

SPLIT TYPE AIR CONDITIONER (50Hz) DUCT type

SERVICE MANUAL



Models

Indoor unit

ARY12FUAD
ARY12UUAD
ARY14FUAD
ARY14UUAD

Outdoor unit

AOY12FSAJ
AOY12USAJL
AOY14FSDJ
AOY14USDJL

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SPECIFICATIONS

TYPE	Cool	
INDOOR UNIT	ARY12FUAD	ARY14FUAD
OUTDOOR UNIT	AOY12FSAJ	AOY14FSDJ
COOLING CAPACITY (kW)	3.50	4.20

ELECTRICAL DATA

POWER SOURCE (V)	230	
FREQUENCY (Hz)	50	
RUNNING CURRENT (A)	5.50	6.3
INPUT WATTS (kW)	1.24	1.39
E.E.R. (kW/kW)	2.823	3.02
MOISTURE REMOVAL (ℓ /hr)	1.2	1.5
AIR CIRCULATION-Hi (m³/hr)	500	640

COMPRESSOR

TYPE	Hermetic type, Deposit electrode condenser, 2 poles, Single phase, Induction motor, Rotary	
DISCRIMINATION	80235435(B)	80236035(B)
REFRIGERANT R410A (g)	800	900

FAN MOTOR

POWER SOURCE (V)		230	
INDOOR UNIT	DISCRIMINATION	MFA-18NTT	
	HI-SPEED (r.p.m.)	680	830
	MED-SPEED (r.p.m.)	640	730
	LO-SPEED (r.p.m.)	570	620
OUTDOOR UNIT	DISCRIMINATION	MFB-14VTT	
	HI- SPEED (r.p.m.)	740	

DIMENSIONS

INDOOR UNIT	H x W x D (mm)	217 x 953 x 595
OUTDOOR UNIT	H x W x D (mm)	530 x 750 x 250

WEIGHT

INDOOR UNIT	GROSS / NET (kg)	29 / 25	
OUTDOOR UNIT	GROSS / NET (kg)	36 / 34	37 / 35

REFRIGERANT CHARGE (R410A)

FULL CHARGE AMOUNT	PIPE LENGTH 7.5 m (25 ft)	800 g (28.2oz)	900 g (31.7oz)
	10 m (33 ft)	837.5 g (29.5oz)	937.5 g (33.1oz)
	15 m (49 ft)	912.5 g (32.2oz)	1,012.5 g (35.7oz)
ADDITIONAL REFRIGERANT		15 g/m (0.53oz / 3.3ft)	

TYPE		Cool and Heat	
INDOOR UNIT		ARY12UUAD	ARY14UUAD
OUTDOOR UNIT		AOY12USAJL	AOY14USDJL
COOLING CAPACITY	(kW)	3.50	4.00
HEATING CAPACITY	(kW)	4.00	4.70

ELECTRICAL DATA

POWER SOURCE	(V)	230	
FREQUENCY	(Hz)	50	
RUNNING CURRENT (Cool)	(A)	5.50	6.3
RUNNING CURRENT (Heat)	(A)	5.40	6.0
INPUT WATTS (Cool)	(kW)	1.24	1.42
INPUT WATTS (Heat)	(kW)	1.21	1.35
E.E.R. (Cool)	(kW/kW)	2.823	2.82
E.E.R. (Heat)	(kW/kW)	3.306	3.48
MOISTURE REMOVAL	(ℓ /hr)	1.2	1.5
AIR CIRCULATION-Hi	(m³/hr)	500	640

COMPRESSOR

TYPE	Hermetic type, Deposit electrode condenser, 2 poles, Single phase, Induction motor, Rotary		
DISCRIMINATION		80235435(B)	80236035(B)
REFRIGERANT	R410A (g)	850	1,000

FAN MOTOR

POWER SOURCE		(V)	230	
INDOOR UNIT	DISCRIMINATION		MFA-18NTT	
	HI-SPEED	(r.p.m.)	680	830
	MED-SPEED	(r.p.m.)	640	730
	LO-SPEED	(r.p.m.)	570	620
OUTDOOR UNIT	DISCRIMINATION		MFB-14NTT	
	HIGH- SPEED		740 r.p.m.	
	LOW-SPEED		440 r.p.m.	

DIMENSIONS

INDOOR UNIT	H x W x D	217 x 953 x 595 mm
OUTDOOR UNIT	H x W x D	530 x 750 x 250 mm

WEIGHT

INDOOR UNIT	GROSS / NET	29 kg / 25 kg	
OUTDOOR UNIT	GROSS / NET	36 kg / 34 kg	37 kg / 35 kg

REFRIGERANT CHARGE (R410A)

FULL CHARGE AMOUNT	PIPE LENGTH	7.5 m (25 ft)	850 g (30.0oz)	1,000 g (35.3oz)
		10 m (33 ft)	887.5 g (31.3oz)	1,037.5 g (36.6oz)
		15 m (49 ft)	962.5 g (34.0oz)	1,112.5 g (39.2oz)
ADDITIONAL REFRIGERANT		15 g/m (0.53oz / 3.3ft)		

OUTLINE AND DIMENSIONS

Models :

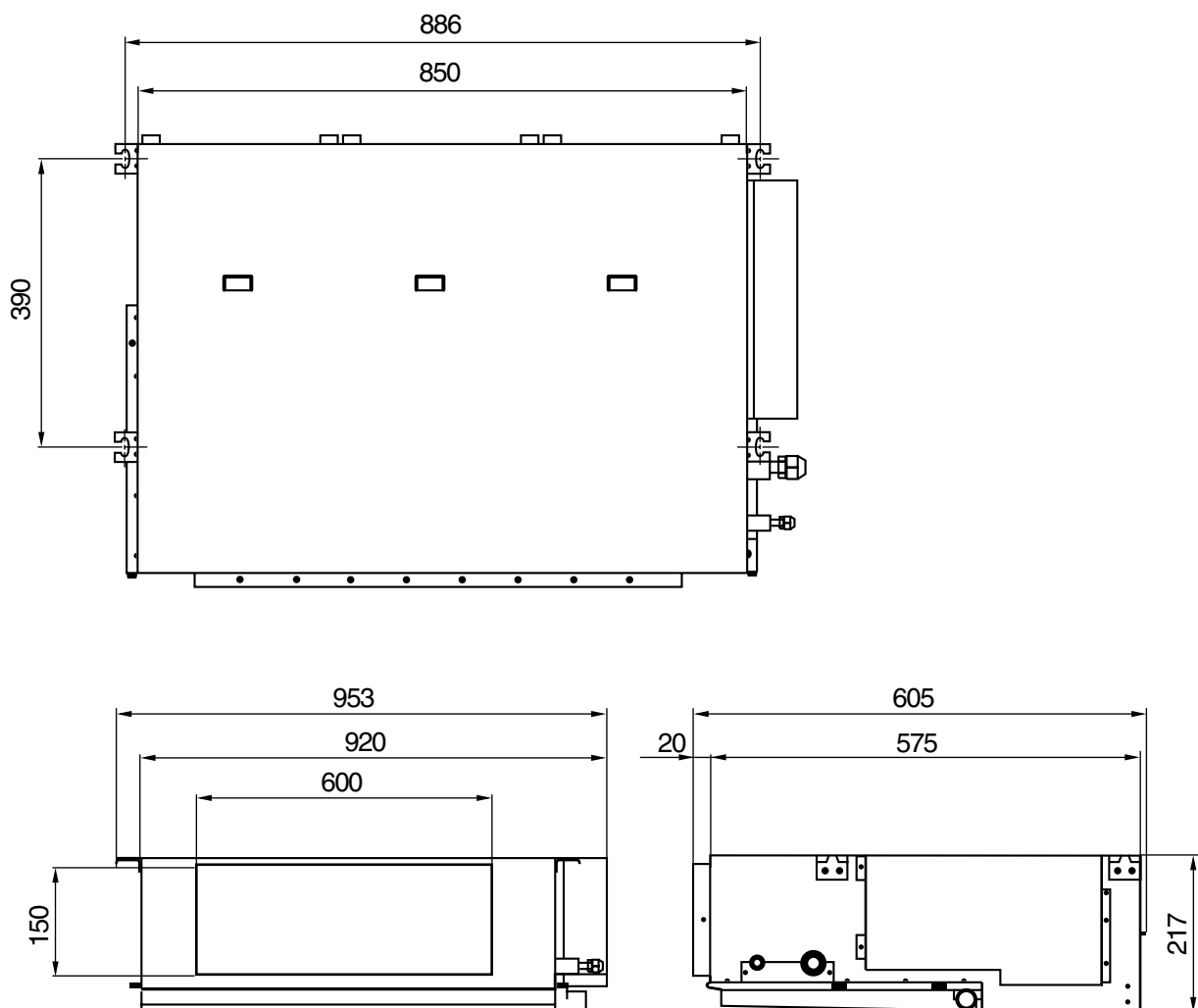
ARY12FUAD

ARY12UUAD

ARY14FUAD

ARY14UUAD

Unit : mm



OUTDOOR UNIT

Models :

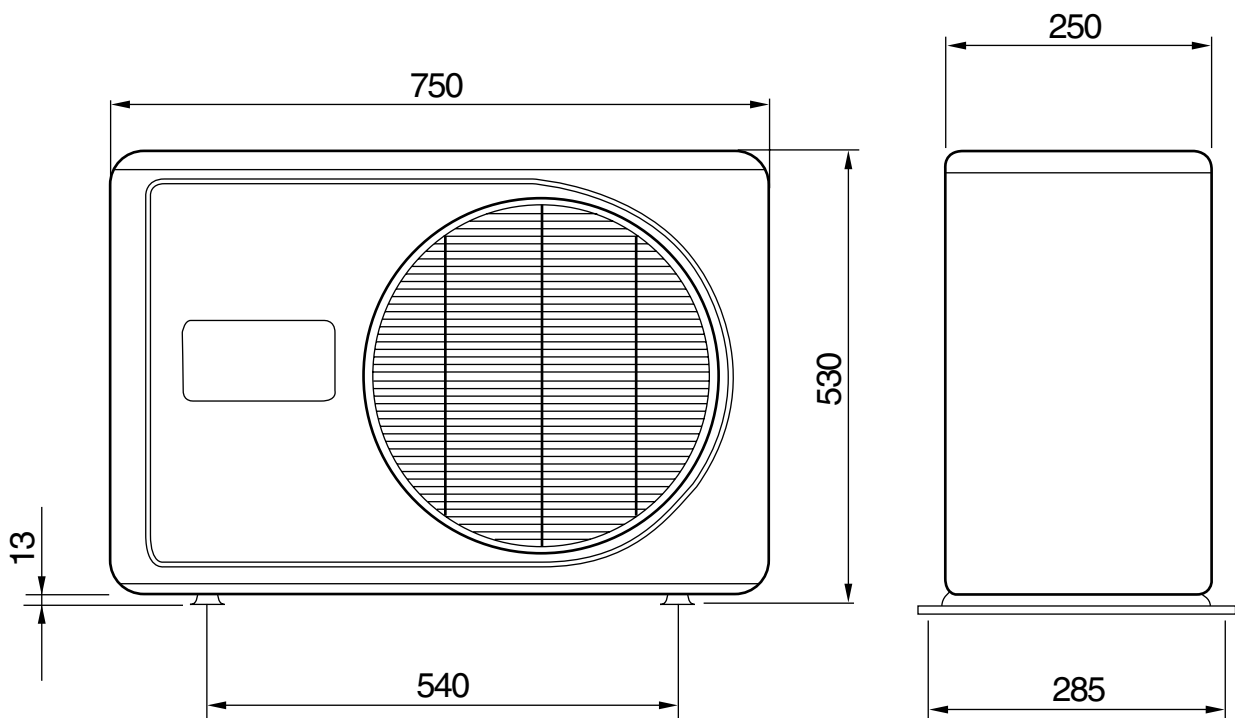
AOY12FSAJ

AOY12USAJL

AOY14FSDJ

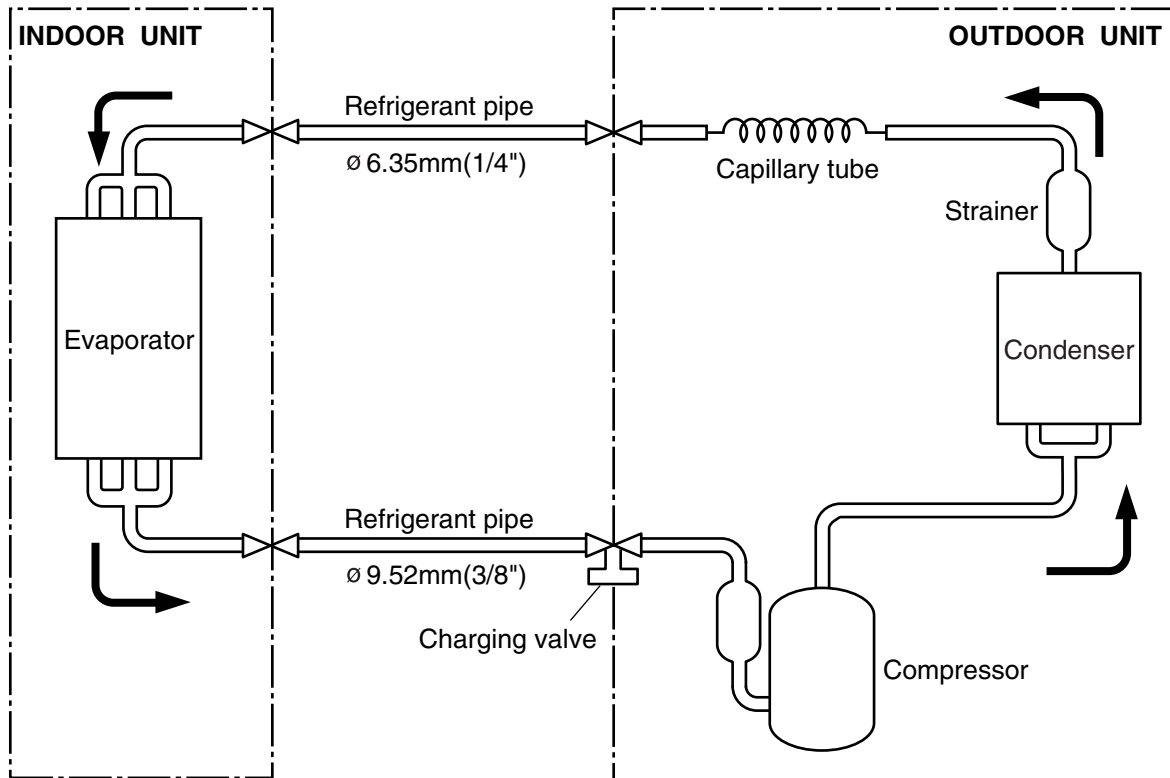
AOY14USDJL

Unit : mm

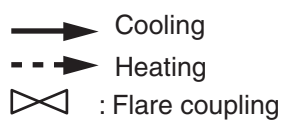
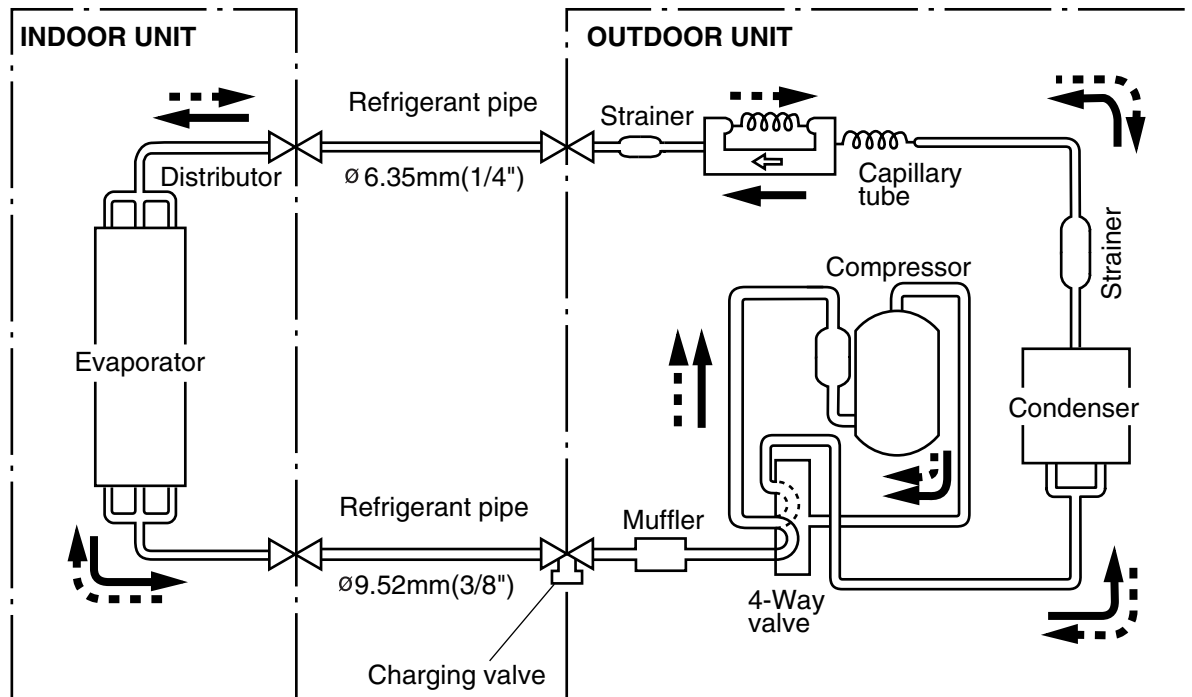


REFRIGERANT SYSTEM DIAGRAM

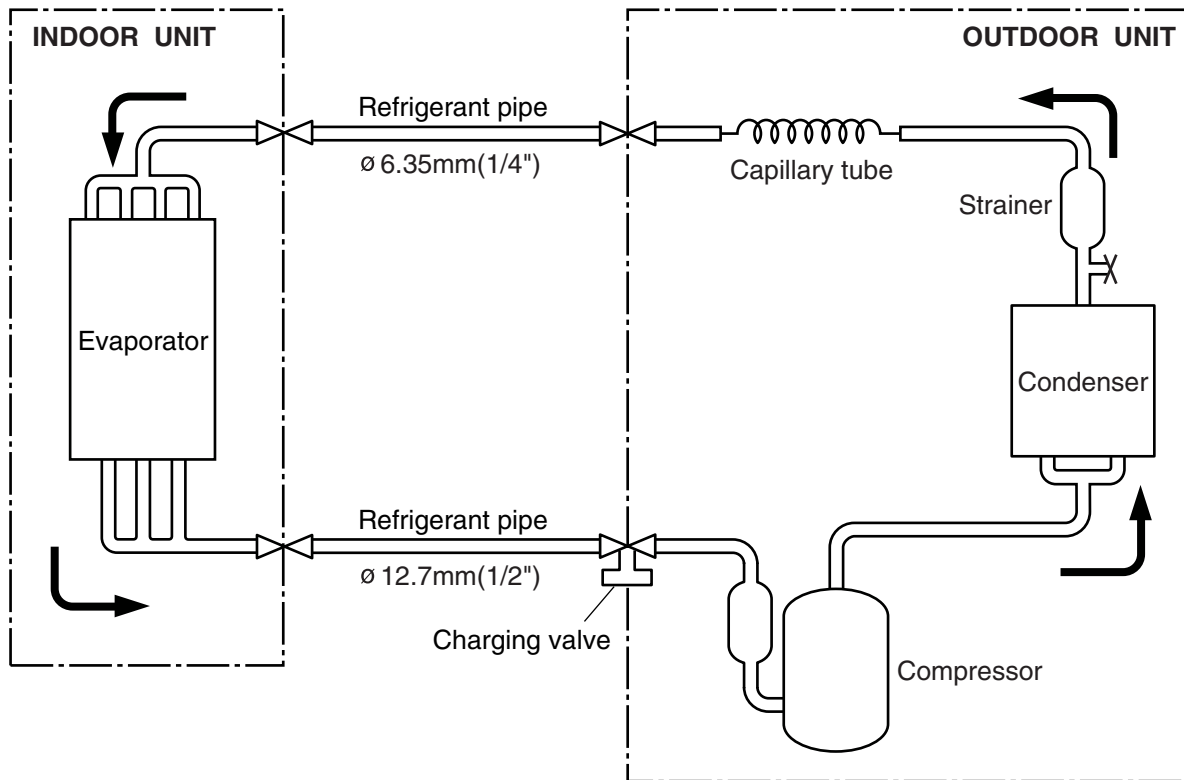
Models : ARY12FUAD / AOY12FSAJ



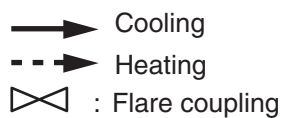
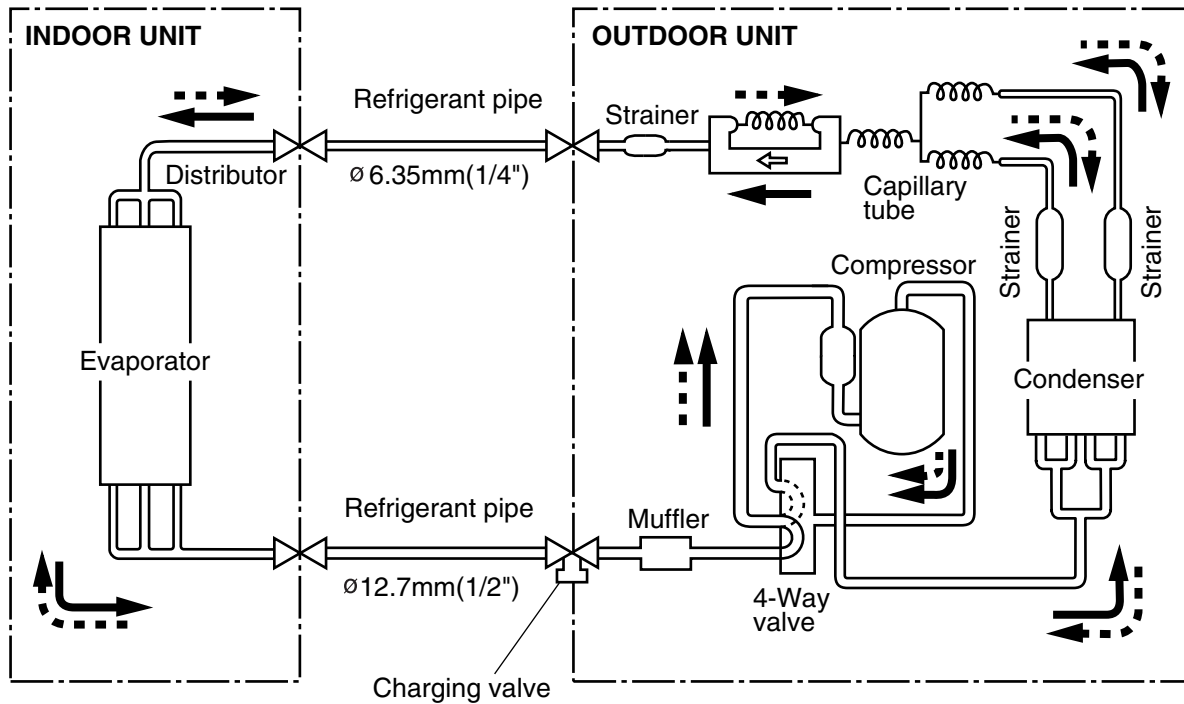
Models : ARY12UUAD / AOY12USAJL



Models : ARY14FUAD / AOY14FSDJ



Models : ARY14UUAD / AOY14USDJL

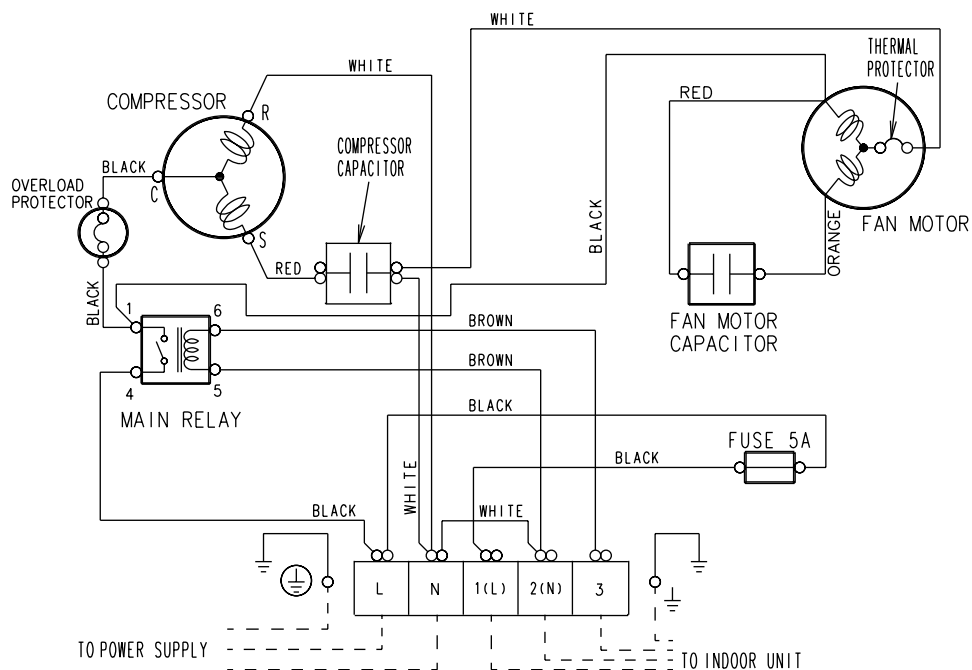
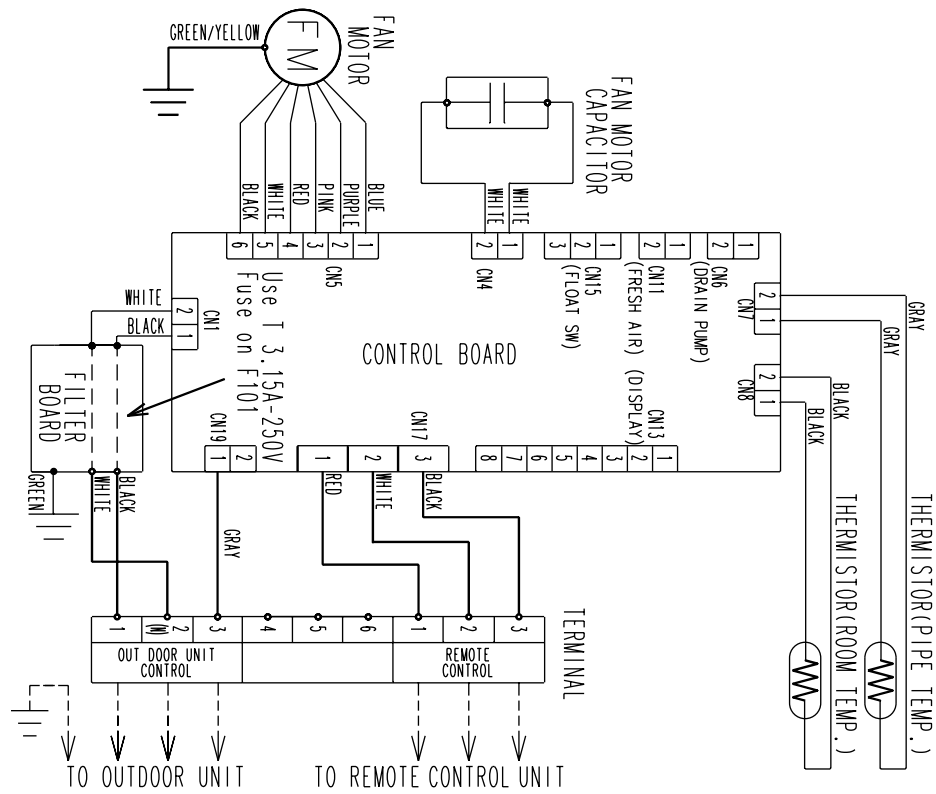


CIRCUIT DIAGRAM

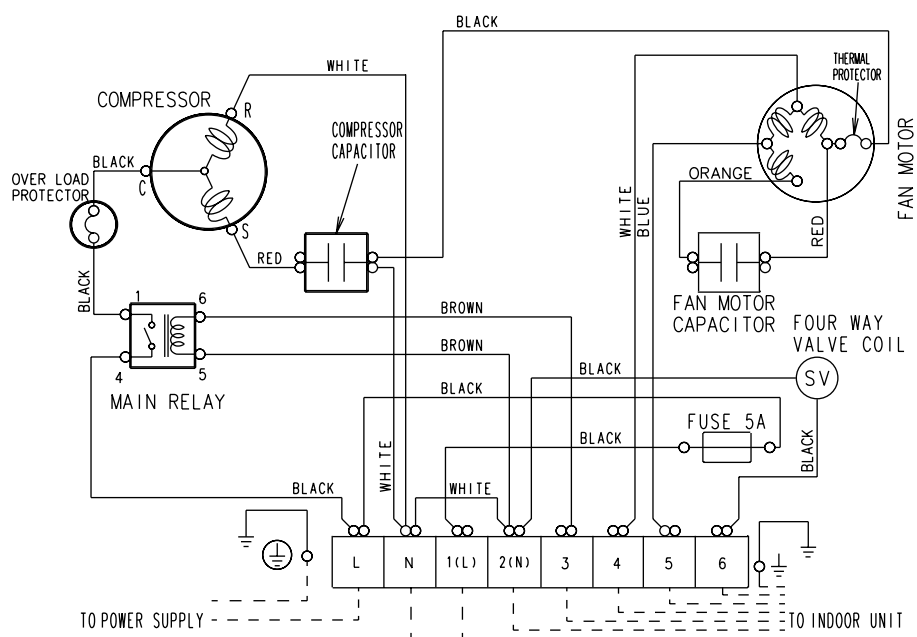
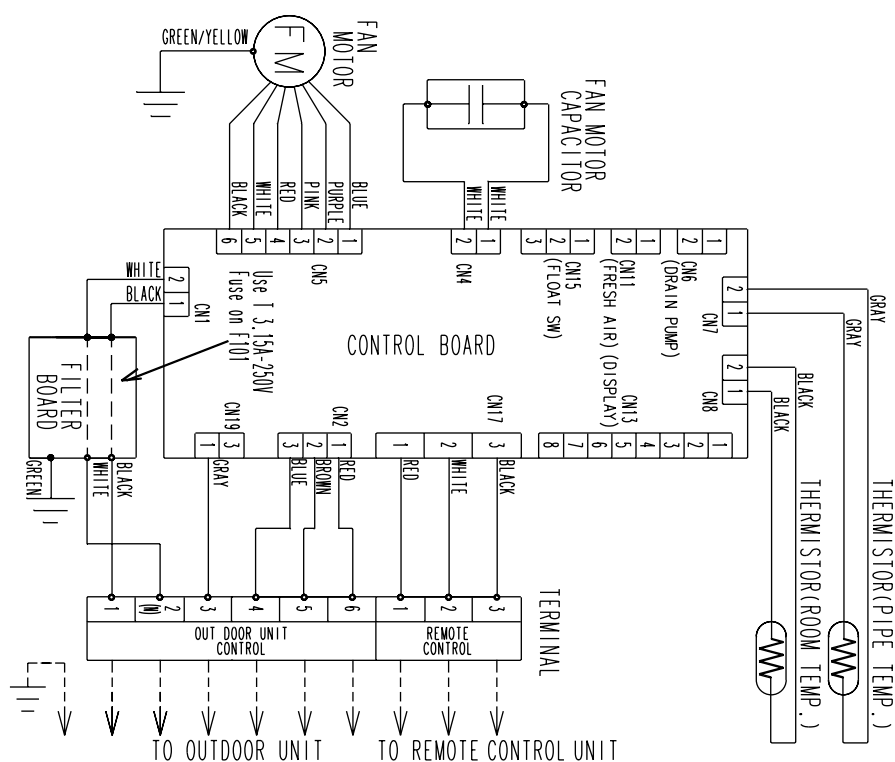
Models :

ARY12FUAD / AOY12FSAJ

ARY14FUAD / AOY14FSDJ



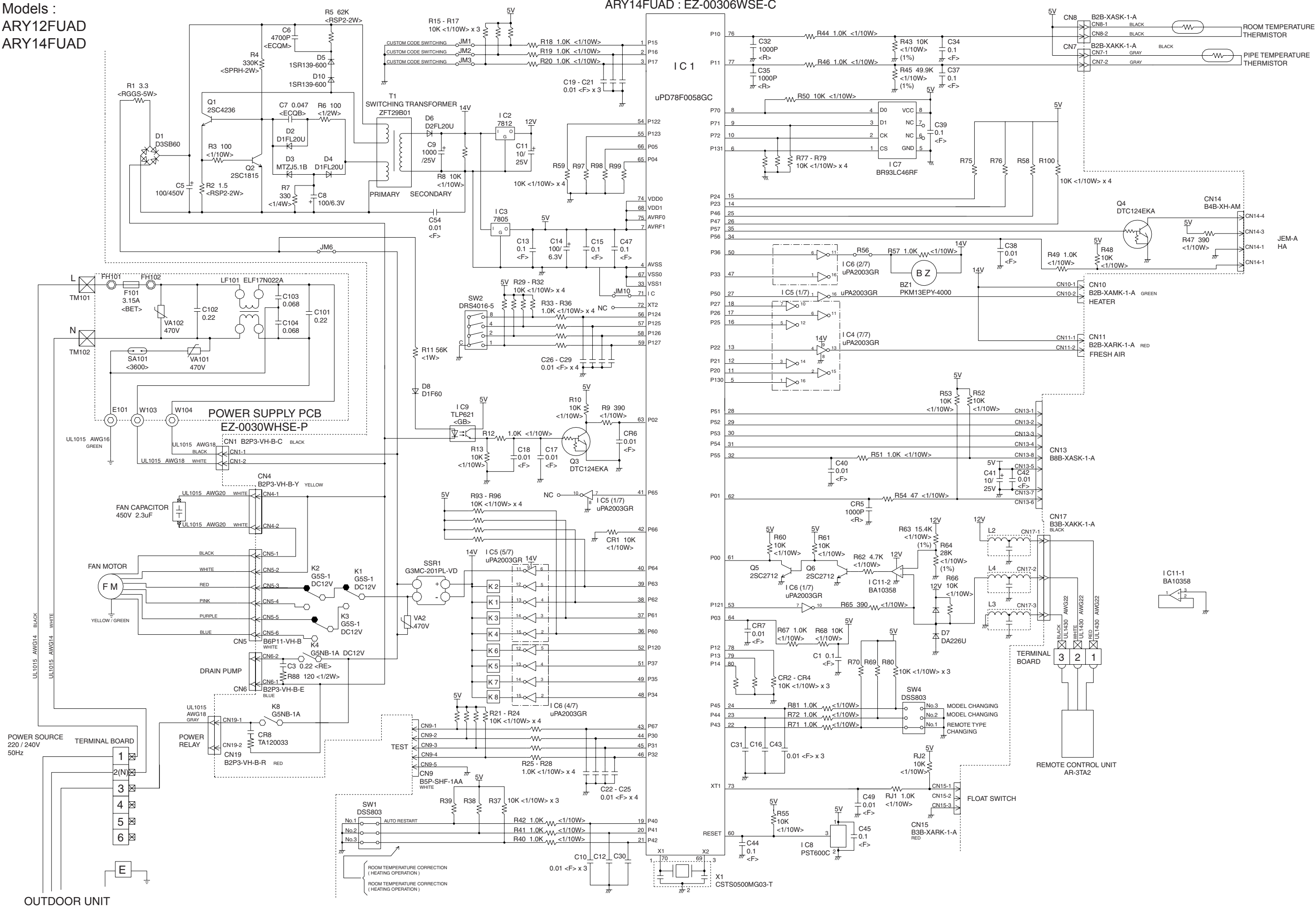
Models :
 ARY12UUAD / AOY12USAJL
 ARY14UUAD / AOY14USDJL



INDOOR PCB CIRCUIT DIAGRAM

Models :
ARY12FUAD
ARY14FUAD

CONTROLLER PCB ASSEMBLY (MAIN PCB)
ARY12FUAD : EZ-00309WSE-C
ARY14FUAD : EZ-00306WSE-C



CONTROLLER PCB ASSEMBLY (MAIN PCB)

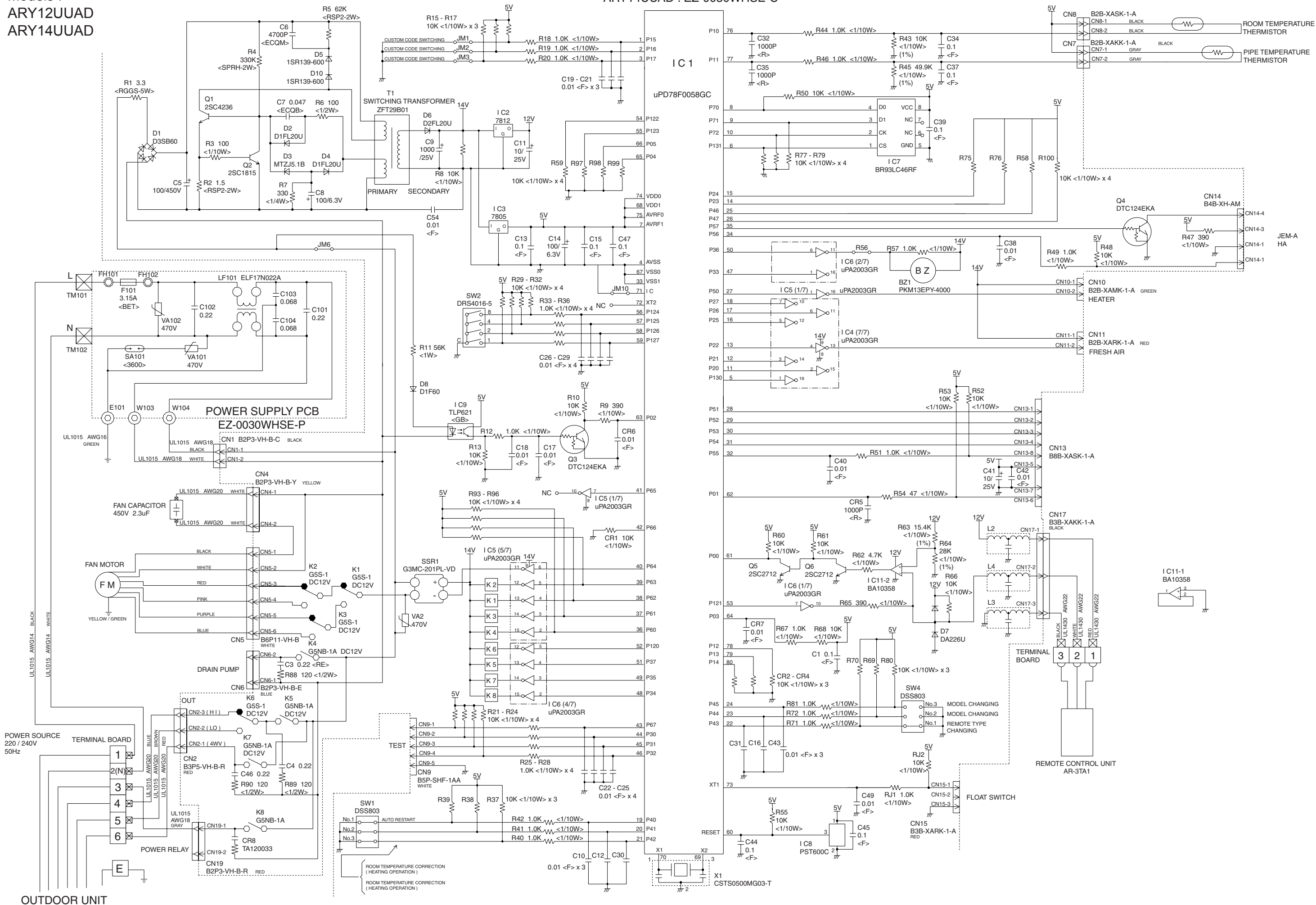
ARY12UUAD : EZ-00321HSE-C

ARY14UUAD : EZ-0030WHSE-C

Models :

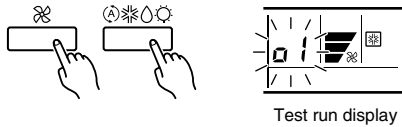
ARY12UUAD

ARY14UUAD



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.



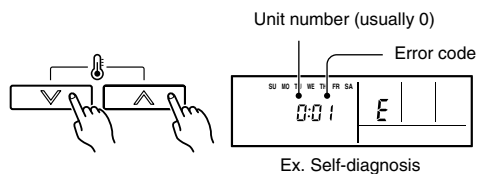
- (3) Press the start/stop button to stop the test run.

[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 $\longleftrightarrow$ remote controller)
01	Communication error (indoor unit $\longleftrightarrow$ 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 : 18000 BTU/h model HEAT & COOL MODEL (REVERSE CYCLE) ONLY

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

Error display		Error contents
LED1	LED2	
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.

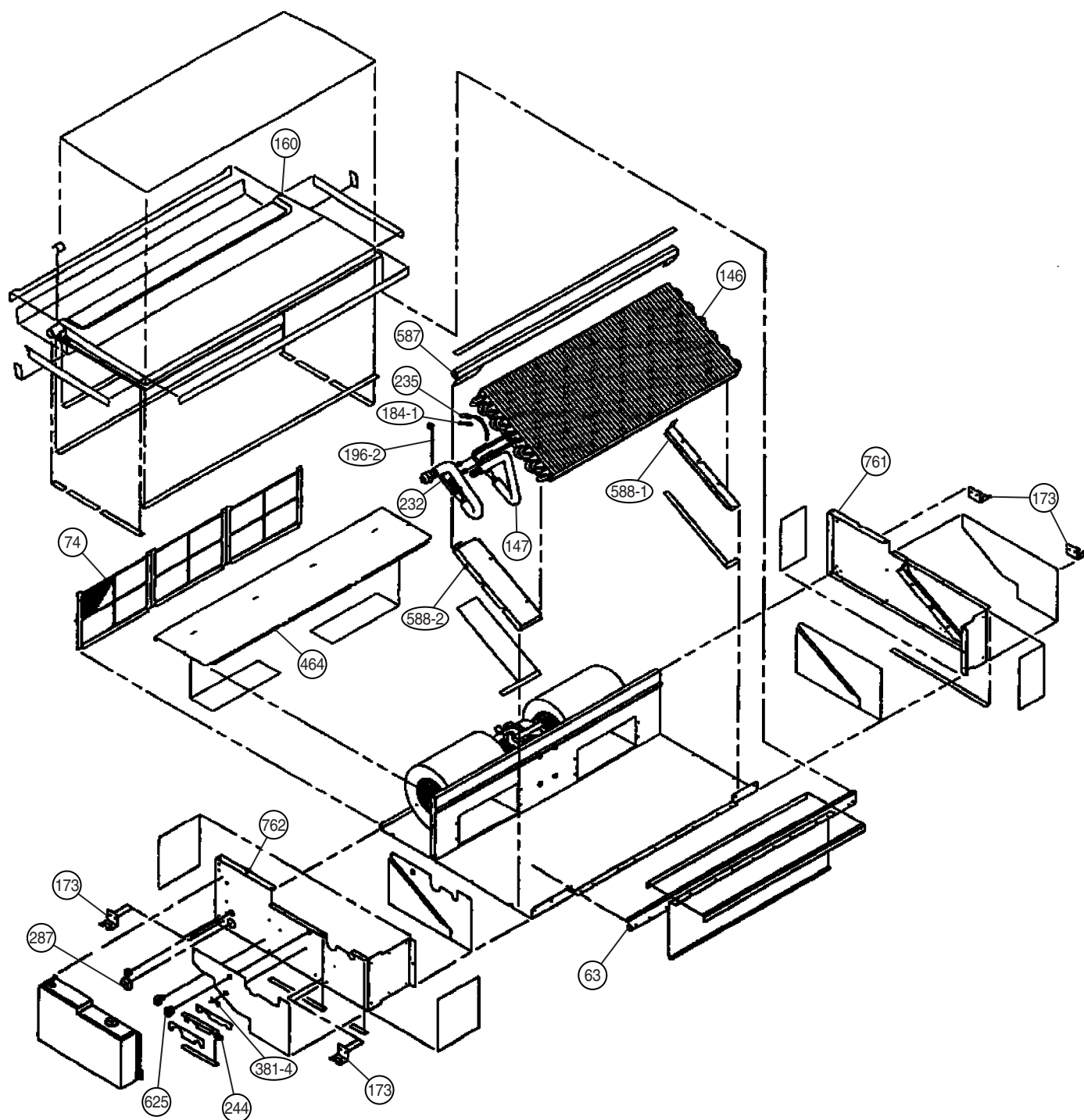
However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

DISASSEMBLY ILLUSTRATION

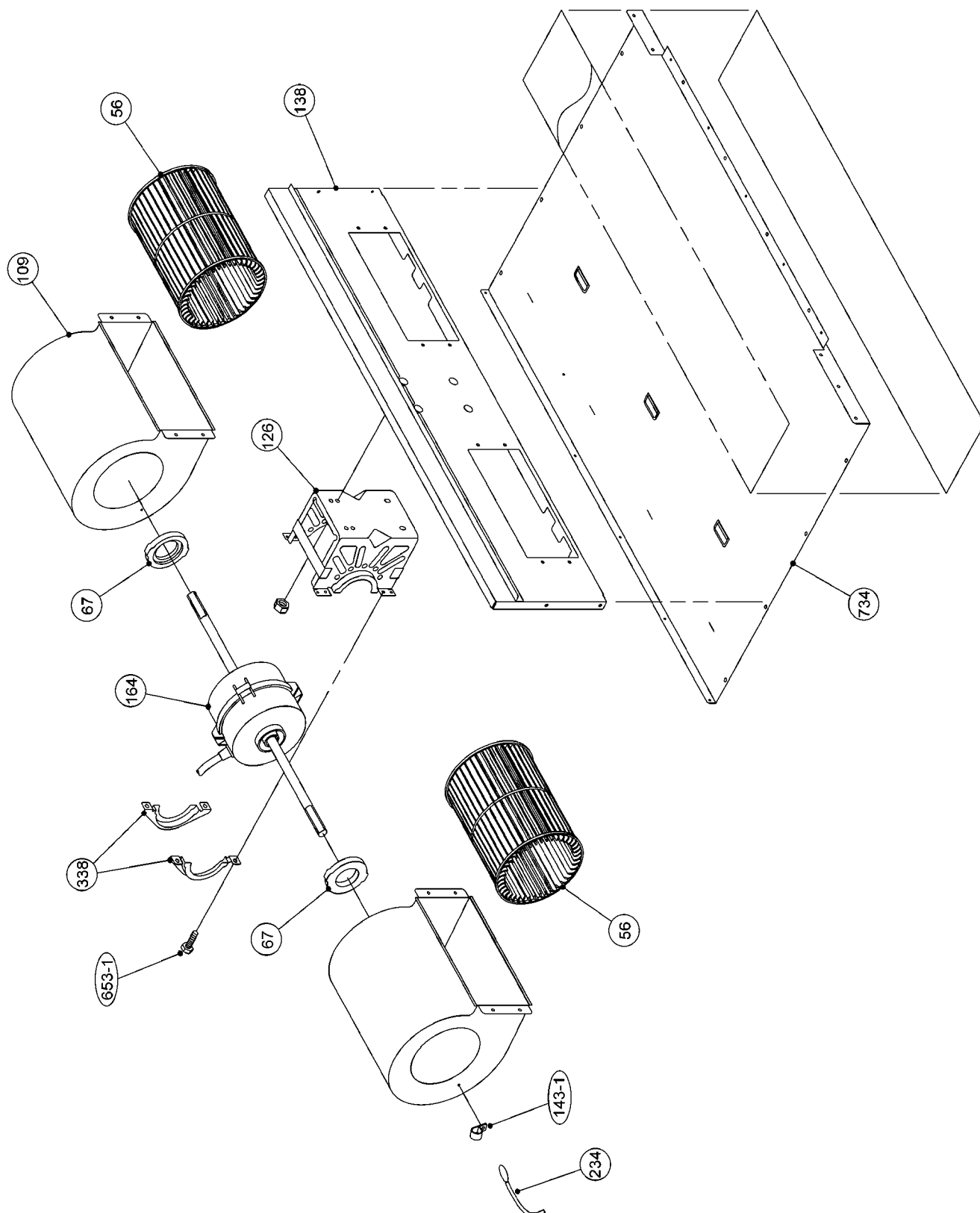
Models :

ARY12FUAD, ARY12UUAD

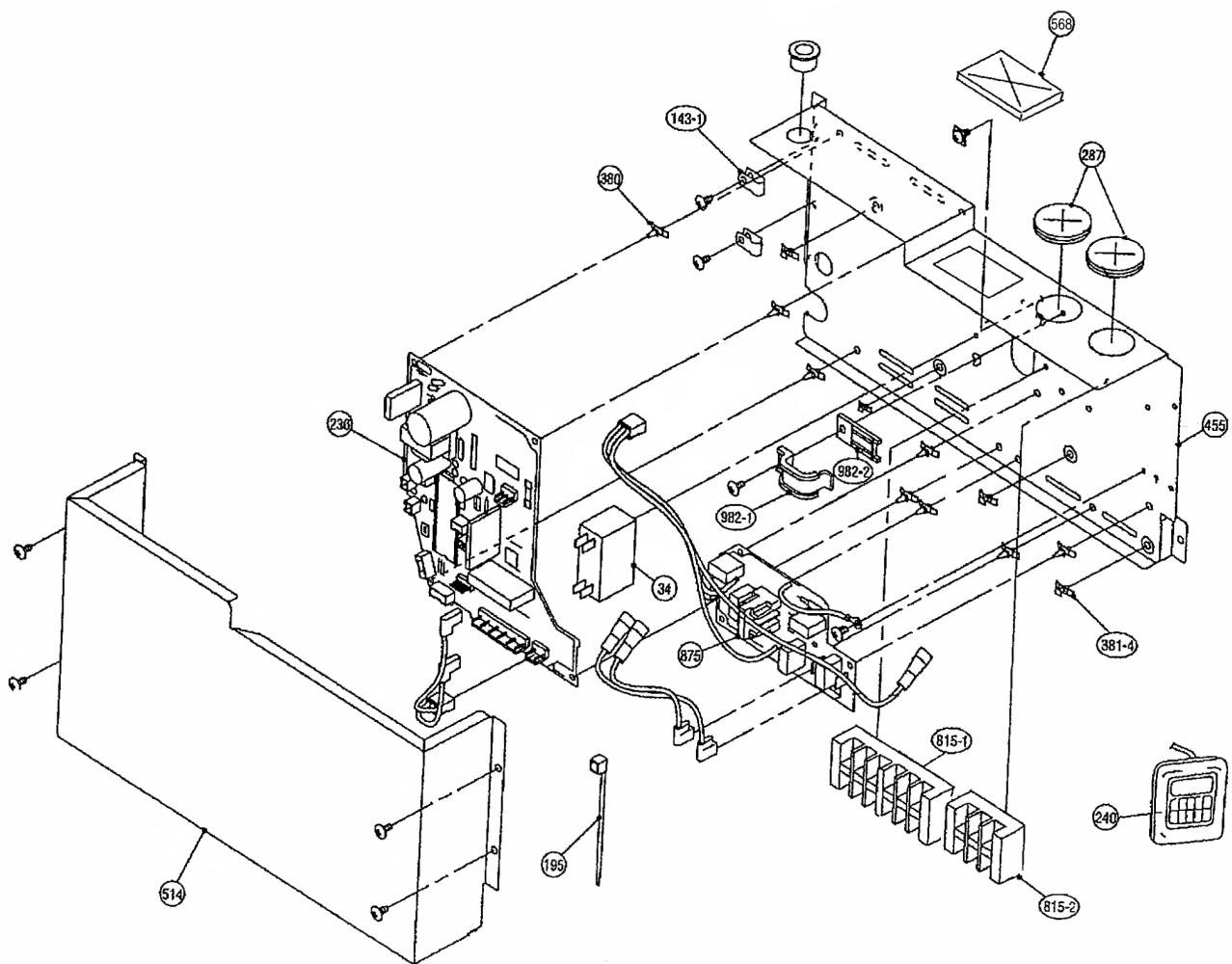
ARY14FUAD, ARY14UUAD



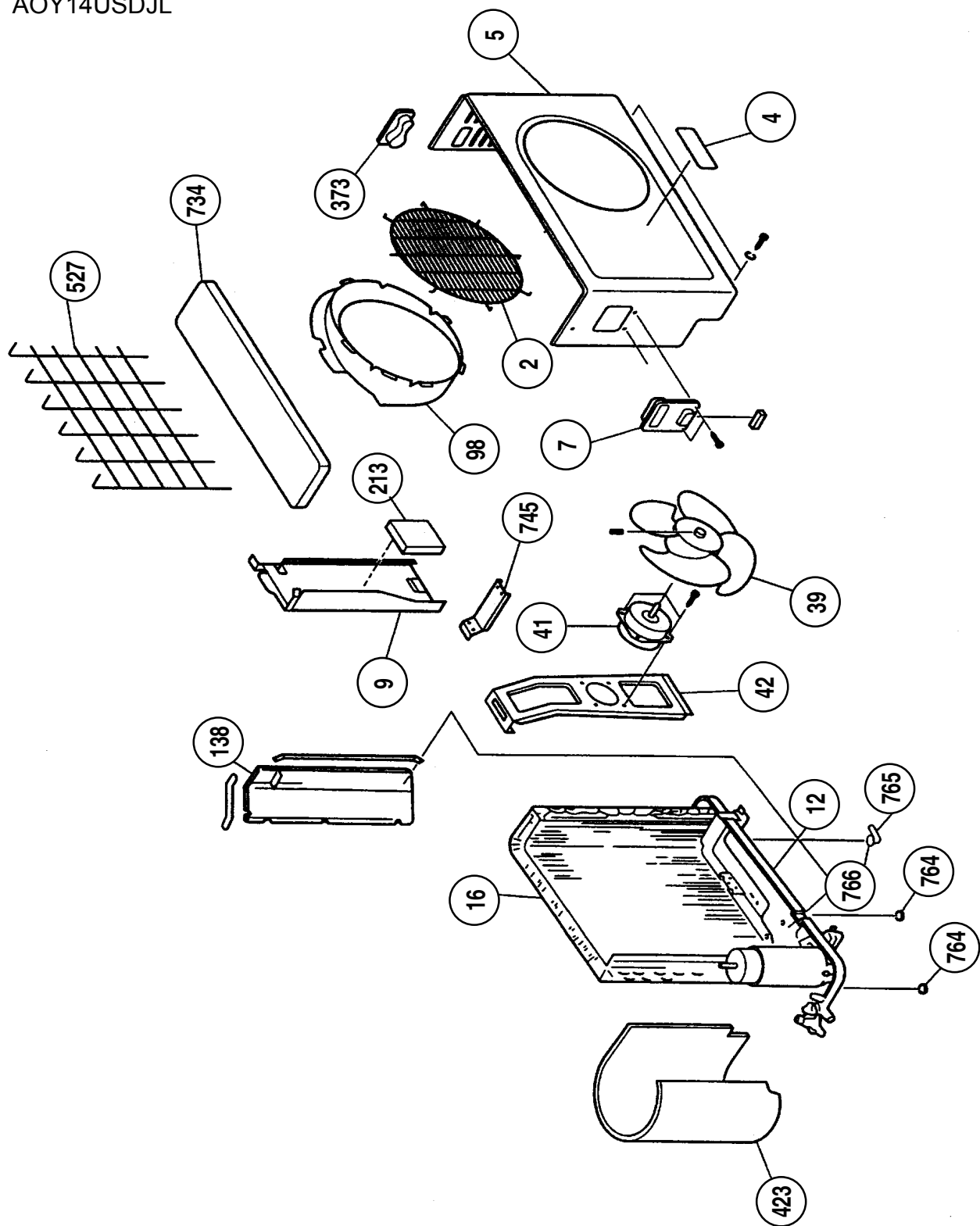
Models :
ARY12FUAD, ARY12UUAD
ARY14FUAD, ARY14UUAD



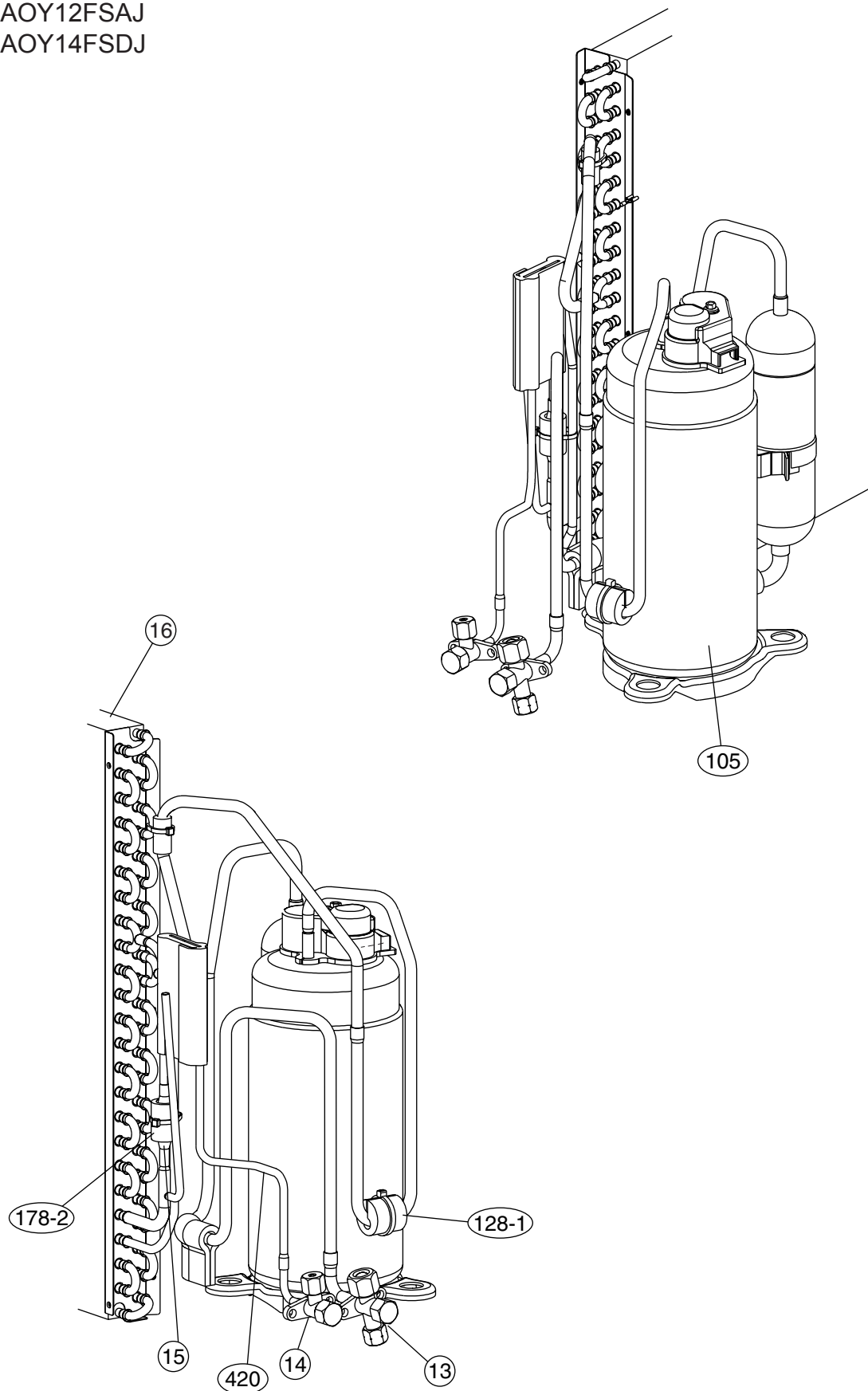
Models :
ARY12FUAD, ARY12UUAD
ARY14FUAD, ARY14UUAD



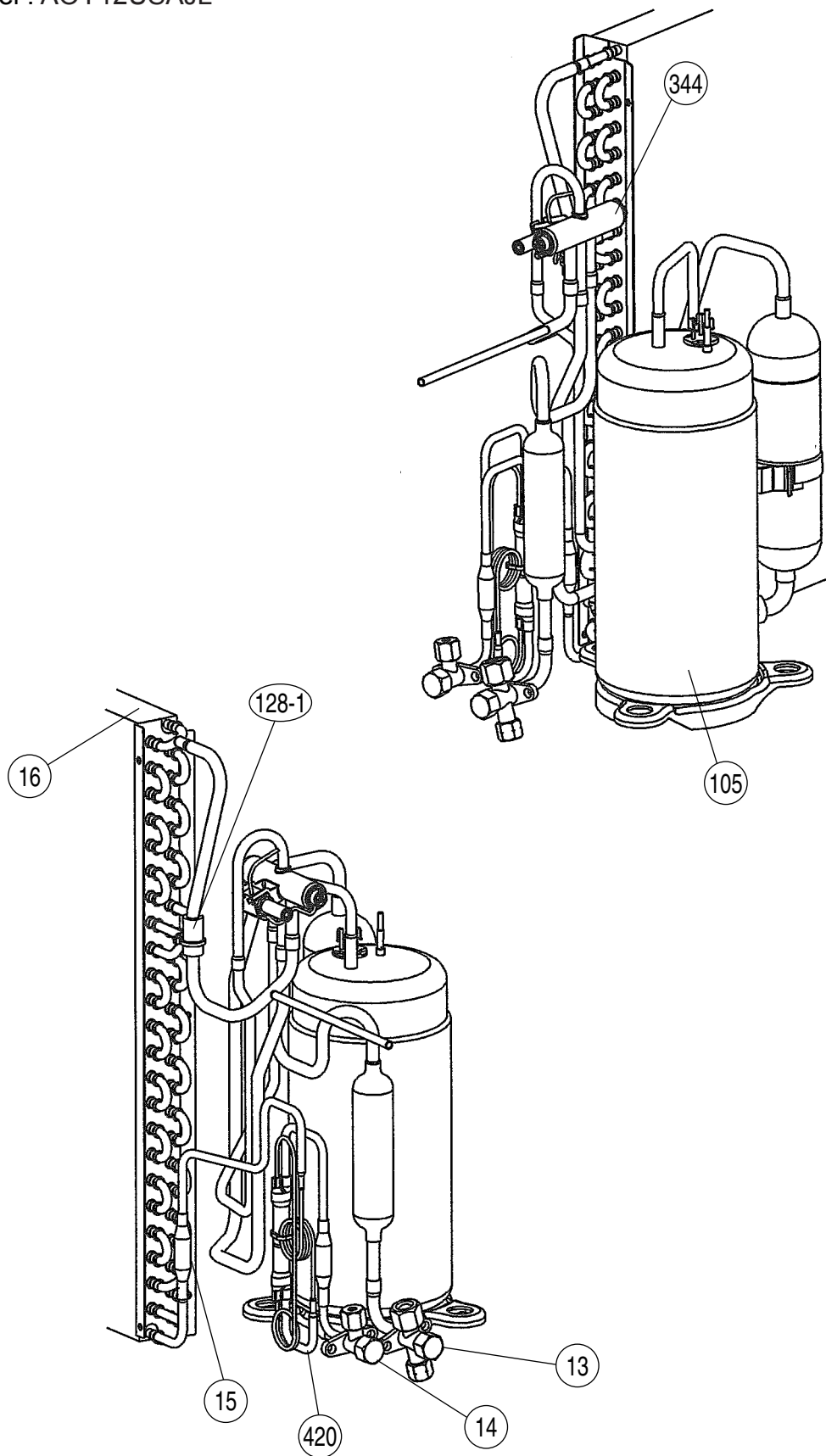
Models :
AOY12FSAJ
AOY12USAJL
AOY14FSDJ
AOY14USDJL



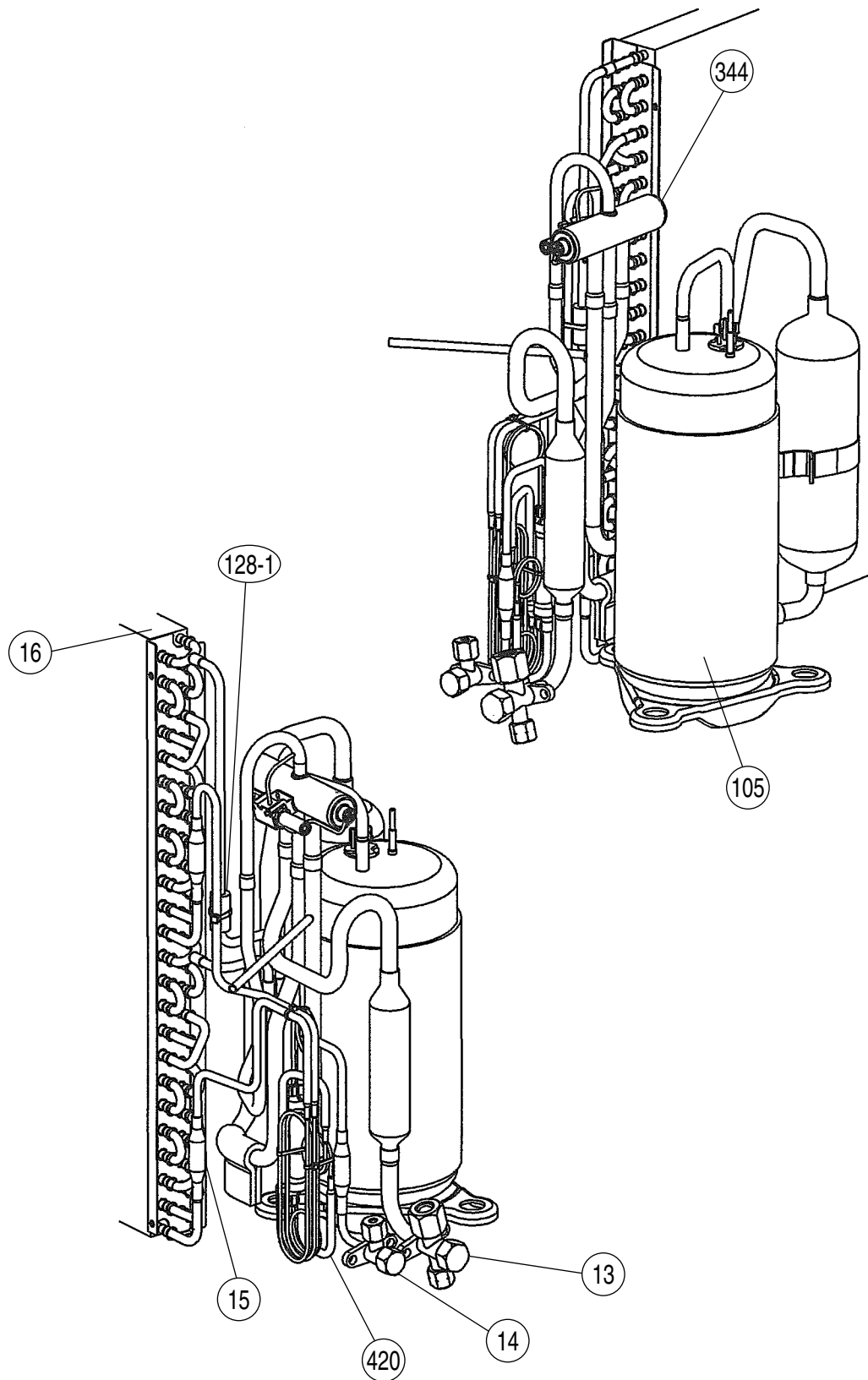
Models :
AOY12FSAJ
AOY14FSDJ



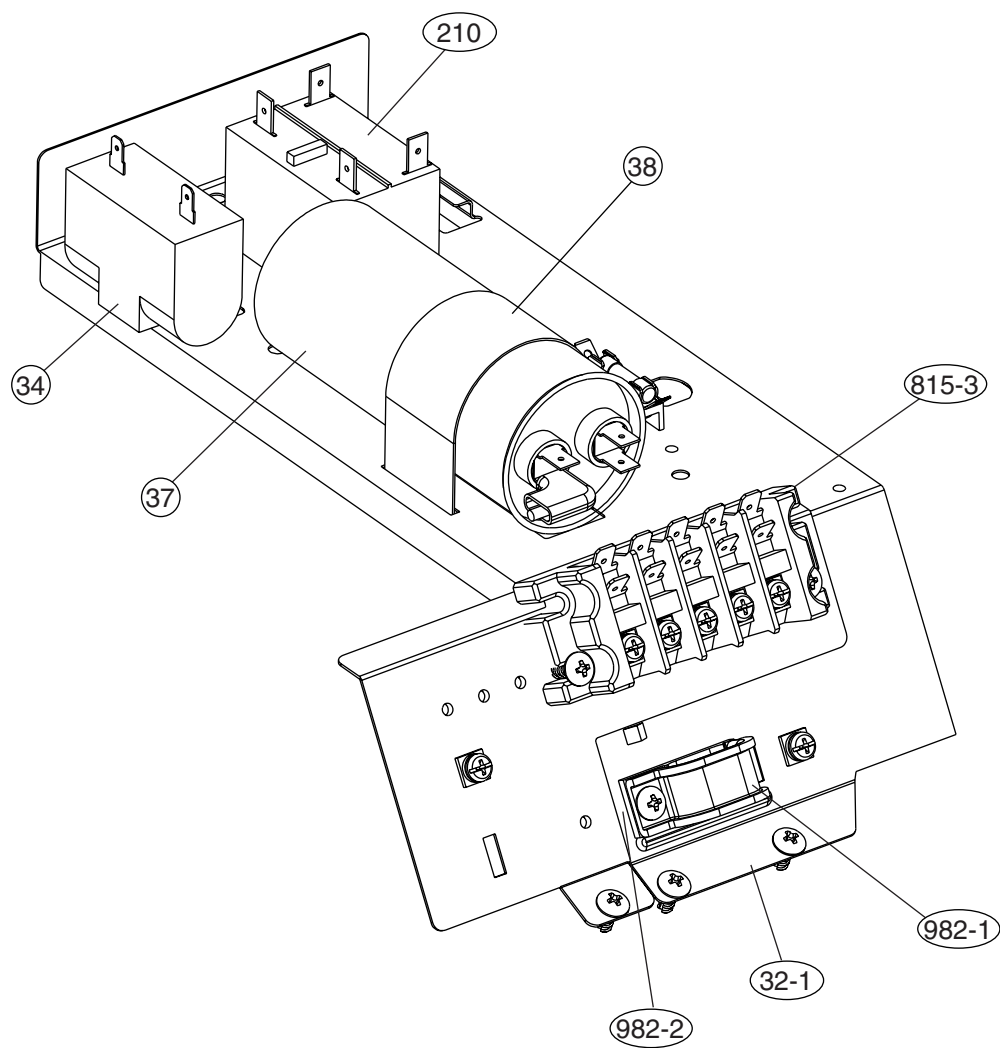
Model : AOY12USAJL



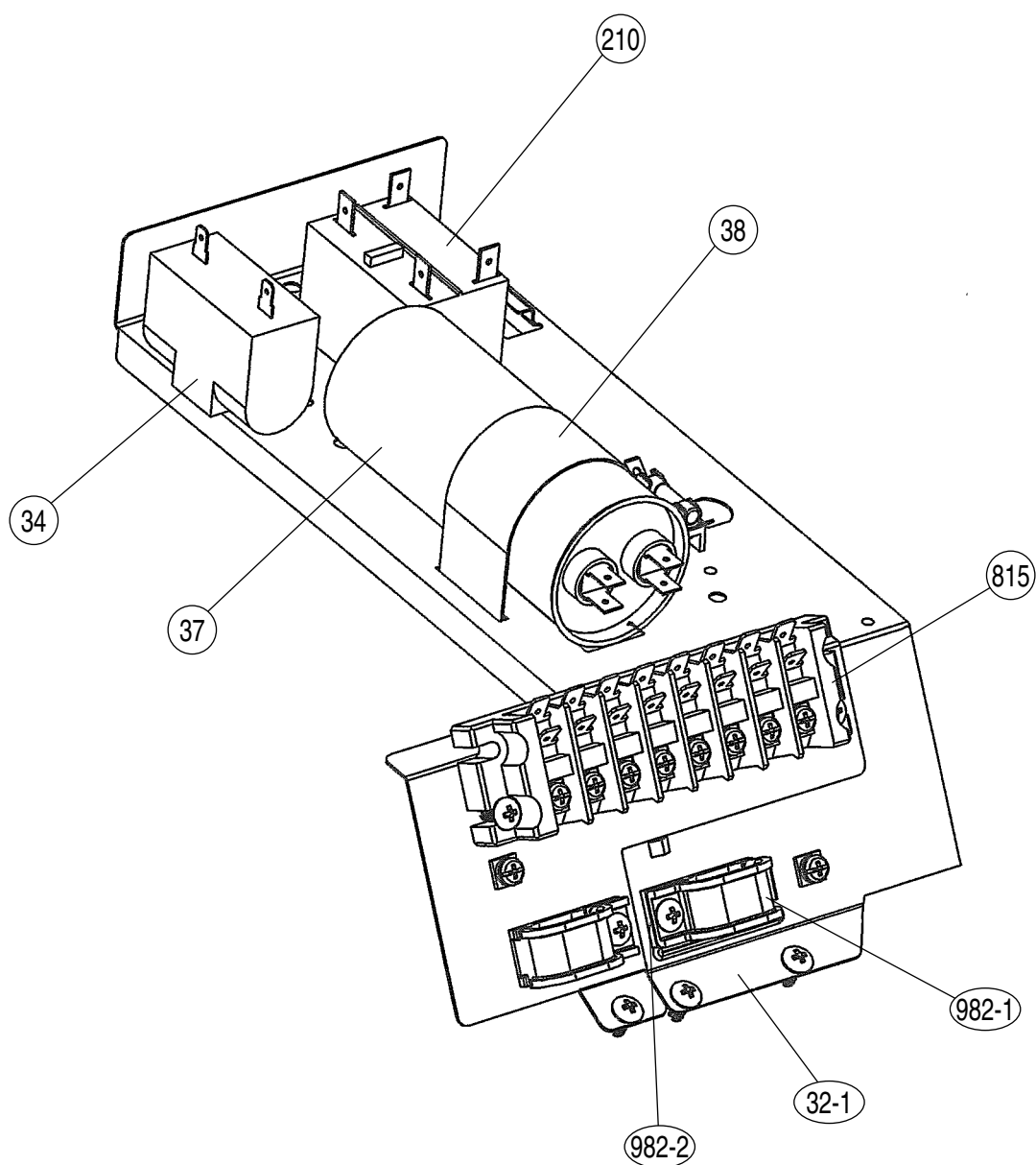
Model : AOY14USDJL



Models :
AOY12FSAJ
AOY14FSDJ



Models :
AOY12USAJL
AOY14USDJL



PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.				Ord. Q'ty
		ARY12FUAD	ARY12UUAD	ARY14FUAD	ARY14UUAD	
34	Capacitor (Fan Motor)	9703306044	9703306044	9703306044	9703306044	
56	Sirocco Fan Assy	9358621004	9358621004	9358621004	9358621004	
63	Front Panel Assy	9363723007	9363723007	9363723007	9363723007	
67	Rubber (Vibration - proof)	313659068604	313659068604	313659068604	313659068604	
74	Air Filter	9366833017	9366833017	9366833017	9366833017	
109	Casing Assy	9363322002	9363322002	9363322002	9363322002	
126	Motor Fixing Table Assy	9358591000	9358591000	9358591000	9358591000	
138	Panel Assy (Motor)	9363401004	9363401004	9363401004	9363401004	
143-1	Clamp NK-3N	313361274700	313361274700	313361274700	313361274700	
146	Evaporator Total Assy	9364499208	9364499208	9364499185	9364499185	
147	Inlet Pipe (Eva.) Assy	9373034063	9373034063	9373034063	9373034063	
160	Drain Pan Assy	9364502021	9364502021	9364502021	9364502021	
164	Fan Motor Assy	9600778210	9600778210	9600778210	9600778210	
173	Hook Metal	9363195002	9363195002	9363195002	9363195002	
184-1	Thermo. Spring-A	313728262708	313728262708	313728262708	313728262708	
195	Clamp SKB-100	313361275805	313361275805	313361275805	313361275805	
196-2	Clamp SKB-150	313035356905	313035356905	313035356905	313035356905	
232	Outlet Pipe (Eva.) Assy	9373038092	9373038092	-----	-----	
234	Thermistor Assy-Room	9703299018	9703299018	9703299018	9703299018	
235	Thermistor Assy-Pipe	9703297090	9703297090	9703297090	9703297090	
236	Controller PCB Assy	9704557667 (EZ-00309WSE-C)	9704557636 (EZ-00321HSE-C)	9704557629 (EZ-00306WSE-C)	9704557537 (EZ-0030WHSE-C)	
240	Remote Control Unit	9372266021	9372266014	9372266021	9372266014	
244	Cover (Piping)	9363327007	9363327007	9363327007	9363327007	
287	Cap (Power)	9352173011	9352173011	9352173011	9352173011	
338	Motor Fixture	9358594001	9358594001	9358594001	9358594001	
380	Locking Spacer	313209391403	313209391403	313209391403	313209391403	
381-4	Spacer	0600118075	0600118075	0600118075	0600118075	
455	Control Box	9366299004	9366299004	9366299004	9366299004	
464	Cover (Cabinet)	9363400007	9363400007	9363400007	9363400007	
514	Control Box Cover	9363201000	9363201000	9363201000	9363201000	
568	Rubber Bushing	9357376004	9357376004	9357376004	9357376004	
587	Support Plate (Eva.)	9363404005	9363404005	9363404005	9363404005	
588-1	Bracket Eva. R	9363199000	9363199000	9363199000	9363199000	
588-2	Bracket Eva. L	9363198003	9363198003	9363198003	9363198003	
625	Cord Bushing	9359240006	9359240006	9359240006	9359240006	
653-1	CUP SCREW	9385089020	9385089020	9385089020	9385089020	
734	Panel Top	9363504002	9363504002	9363504002	9363504002	
761	Side Panel-R Assy	9363507003	9363507003	9363507003	9363507003	
762	Side Panel-L Assy	9363505009	9363505009	9363505009	9363505009	
815-1	Terminal 6P	9900016036	9900016036	9900016036	9900016036	
815-2	Terminal 3P	9703345012	9703345012	9703345012	9703345012	
875	Filter PCB Assy	9704561176	9704561176	9704561176	9704561176	
982-1	Cord Clamp	9356857009	9356857009	9356857009	9356857009	
982-2	Cord Clamp-B	9356858006	9356858006	9356858006	9356858006	

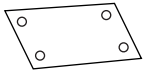
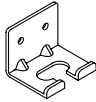
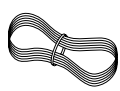
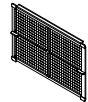
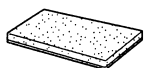
When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

OUTDOOR UNIT

Ref. No.	Description	Part No.				Ord. Q' ty
		AOY12FSAJ	AOY12USAJL	AOY14FSDJ	AOY14USDJL	
2	Guard (Fan)	9304109006	9304109006	9304109006	9304109006	
4	Emblem-Rear	9351355005	9351355005	9351355005	9351355005	
5	Cabinet Painted	9302936017	9302936017	9302936017	9302936017	
7	Cover (Switch) Assy	9357970004	9357970004	9357970004	9357970004	
9	Panel (Cabinet Rear) Painted	9303744017	9303744017	9303744017	9303744017	
12	Base Assy, Painted	9310889114	9310889114	9310889114	9310889114	
13	3-Way Valve Assy	9372205020	9372205020	9372205105	9372205105	
14	2-Way Valve Assy	9372204030	9372204030	9372204030	9372204030	
15	Strainer Assy	9366602019	9366602019	9366602019	9366602019	
16	Condenser Assy	9373131045	9373131038	9373131045	9373131014	
32-1	Control Box Metal-A	9355843003	9355843003	9355843003	9355843003	
34	Capacitor (Fan Motor)	9900270018	9900270018	9900270018	9900270018	
37	Running Capacitor	9900269036	9900269036	9900269043	9900269043	
38	Clamp Metal (Capacitor)	313468061808	313468061808	313468061808	313468061808	
39	Propeller Fan	9351589011	9351589011	9351589011	9351589011	
41	Motor, Induction	9601113010	9601113096	9601113010	9601113096	
42	Bracket (Motor)	313166243804	313166243804	313166243804	313166243804	
98	Ring Fan	313166296109	313166296109	313166296109	313166296109	
105	Compressor Assy	9373010036	9373010036	9373010043	9373010043	
128-1	Rubber (Discharge Pipe)	313155086308	313194159807	313155086308	313185159802	
138	Separator Sub Assy	9303729014	9303729014	9303729014	-----	
178-2	Capillary Holder Rubber	313394274808	-----	313394274808	-----	
210	Relay	9900074012	9900074012	9900074012	9900074012	
213	S-INS. B	313584258005	313584258005	313584258005	313584258005	
343	Solenoid	-----	9900165017	-----	9900165017	
344	4-Way Valve	-----	9900162016	-----	9970036019	
373	Grip	313166178700	313166178700	313166178700	313166178700	
420	Capillary Assy	9372197233	9372197158	9372197189	9372197110	
423	Noise Insulation-F	9350944019	9350944019	9350944019	9350944019	
527	Protective Net	9355444002	9355444002	9355444002	9355444002	
734	Panel (Top) Painted	9302937014	9302937014	9302937014	9302937014	
745	RFM (Motor)	313166036308	313166036308	313166036308	313166036308	
764	Drain Cap	-----	313166024302	-----	313166024302	
765	Drain Pipe (I-Type)	-----	9301102000	-----	9301102000	
766	Drain Packing	-----	9301143003	-----	9301143003	
815	Terminal-8P	-----	9900203047	-----	9900203047	
815-3	Terminal-5P	9900203023	-----	9900203023	-----	
982-1	Clamp (Cord)	9356857009	9356857009	9356857009	9356857009	
982-2	Clamp (Cord)-B	9356858006	9356858006	9356858006	9356858006	
---	Special Washer	301801155013	301801155013	301801155013	301801155013	
---	Muffler	-----	9372369012	-----	9372369029	
---	Special Nut M8	9355091008	9355091008	9355091008	9355091008	
---	Rubber Seat (For Comp)-A	9351813017	9351813017	9351813017	9351813017	
---	BR Sheet	9363708080	-----	9363708035	-----	
---	Cover Gasket	9351921019	9351921019	9351921019	9351921019	

STANDARD ACCESSORIES

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Part No.
Installation template 	1	For positioning the indoor unit	9364225005
Hanger 	4	For suspending the indoor unit from ceiling	9363195002
Tapping screw (φ 4 x 10) 	8	For installing the hanger	0700009037
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	Cooling model	9372266021
		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	12000, 14000, and 18000 BTU/h models	9366833017
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

OUTDOOR UNIT ACCESSORIES (Cooling and heating model)

Name and Shape	Q'ty	Application	Part No.
Drain pipe packing 	1	For outdoor unit drain piping work [Heat & Cool model (Reverse cycle) only]	9301143003
Drain pipe 	1		9301102000
Cap (drain) 	2		313166024302
	1		

