

SPLIT TYPE AIR CONDITIONER DUCT type (50Hz)

SERVICE MANUAL



Models

Indoor unit

ARY25FUAN

ARY25FUAN

ARY25UUAN

ARY25UUAN

Outdoor unit

AOY25FNAKL

AOY25FNANL

AOY25UNAKL

AOY25UNANL

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SPECIFICATIONS

TYPE	COOLING	COOL & HEAT
INDOOR UNIT	ARY25FUAN	ARY25UUAN
OUTDOOR UNIT	AOY25FNAKL AOY25FNANL	AOY25UNAKL AOY25UNANL
COOLING CAPACITY	7.05 kW	7.00 kW
HEATING CAPACITY	-----	7.70 kW

ELECTRICAL DATA

POWER SOURCE		230 V	
FREQUENCY		50 Hz	
RUNNING CURRENT	COOLING	11.5 A	11.8 A
	HEATING	-----	10.5 A
INPUT WATTS	COOLING	2.60 kW	2.65 kW
	HEATING	-----	2.33 kW
E.E.R.	COOLING	2.71 kW/kW	2.64 kW/kW
	HEATING	-----	3.30 kW/kW
STARTING CURRENT		60 A	
MOISTURE REMOVAL		2.5 L/hr	

Note :
The above list shows values at the external static pressure of 98Pa (10mm Ag), setting the fan speed high notch.

FAN SPEED	DISCRIMINATION		MFA-30PTT	
	INDOOR	HIGH	1,200 r.p.m.	
		MED	1,120 r.p.m.	
		LOW	1,030 r.p.m.	
	OUTDOOR		780 r.p.m.	
AIR FLOW	INDOOR		1,100 m³/hr	
	OUTDOOR		3,200 m³/hr	
DIMENSIONS H x W x D	INDOOR		270 x 1,135 x 700 mm	
	OUTDOOR		650 x 830 x 320 mm	
WEIGHT NET / GROSS	INDOOR		43 kg / 50 kg	
	OUTDOOR		58 kg / 62 kg	59 kg / 63 kg
MAX PIPE LENGTH			25 m	
MAX PIPE HEIGHT			15 m	
REMOTE CONTROLLER TYPE			WIRED	

Note :
The above list shows values at the external static pressure of 98Pa (10mm Ag), setting the fan speed high notch.

NOISE LEVEL

INDOOR UNIT	HI-SPEED	38 dB	
	MED-SPEED	36 dB	
	LO-SPEED	34 dB	
OUTDOOR UNIT	COOLING	53 dB	53 dB
	HEATING	----	54 dB

Note : Static pressure : 100Pa
Duct length : Inlet 1m, Outlet 2m

COMPRESSOR

TYPE		Hermetic type, 2 pole, Single phase, Induction motor, Rotary	
DISCRIMINATION		5JS290DAA	
REFRIGERANT	R410A	1,550 g	2,000 g

REFRIGERANT CHARGE (R410A)

FULL CHARGE	Pipe Length	7.5 m (24 ft.)	1,550 g (54.7 oz)	2,000 g (70.6 oz)
		10 m (33 ft.)	1,600 g (56.4 oz)	2,100 g (74.1 oz)
		15 m (49 ft.)	1,700 g (60.0 oz)	2,300 g (81.1 oz)
		20 m (66 ft.)	1,800 g (63.5 oz)	2,500 g (88.2 oz)
		25 m (82 ft.)	1,900 g (67.0 oz)	2,700 g (95.2 oz)
ADDITIONAL REFRIGERANT		20 g / m (0.212 oz / ft.)		40 g / m (0.424 oz / ft.)

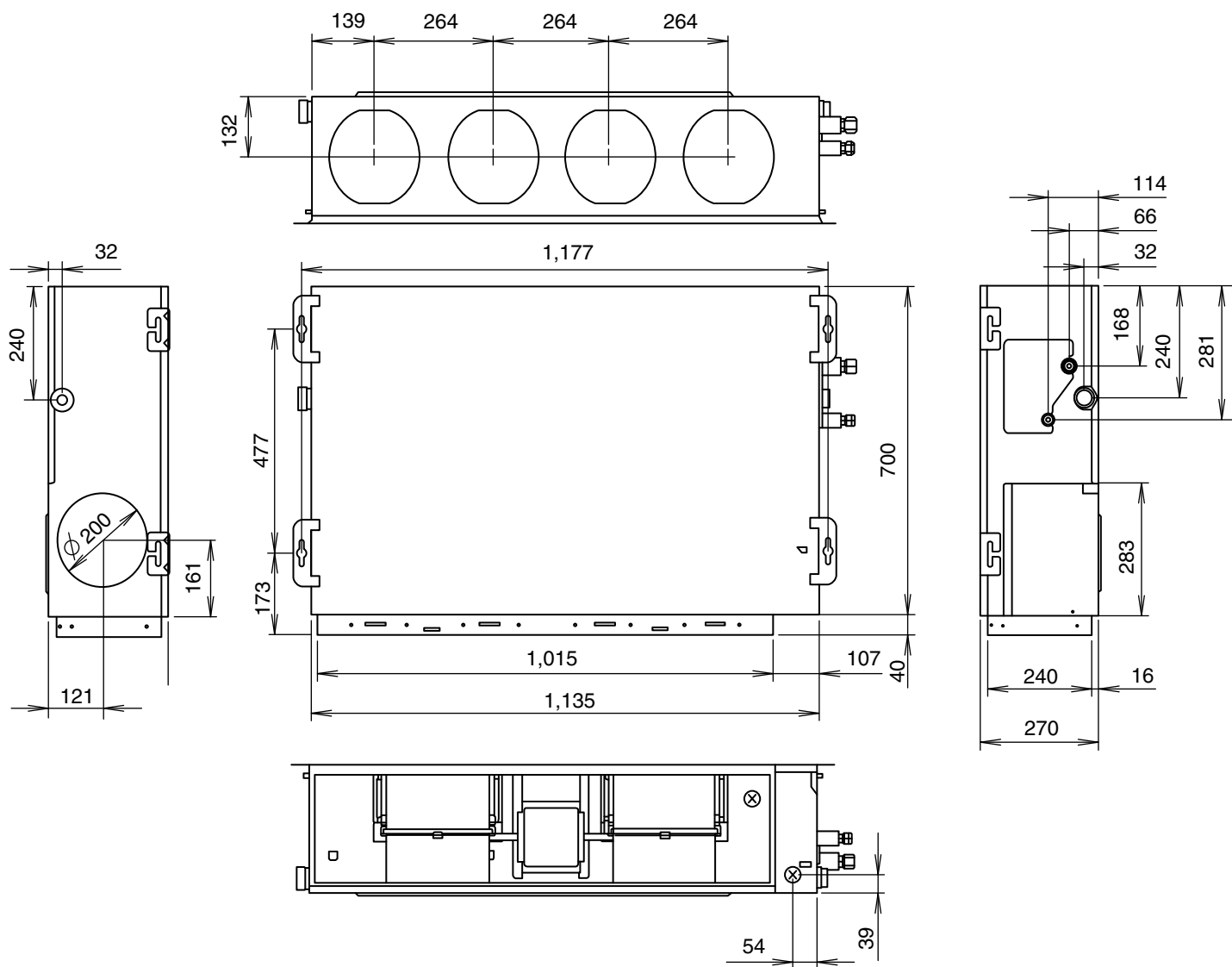
When you dismantle indoor units which are installed,
take care not to make parts fall down, especially motors.

DIMENSIONS

INDOOR UNIT

Models : ARY25FUAN, ARY25UUAN

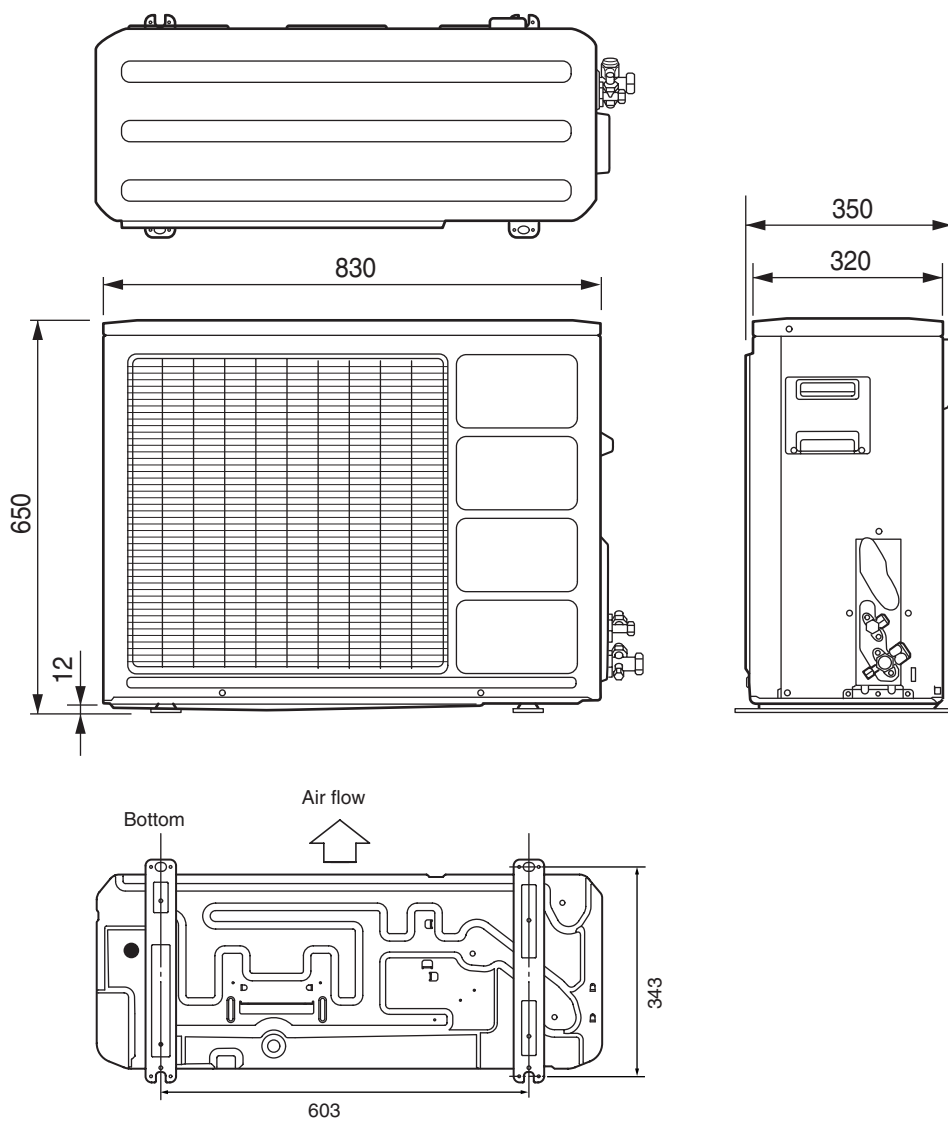
(Unit : mm)



OUTDOOR UNIT

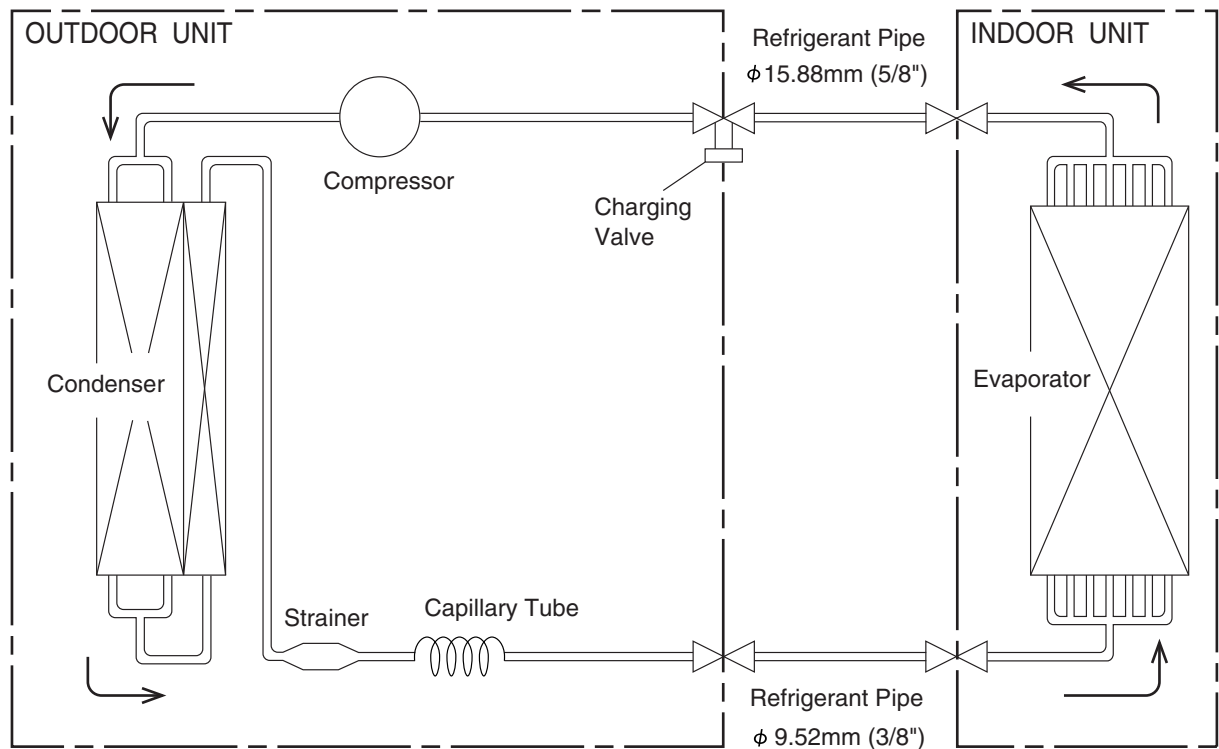
Models :
 AOY25FNAKL
 AOY25FNANL
 AOY25UNAKL
 AOY25UNANL

Unit : (mm)

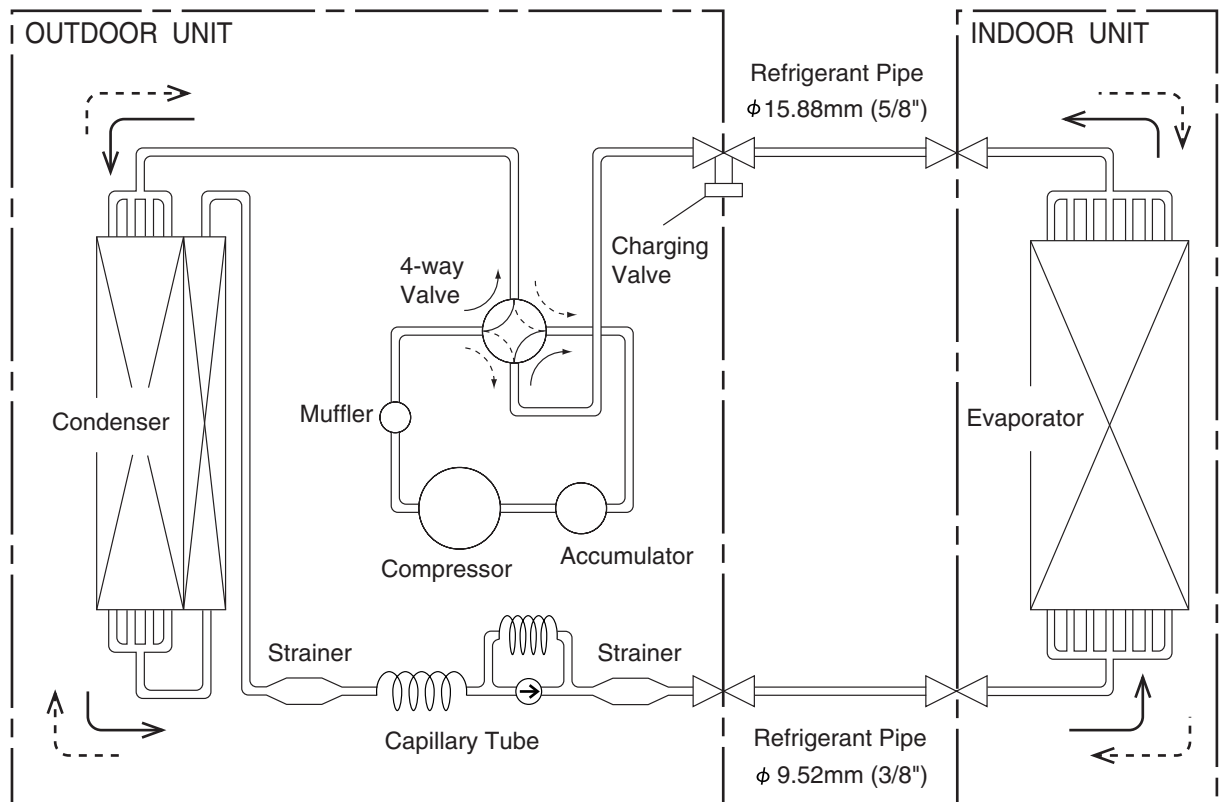


REFRIGERANT SYSTEM DIAGRAM

Models :
 ARY25FUAN / AOY25FNAKL
 ARY25FUAN / AOY25FNANL



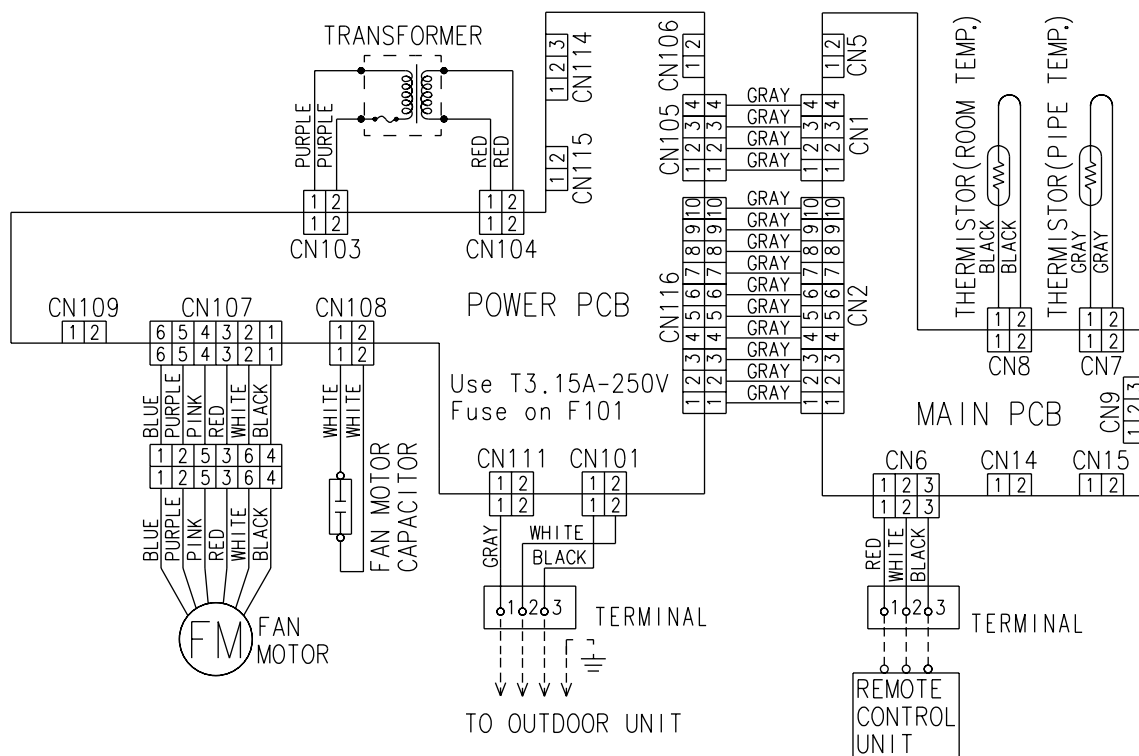
Models :
 ARY25UUAN / AOY25UNAKL
 ARY25UUAN / AOY25UNANL



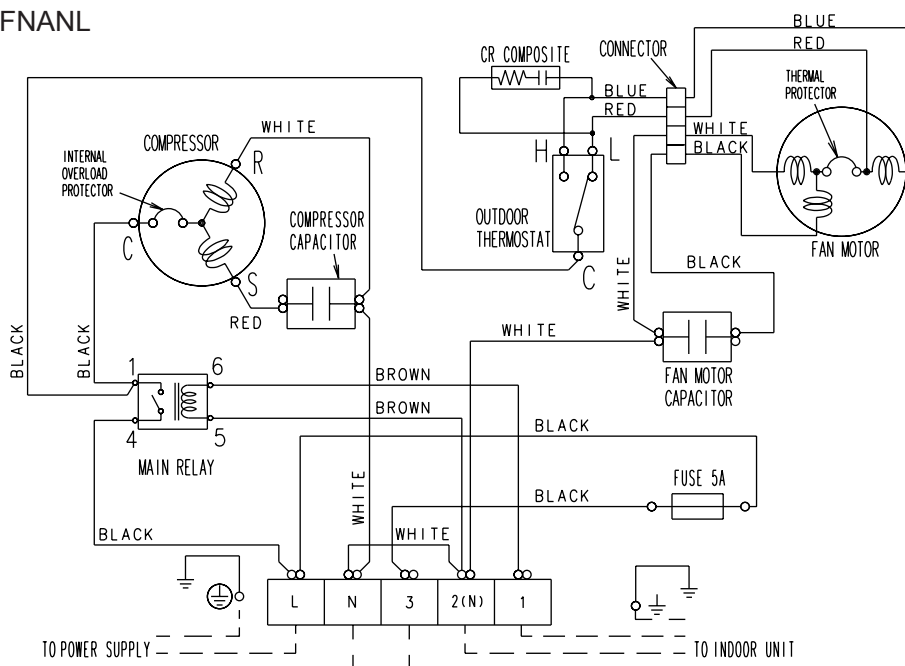
.....➔ Heating
 ———➔ Cooling
 ⊗ : Flare coupling

CIRCUIT DIAGRAM

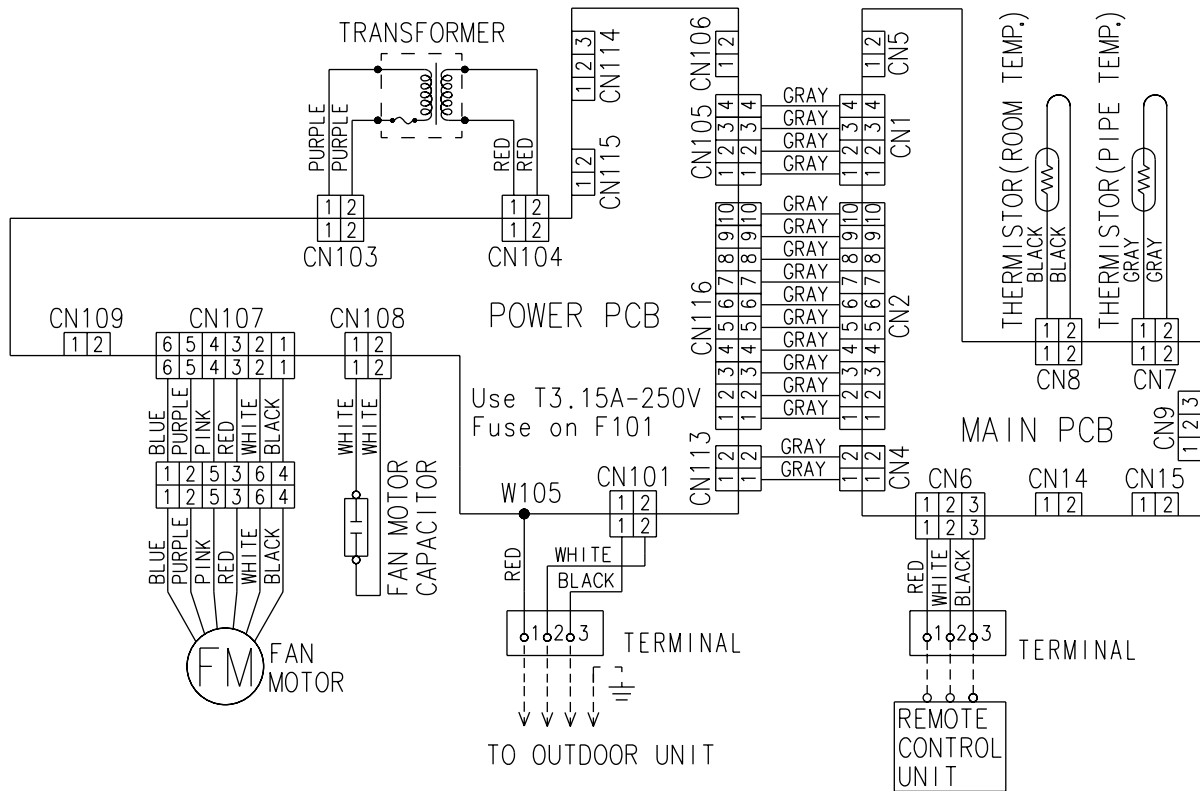
Model : ARY25FUAN



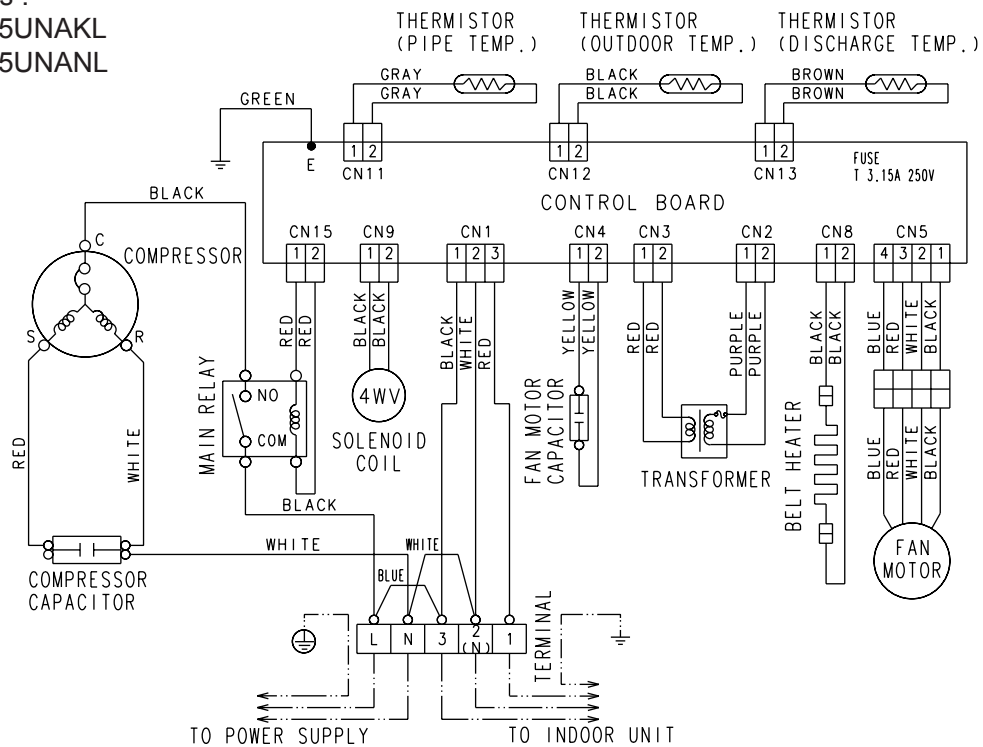
Models :
AOY25FNAKL
AOY25FNANL



Model : ARY25UUAN



Models :
AOY25UNAKL
AOY25UNANL

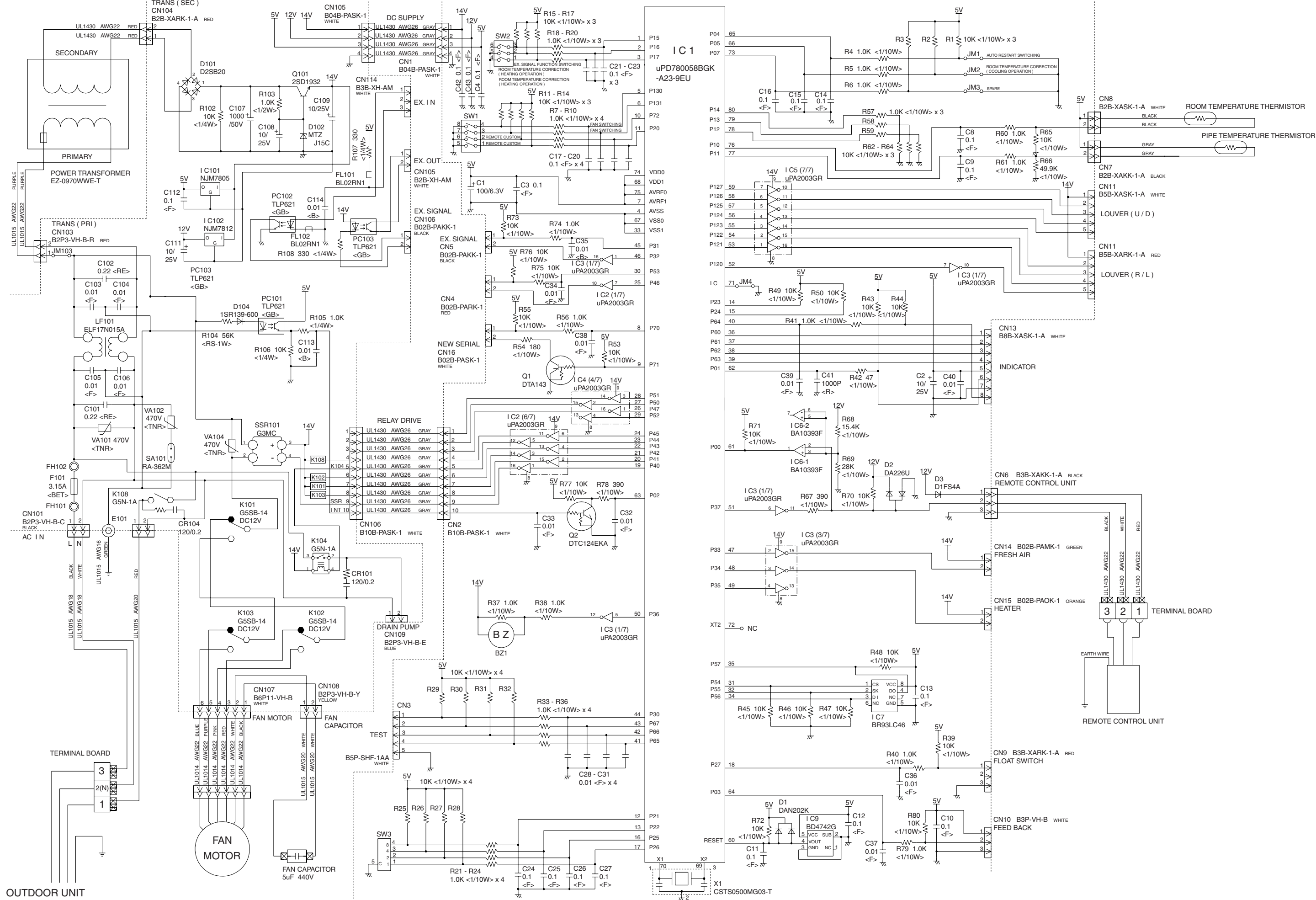


INDOOR PCB CIRCUIT DIAGRAM

Model : ARY25FUAN

POWER SUPPLY PCB
K03CA-0401WSE-P0

CONTROLLER PCB ASSEMBLY
K03BZ-0408WSE-C1



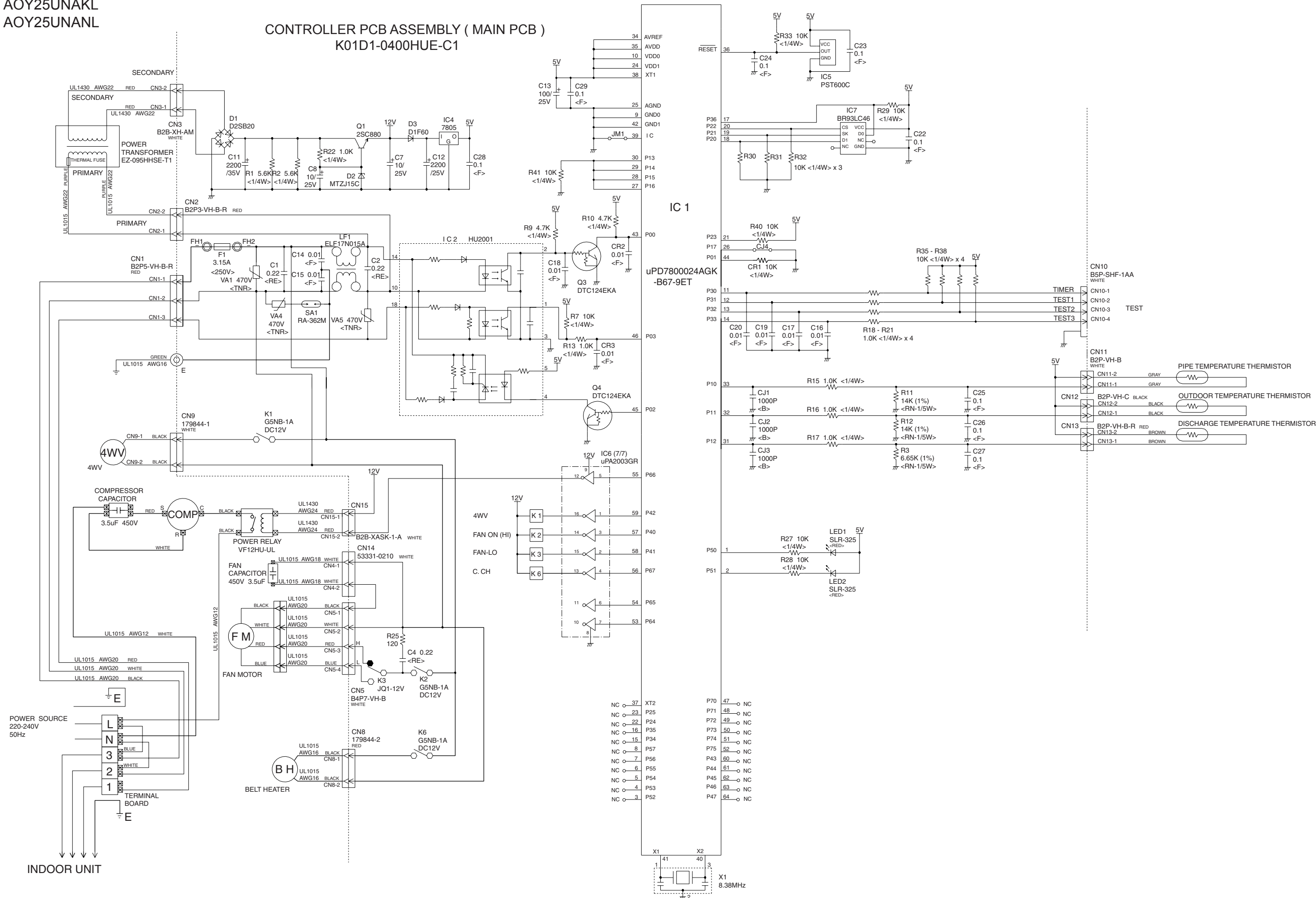
POWER SUPPLY PCB
K03CA-0400HSE-P0

IC 1



OUTDOOR PCB CIRCUIT DIAGRAM

Models :
AOY25UNAKL
AOY25UNANL



SWITCH FUNCTION

■ DIP SWITCH SETTING

1-1 Low static pressure function setting

In case of installing in low static , you can minimize air flow and noise.

(◆ . . . Factory setting)

◆	SW1-1	SW state
	OFF	Normal
	ON	Low static pressure

1-2 Dip SW 1-2,1-3,1-4 setting forbidden

(◆ . . . Factory setting)

◆	SW1-2	OFF
◆	SW1-3	OFF
◆	SW1-4	OFF

2-1 Room temperature correct coefficient of heating.

Decide the heating temperature correct coefficient vale of heating.

HEAT TEMPERATURE CORRECTION (◆ . . . Factory setting)

◆	SW2-1	SW state
	OFF	+4 deg (Ceiling setting)
	ON	0 deg (Room setting)

2-2 External input select edge/pulse

This switch is used to select the format of external input command as shown in the table below.

(◆ . . . Factory setting)

◆	SW2-2	SW state
	OFF	Edge
	ON	Pulse

2-3 Auto restart setting

Auto restart function can be selected by turning this switch ON/OFF.

AUTORESTART SETTING (◆ . . . Factory setting)

◆	SW2-3	SW state
	OFF	Validity
	ON	Invalidity

■ ROTARY SWITCH SETTING

This switch can be used when group control system.

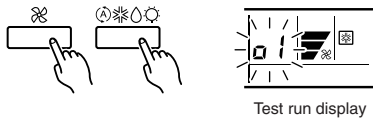
Set the indoor unit address in the 1,2,-,15 order.

(◆ . . . Factory setting)

◆	SW3	SW state
	0	single
	1-15	Indoor unit address

ERROR CONTENTS

- (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.



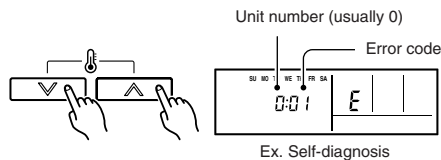
- (3) Press the start/stop button to stop the test run.

[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 Δ / ∇ 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 Δ / ∇ simultaneously for 5 seconds or more to stop the self-diagnosis.

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

2. OUTDOOR UNIT LEDS

When the outdoor temperature drops, the outdoor units fans may switch to low speed.

ERROR : HEAT & COOL MODEL (REVERSE CYCLE) ONLY

The LED lamps operate as follows according to the error contents.

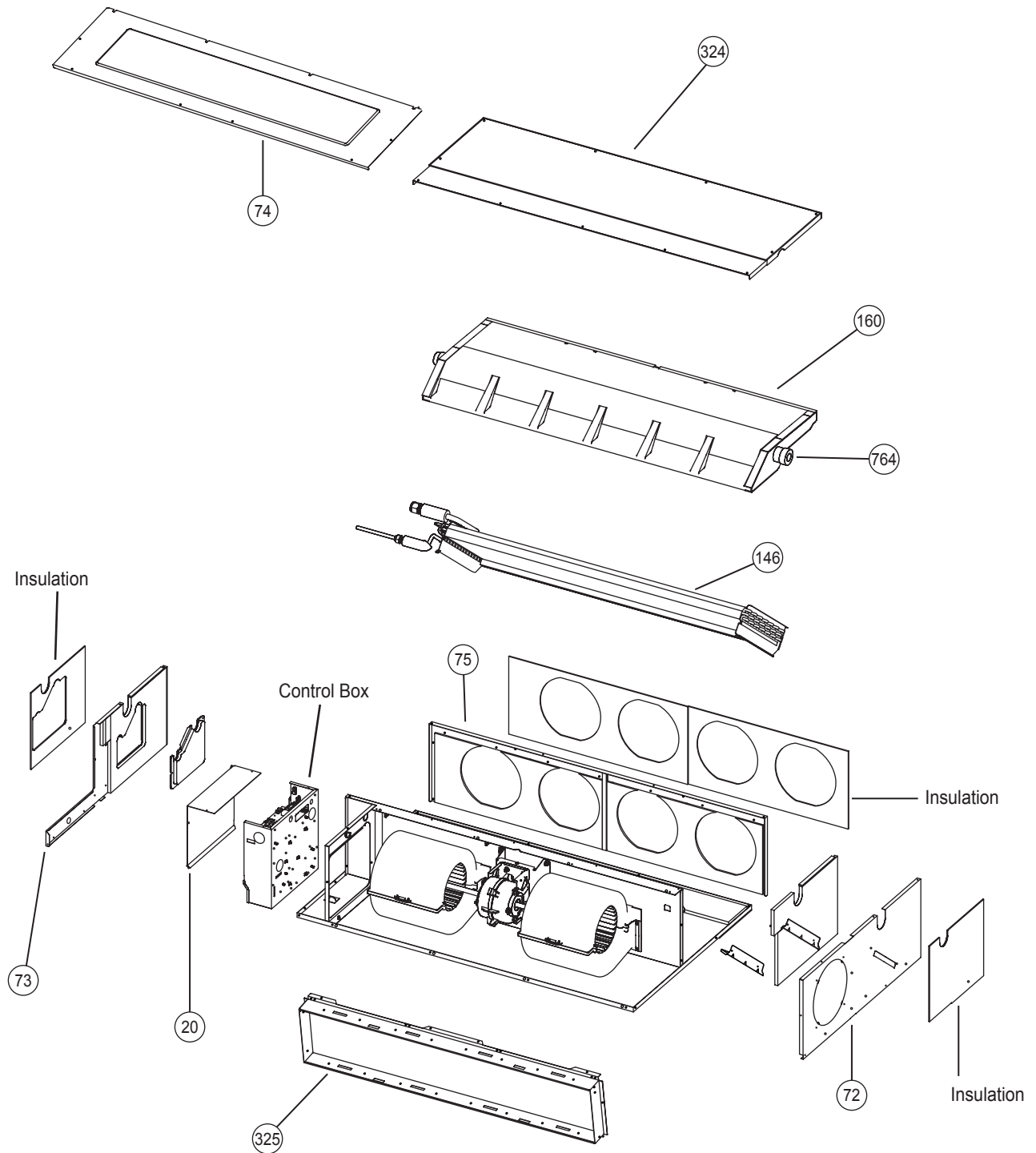
Error display		
LED1	LED2	Error contents
Quick flash continued	Quick flash continued	Model abnormal or EEPROM abnormal
1 quick flash repeated	Lighting continued	Power source connection error
2 quick flash repeated	Lighting continued	Discharge temperature sensor error
3 quick flash repeated	Lighting continued	Outdoor heat exchanger temperature sensor error
4 quick flash repeated	Lighting continued	Outdoor temperature sensor error
5 quick flash repeated	Lighting continued	Communication signal error
6 quick flash repeated	Lighting continued	Indoor unit error
7 quick flash repeated	Lighting continued	Discharge temperature abnormal
8 quick flash repeated	Lighting continued	High pressure abnormal

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

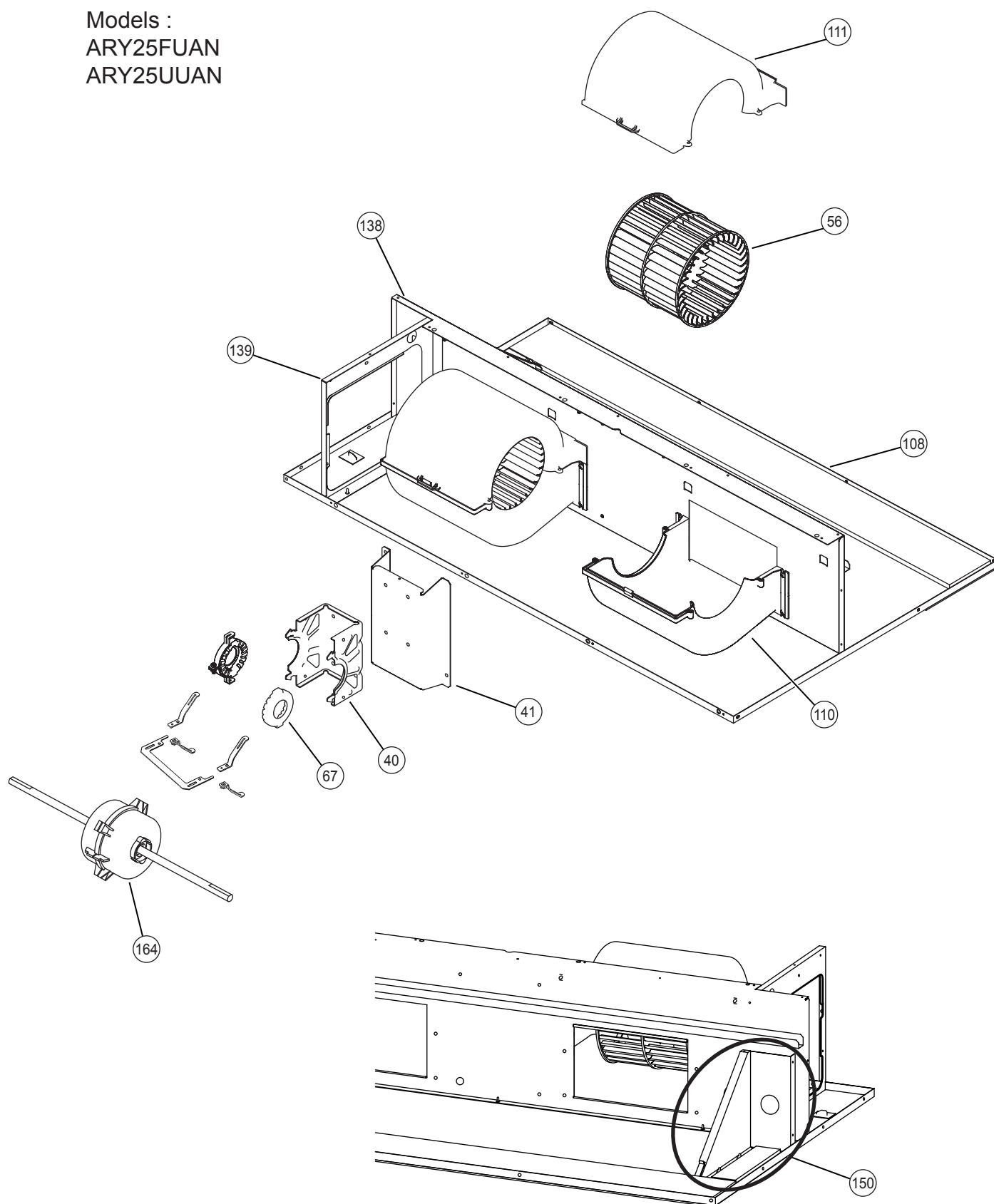
However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

DISASSEMBLY ILLUSTRATION

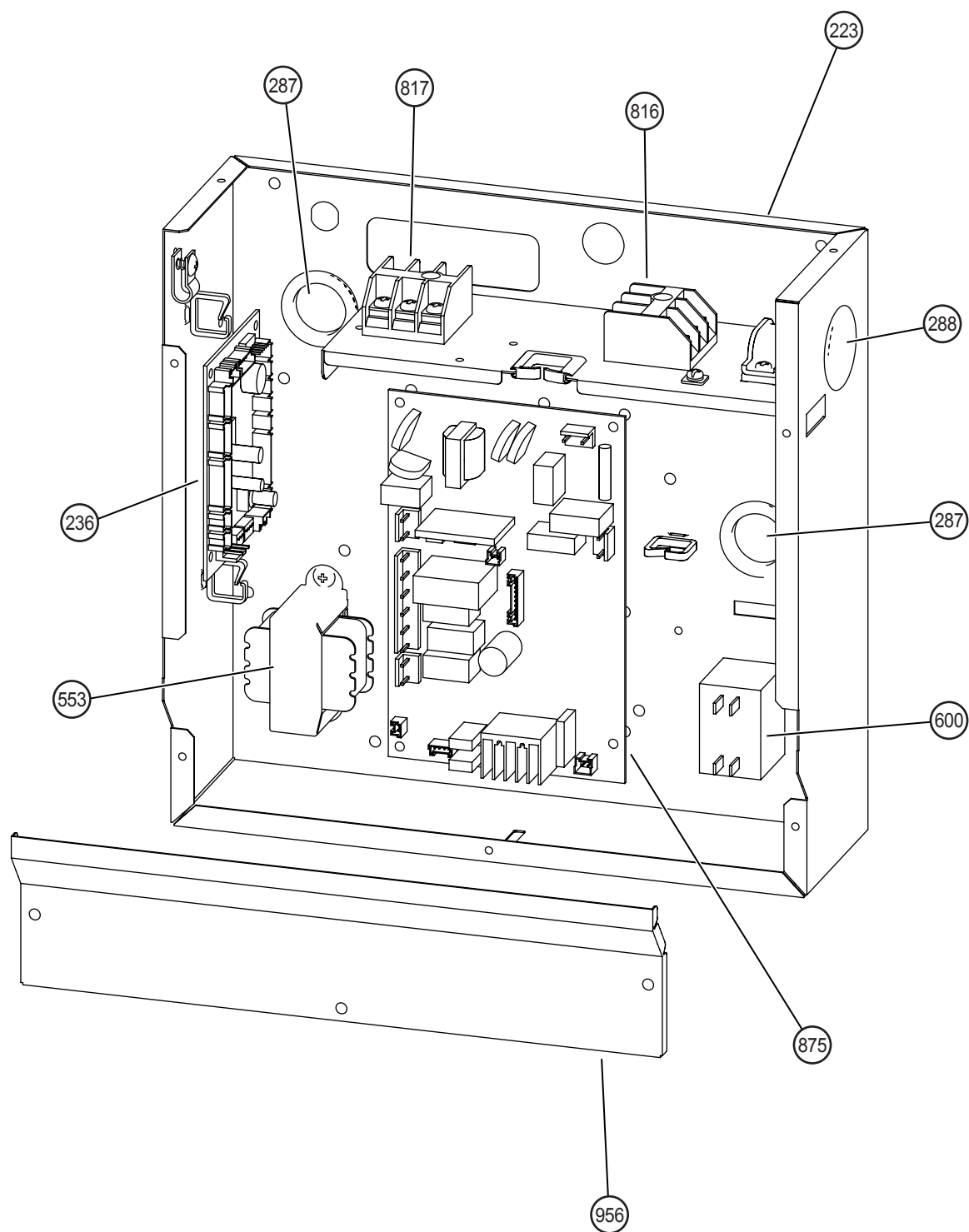
Models :
ARY25FUAN
ARY25UUAN



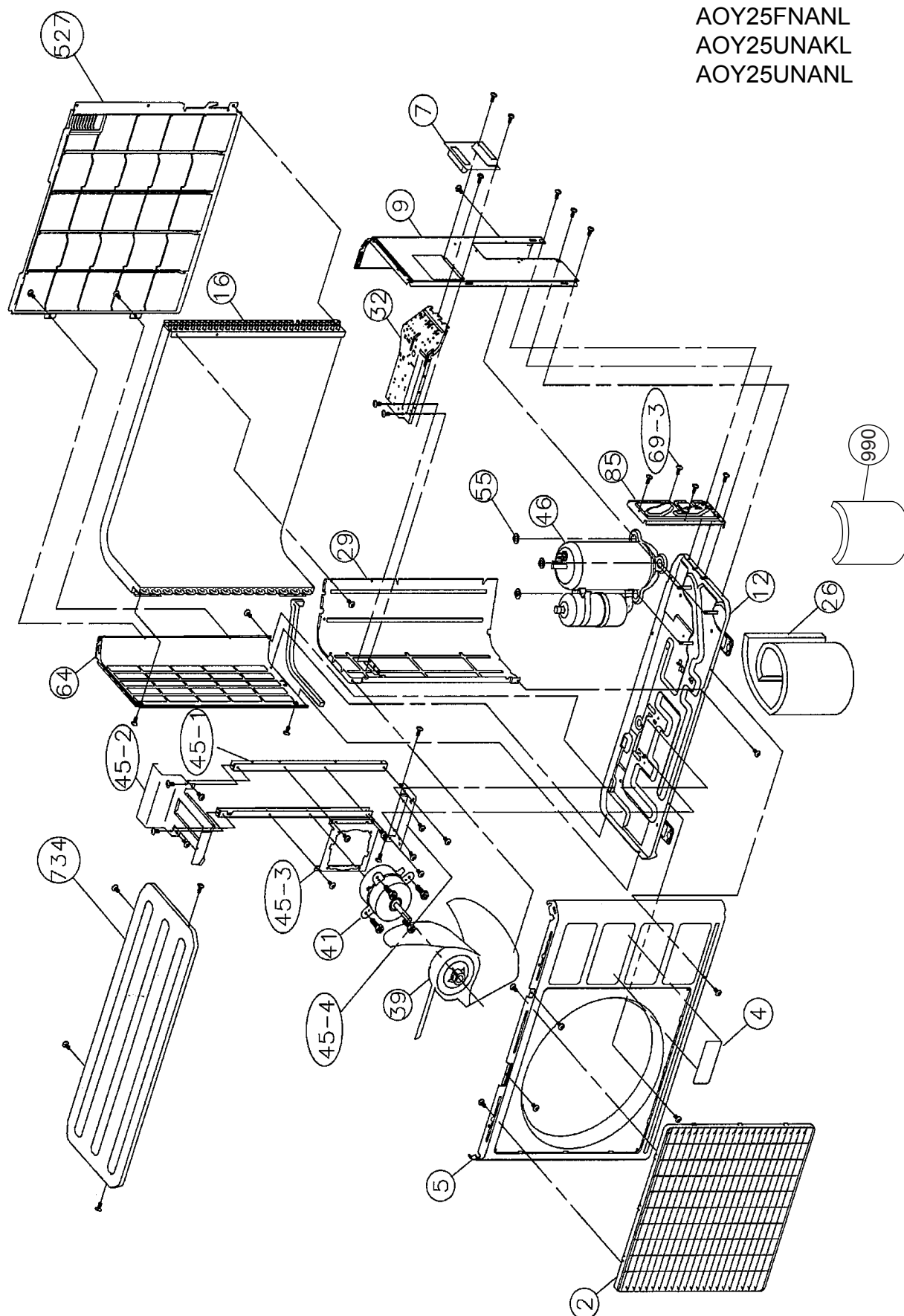
Models :
ARY25FUAN
ARY25UUAN



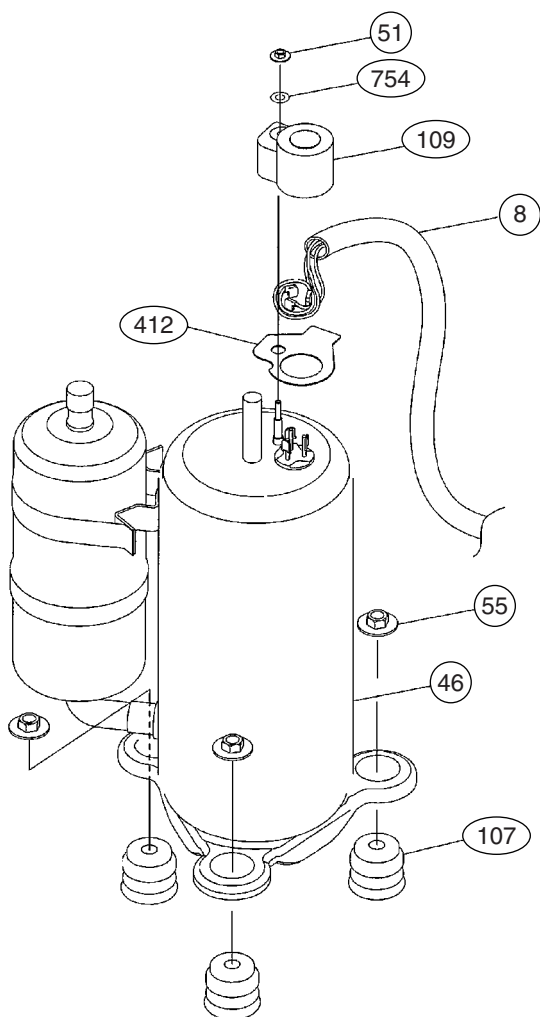
Models :
ARY25FUAN
ARY25UUAN



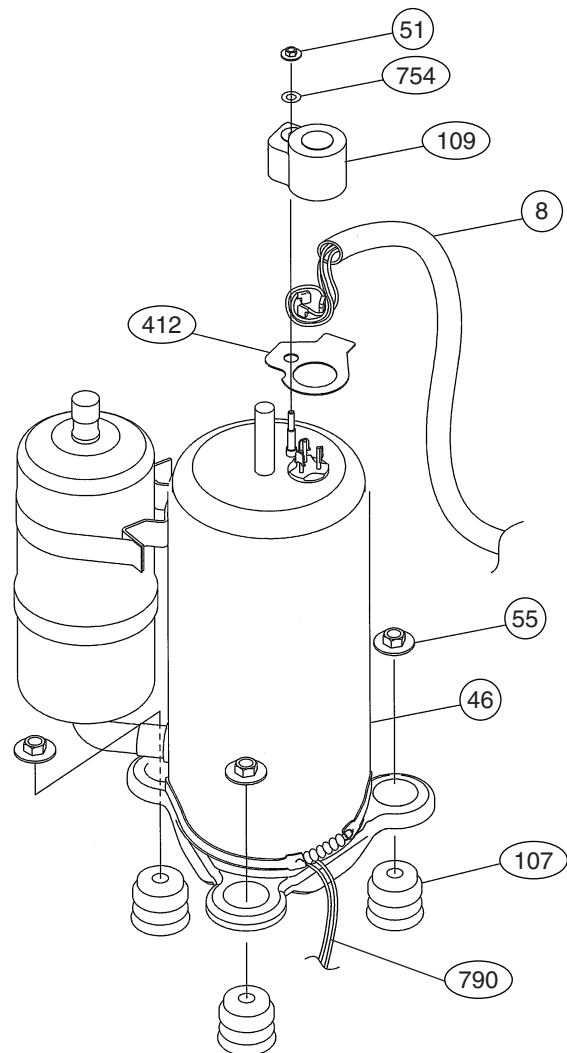
Models :
 AOY25FNAKL
 AOY25FNANL
 AOY25UNAKL
 AOY25UNANL



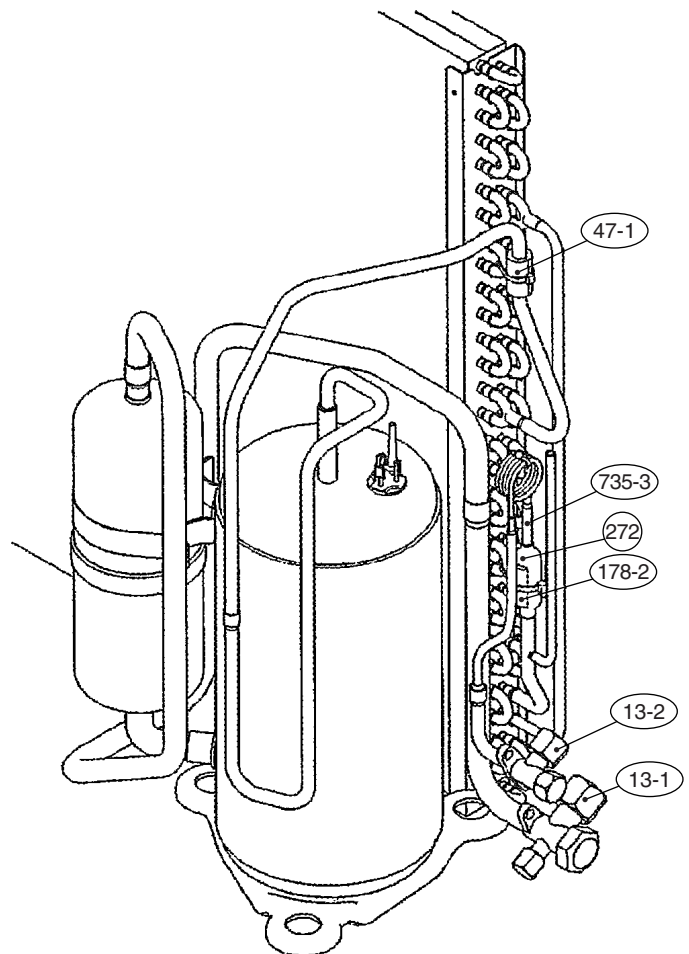
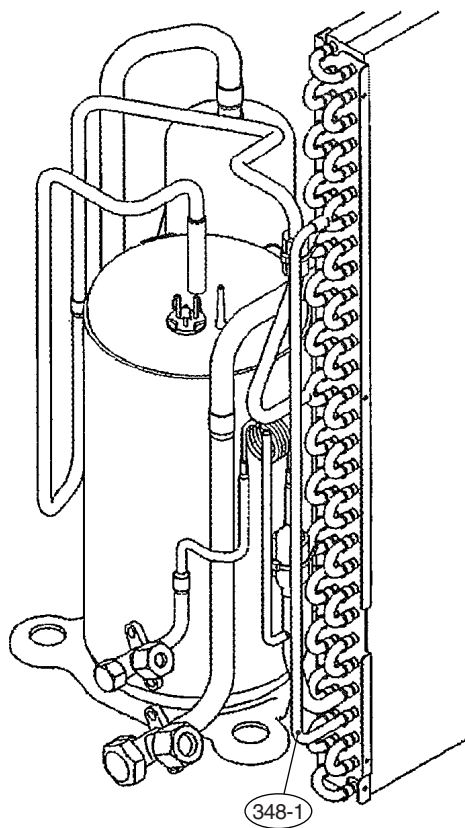
Models :
AOY25FNAKL
AOY25FNANL



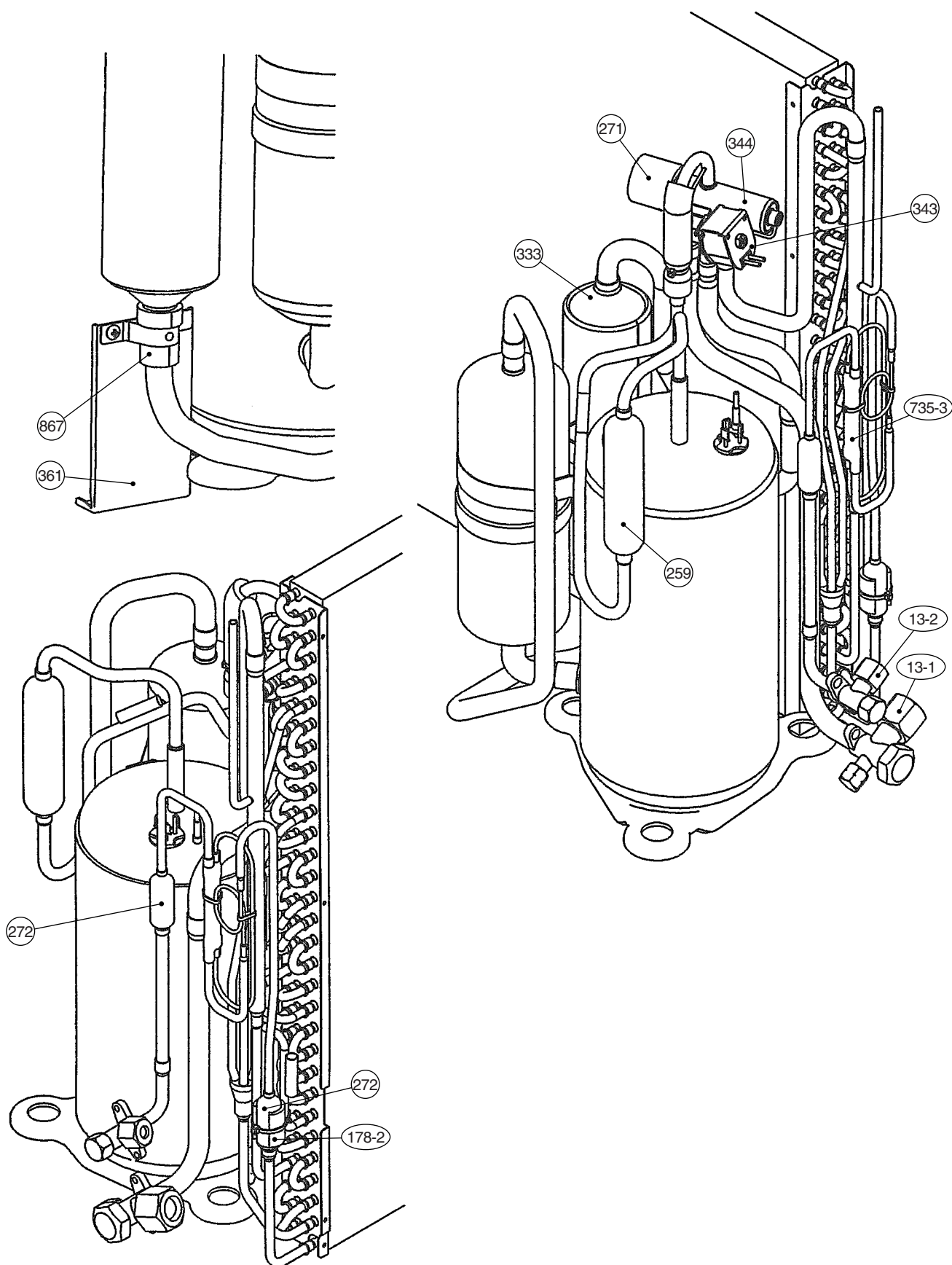
Models :
AOY25UNAKL
AOY25UNANL



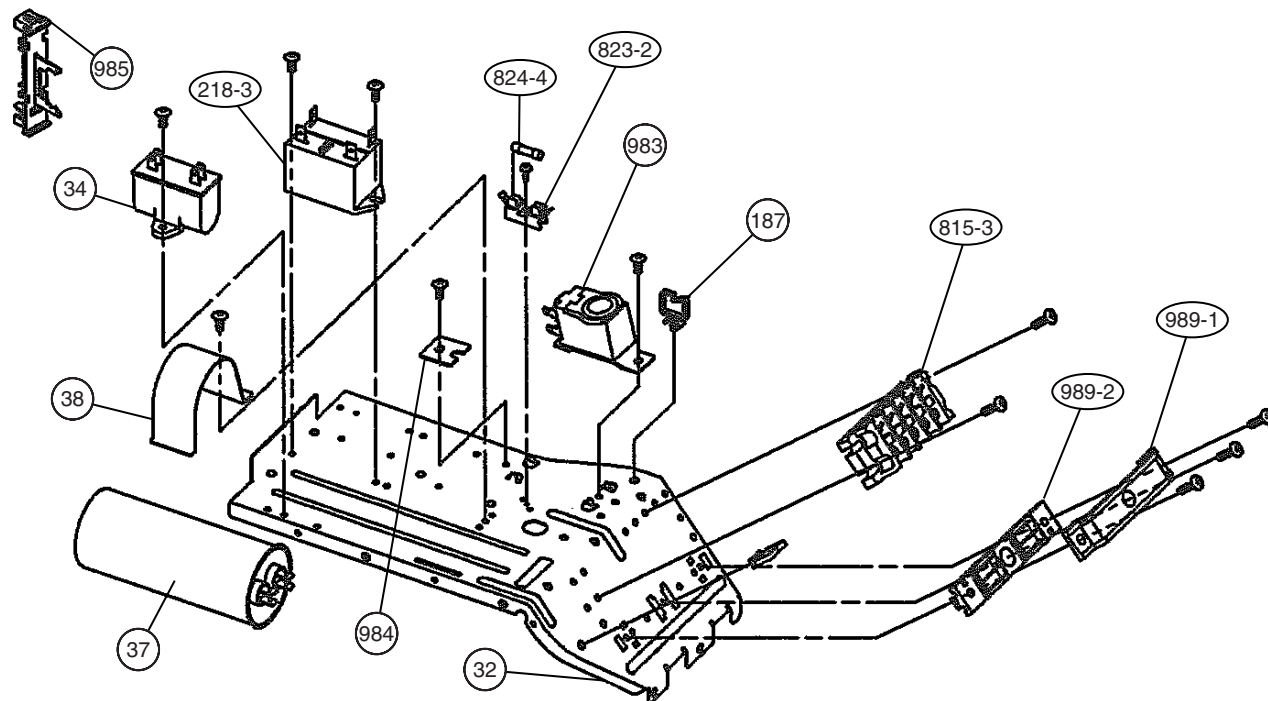
Models :
AOY25FNAKL
AOY25FNANL



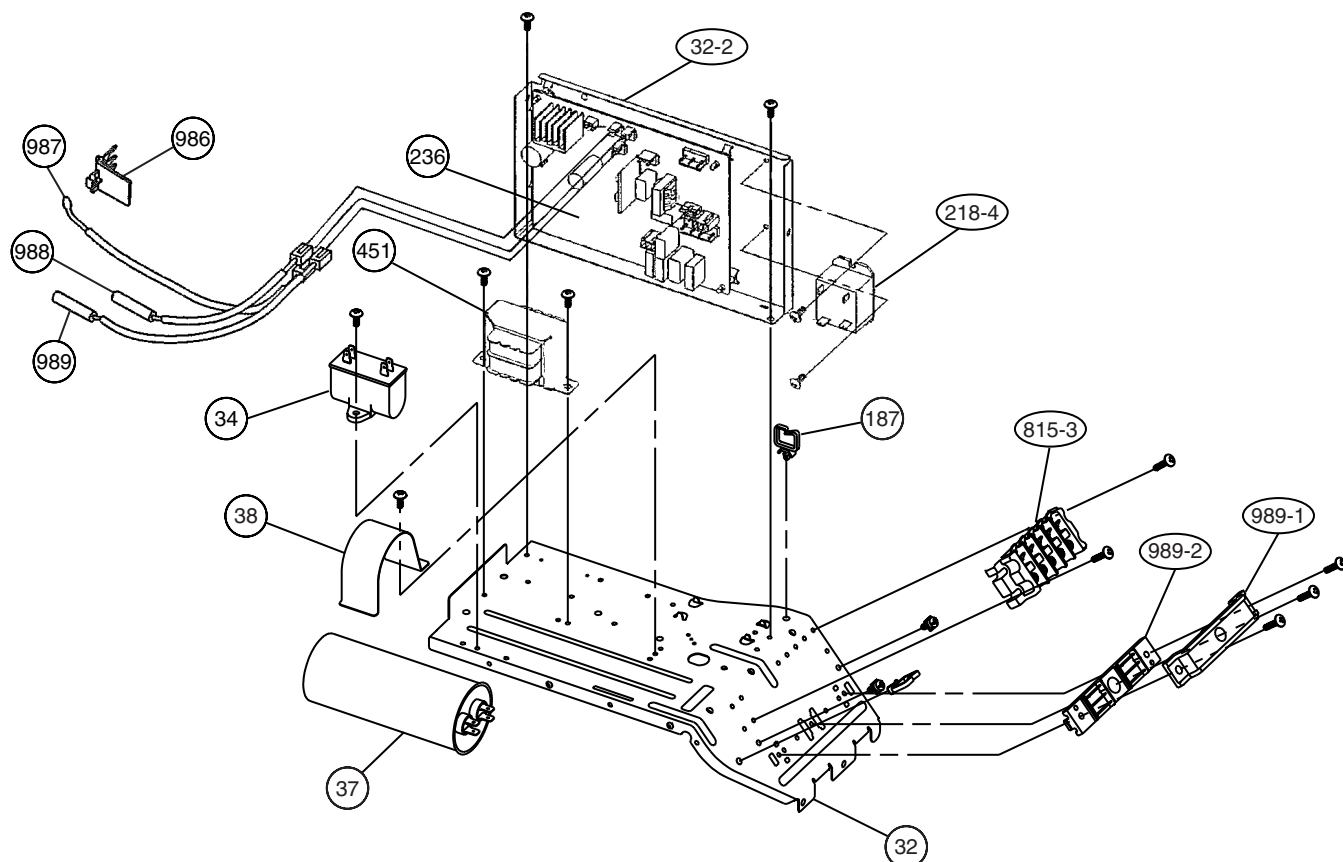
Models :
AOY25UNAKL
AOY25UNANL



Models :
 AOY25FNAKL
 AOY25FNANL



Models :
 AOY25UNAKL
 AOY25UNANL



PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.		Ord. Q'ty
		ARY25FUAN	ARY25UUAN	
20	Control Cover -A Sub Assy	9374516018	9374516018	
40	Motor Mount	9374281015	9374281015	
41	Bracket Motor Assy	9374230013	9374230013	
56	Sirocco Fan Assy	9356531022	9356531022	
67	Rubber	313659068604	313659068604	
72	Cabinet L Sub Assy	9374509010	9374509010	
73	Cabinet R Sub Assy	9374508013	9374508013	
74	Intake Cover Sub Assy	9374512010	9374512010	
75	Outlet Panel Sub Assy	9374510016	9374510016	
108	Base Sub Assy	9374504015	9374504015	
110	Casing A	9374233014	9374233014	
111	Casing B	9374234011	9374234011	
138	Separatewall Assy	9374228010	9374228010	
139	Panel (Control Box) Sub Assy	9374506019	9374506019	
146	Evaporator Total Assy	9374517015	9374517015	
150	Bracket (Eva) -R	9374207015	9374207015	
160	Drain Pan Sub Assy	9374513017	9374513017	
164	Motor, Induct	9600830086	9600830086	
223	Control Box -A	9374219018	9374219018	
236	Controller PCB Assy	9705246089 (K03BZ-0408WSE-C1)	9705246096 (K03BZ-0409HSE-C1)	
287	Cap (Power)	9352173011	9352173011	
288	One Touch Bush	9374407019	9374407019	
324	Main Panel Sub Assy	9374511013	9374511013	
325	Intake Frame Assy	9374216017	9374216017	
553	Transformer (Power)	9704129017	9704129017	
600	Fan Capacitor	9900270209	9900270209	
764	Drain Cap	9356541007	9356541007	
816	Terminal 3P	9703345012	9703345012	
817	Terminal 3P	9306489045	9306489045	
875	Power PCB Assy	9705668027	9705668010	
956	Control Cover -B	9374222018	9374222018	
	Thermo. Spring -A	313728262708	313728262708	
	Thermistor Assy -Room	9703299025	9703299025	
	Thermistor Assy -Pipe	9703297021	9703297021	
	Remotecontroller Assy	9372266021	9372266014	
	RFM (Motor Band)	9374646012	9374646012	
	Motor Band -B	9374648023	9374648023	
	Control Box -B	9374220014	9374220014	
	Motor Band -A Assy	9374647019	9374647019	
	Wire with Connector	9704856012	9704856012	
	Wire with Connector	9705245020	9705245020	
	Wire with Connector	9705243026	9705243026	
	Wire with Connector	9705244023	9705244023	

OUTDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty
		AOY25FNAKL	
2	Fan Guard	9371187013	
4	Emblem-Rear	9351355005	
5	Front Panel Ptd	9371924014	
7	Connector Cover (Cabinet)	9366398004	
8	Wire Assy (Comp)	9372334010	
9	Side Panel R Ptd	9371927015	
12	Base Assy, Ptd	9371920016	
13-1	3-Way Valve Assy	9372205013	
13-2	2-Way Valve Assy	9372204023	
16	Condenser Assy	9372181027	
26	Compressor Cover A	9372327012	
29	Separate Wall	9371933016	
32	Control Box	9371935010	
34	Capacitor, Plastic	9900270049	
37	Running Capacitor	9703107023	
38	Capacitor Clamp Metal	313791061807	
39	Propeller Fan Assy	9366378013	
41	Motor Induct	9601671046	
45-1	Motor Bracket	9371929019	
45-2	Motor Bracket-Top	9371931012	
45-3	Motor Bracket Ctr	9371930015	
45-4	Motor Bracket Bottom	9371932019	
46	Compressor Assy	9372558010	
47-1	Rubber (Discharge Pipe)	313194159807	
51	Special Nut M5	9300301015	
55	Special Nut M8	9355091008	
64	Side Panel L Ptd	9371926018	
69-3	Bolt, Hex. Socket	0700145148	
85	Valve Plate Ptd	9371928012	
107	Rubber Seat-A	9351049010	
109	Teminal Cover (Comp)	9371511016	
178-2	Capillary Holder Rubber	313394274808	
187	Clip (Cable)	9352715006	
218-3	Relay	9900074012	
272	Strainer	9369287008	
348-1	Outlet Pipe (Cond)	9372190029	
412	Cover Gasket (Comp.)	9371512013	
527	Protectiive Net	9371934013	
734	Top Panel	9371925011	
735-3	Capillary Assy	9372197059	
754	Terminal Gask. Washer	9351053017	
815-3	Terminal-5P	9900203023	
823-2	Fuse Holder	0501456016	
824-4	Fuse	0600376086	
983	Outdoor Thermostat	9352553004	
984	Bracket (switch)	313986353607	
985	Bracket (thermostat)	9372643013	
989-1	Double Clamp U	9374175017	
989-2	Double Clamp L	9374176014	

Ref. No.	Description	Part No.	Ord. Q'ty
		AOY25UNAKL	
2	Fan Guard	9371187013	
4	Emblem-Rear	9351355005	
5	Front Panel Ptd	9371924014	
7	Connector Cover (Cabinet)	9366398004	
8	Wire Assy (Comp)	9372334010	
9	Side Panel R Ptd	9371927015	
12	Base Assy, Ptd	9371920016	
13-1	3-Way Valve Assy	9372205013	
13-2	2-Way Valve Assy	9372204023	
16	Condenser Assy	9372181010	
26	Compressor Cover A	9372327012	
29	Separate Wall	9371933023	
32	Control Box	9371935010	
32-2	Control Box B	9371936017	
34	Capacitor, Plastic	9900270049	
37	Running Capacitor	9703107023	
38	Capacitor Clamp Metal	313791061807	
39	Propeller Fan Assy	9366378013	
41	Motor Induct	9601671046	
45-1	Motor Bracket	9371929019	
45-2	Motor Bracket-Top	9371931012	
45-3	Motor Bracket Ctr	9371930015	
45-4	Motor Bracket Bottom	9371932019	
46	Compressor Assy	9372558010	
51	Special Nut M5	9300301015	
55	Special Nut M8	9355091008	
64	Side Panel L Ptd	9371926018	
69-3	Bolt, Hex. Socket	0700145148	
85	Valve Plate Ptd	9371928012	
107	Rubber Seat-A	9351049010	
109	Teminal Cover (Comp)	9371511016	
178-2	Capillary Holder Rubber	313394274808	
187	Clip (Cable)	9352715006	
218-4	Relay	9900262013	
236	PCB Assy	9704299062	
259	Muffler	9372369012	
271	4-Way Valve Rubber	313728251908	
272	Strainer	9369287008	
333	Accumulator	9368391003	
343	Solenoid	9900165024	
344	4-Way Valve	9900163013	
361	Accum Support Assy	9372252017	
412	Cover Gasket (Comp.)	9371512013	
451	TRANSFORMER	9900039011	
527	Protectiive Net	9371934013	
734	Top Panel	9371925011	
735-3	Capillary Assy	9372197288	
754	Terminal Gask. Washer	9351053017	
790	Belt Heater	9361140165	
815-3	Terminal-5P	9900203023	
867	Accumulator Holder Rubber	9354022010	
986	Bracket (thermo)	9373154013	
987	Outdoor Temp thermistor	9900037031	
988	Discharge Temp thermistor	9900038014	
989	Heat Exchanger thermistor	9900043032	
989-1	Double Clamp U	9374175017	
989-2	Double Clamp L	9374176014	

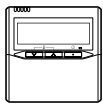
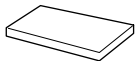
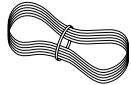
OUTDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty
		AOY25FNANL	
2	Fan Guard	9371187013	
4	Emblem-Rear	9351355005	
5	Front Panel Ptd	9371924014	
7	Connector Cover (Cabinet)	9366398004	
8	Wire Assy (Comp)	9314792007	
9	Side Panel R Ptd	9371927015	
12	Base Assy, Ptd	9371920016	
13-1	3-Way Valve Assy	9314674013	
13-2	2-Way Valve Assy	9314680014	
16	Condenser Assy	9314476013	
26	Compressor Cover A	9314750014	
29	Separate Wall	9371933016	
32	Control Box	9371935010	
34	Capacitor, Plastic	9900089108	
37	Running Capacitor	9307588204	
38	Capacitor Clamp Metal	313791061807	
39	Propeller Fan Assy	9314812019	
41	Motor Induct	9602277018	
45-1	Motor Bracket	9371929019	
45-2	Motor Bracket-Top	9371931012	
45-3	Motor Bracket Ctr	9371930015	
45-4	Motor Bracket Bottom	9371932019	
46	Compressor Assy	9372558010	
47-1	Rubber (Discharge Pipe)	313194159807	
51	Special Nut M5	9300301015	
55	Special Nut M8	9355091008	
64	Side Panel L Ptd	9371926018	
69-3	Bolt, Hex. Socket	0700145148	
85	Valve Plate Ptd	9371928012	
107	Rubber Seat-A	9351049010	
109	Teminal Cover (Comp)	9371511016	
178-2	Capillary Holder Rubber	313394274808	
187	Clip (Cable)	9352715006	
218-3	Relay	9900074012	
272	Strainer	9369287008	
348-1	Outlet Pipe (Cond)	9372190029	
412	Cover Gasket (Comp.)	9371512013	
527	Protectiive Net	9371934013	
734	Top Panel	9371925011	
735-3	Capillary Assy	9372197387	
754	Terminal Gask. Washer	9351053017	
815-3	Terminal-5P	9900203023	
823-2	Fuse Holder	0501456016	
824-4	Fuse	0600376016	
983	Outdoor Thermostat	9352553004	
984	Bracket (switch)	313986353607	
985	Bracket (thermostat)	9372643013	
989-1	Cord Clamp A	9359822011	
989-2	Cord Clamp B	9359823018	
990	Compressor Cover B	9314750021	

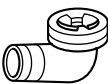
Ref. No.	Description	Part No.	Ord. Q'ty
		AOY25UNANL	
2	Fan Guard	9371187013	
4	Emblem-Rear	9351355005	
5	Front Panel Ptd	9371924014	
7	Connector Cover (Cabinet)	9366398004	
8	Wire Assy (Comp)	9314792007	
9	Side Panel R Ptd	9371927015	
12	Base Assy, Ptd	9371920016	
13-1	3-Way Valve Assy	9314674013	
13-2	2-Way Valve Assy	9314680014	
16	Condenser Assy	9314475023	
26	Compressor Cover A	9314750014	
29	Separate Wall	9371933023	
32	Control Box	9371935010	
32-2	Control Box B	9371936017	
34	Capacitor, Plastic	9900089108	
37	Running Capacitor	9307588204	
38	Capacitor Clamp Metal	313791061807	
39	Propeller Fan Assy	9314812019	
41	Motor Induct	9602277018	
45-1	Motor Bracket	9371929019	
45-2	Motor Bracket-Top	9371931012	
45-3	Motor Bracket Ctr	9371930015	
45-4	Motor Bracket Bottom	9371932019	
46	Compressor Assy	9372558010	
51	Special Nut M5	9300301015	
55	Special Nut M8	9355091008	
64	Side Panel L Ptd	9371926018	
69-3	Bolt, Hex. Socket	0700145148	
85	Valve Plate Ptd	9371928012	
107	Rubber Seat-A	9351049010	
109	Teminal Cover (Comp)	9371511016	
178-2	Capillary Holder Rubber	313394274808	
187	Clip (Cable)	9352715006	
218-4	Relay	9900262013	
236	PCB Assy	9704299062	
259	Muffler	9372369043	
272	Strainer	9369287008	
333	Accumulator	9368391003	
343	Solenoid	9900165024	
344	4-Way Valve	9900163013	
361	Accum Support Assy	9372252017	
412	Cover Gasket (Comp.)	9371512013	
451	TRANSFORMER	9900039011	
527	Protectiive Net	9371934013	
734	Top Panel	9371925011	
735-3	Capillary Assy	9372197288	
754	Terminal Gask. Washer	9351053017	
790	Belt Heater	9361140165	
815-3	Terminal-5P	9900203023	
867	Accumulator Holder Rubber	9354022010	
986	Bracket (thermo)	9373154013	
987	Outdoor Temp thermistor	9900037031	
988	Discharge Temp thermistor	9900038014	
989	Heat Exchanger thermistor	9900043032	
989-1	Cord Clamp A	9359822011	
989-2	Cord Clamp B	9359823018	
990	Compressor Cover B	9314750021	

STANDARD ACCESSORIES

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.	
			ARY25FUAN	ARY25UUAN
Hanger 	4	For suspending the indoor unit from ceiling	9356563009	9356563009
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 (large)	For fixing the drain hose	312300787605	312300787605
	1 (small)	For fixing the remote controller cord	313361275805	31361275805
Remote control unit 	1		9372266021	9372266014
Tapping screw 	2	For installing the remote control unit cord clamp	0700181108	0700181108
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708	313806217708
Remote controller cord 	1		9372714010	9372714010

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Part No.	
		AOY25FNAKL AOY25FNANL	AOY25UNAKL AOY25UNANL
Drain pipe 	1	—	9303029015
Drain cap 	1	—	313166024302

