



SPLIT TYPE AIR CONDITIONER CASSETTE type

SERVICE MANUAL



Models

Indoor unit	Outdoor unit
RC-25FA	RO-25FA
RC-25UA	RO-25UA

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SPECIFICATIONS

TYPE		COOLING	COOLING & HEATING
INDOOR UNIT		RC-25FA	RC-25UA
OUTDOOR UNIT		RO-25FA	RO-25UA
COOLING CAPACITY	(kW)	7.05	7.00
HEATING CAPACITY	(kW)	-----	7.80

ELECTRICAL DATA

POWER SOURCE	(V)	230	
FREQUENCY	(Hz)	50	
RUNNING CURRENT	COOLING	11.5	11.8
	HEATING	-----	10.5
INPUT WATTS	COOLING	2.60	2.65
	HEATING	-----	2.35
E.E.R.	COOLING	2.71	2.64
	HEATING	-----	3.32
STARTING CURRENT	(A)	60	
MOISTURE REMOVAL	(ℓ /hr)	2.5	

COMPRESSOR

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

FAN SPEED (r.p.m.)	INDOOR	HIGH	490	
		MED	430	
		LOW	360	
	OUTDOOR		780	
AIR FLOW (m³/h)	INDOOR		1,100	
	OUTDOOR		3,200	
DIMENSIONS H x W x D (mm)	INDOOR		246 x 830 x 830	
	GRILLE		35 x 940 x 940	
	OUTDOOR		650 x 830 x 320	
WEIGHT NET / GROSS (kg)	INDOOR		34 / 44	
	OUTDOOR		58 / 62	59 / 63
MAX PIPE LENGTH / HEIGHT		(m)	25 / 15	
REMOTE CONTROLLER TYPE			WIRED	

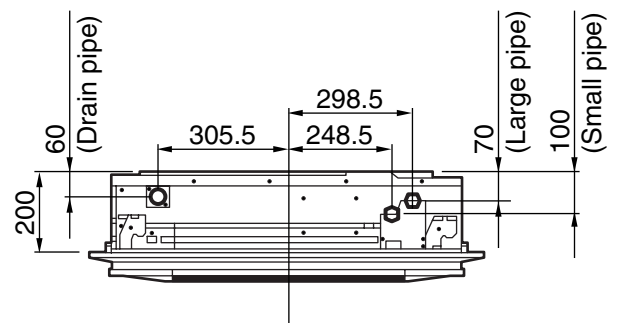
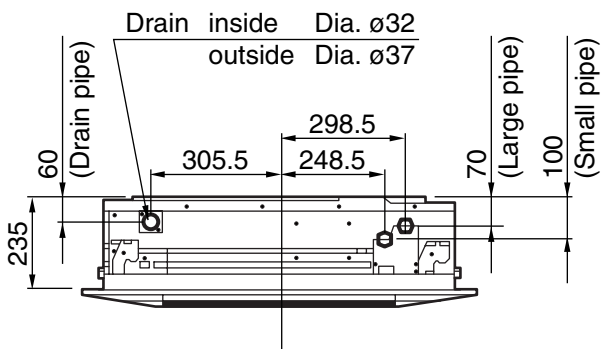
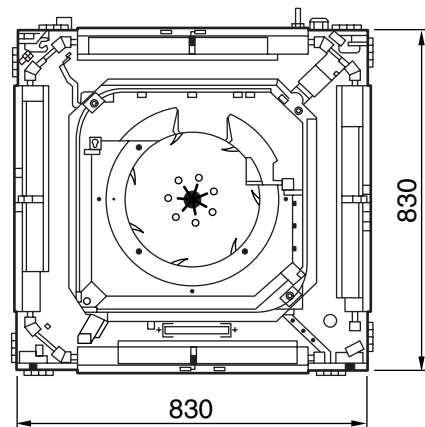
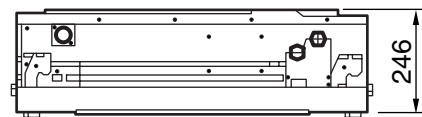
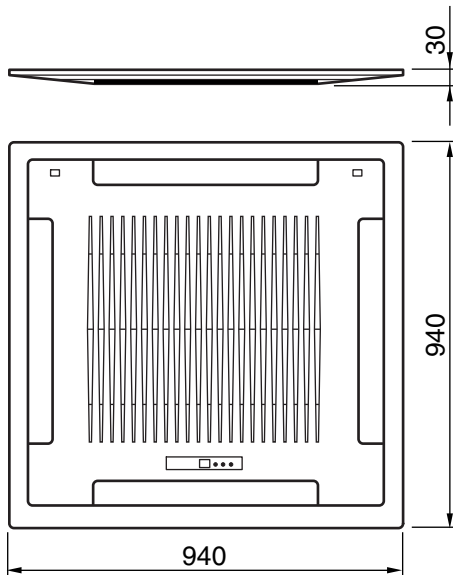
REFRIGERANT CHARGE (R410A)

FULL CHARGE AMOUNT	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 CHARGE			20 g / m (0.7 oz / 3.3 ft.)	40 g / m (1.4 oz / 3.3 ft.)

OUTLINE AND DIMENSIONS

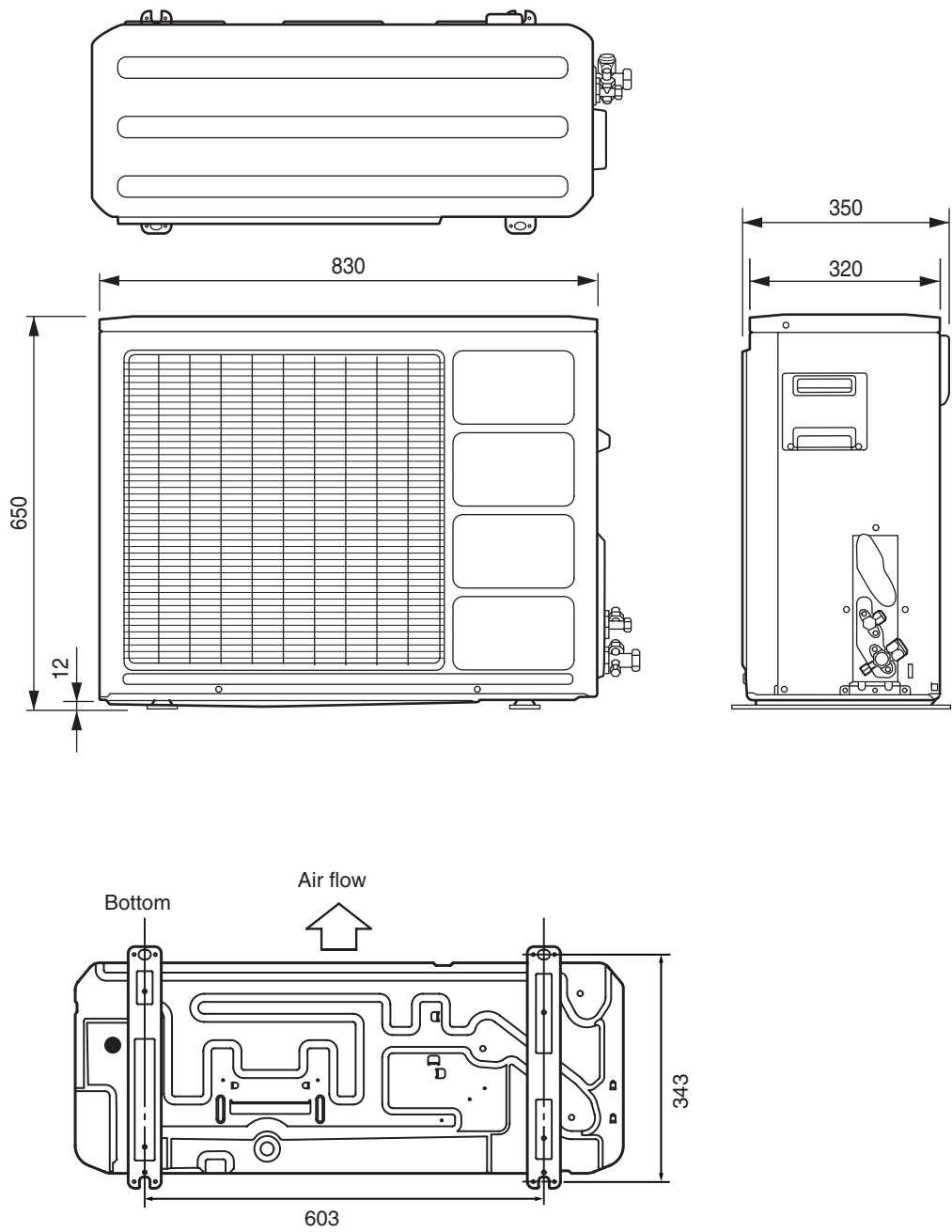
Unit : (mm)

Indoor unit



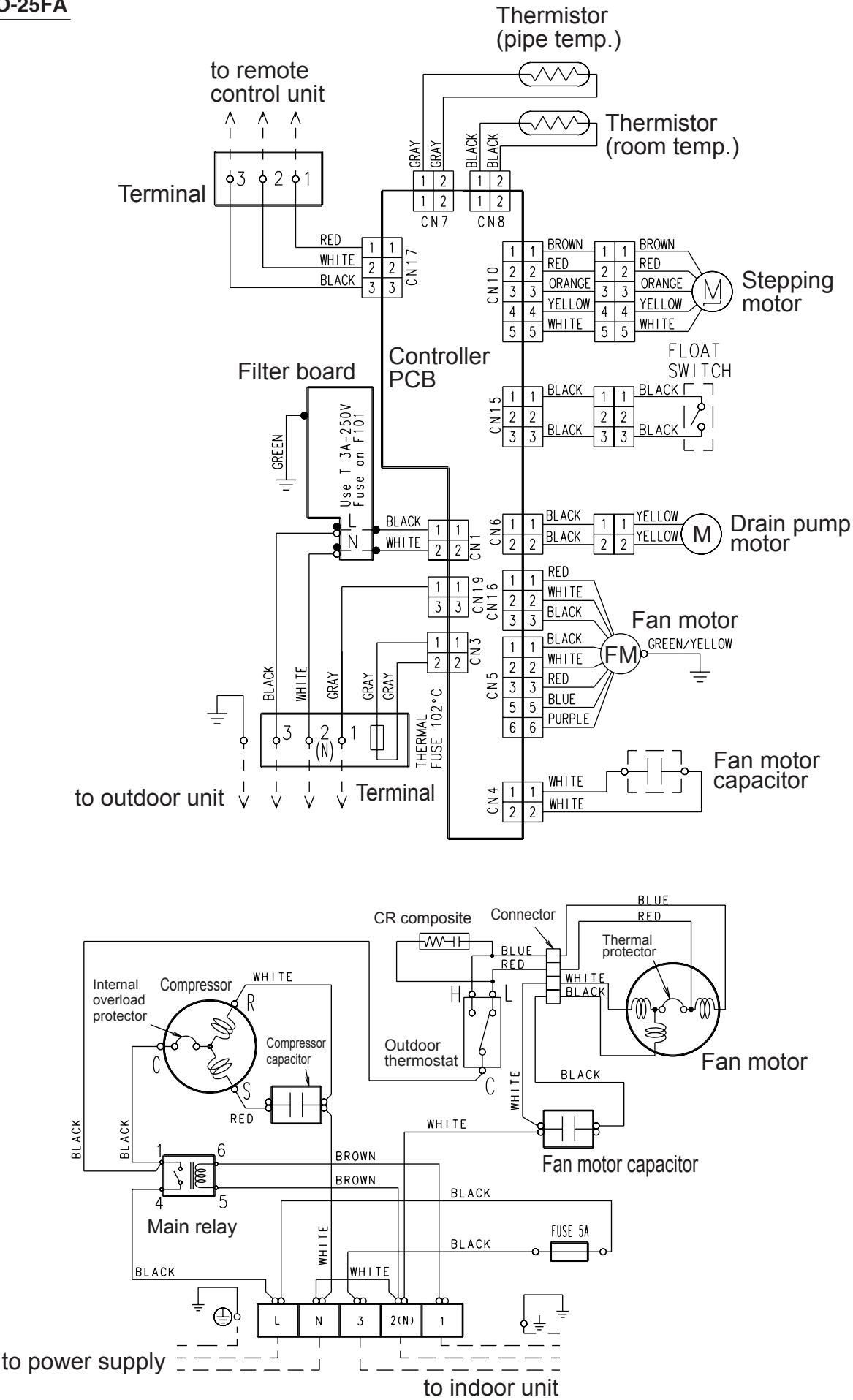
OUTDOOR UNIT

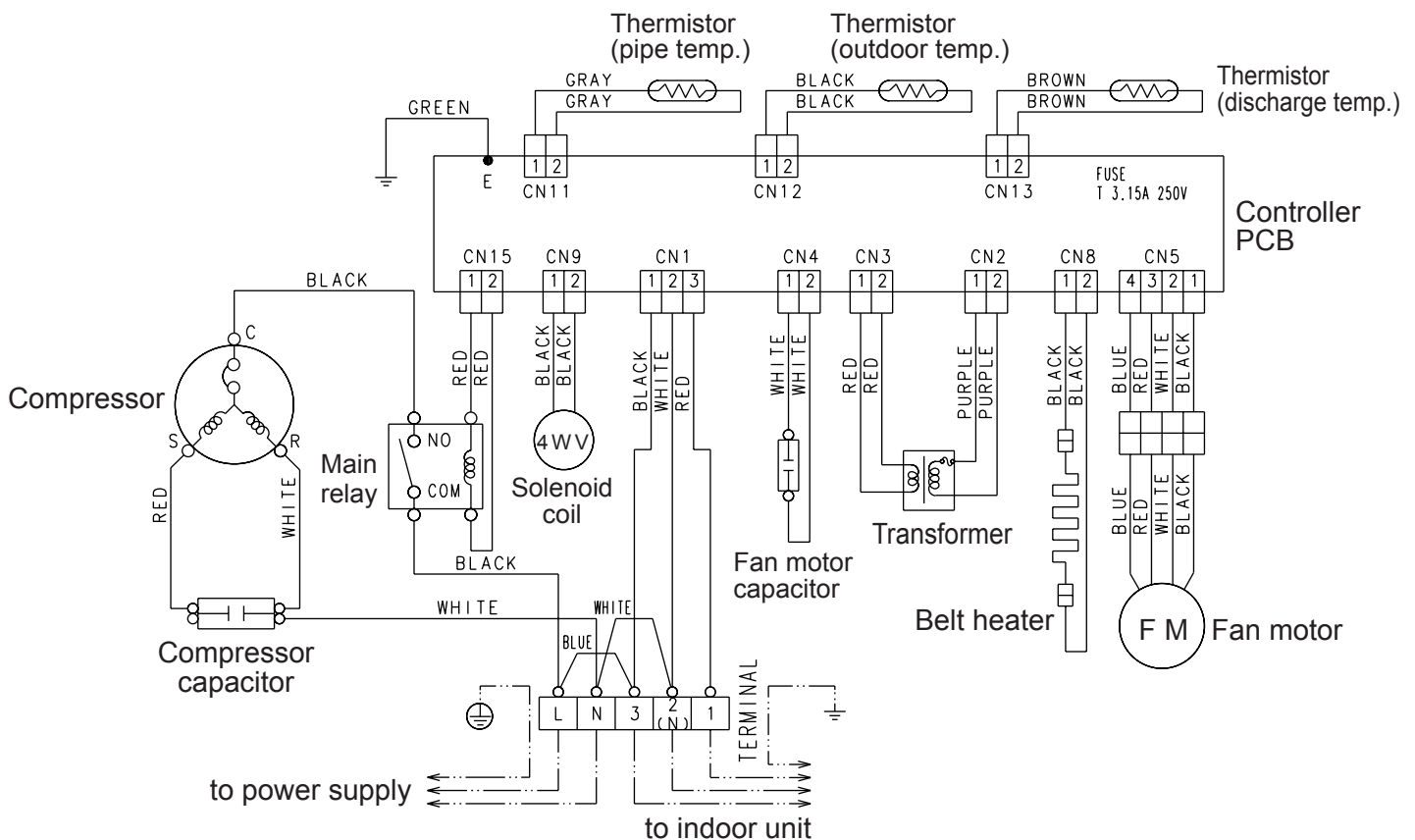
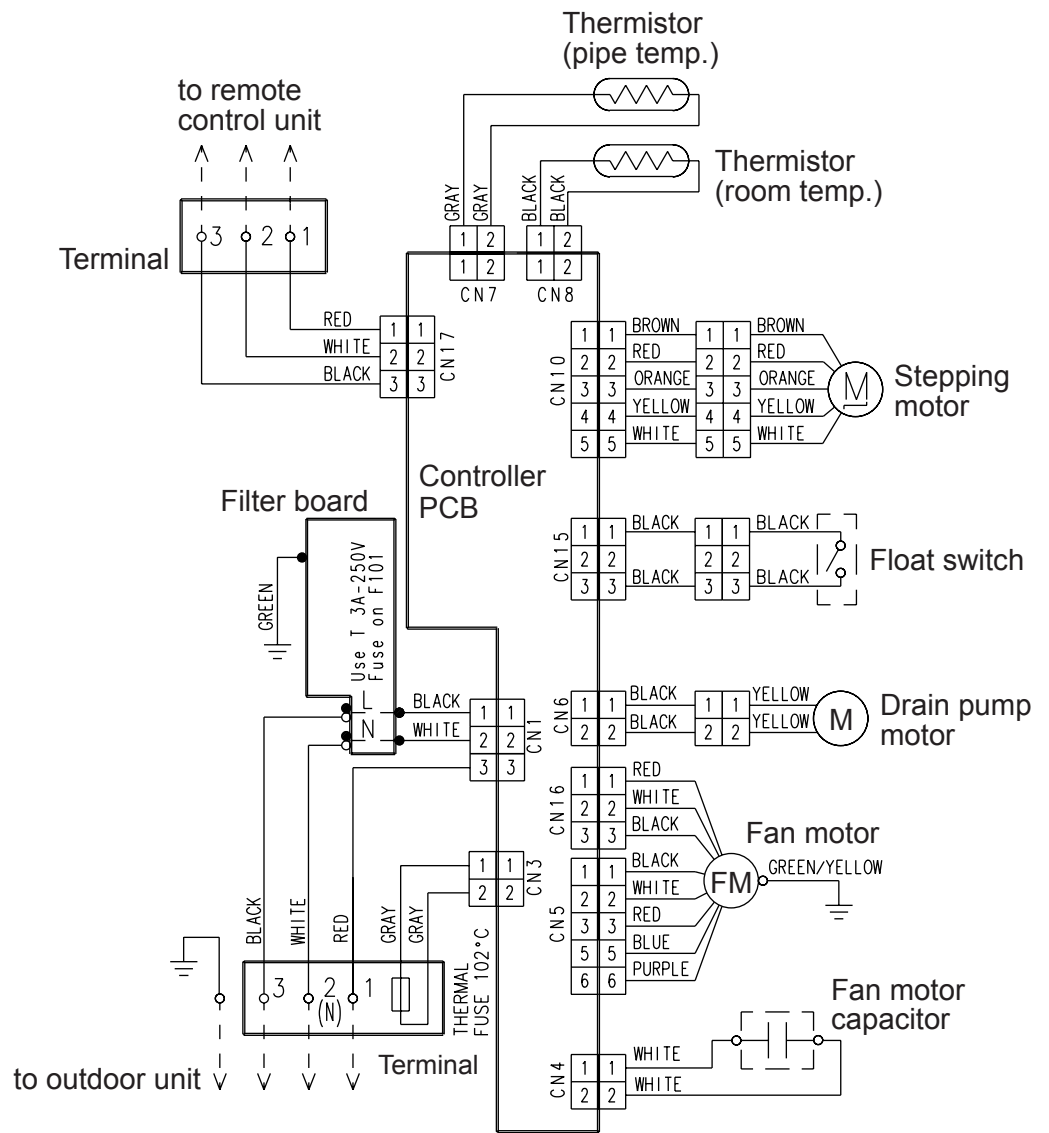
Unit : mm



CIRCUIT DIAGRAM

Model : RC-25FA / RO-25FA



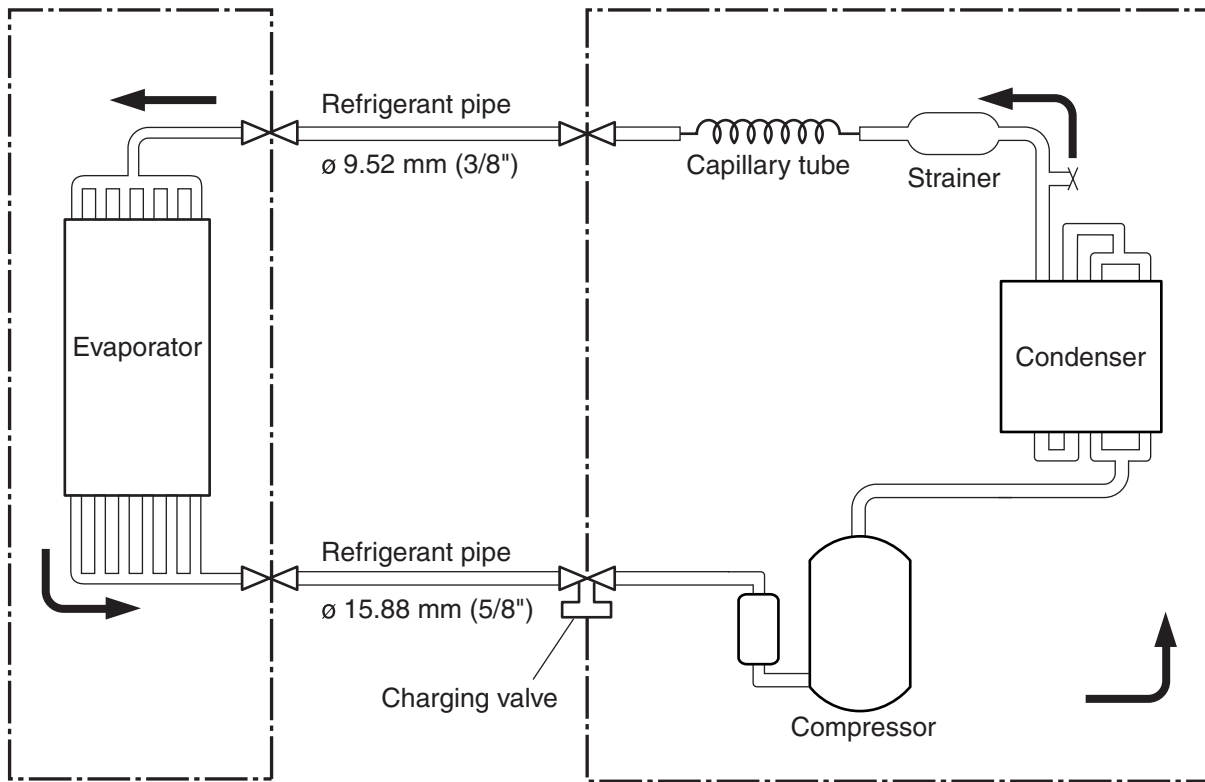


REFRIGERANT SYSTEM DIAGRAM

Models : RC-25FA / RO-25FA

INDOOR UNIT

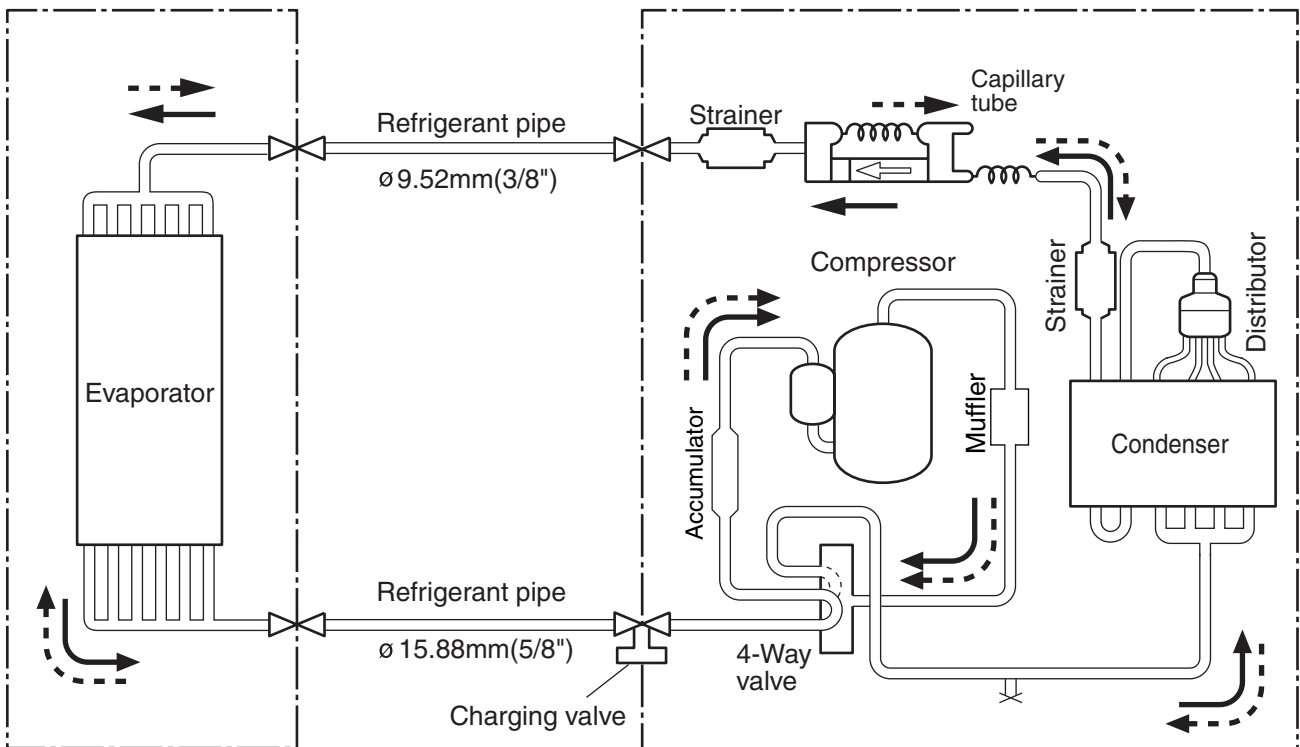
OUTDOOR UNIT



Models : RC-25UA / RO-25UA

INDOOR UNIT

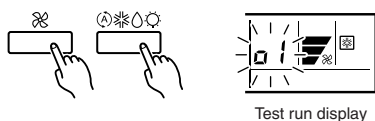
OUTDOOR UNIT



Cooling Heating
 : Flare coupling

ERROR CONTENTS

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



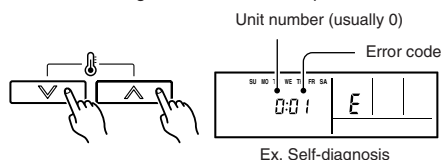
- Press the start/stop button to stop the test run.

[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

- Stop the air conditioner operation.
- 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.



- 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.

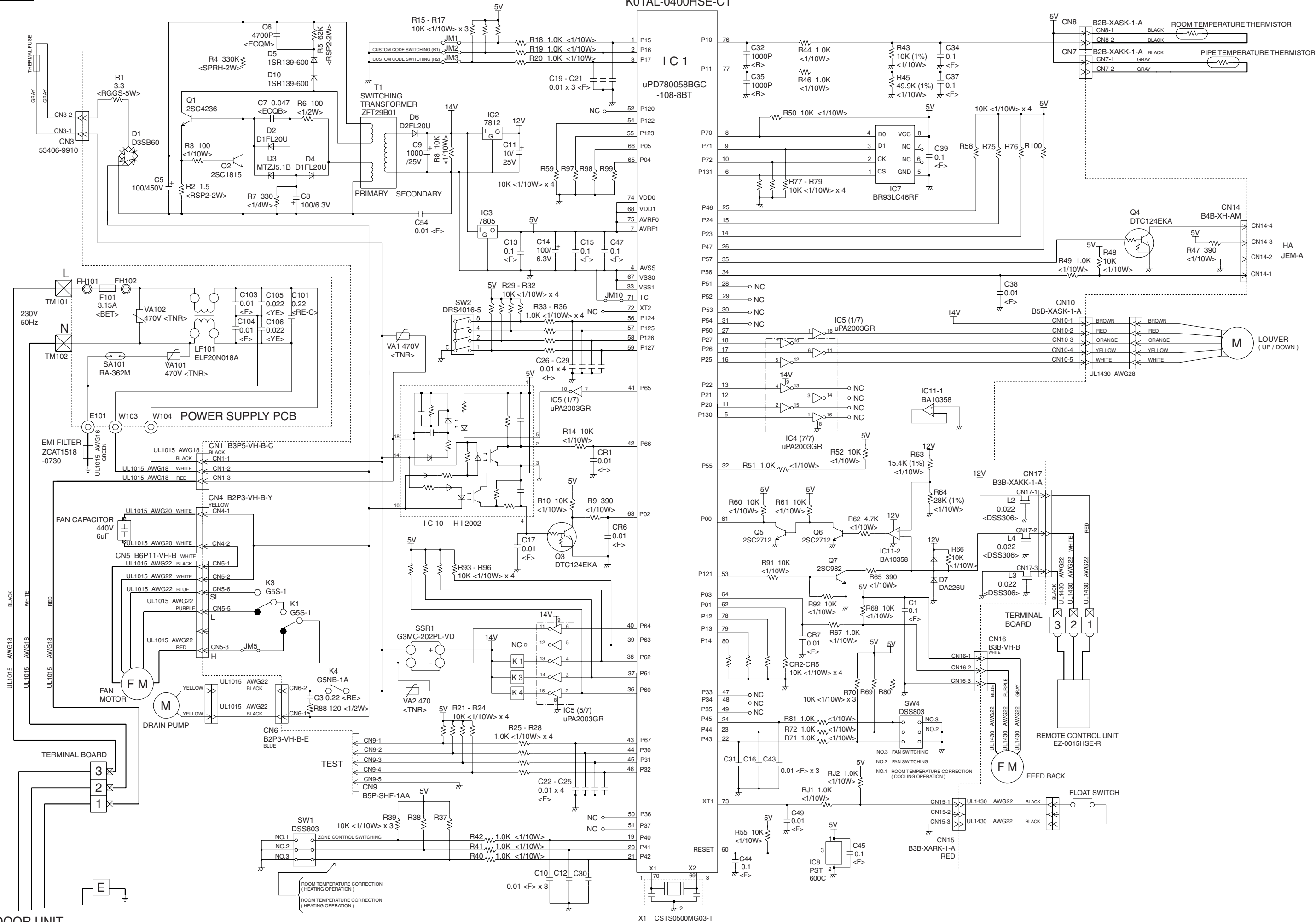
Model : RC-25FA

The schematic diagram illustrates the internal circuitry of a control unit. Key components and their connections include:

- Microcontrollers:** IC1 (uPD780058BGC -108-8BT), IC5 (1/7) uPA2003GR, IC6 (1/7) uPA2003GR, IC7 (BR93LC46RF), and IC11 (BA10358).
- Power Supply:** Multiple 5V, 12V, and 14V rails are shown, with various resistors (R1-R100) and capacitors (C1-C45) for regulation and decoupling.
- Transistors and Relays:** Q3 (DTC124EKA), Q4 (DTC124EKA), Q5 (2SC2712), Q6 (2SC2712), and K8 (14V relay) are used for switching and signal processing.
- Sensors:** Room Temperature Thermistor (CN8), Pipe Temperature Thermistor (CN7), and a Float Switch (CN15) provide input signals to the microcontrollers.
- Output Drivers:** The circuit drives a Motor (M) and a Louver (UP/DOWN) through various relays and transistors.
- Terminal Board:** A terminal board (CN17) is used for external connections, including a Remote Control Unit (EZ-099CWSE-R) and a Float Switch.

The diagram is a detailed representation of the hardware, showing the interconnections between all components and the power supply rails.

CONTROLLER PCB ASSEMBLY (MAIN PCB)
K01AL-0400HSE-C1



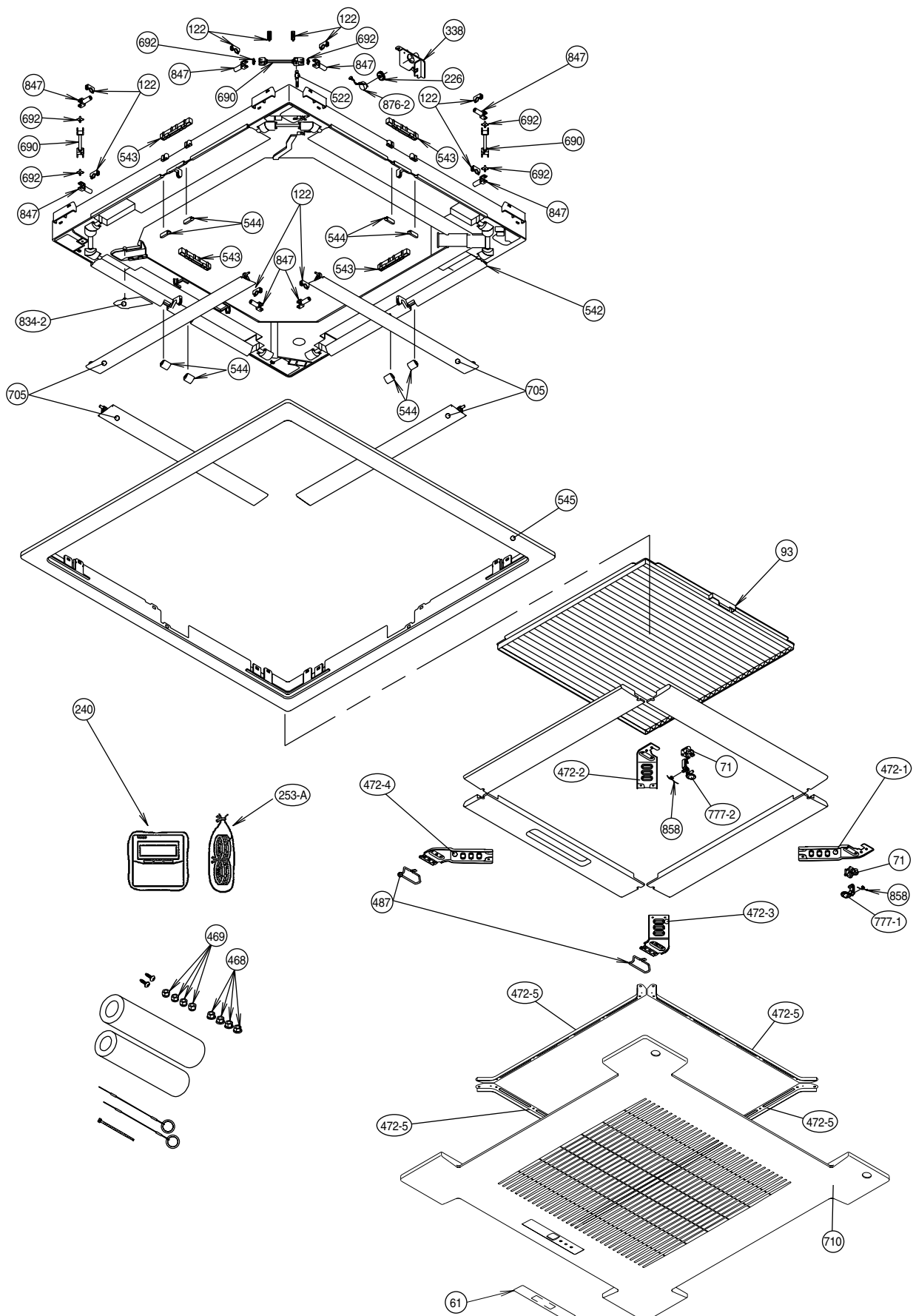
OUTDOOR UNIT

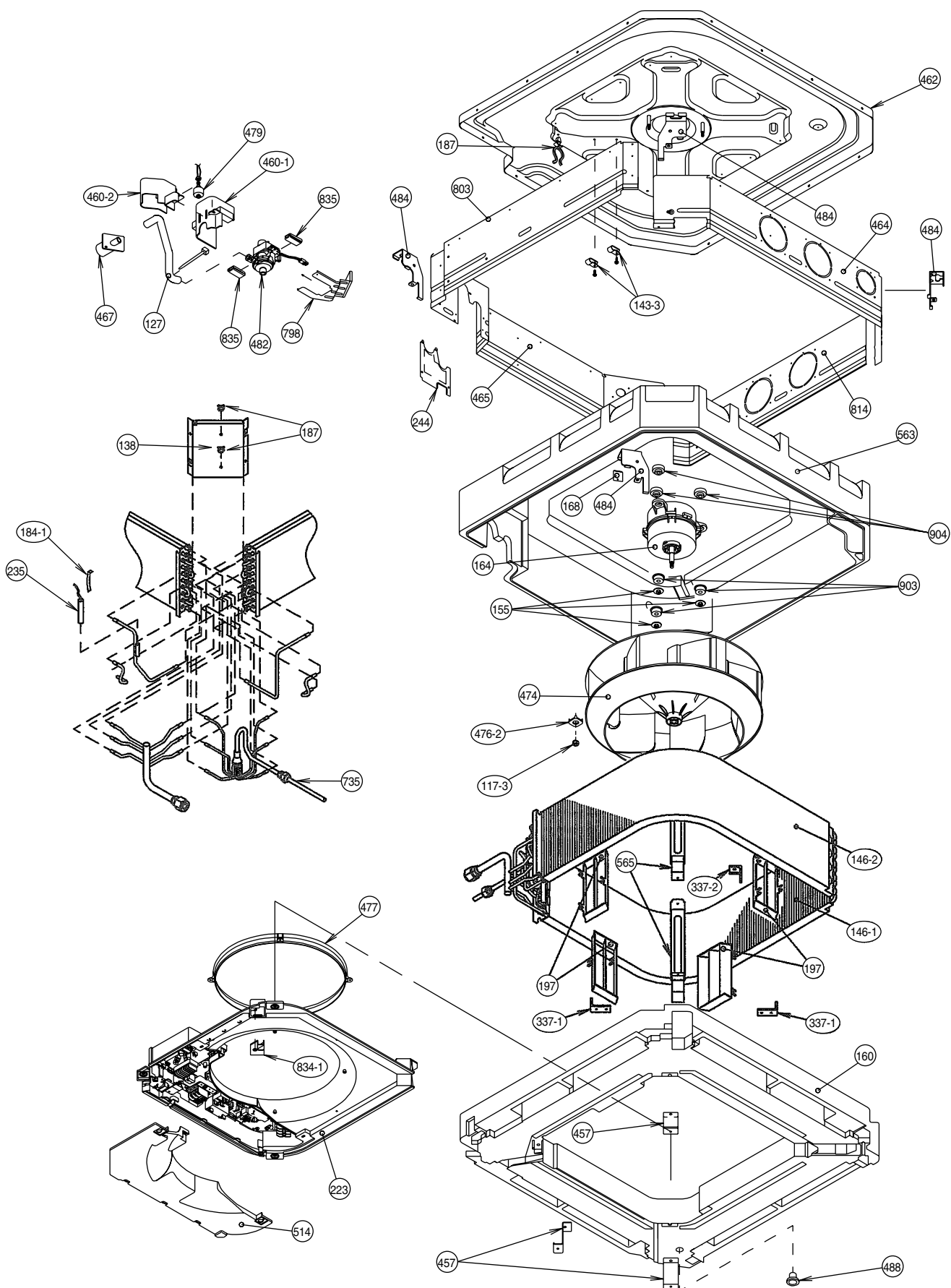
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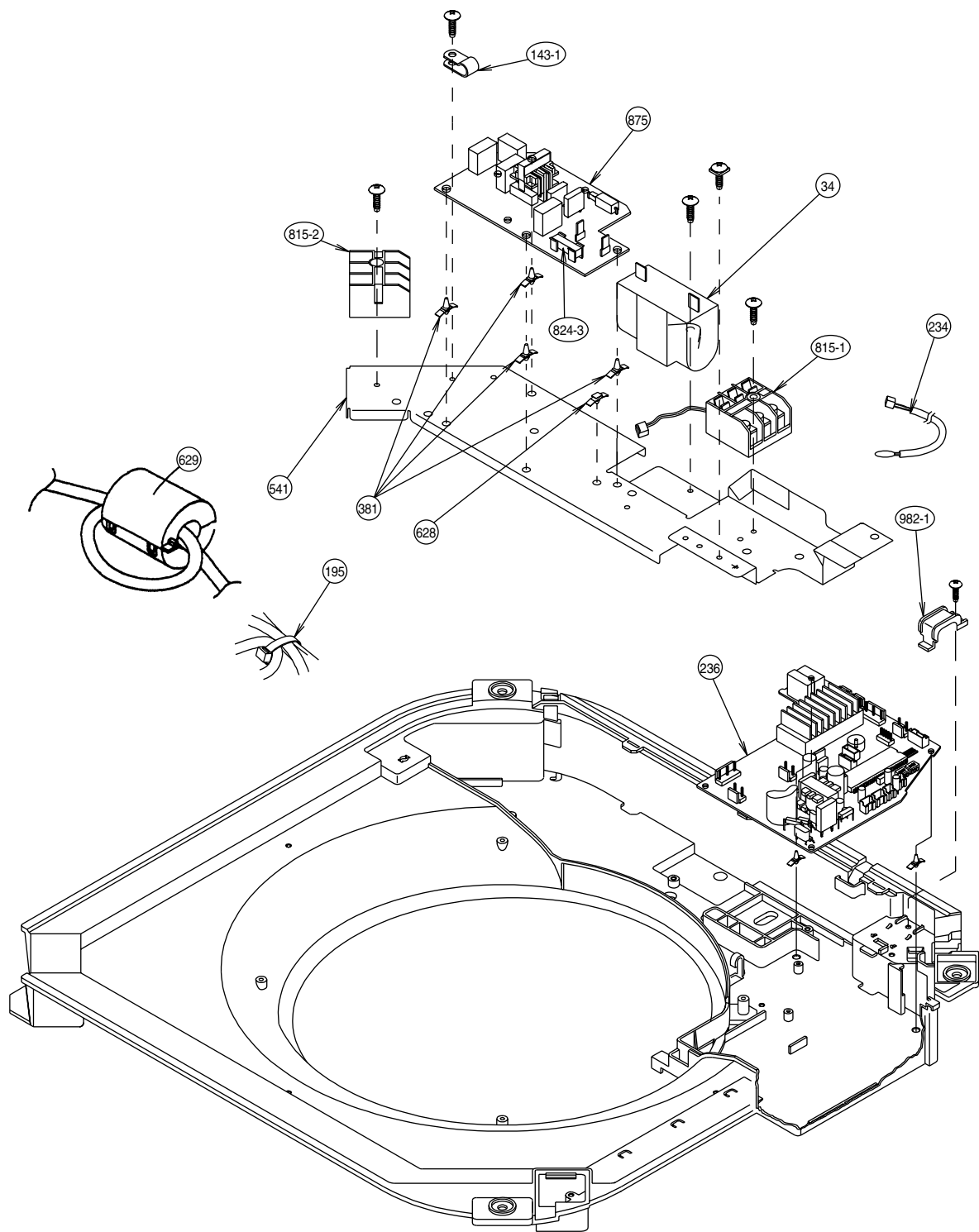
Model : RO-25UA

DISASSEMBLY ILLUSTRATION

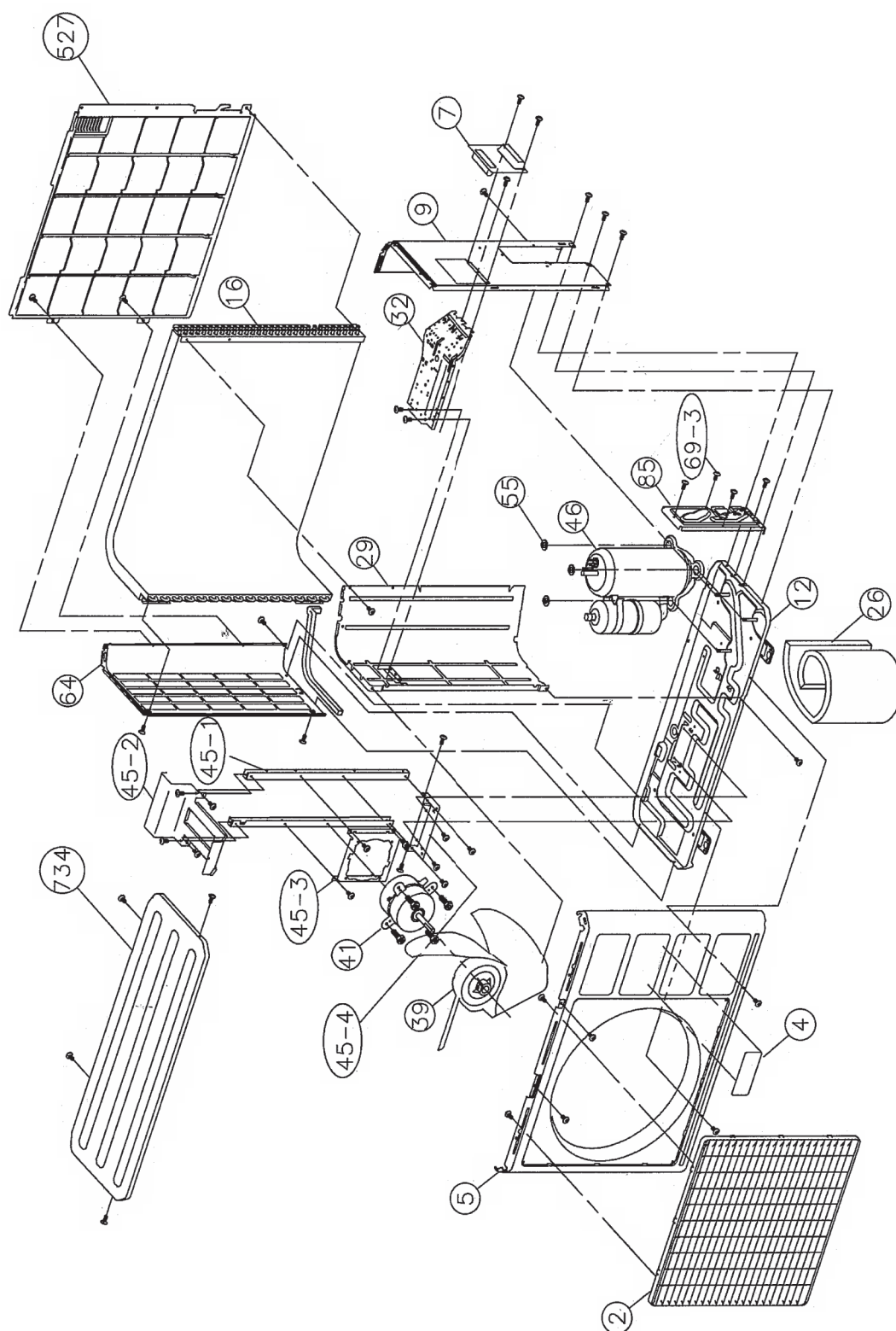
Indoor unit



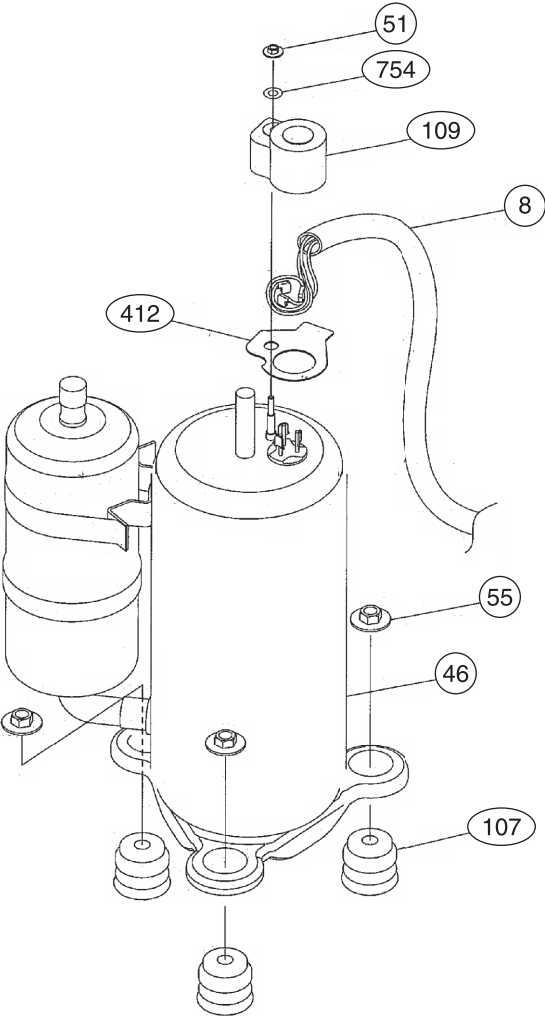




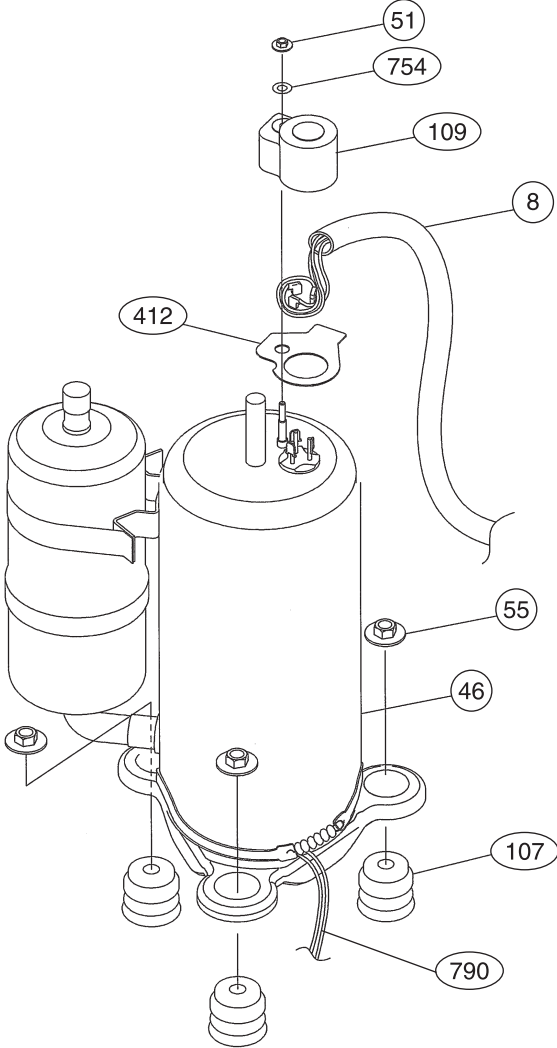
Outdoor unit



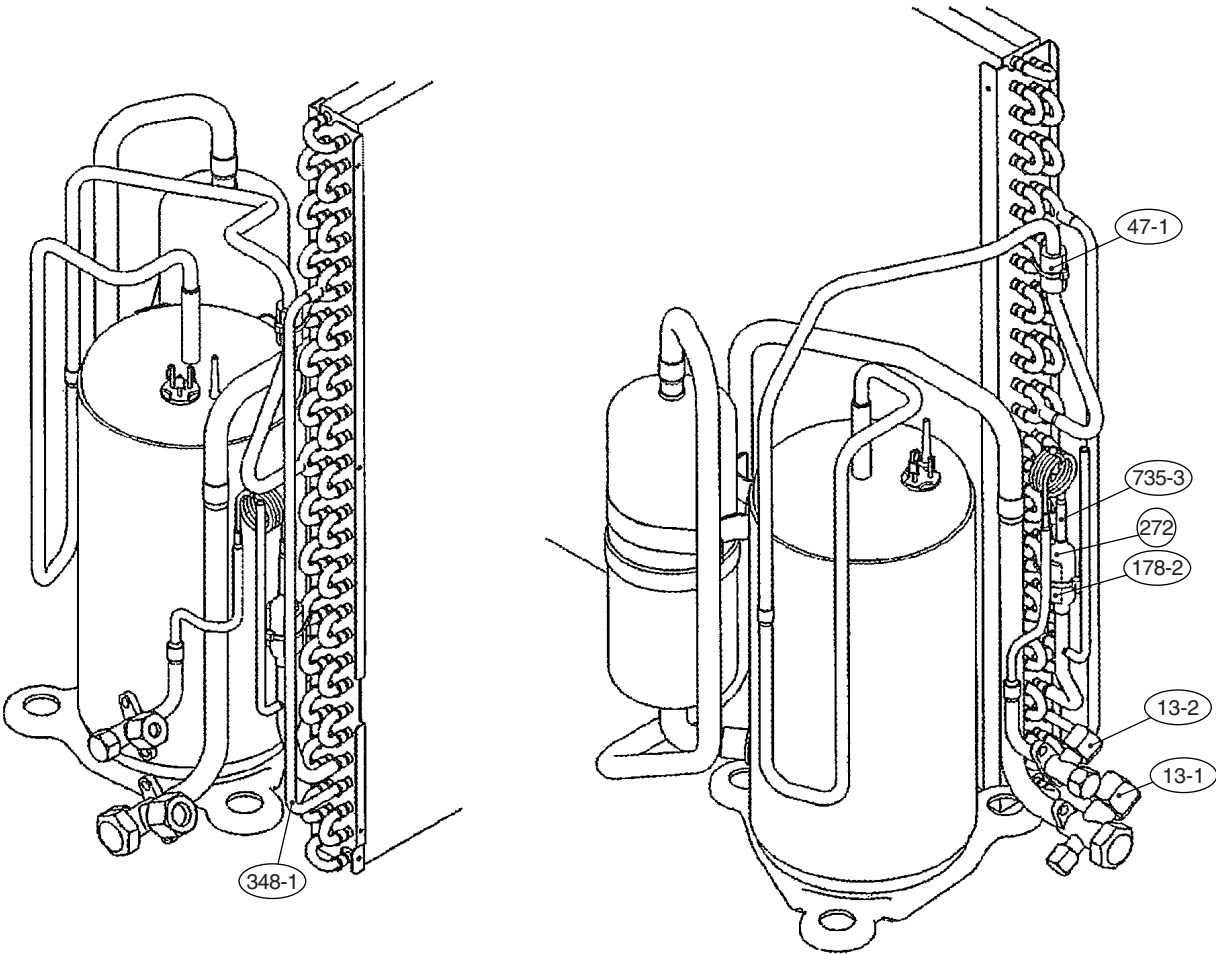
Model : RO-25FA

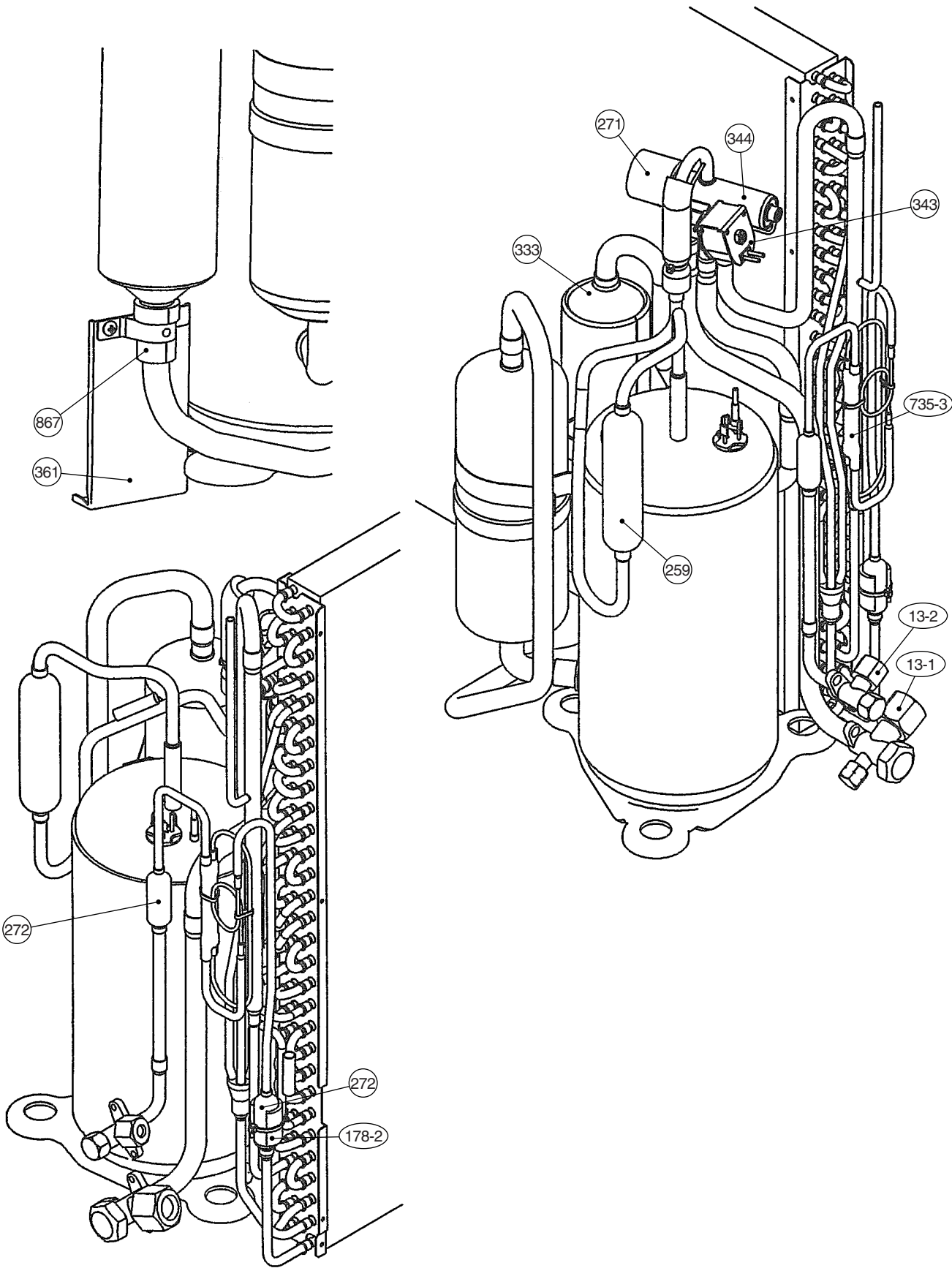


Model : RO-25UA

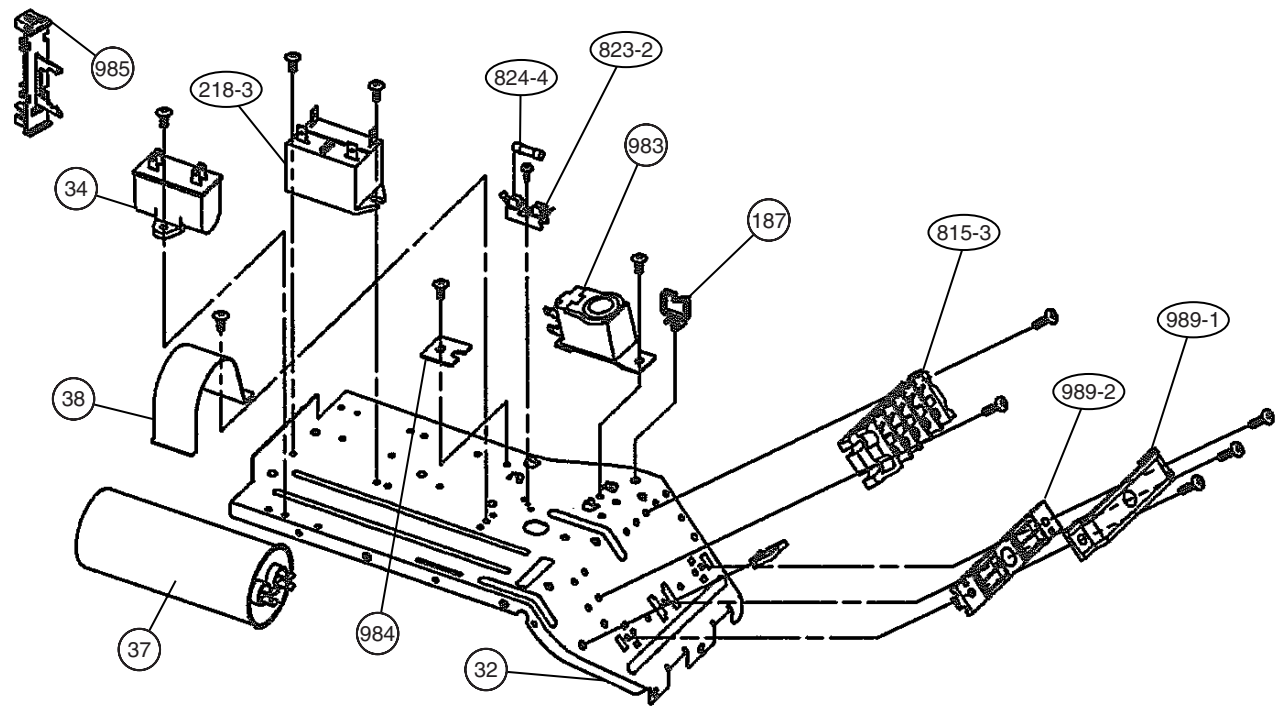


Model : RO-25FA

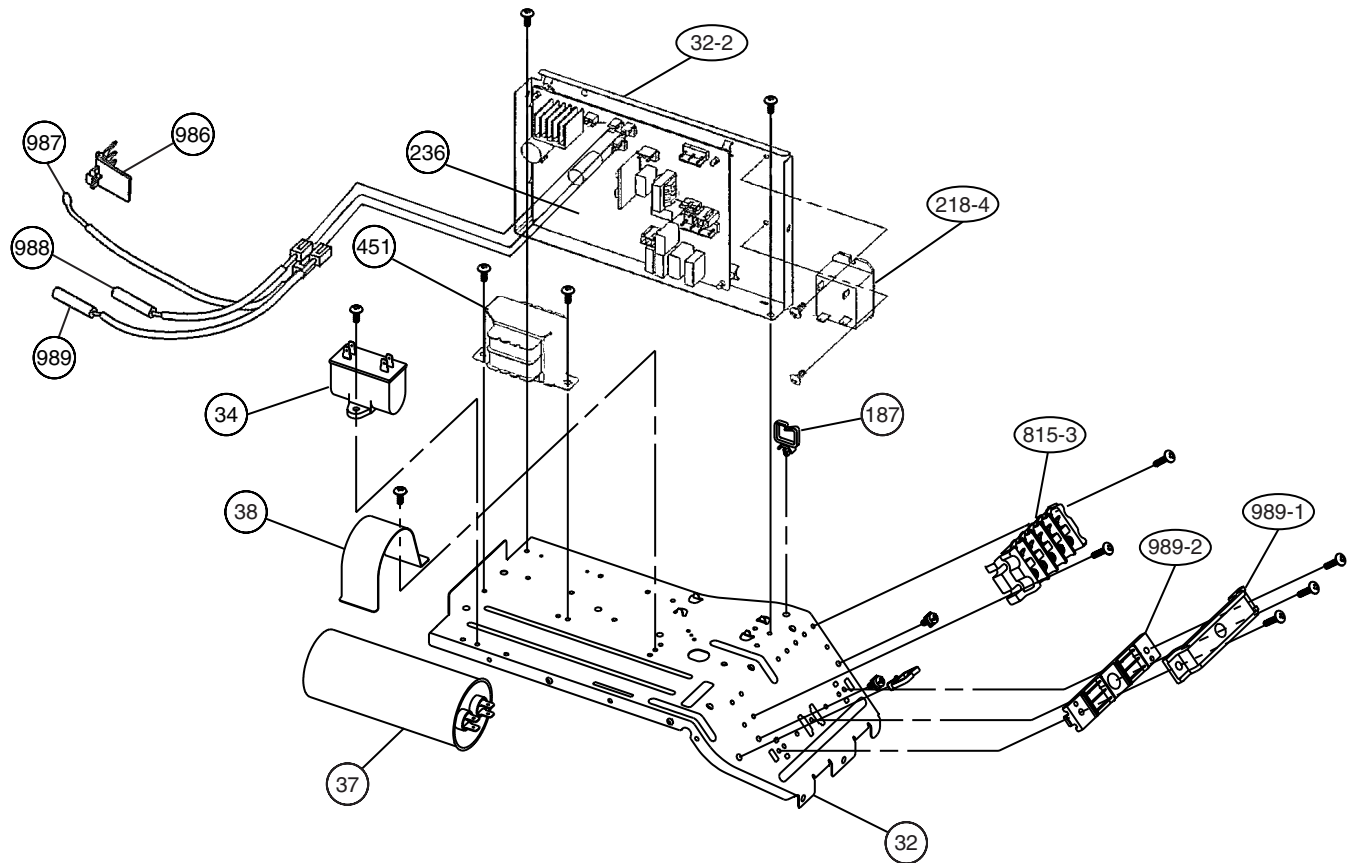




Model : RO-25FA



Model : RO-25UA



PARTS LIST

INDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty	Ref. No.	Description	Part No.	Ord. Q'ty
		RC-25FA RC-25UA				RC-25FA RC-25UA	
34	Capacitor (Fan Motor)	9900230029		474	Turbo Fan Assy	9362810012	
61	Decoration Plate	9363133004		476-2	Special Washer	9362756006	
71	Grille Hook Holder	9362782005		477	Bellmouth (B)	9362774000	
93	Filter	9362766005		479	Float Switch	9703285004	
117-3	Hex. Nut w/Spring Washer	301721180114		482	Pump Unit	9703125010	
122	Louver Support Holder	9362799003		484	Hook	9362736008	
127	Drain Hose	9365074008		487	Grille Hinge Wire	9362754002	
138	Separate Wall	9362793001		488	Drain Pan Plug	313005174654	
143-1	Clamp NK-3N	313361274700		514	Control Box Cover	9362763004	
143-3	Clamp NK-9N	313209399700		522	Joint Gear	9362772006	
146-1	Evaporator-A Assy	9373799030		541	Terminal Plate	9363642001	
146-2	Evaporator-B Assy	9373800033		542	Panel Base	9362759014	
155	Special Nut M6	9307615016		543	Panel Frame Holder	9362761017	
160	Drain Pan Assy	9362804004		544	Panel Base Holder	9362760010	
164	Fan Motor Assy-In	9601558019		545	Panel Frame	9362758017	
168	Cabinet-E	9362735001		563	Insulation (Inner Box)	9362797009	
184-1	Thermostat Spring-A	313728262708		565	Evaporator Holder Assy	9362802024	
187	Clamp No.1219	313361271706		628	Locking Spacer-B	313005446558	
195	Clamp SKB-100	313361275805		629	EMI Filter	0400247074	
197	Wind Guide Board	9373444015		690	Joint-A	9362773003	
223	Control Box	9362762007		692	Joint Shaft	9362771009	
226	Motor Gear	9362764001		705	Louver	9362769013	
234	Thermistor Assy-Room	9703299025		710	Intake Grille	9362854016	
235	Thermistor Assy-Pipe	9703297014		735	Distributor Assy	9371325040	
236	Controller PCB Assy (for FA)	9704557704		777-1	Grille Hook-A	9362779012	
	K01AL-0401WSE-C1			777-2	Grille Hook-B	9362778015	
236	Controller PCB Assy (for UA)	9704557698		798	Pump Hook Bracket	9362753005	
	K01AL-0400HSE-C1			803	Cabinet-D	9362792004	
240	Remote Control Unit (for FA)	9372266069		814	Cabinet-C	9362791007	
240	Remote Control Unit (for UA)	9372266052		815-1	Terminal-3P	9306489069	
244	Pipe Cover	9362748001		815-2	Terminal-3P	9703345012	
253-A	Wire Assy (Remote)	9372714010		824-3	Fuse	0600222512	
337-1	Reinforcement (Eva.)-A	9362749008		834-1	Wire Cover-A	9362789004	
337-2	Reinforcement (Eva.)-B	9362750004		834-2	Wire Cover-B	9362788007	
338	Motor Holder	9362765008		835	Cushion Rubber (Pump)	9362777001	
381	Locking Spacer	313209391506		847	Louver Supporter	9362770019	
457	Reinforcement (Drain Pan)	9362757003		858	Grille Spring	9362755009	
460-1	Pump Cover-A	9362775007		875	Filter PCB Assy (for FA)	9704561107	
460-2	Pump Cover-B	9362776004		875	Filter PCB Assy (for UA)	9704561091	
462	Top Cover Plate Assy	9362806022		876-2	Step Motor	9360307019	
464	Cabinet-A Assy	9362807012		903	Rubber (Vibration-proof) A	9364891002	
465	Cabinet-B Assy	9362808019		904	Rubber (Vibration-proof) B	9364892009	
467	Drain Port	9362786003		982-1	Cord Clamp	9356857009	
468	Special Nut-A (Large)	313005446653					
469	Special Nut-B (Small)	313005446759					
472-1	Grille Reinforcement-A	9362738002					
472-2	Grille Reinforcement-B	9362739009					
472-3	Grille Reinforcement-C	9362740005					
472-4	Grille Reinforcement-D	9362741002					
472-5	Grille Reinforcement-E	9362742009					

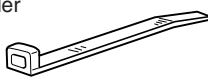
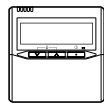
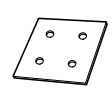
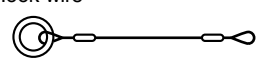
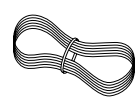
OUTDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty
		RO-25FA	
2	Fan Guard	9371187013	
4	Emblem-Rear	9361328006	
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	9900130022	
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	301210060360	
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	0500063024	
824-4	Fuse	0600222529	
983	Outdoor Thermostat	9352553004	
984	Bracket (switch)	313986353607	
985	Bracket (thermostat)	9372643013	
989-1	Cord Clamp-A	9359822011	
989-2	Cord Clamp-B	9359823018	

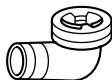
Ref. No.	Description	Part No.	Ord. Q'ty
		RO-25UA	
2	Fan Guard	9371187013	
4	Emblem-Rear	9361328006	
5	Front Panel Ptd	9371924014	
7	Connector Cover (Cabinet)	9366398004	
8	Wire Assy (Comp)	9372334010	
9	Side Panel R Ptd	9371927015	
12	Base Assy, Ptd	9371920016	
13-1	3-Way Valve Assy	9372205013	
13-2	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	9900130022	
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	301210060360	
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	Power Relay	9353611017	
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	Cord Clamp-A	9359822011	
989-2	Cord Clamp-B	9359823018	

STANDARD ACCESSORIES

INDOOR UNIT ACCESSORIES

Name and Shape	Part No.	
	RC-25FA, RC-25UA	
Coupler heat insulation 	9350716029 } 1 each 9352766015 }	
Binder 	313361275805 (Small)	
Screw 	0700181108 For installing the remote controller	
Special nut A (large flange) 	313005446653	
Special nut B (small flange) 	313005446759	
Remote control unit 	(Cooling model) 9372266069	
	(Cooling & Heating model) 9372266052	
Template 	9363173000	
Blower cover insulation 	9363265002	
Hook wire 	9363168006	
Remote controller cord 	9372714010	

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Part No.	
		RO-25FA	RO-25UA
Drain pipe 	1	—	9303029015
Drain cap 	1	—	313166024302

