLAY

- (1) Stop the air conditioner operation.
- (2) Press the set temperature buttons  $\wedge$ / $\vee$  simultaneously for 5 seconds or more to start the self-diagnosis. Refer to the following tables for the description of each error code.

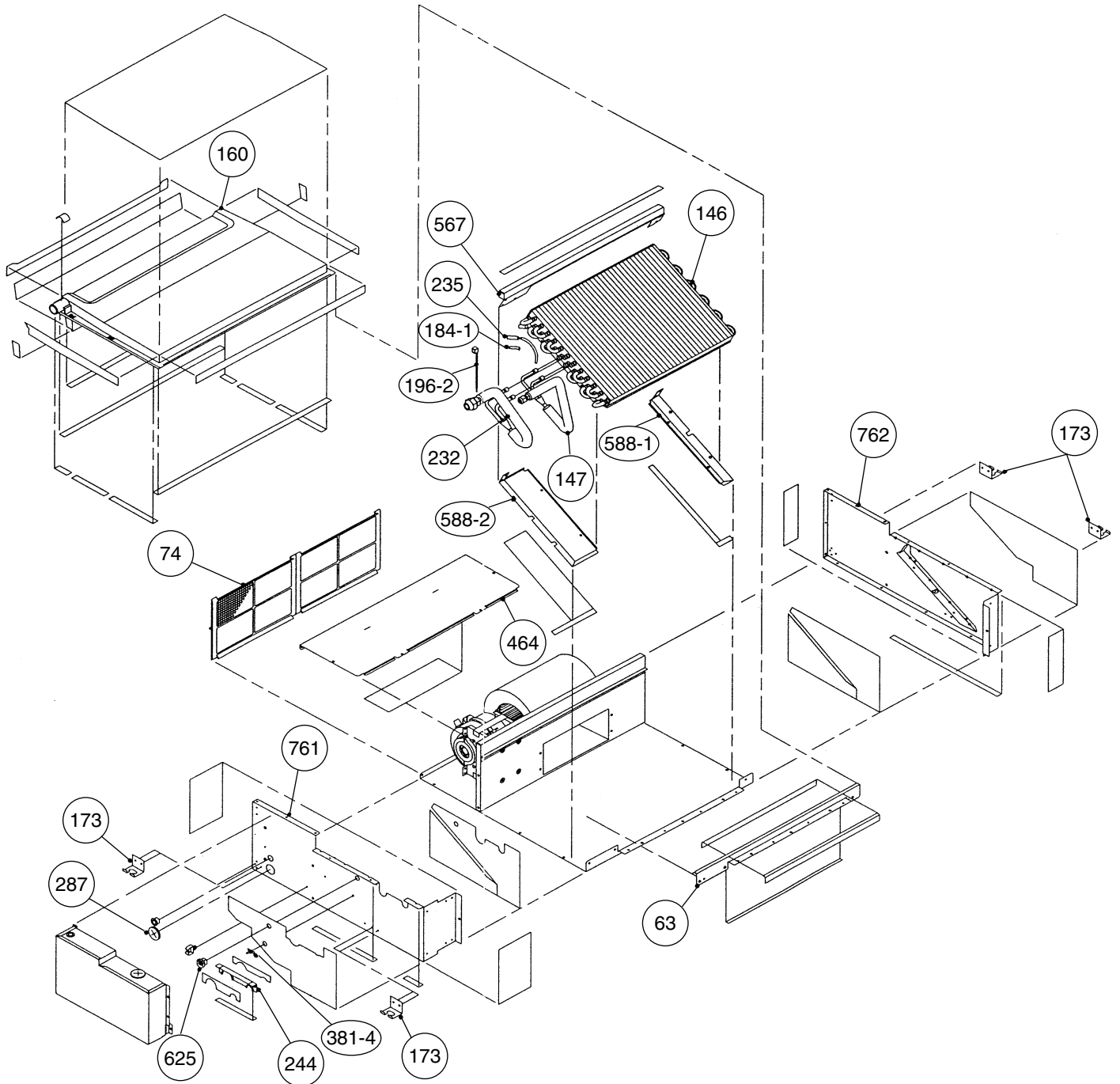


- (3) Press the set temperature buttons  $\wedge$ / $\vee$  simultaneously for 5 seconds or more to stop the self-diagnosis.

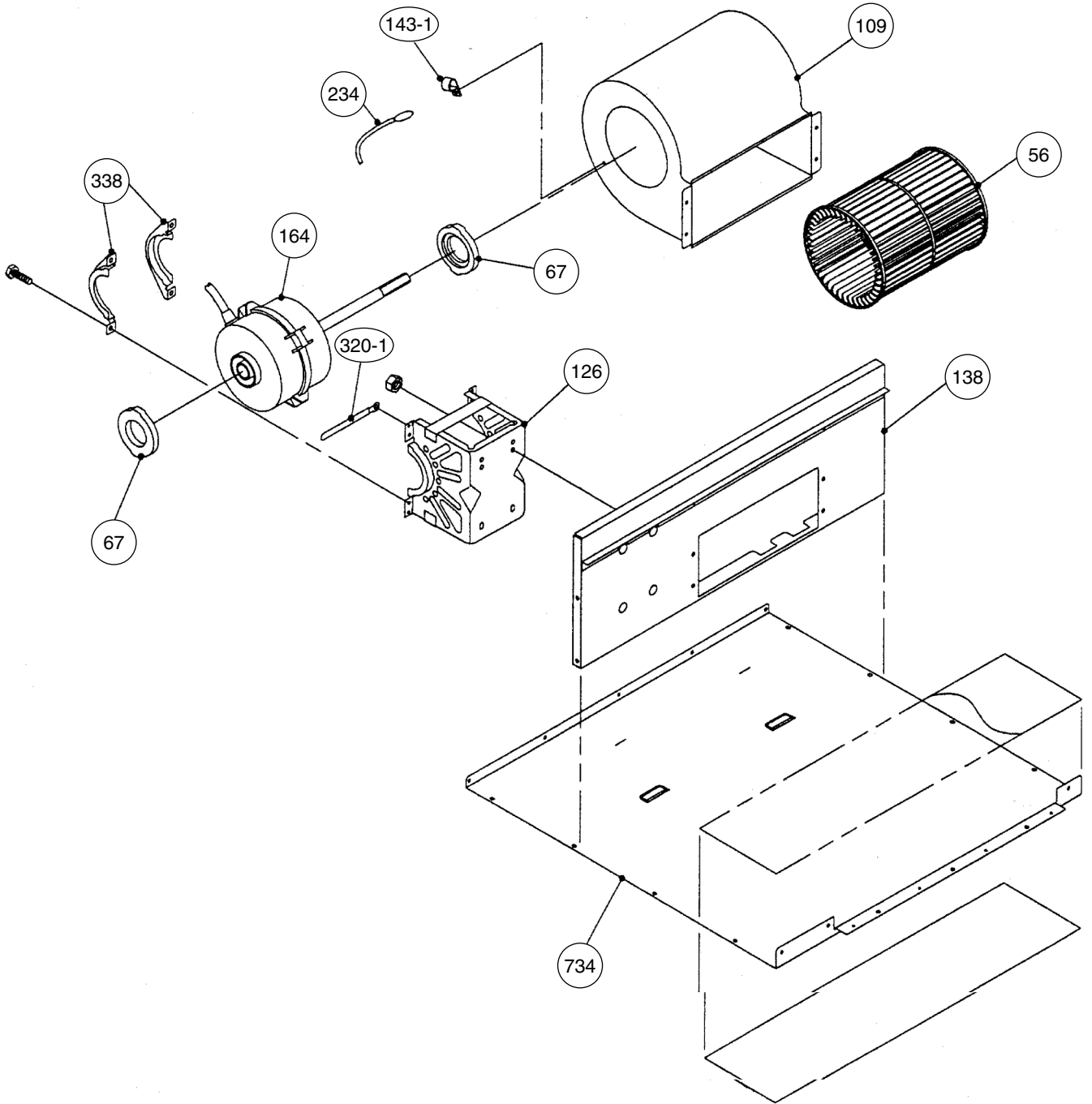
Error code	Error contents
<b>00</b>	Communication error (indoor unit $\longleftrightarrow$ remote controller)
<b>01</b>	Communication error (outdoor unit $\rightarrow$ indoor unit)
<b>02</b>	Room temperature sensor open
<b>03</b>	Room temperature sensor short-circuited
<b>04</b>	Indoor heat exchanger temperature sensor open
<b>05</b>	Indoor heat exchanger temperature sensor short-circuited
<b>06</b>	Outdoor heat exchanger temperature sensor
<b>08</b>	Power source connection error
<b>09</b>	Float switch operated
<b>0A</b>	Outdoor temperature sensor
<b>0c</b>	Discharge pipe temperature sensor
<b>11</b>	Model abnormal
<b>12</b>	Indoor fan abnormal
<b>13</b>	Outdoor signal abnormal
<b>14</b>	Outdoor EEPROM abnormal
<b>15</b>	Compressor temperature sensor
<b>16</b>	Pressure switch abnormal
<b>17</b>	IPM error
<b>1A</b>	Compressor cannot operate
<b>1b</b>	Outdoor fan abnormal

# DISASSEMBLY ILLUSTRATION

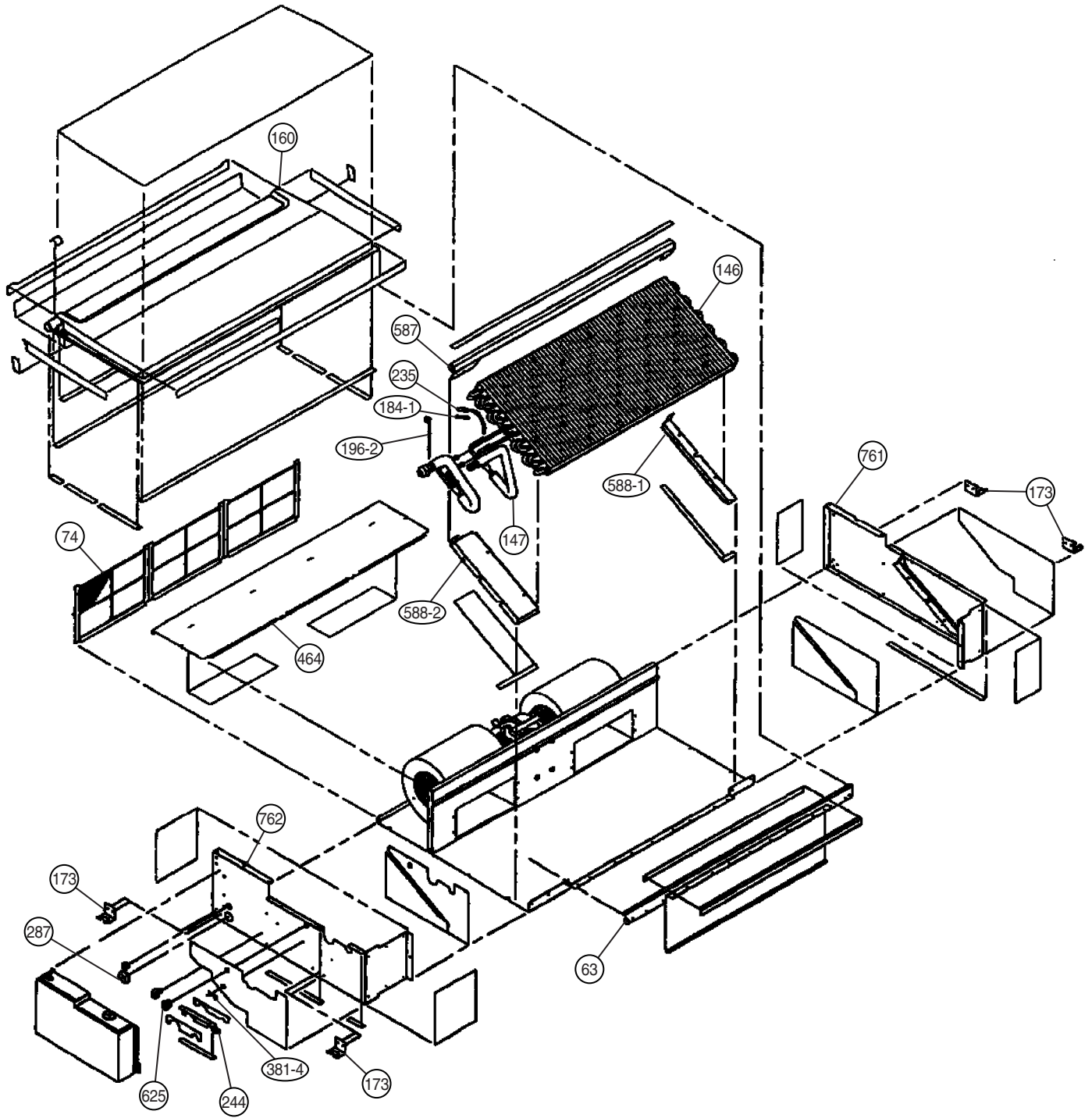
Model : ARY9LUAB



**Model : ARY9LUAB**

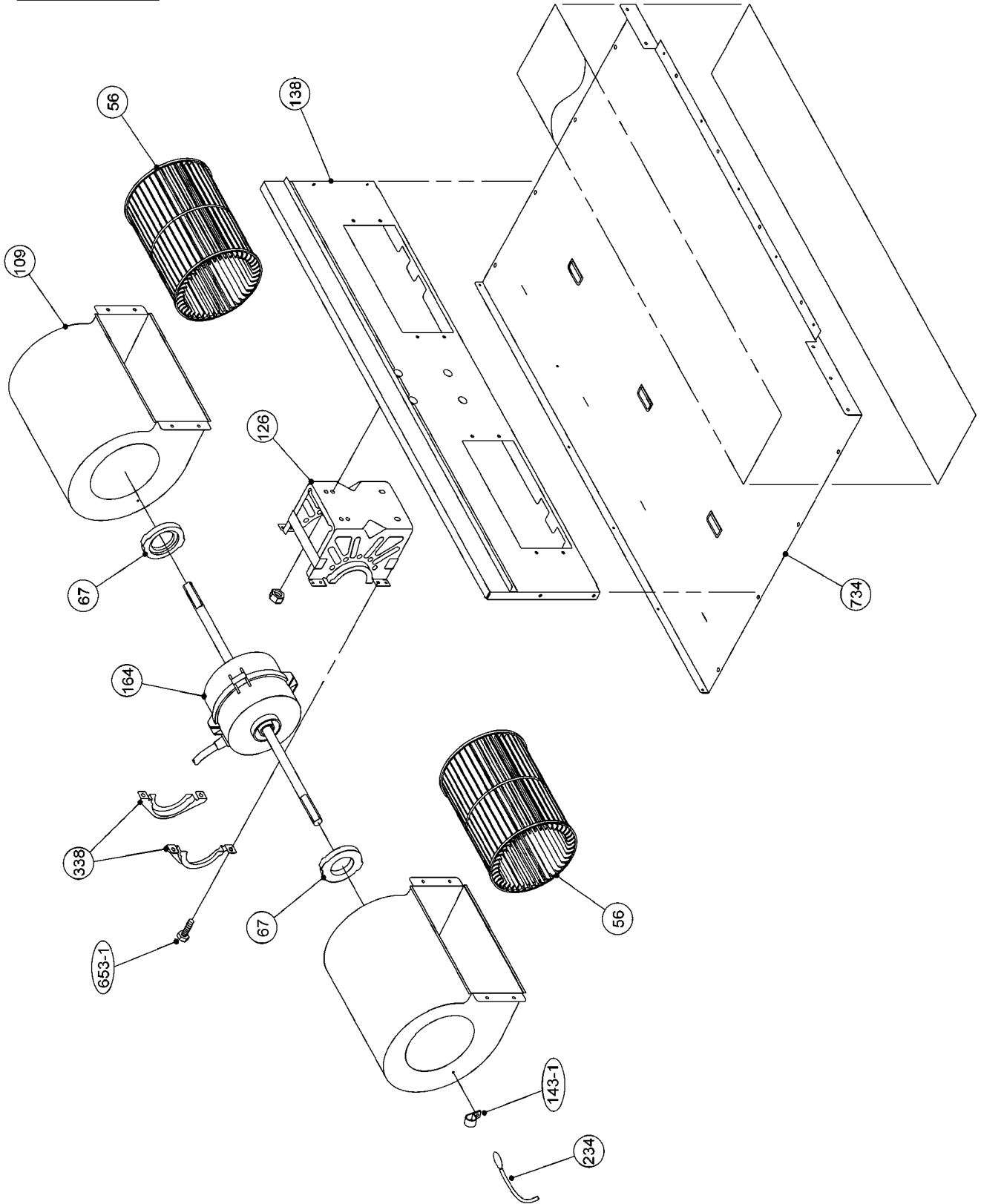


Models :  
ARY12LUAD  
ARY14LUAD  
ARY18LUAD

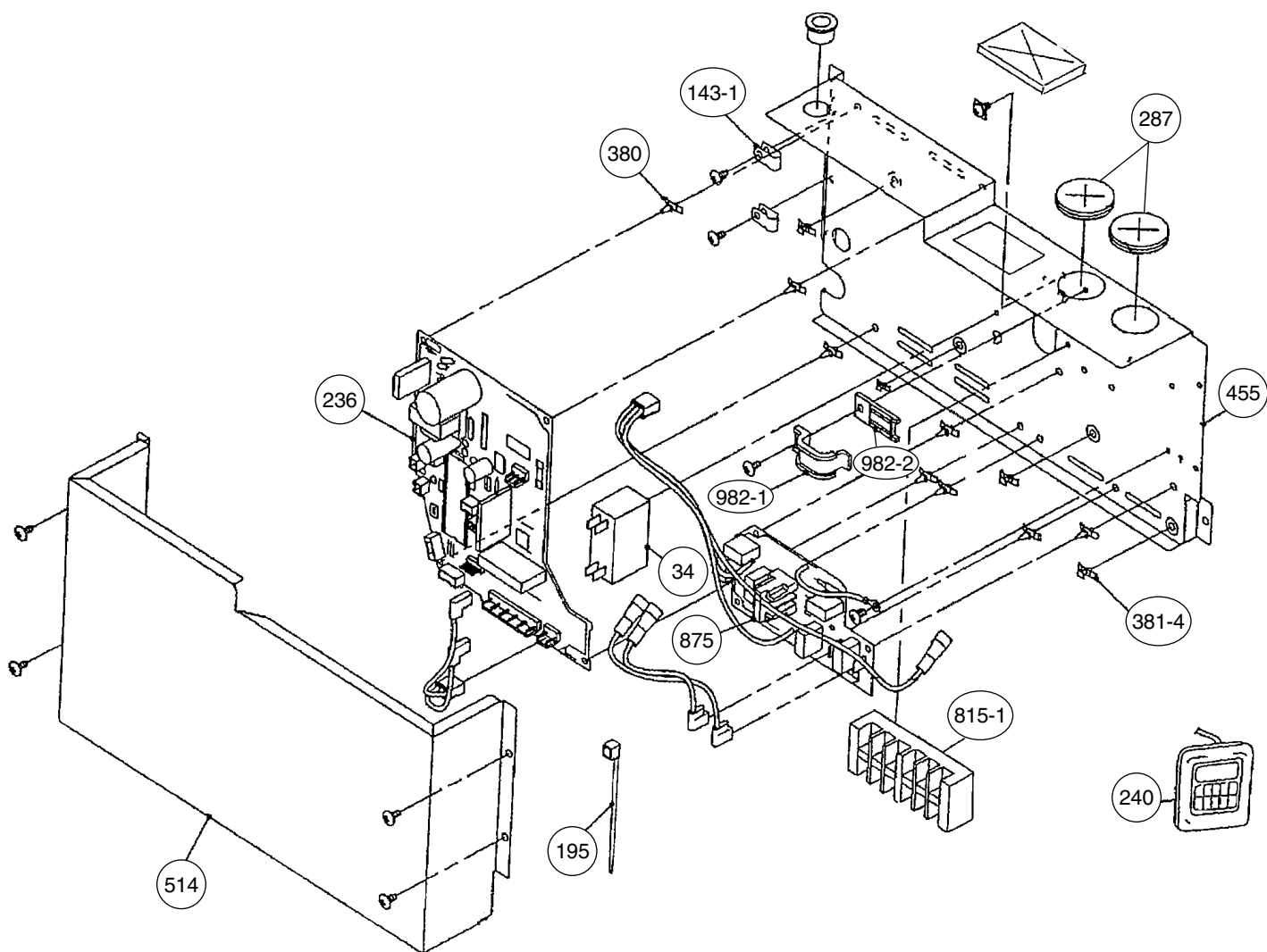




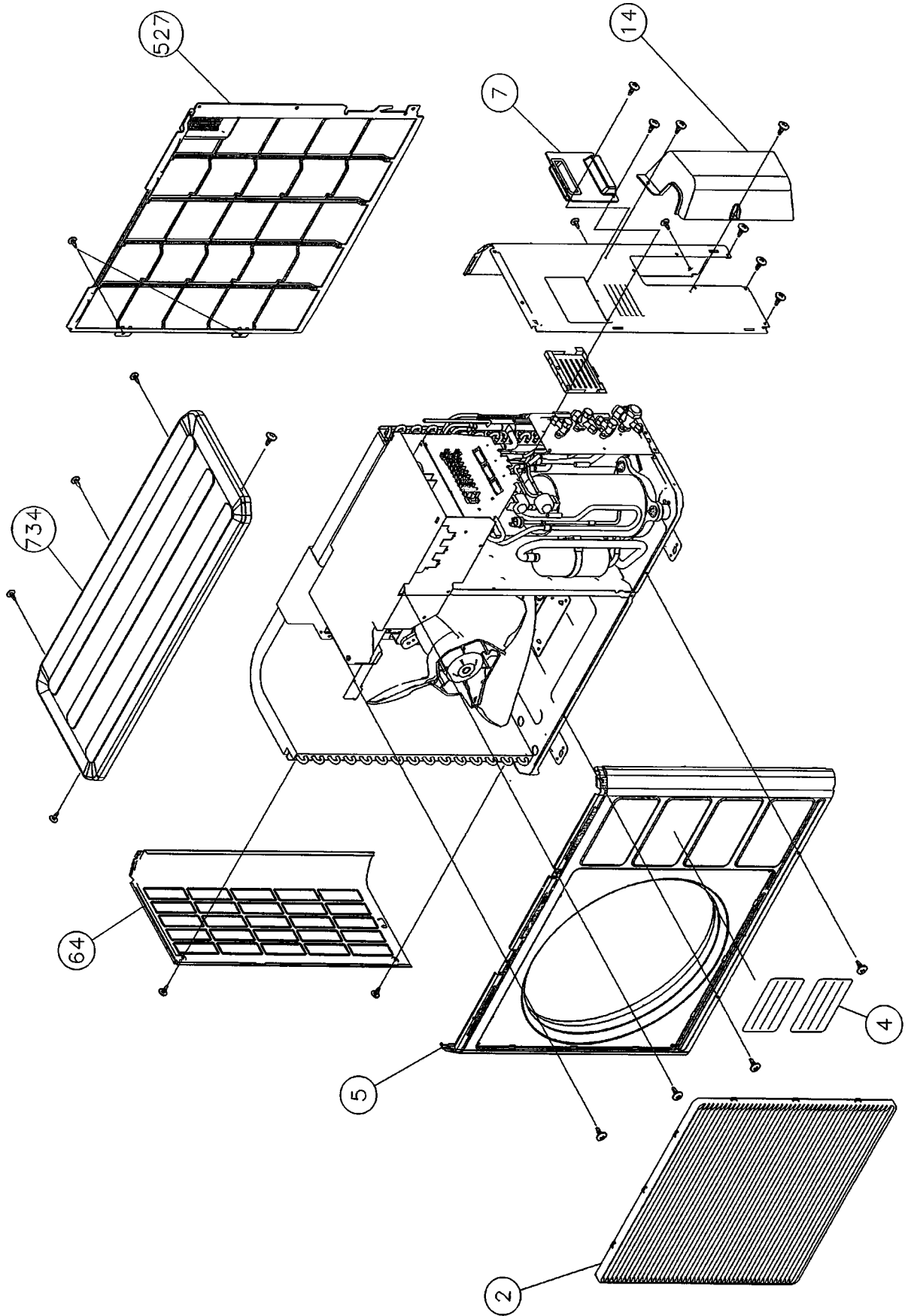
Models:  
ARY12LUAD  
ARY14LUAD  
ARY18LUAD



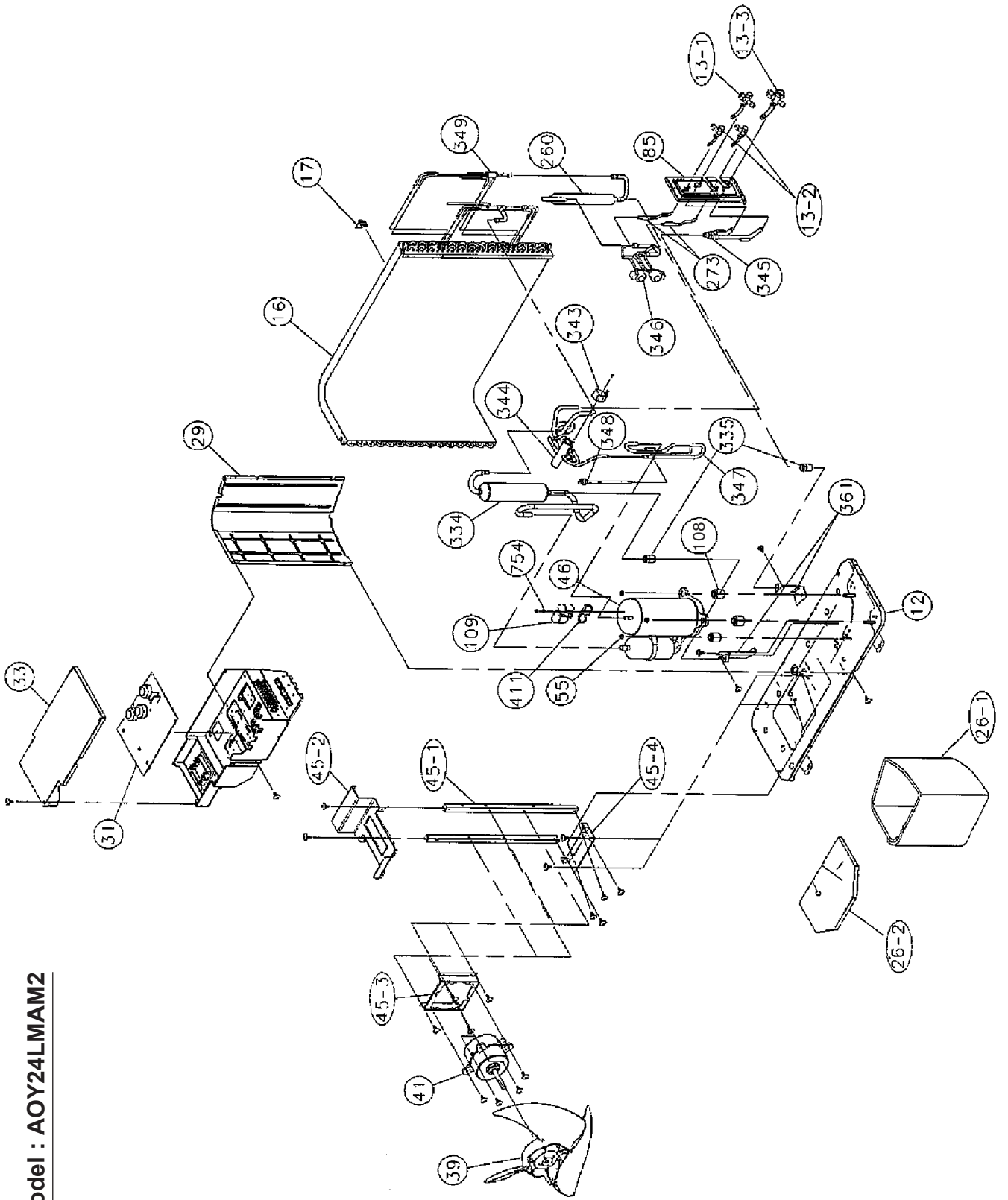
**Models :**  
**ARY9LUAB**  
**ARY12LUAD**  
**ARY14LUAD**  
**ARY18LUAD**



Model : AOY24LMAM2



**Model : AOY24LMAM2**



# PARTS LIST

## INDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty
		ARY9LUAB	
34	Fan Capacitor (2.5MF 450V)	9900270186	
56	Sirocco Fan Assy	9358621004	
63	Panel Assy Front	9363722000	
67	Rubber (Vibration-proof)	313659068604	
74	Air Filter	9366833017	
109	Casing Assy	9363322002	
126	Bracket (Motor) Assy	9358591000	
138	Panel Assy (Motor)	9363193008	
143-1	Clamp NK-3N	313361274700	
146	Evaporator Assy	9373255031	
147	Distributor Assy	9373034070	
160	Drain Pan Sub Assy	9364502014	
164	Motor, Induction (MFA-09NTAT)	9600778203	
173	Hook Metal	9363195002	
184-1	Thermostat Spring-A	313728262708	
195	Binder-C (SKB-100)	313361275805	
196-2	Binder-M (SKB-150)	313035356905	
232	Coupling Pipe Assy	9373038078	
234	Thermistor (Room)	9703299063	
235	Pipe Thermistor	9703297090	
236	Controller PCB Assy	9704557995 (K01AL-0413HSE-C1)	
240	Remote Control Unit (AR-3TA1)	9372266014	
244	Cover (Piping)	9363330007	
287	Cap (Power)	9352173011	
320-1	Wire Clamp Metal	313483219905	
338	Bracket (Motor)	9358594001	
380	Locking Spacer KGLS-6S	313209391403	
381-4	Spacer KGPS-6S	0600118075	
455	Control Box	9366299004	
464	Cabinet Cover Sub Assy	9364503011	
514	Control Box Cover	9363201000	
567	Support Plate (Eva. )	9363323009	
588-1	Bracket Eva. R	9363199000	
588-2	Bracket Eva. L	9363198003	
625	Cord Bush	9359240006	
734	Top Panel Sub Assy	9364507019	
761	Side Panel Right Sub Assy	9364505015	
762	Side Panel Left Sub Assy	9364506012	
815-1	Terminal 7P	9703403019	
875	Filter PCB Assy	9704561251	
982-1	Clamp (Cord)	9356857009	
982-2	Clamp (Cord)-B	9356858006	

## INDOOR UNIT

Ref. No.	Description	Part No.			Ord. Q'ty
		ARY12LUAD	ARY14LUAD	ARY18LUAD	
34	Capacitor (Fan Motor)	9900270179	9900270179	9900270179	
56	Sirocco Fan Assy	9358621004	9358621004	9358621004	
63	Front Panel Assy	9363723007	9363723007	9363723007	
67	Rubber (Vibration - proof)	313659068604	313659068604	313659068604	
74	Air Filter	9366833017	9366833017	9366833017	
109	Casing Assy	9363322002	9363322002	9363322002	
126	Motor Fixing Table Assy	9358591000	9358591000	9358591000	
138	Panel Assy (Motor)	9363401004	9363401004	9363401004	
143-1	Clamp NK-3N	313361274700	313361274700	313361274700	
146	Evaporator Assy	9373255024	9373255024	9373255017	
147	Inlet Pipe (Eva.) Assy	9373034063	9373034063	9373034056	
160	Drain Pan Assy	9364502021	9364502021	9364502021	
164	Fan Motor Assy (MFA-18NTT)	9600778210	9600778210	9600778210	
173	Hook Metal	9363195002	9363195002	9363195002	
184-1	Thermo. Spring-A	313728262708	313728262708	313728262708	
195	Clamp SKB-100	313361275805	313361275805	313361275805	
196-2	Clamp SKB-150	313035356905	313035356905	313035356905	
234	Thermistor Assy-Room	9703299018	9703299018	9703299018	
235	Thermistor Assy-Pipe	9703297090	9703297090	9703297090	
236	Controller PCB Assy	9704557988 (K01AL-0412HSE-C1)	9704557971 (K01AL-0411HSE-C1)	9704557957 (K01AL-040YHSE-C1)	
240	Remote Control Unit	9372266014	9372266014	9372266014	
244	Cover (Piping)	9363327007	9363327007	9363327007	
287	Cap (Power)	9352173011	9352173011	9352173011	
338	Motor Fixture	9358594001	9358594001	9358594001	
380	Locking Spacer	313209391403	313209391403	313209391403	
381-4	Spacer	0600118075	0600118075	0600118075	
455	Control Box	9366299004	9366299004	9366299004	
464	Cover (Cabinet)	9363400007	9363400007	9363400007	
514	Control Box Cover	9363201000	9363201000	9363201000	
568	Rubber Bushing	9357376004	9357376004	9357376004	
587	Support Plate (Eva.)	9363404005	9363404005	9363404005	
588-1	Bracket Eva. R	9363199000	9363199000	9363199000	
588-2	Bracket Eva. L	9363198003	9363198003	9363198003	
625	Cord Bushing	9359240006	9359240006	9359240006	
653-1	CUP SCREW	9385089020	9385089020	9385089020	
734	Panel Top	9363504002	9363504002	9363504002	
761	Side Panel-R Assy	9363507003	9363507003	9363507003	
762	Side Panel-L Assy	9363505009	9363505009	9363505009	
815-1	Terminal 7P	9703403019	9703403019	9703403019	
875	Filter PCB Assy	9704561251	9704561251	9704561251	
982-1	Cord Clamp	9356857009	9356857009	9356857009	
982-2	Cord Clamp-B	9356858006	9356858006	9356858006	

## OUTDOOR UNIT

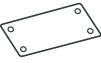
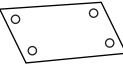












Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		AOY24LMAM2				AOY24LMAM2	
2	Fan Guard	9371187013		109	Terminal Cover (Comp)	9373264019	
4	Emblem	9351355005		187	Clip (Cable)	9352715006	
5	Front Panel Painted	9371924014		199	Br Sheet	9363708042	
7	Connecteur Cover (Cabinet)	9366398004		218-3	Relay	9900117016	
12	Base Assy, Painted	9371920078		260	Receiver Tank Assy	9373426011	
13-1	3-Way Valve	9372205044		273	Strainer Assy	9366602019	
13-2	2-Way Valve	9372204054		334	Accumlator	9368391003	
13-3	3-Way Valve	9372205051		335	Accumlator Holder Rubber	9354022010	
14	Valve Cover	9372796016		343	Solenoid	9900165079	
15	Condenser Sub Assy	9372313121		344	4-Way Valve	9900163013	
16	Condenser Assy	9372181096		345	Joint Pipe (3Way) Assy	9373729129	
17	Thermister Holder Pipe	313714262805		346	Expansion Valve Assy	9373729068	
26-1	Compressor Cover A	9373730019		347	Discharge Pipe Assy	not available	
26-2	Compressor Cover B	9373730026		348	Pressur Switch Assy	9373729044	
29	Separate Wall	9372795019		349	Capillary Assy	9373729211	
31	PWB Assy	9705285019		361	Accum Support Assy	9372252017	
33	Control Cover	9372792018		411	Gasket	9373266013	
39	Propeller Fan Assy	9366378013		527	Protective Net	9371934013	
41	Motor Induct	9601671046		734	Top Plate	9371925011	
45-1	Motor Bracket	9371929019		735-3	Capillary Assy	9373729211	
45-2	Motor Bracket-Top	9371931012		754	Washer (Rubber)	9358078006	
45-3	Motor Bracket-Ctr	9371930015		---	Compressor pressure switch	9900186012	
45-4	Motor Bracket-Bottom	9371932019		---	Compressor thermal switch	9373263012	
46	Compressor Assy	9373262015		---	Thermistor Valve	9900194017	
55	Special Nut M8	9355091008		---	Thermistor discharge	9704219039	
64	Side Panel L Ptd	9371926018		---	Heat exchanger thermistor	9704220059	
69-3	Bolt, hex, Socket	301210060360		---	Thermistor outdoor	9703516047	
85	Valve Plate Ptd	9371928036		---	Thermistor heat sink	9900195014	
108	Rubber Seat (Comp)	9358080009					

## Inverter Assy

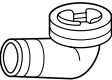


Ref. No.	Description	Part No.	Ord. Q'ty
31	Controller PCB Assy	9705285019	
---	ACTPM	9703457012	
---	Capacitor for PCB	9705387010	
---	Fan Capacitor	9900270049	
---	Fuse	0600086039	
---	Terminal 8P	9900203047	
---	Fuse Holder	0501454012	
---	Terminal 2P	9701971015	

# STANDARD ACCESSORIES

## INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.
Installation template 	1	For positioning the indoor unit	ARY9LUAB 9364224008
Installation template 	1	For positioning the indoor unit	ARY12, 14, 18LUAD 9364225005
Hanger 	4	For suspending the indoor unit from ceiling	9363195002
Tapping screw (φ 4 x 10) 	8	For installing the hanger	301171164104
Special nut A (large flange) 	4	For suspending the indoor unit from ceiling	313005446653
Special nut B (small flange) 	4		313005446759
Coupler heat insulation (large) 	1	For indoor side pipe joint (large pipe)	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)	9352766015
Binder 	(Small) 1	For remote controller and remote controller cord binding	313361275805
	(Large) 4	For fixing the coupler heat insulation	312300787605
Remote controller 	1	Heat & Cooling model	9372266014
Remote controller cord 	1	For connecting the remote controller	9372714010
Tapping screw (φ 4 x 16) 	2	For installing the remote controller	0700181108
Filter 	3	For installing to indoor unit	9366833017
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

## OUTDOOR UNIT ACCESSORIES

Name and Shape	Part No.
Drain pipe 	9303029015
Drain cap 	313166024302
Adapter D (1/2" → 3/8") 12.7mm → 9.52mm 	9370244007



0506G2869