

FUJII ELECTRIC

SPLIT TYPE AIR CONDITIONER (50Hz) DUCT type

SERVICE MANUAL



Models	Indoor unit	Outdoor unit
	RD-25EA RD-30EA	RO-25EA RO-30EA

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

INDOOR UNIT		RD-25EA	RD-30EA
OUTDOOR UNIT		RO-25EA	RO-30EA
COOLING CAPACITY	(kW)	7.00 - 7.10	8.40 - 8.50

ELECTRICAL DATA

POWER SOURCE	(V)	220 - 240	220 - 240
FREQUENCY	(Hz)	50	50
RUNNING CURRENT	(A)	12.8 - 13.2	16.9 - 17.0
INPUT WATTS	(kW)	2.80 - 2.85	3.53 - 3.58
EER	(kW/kW)	2.50 - 2.49	2.38 - 2.37
MOISTURE REMOVAL	(ℓ /hr)	2.5	4.0
AIR CIRCULATION-Hi	(m ³ /hr)	1,100	1,300

Note : The above list shows values at the external static pressure of 98Pa (10 mmAq).

COMPRESSOR

TYPE	Hermetic type, Permanent split condenser, 2 pole, Single phase, Induction motor		
CODE	NE44VNDMT	ZR42K3E-PFJ	
REFRIGERANT	R407C (g)	2,100	2,400

FAN MOTOR

		RD-25EA	RD-30EA	RO-25EA	RO-30EA
TYPE		MFA-25CTT	MFA-25CTT	MFB-30DFT	MFB-30DFT
HI-SPEED	(r.p.m.)	890	920	720	760
MED-SPEED	(r.p.m.)	820	840	—	—
LO-SPEED	(r.p.m.)	745	765	450	460

DIMENSIONS

INDOOR UNIT	H x W x D (mm)	270 x 1,210 x 700		
OUTDOOR UNIT		700 x 900 x 350		900 x 900 x 350

WEIGHT

INDOOR UNIT	GROSS/NET (kg)	58 / 43		
OUTDOOR UNIT		82 / 70		89 / 77

MODELS				RD-25EA	RD-30EA
				RO-25EA	RO-30EA
REFRIGERANT CIRCUIT	DISCHARGE PRESSURE	kg/cm²G		22.5	22.0
	SUCTION PRESSURE	kg/cm²G		5.2	4.9
	DISCHARGE TEMP.	°C		80	75
	REFRIG. PIPE LENGTH	m		7.5	7.5
	DISCHARGE AIR TEMP.	°C		14	13
CONDITION	INDOOR ENTERING AIR TEMP.	DB/WB °C		27.0 / 19.0	27.0 / 19.0
	OUTDOOR ENTERING AIR TEMP.	DB/WB °C		35.0 / 24.0	35.0 / 24.0
PIPING	PIPE DIA. SIZE	LIQUID	mm	9.53	9.53
		GAS	mm	15.88	15.88
	CONNECTION METHOD			Flare	Flare
	BETWEEN	HEIGHT	m	Max. 15	Max. 15
		PIPE LENGTH	m	Max. 25	Max. 30
	STATIC PRESSURE			Pa	98 (MAX 176)
REFRIGERANT TYPE				R407C	R407C

PIPE LENGTH		5 m (16 ft.)	10 m (33 ft.)	15 m (49 ft.)	20 m (66 ft.)	25 m (82 ft.)	30 m (99 ft.)	Additional refrigerant
FULL CHARGE AMOUNT (R407C)	RD-25EA	2,100 g (74.1 oz)						
	RD-30EA	2,400 g (84.7 oz)				2,485 g (87.7 oz)	2,570 g (90.7 oz)	17 g/m (0.6 oz / 3.3 ft)

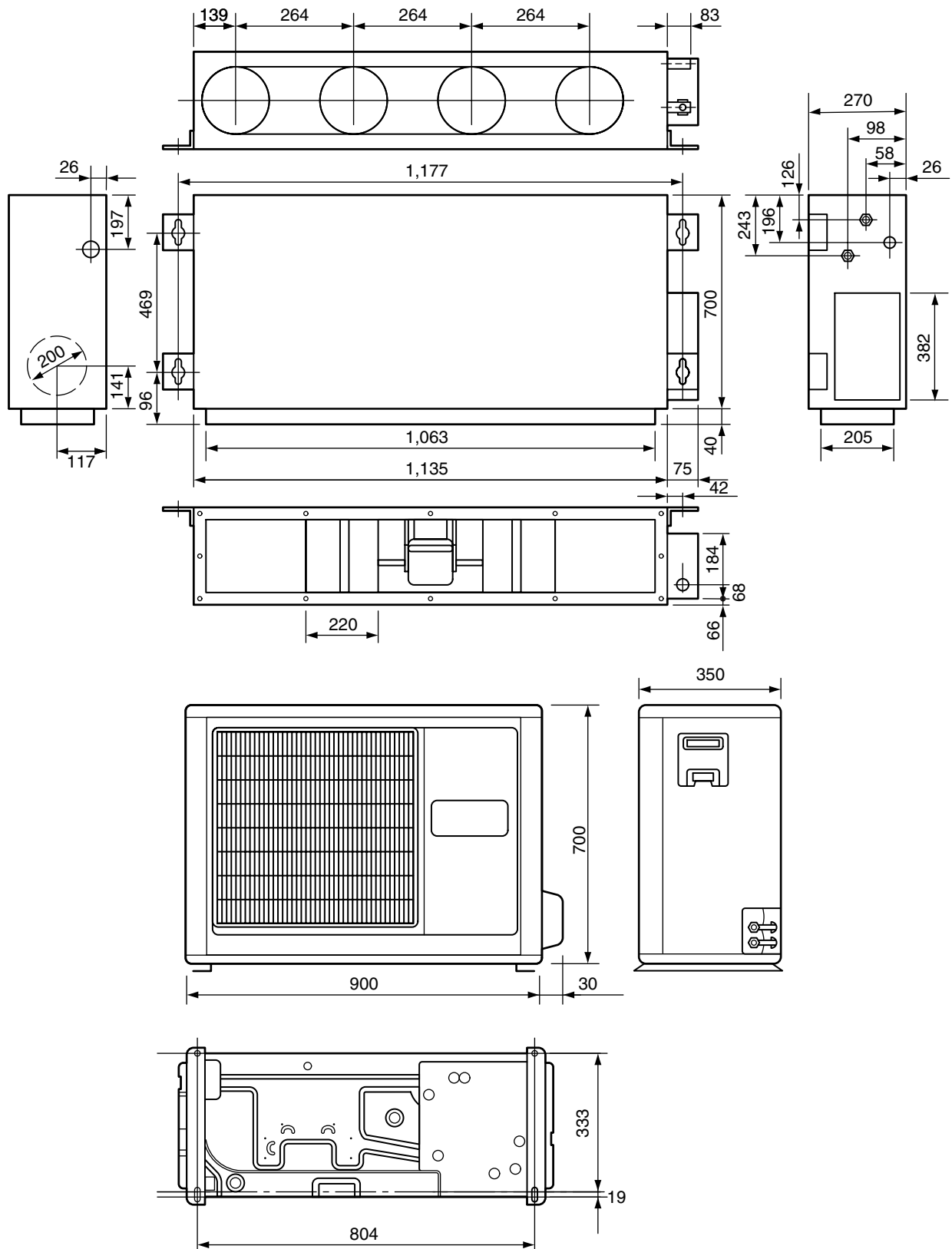
Note : RD-25EA is a chargeless model.

When the piping is longer than 20m (RD-30EA), additional charge is necessary as the criteria with 17g (0.6 oz) / 1m (3.3ft.)

OUTLINE AND DIMENSIONS

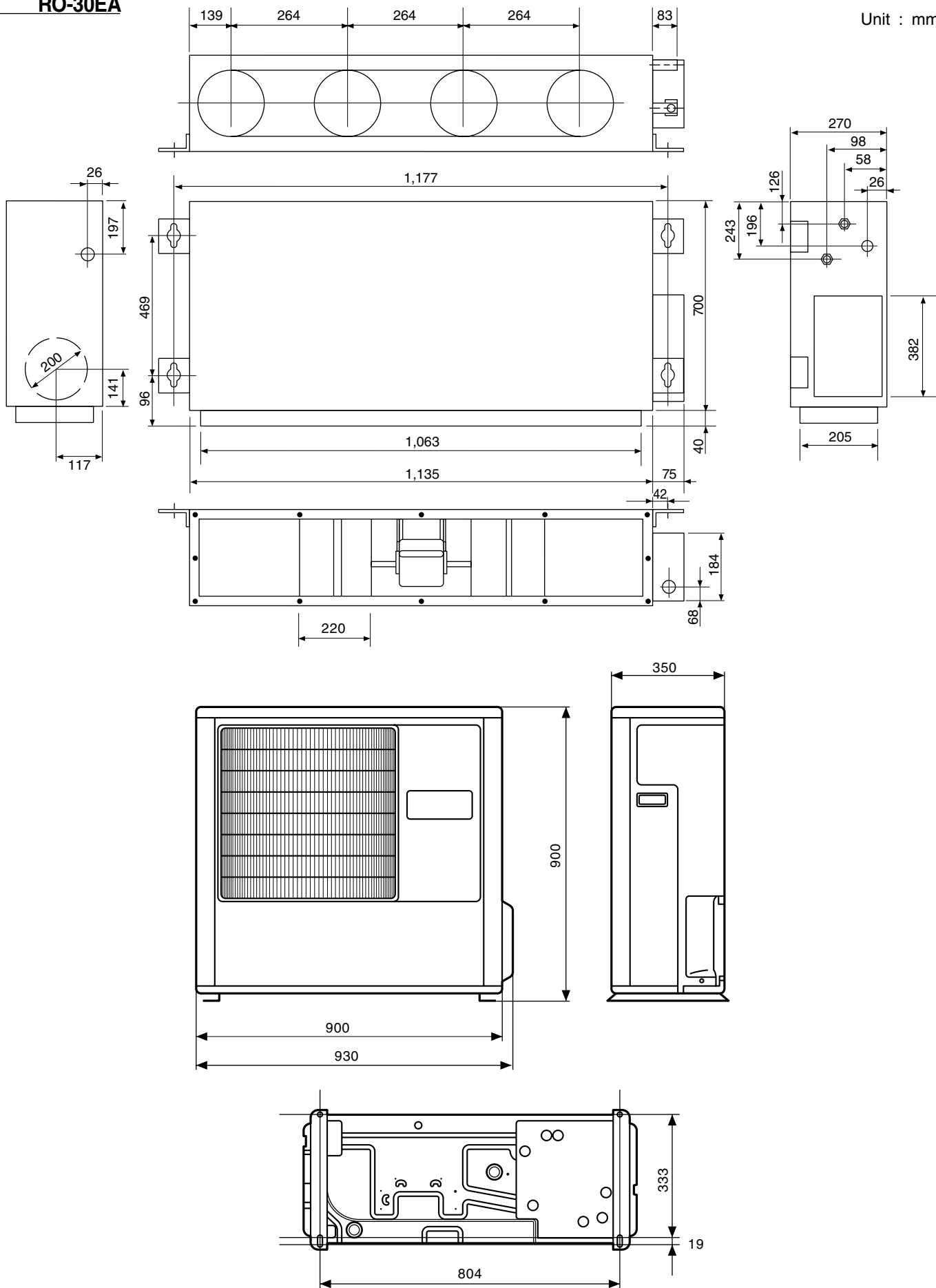
Models : RD-25EA / RO-25EA

(Unit : mm)



Models : RD-30EA
RO-30EA

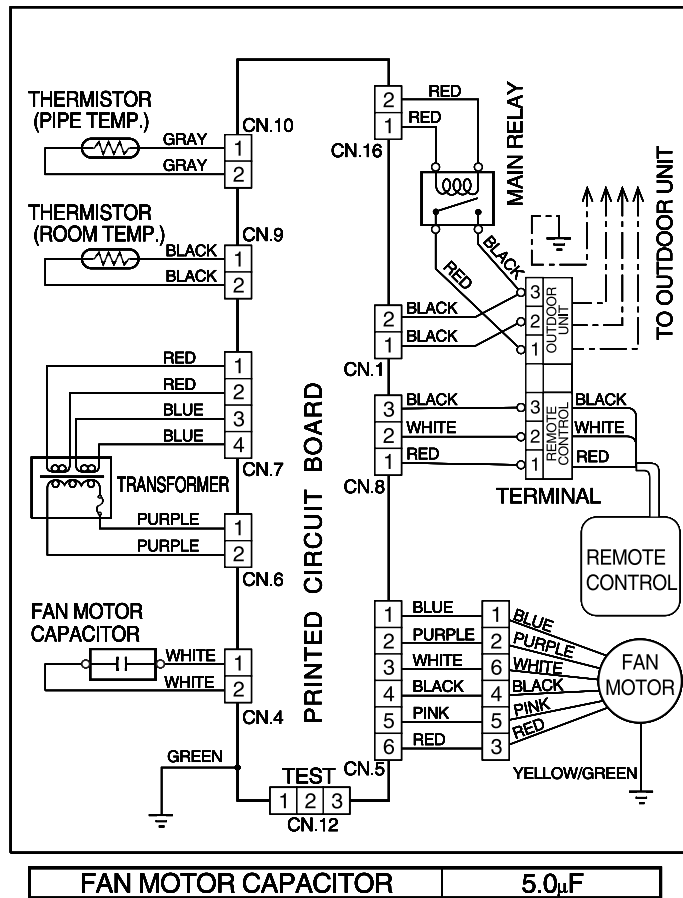
Unit : mm



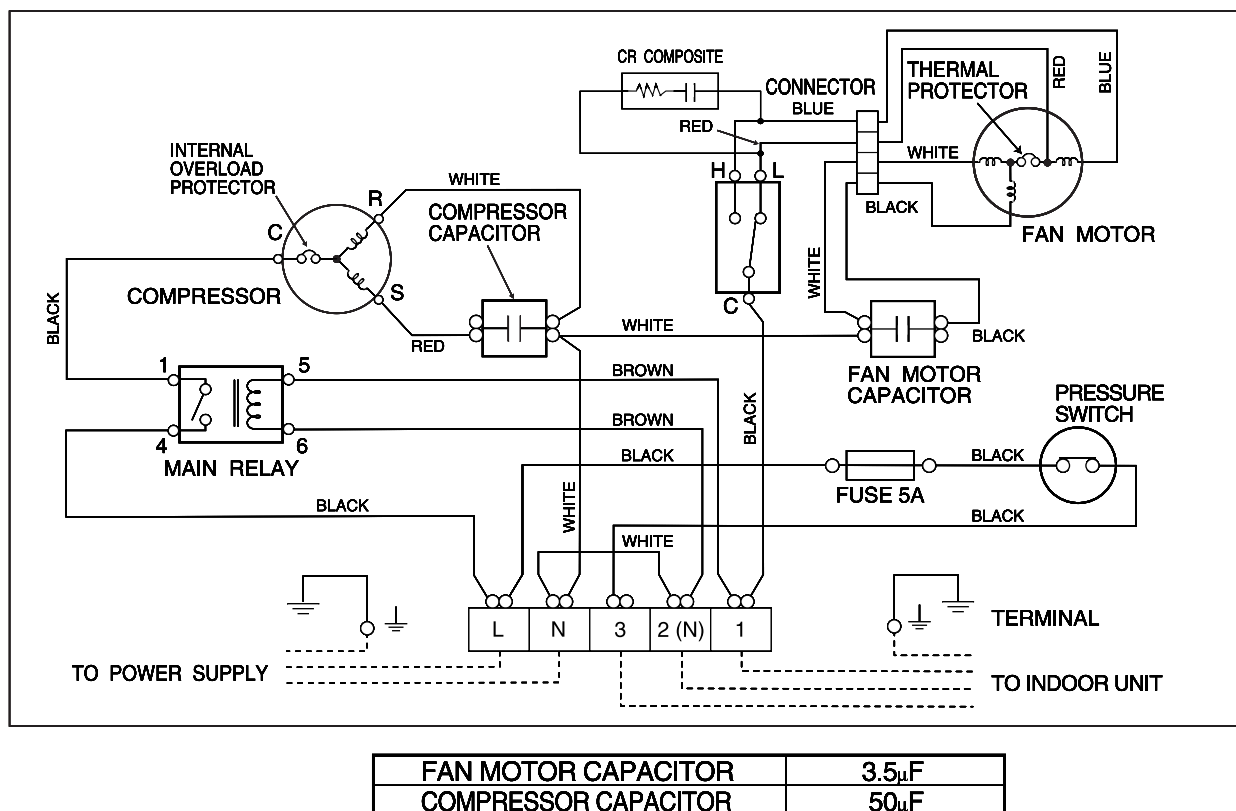
CIRCUIT DIAGRAM

Models : RD-25EA / RO-25EA

INDOOR UNIT

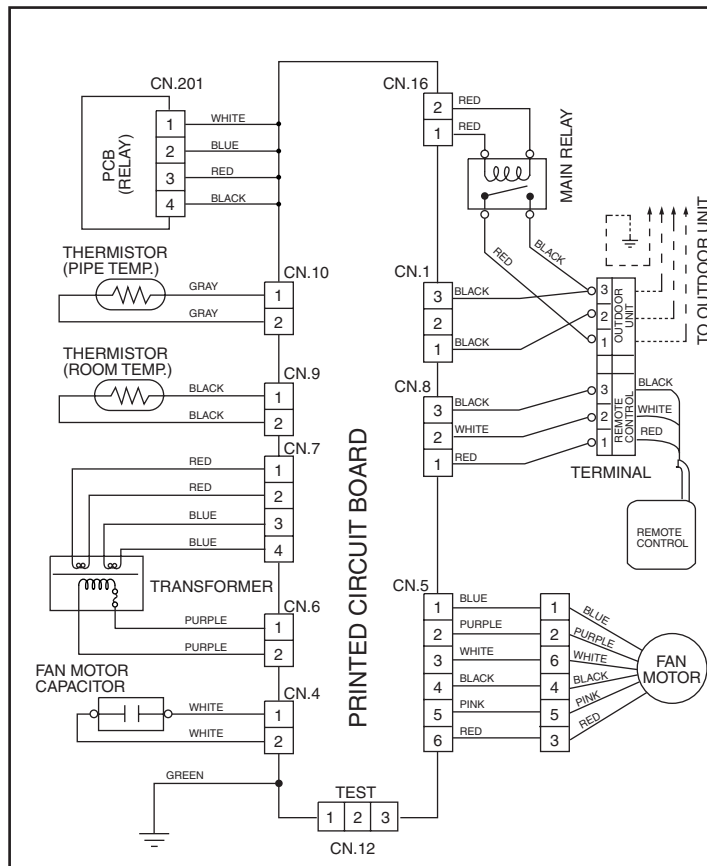


OUTDOOR UNIT



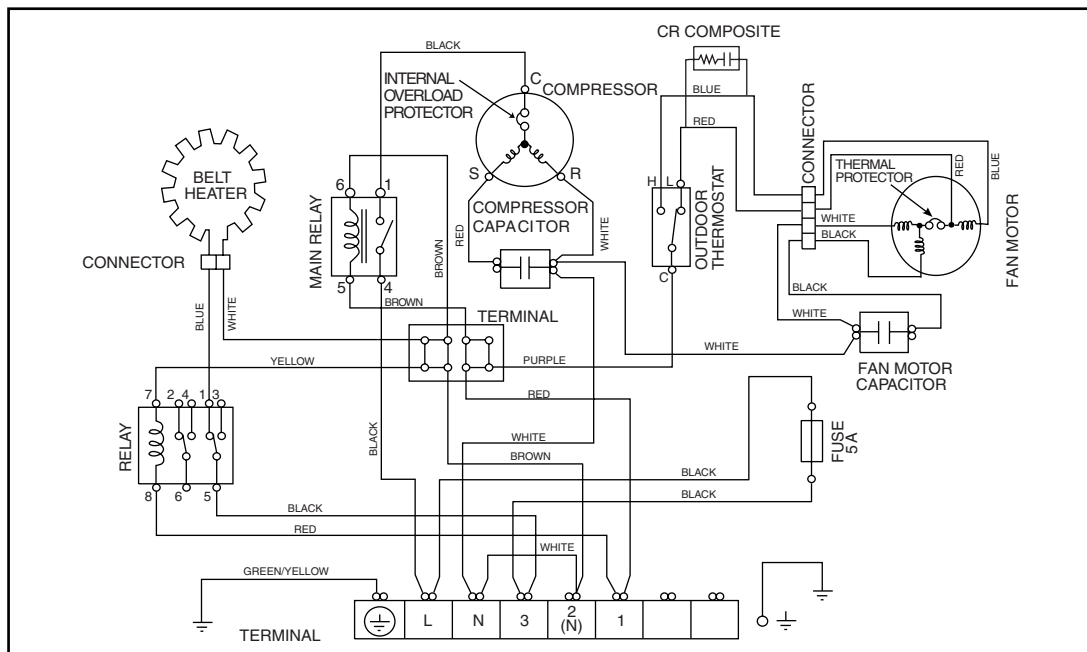
Models : RD-30EA / RO-30EA

INDOOR UNIT



FAN MOTOR CAPACITOR	6 μ F
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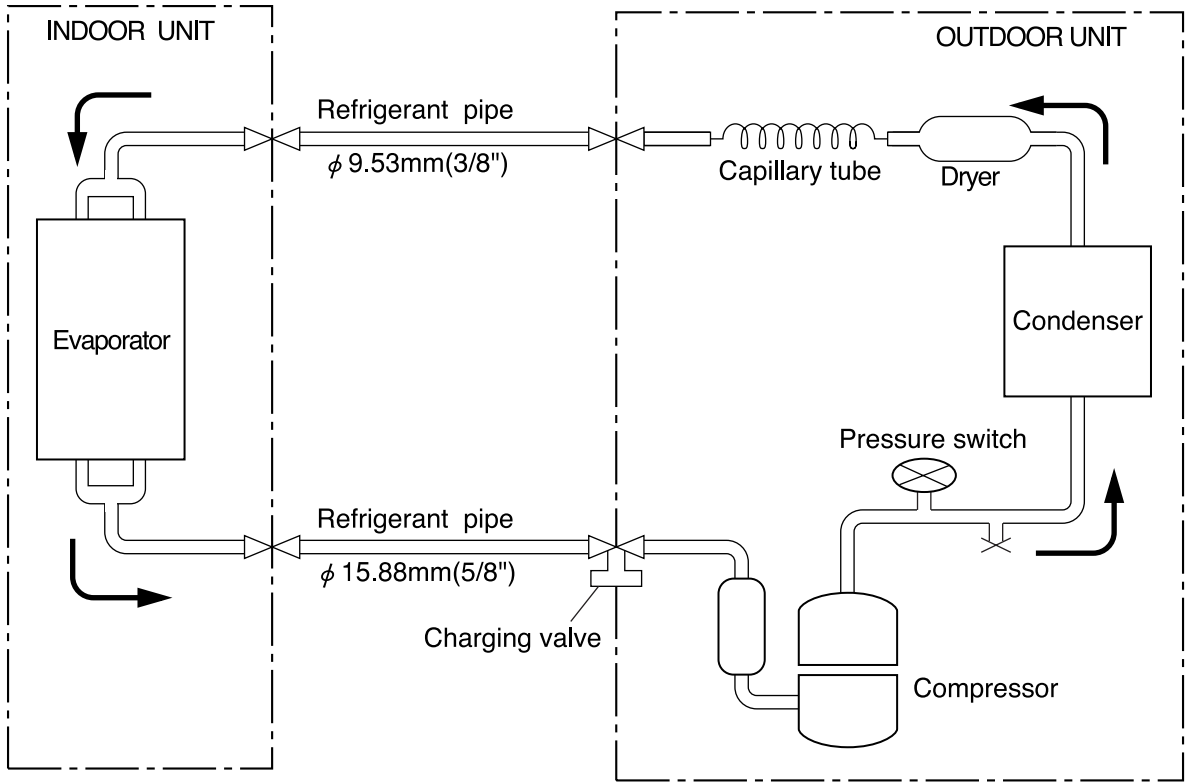
OUTDOOR UNIT



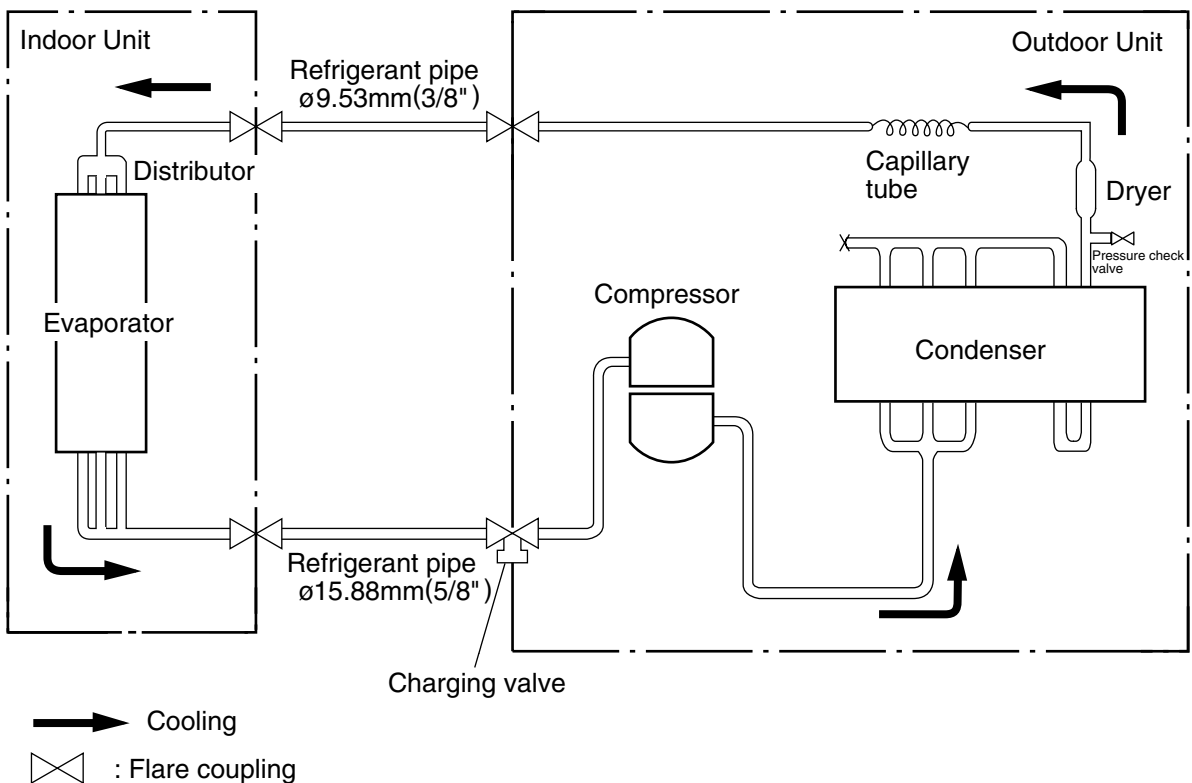
FAN MOTOR CAPACITOR	4 μ F
COMPRESSOR CAPACITOR	60 μ F

REFRIGERANT SYSTEM DIAGRAM

Models : RD - 25EA / RO - 25EA

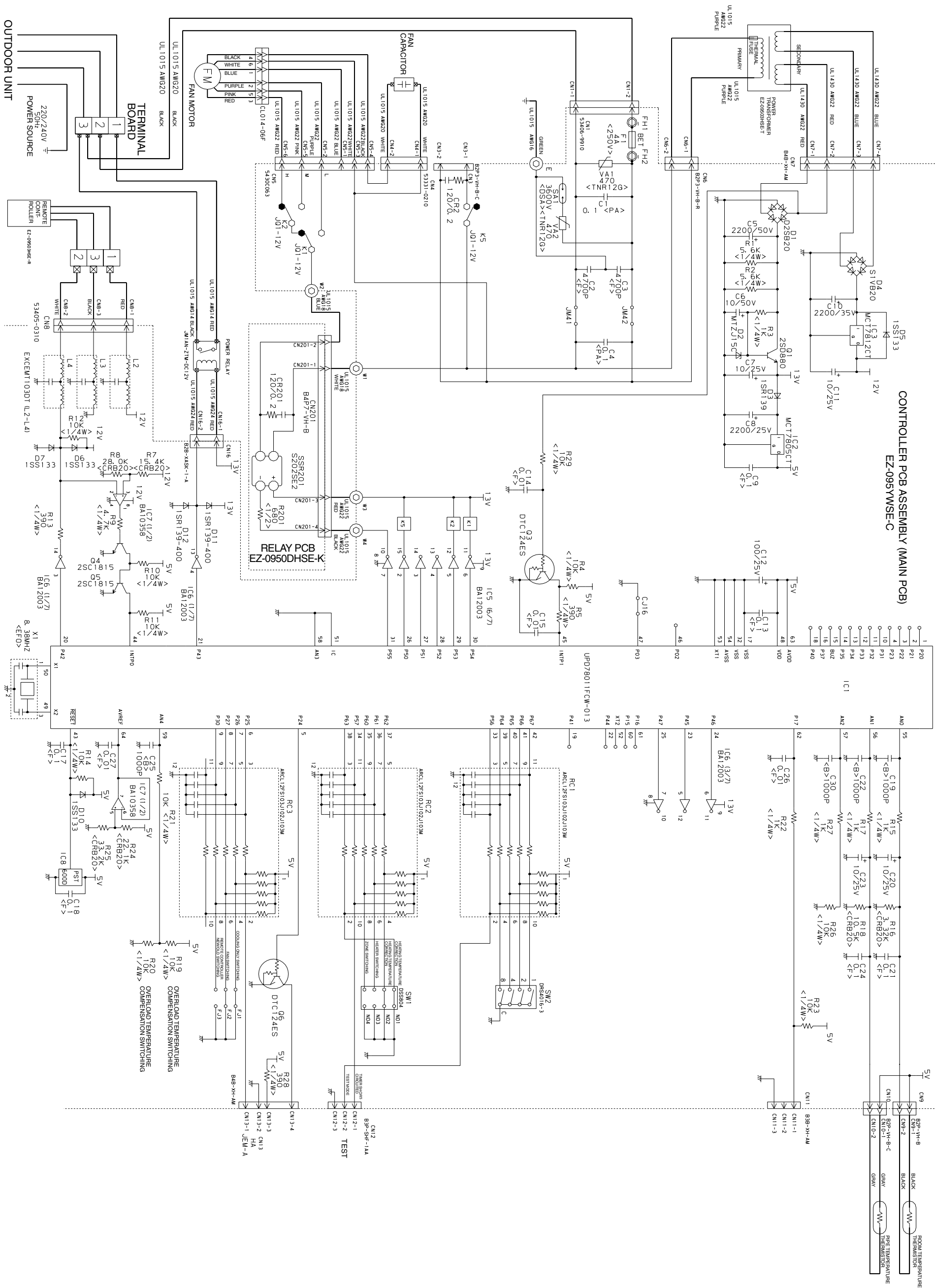


Models : RD - 30EA / RO - 30 EA



E

INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM



ERROR CONTENTS

**Models : RD-25EA / RO-25EA
RD-30EA / RO-30EA**

1. REMOTE CONTROLLER

- When EE : EE blinks at the current time display, there is an error inside the air conditioner. If the ZONE CONTROL button and ENERGY SAVE 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).

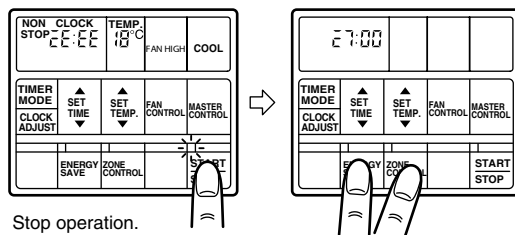


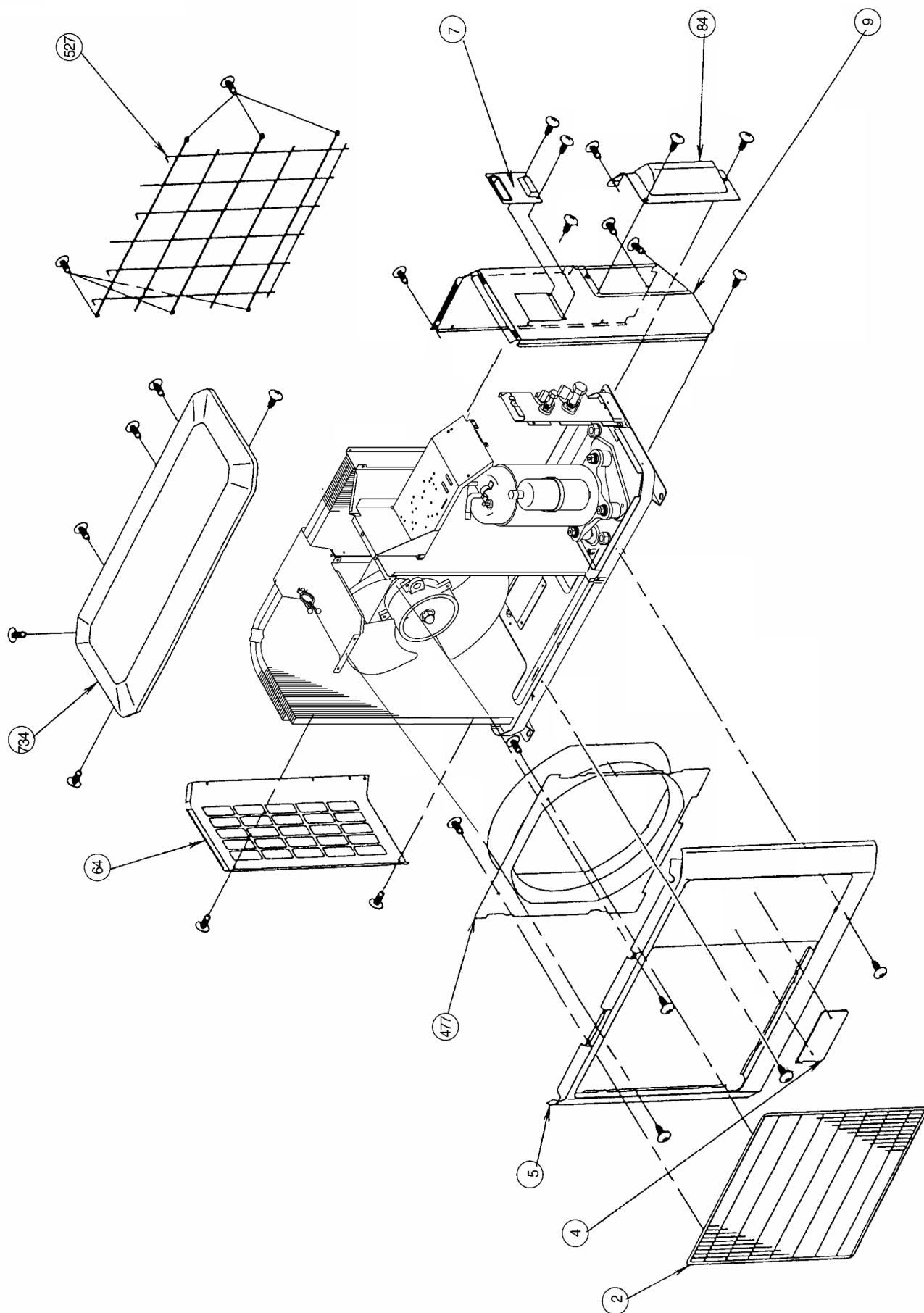
Table 1

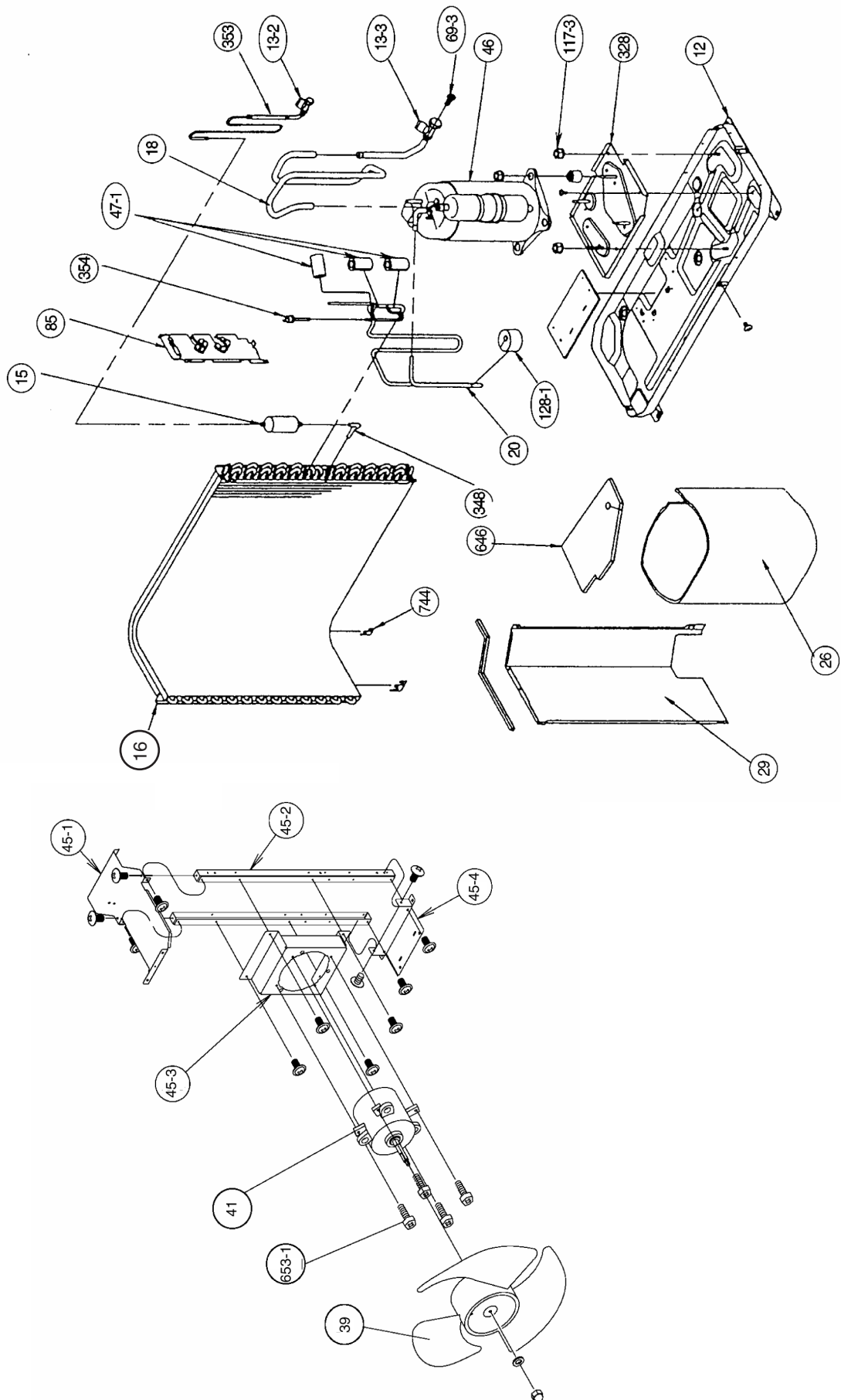
Error cord	Error contents
E0:00	Communication error (indoor unit ↔ remote controller)
E1:00	Communication error (indoor unit ↔ outdoor unit)
E2:00	Room temperature sensor open
E3:00	Room temperature sensor shortcircuited
E4:00	Indoor heat exchanger temperature sensor open
E5:00	Indoor heat exchanger temperature sensor shortcircuited
E6:00	Outdoor heat exchanger temperature sensor open
E7:00	Outdoor heat exchanger temperature sensor shortcircuited
E8:00	Outdoor temperature sensor open
E9:00	Outdoor temperature sensor shortcircuited
EC:00	Discharge pipe temperature sensor open
ED:00	Discharge pipe temperature sensor shortcircuited
EE:00	High pressure abnormal
EF:00	Discharge pipe temperature 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.

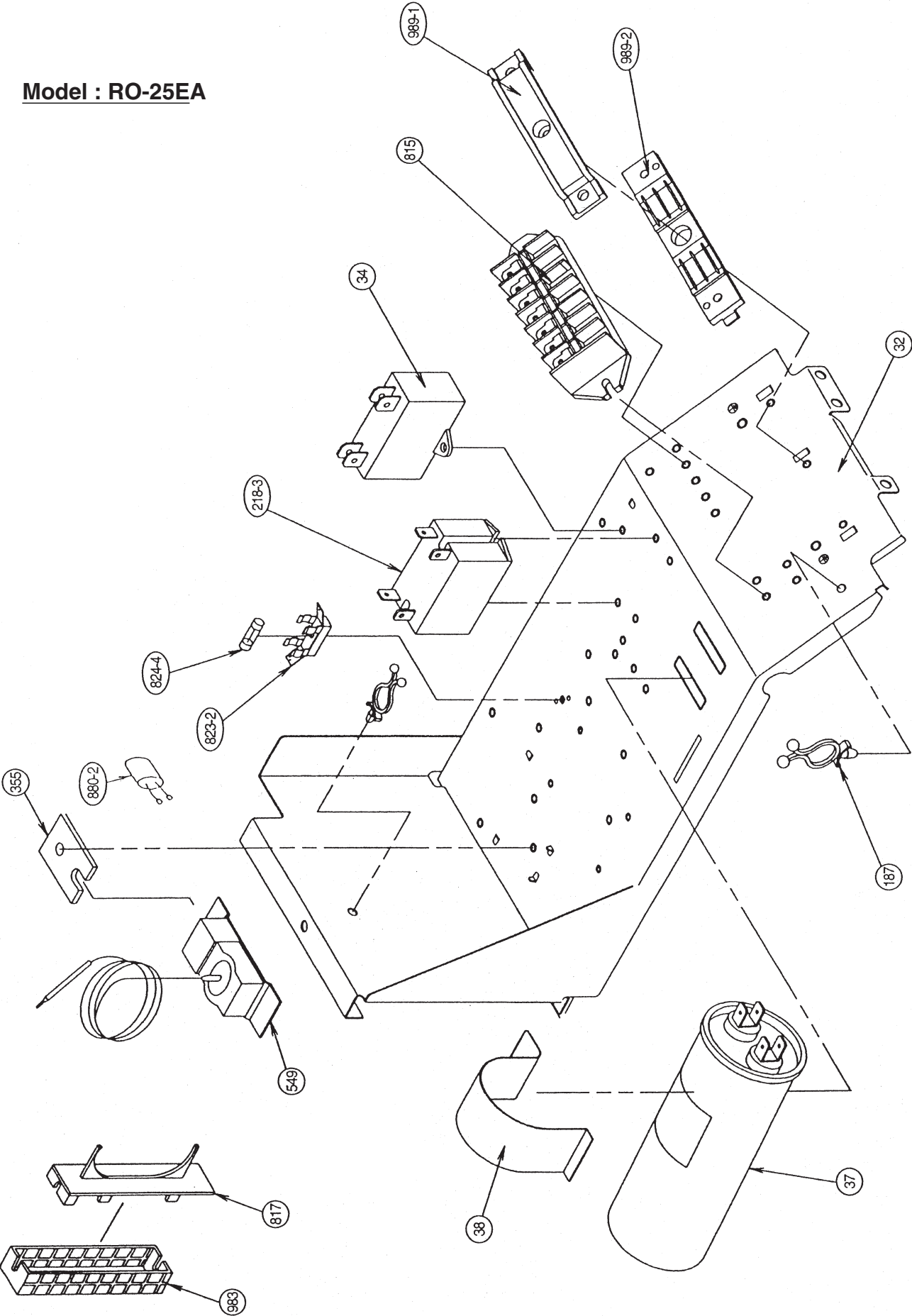
DISASSEMBLY ILLUSTRATION

Models : RO-25EA

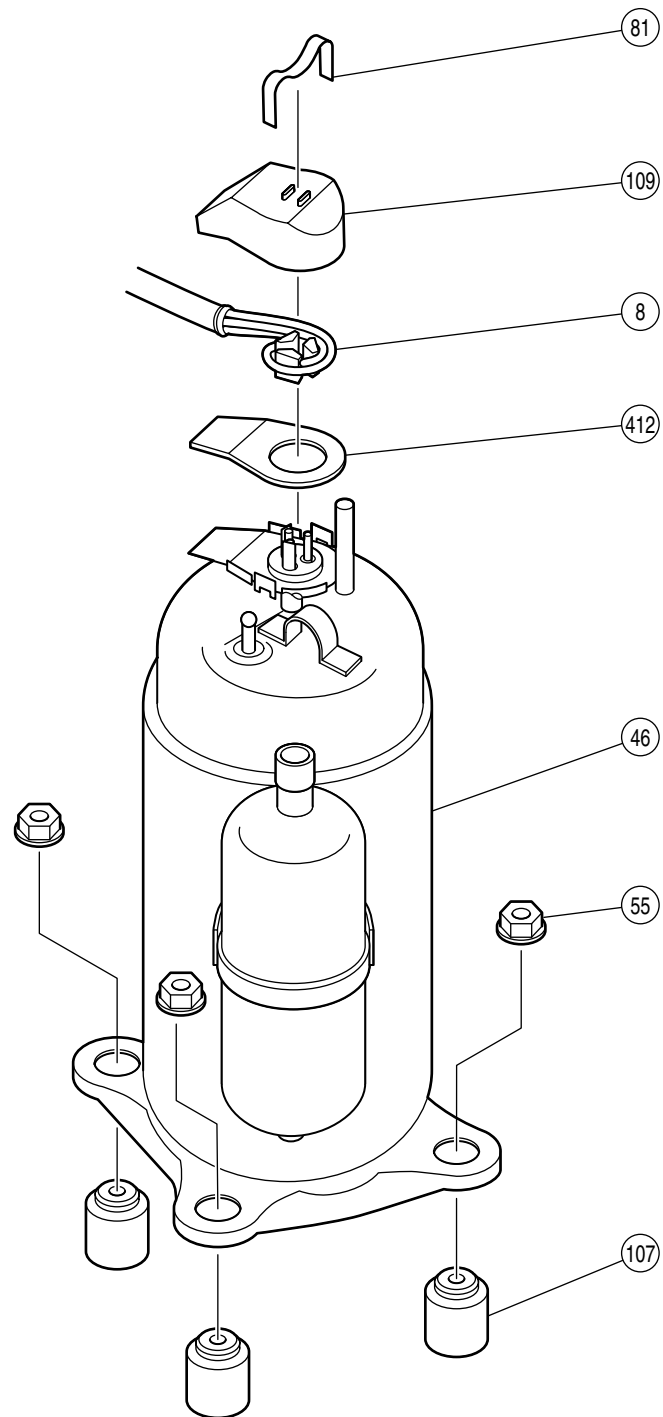




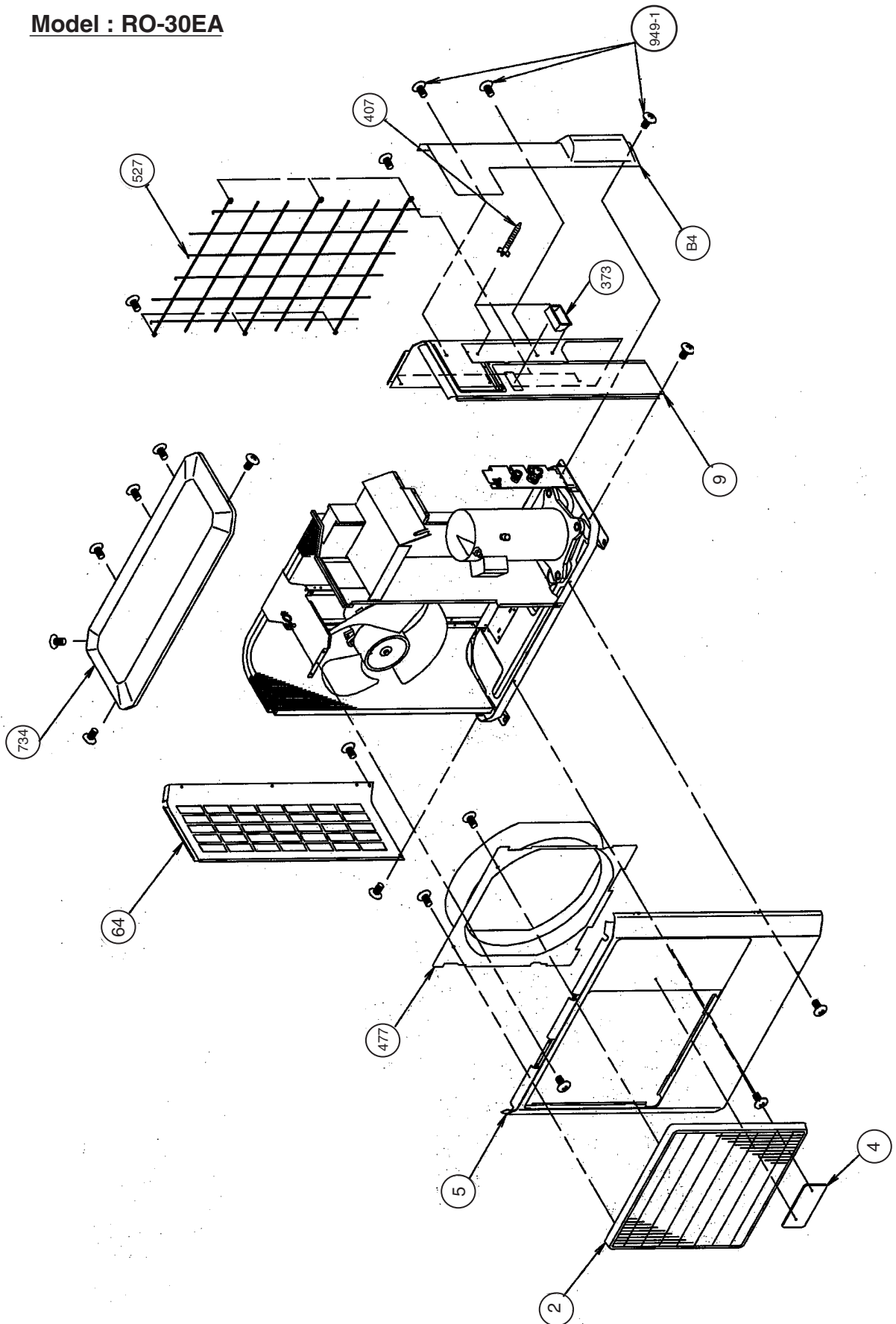
Model : RO-25EA

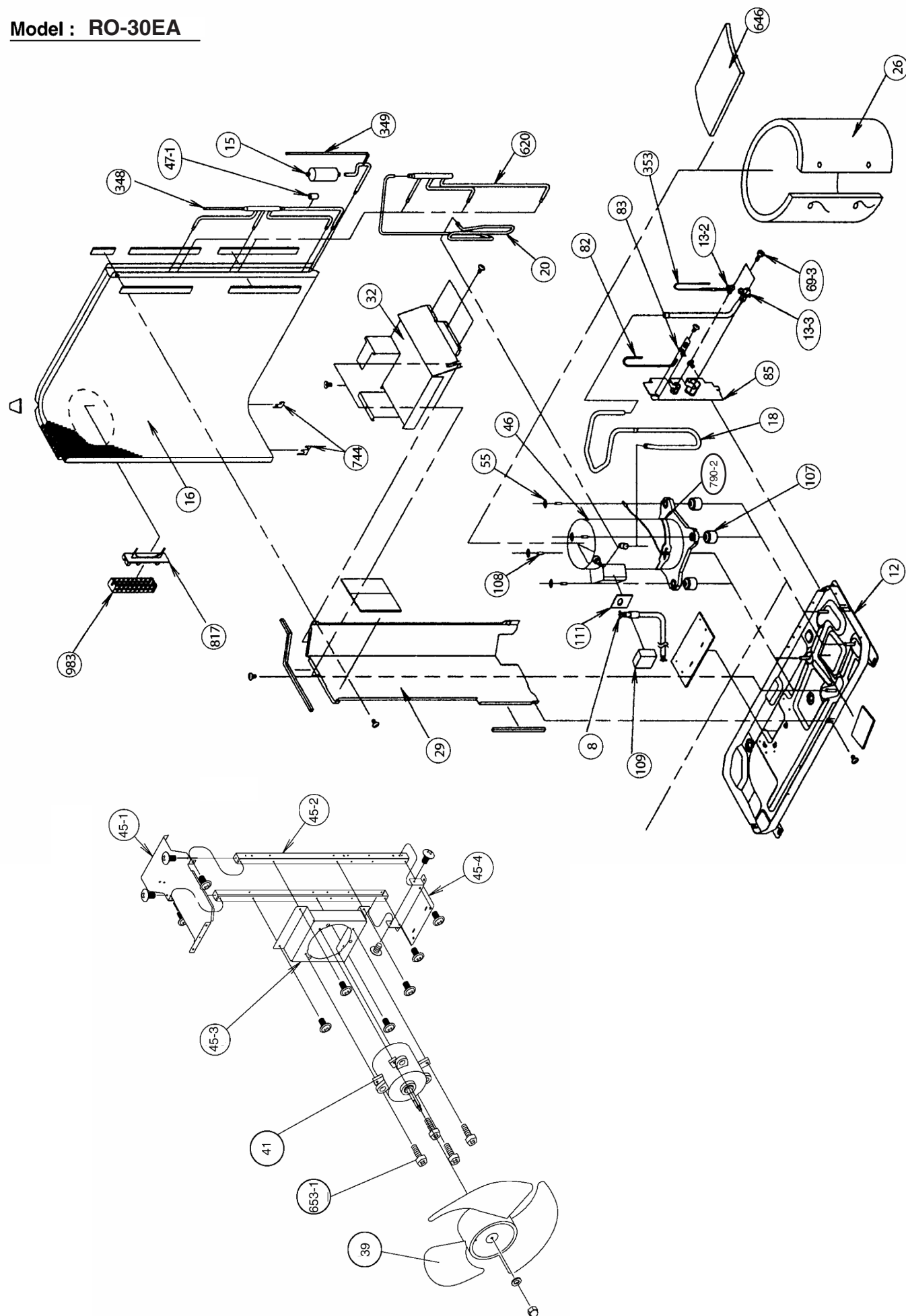


Model : RO-25EA

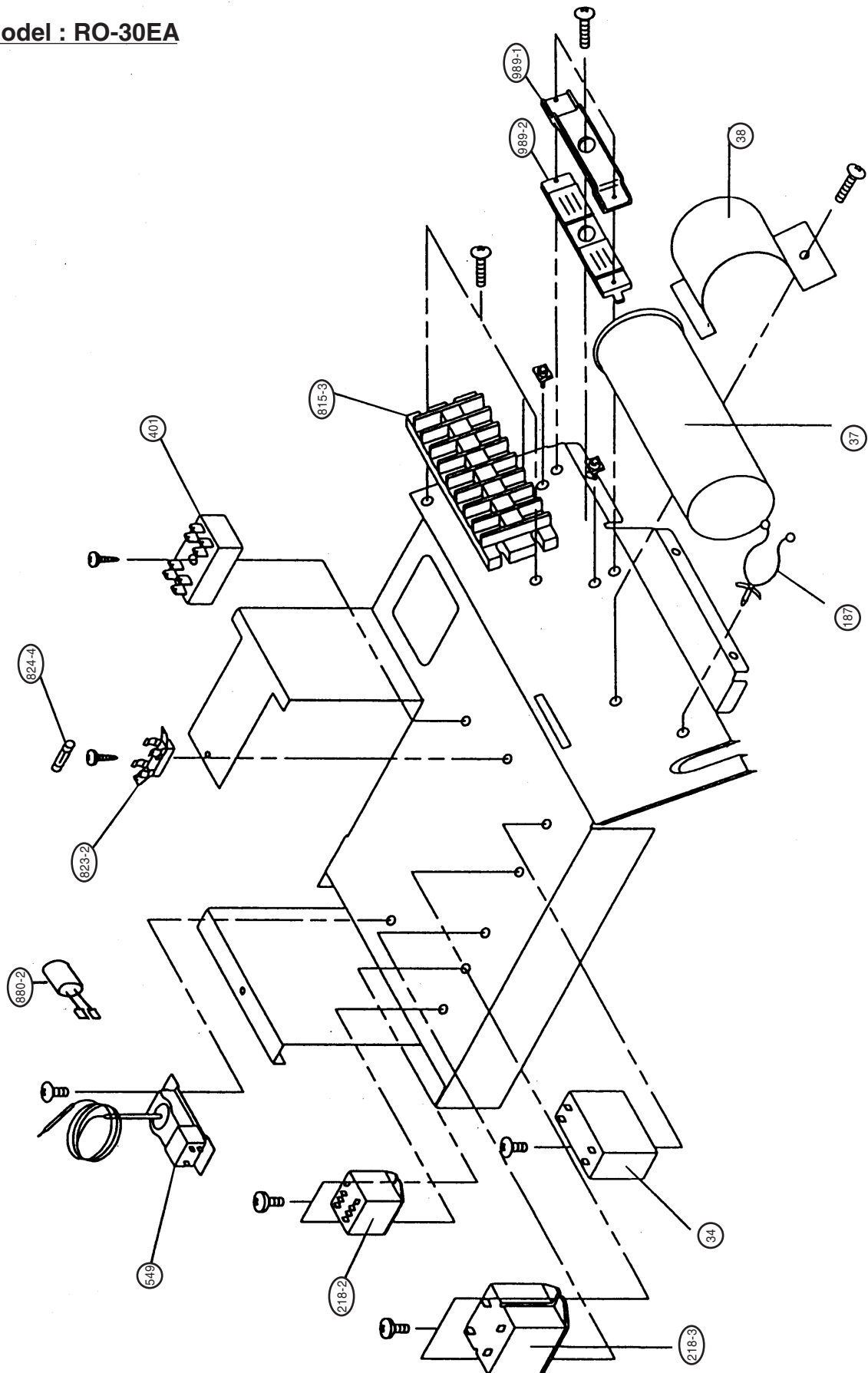


Model : RO-30EA

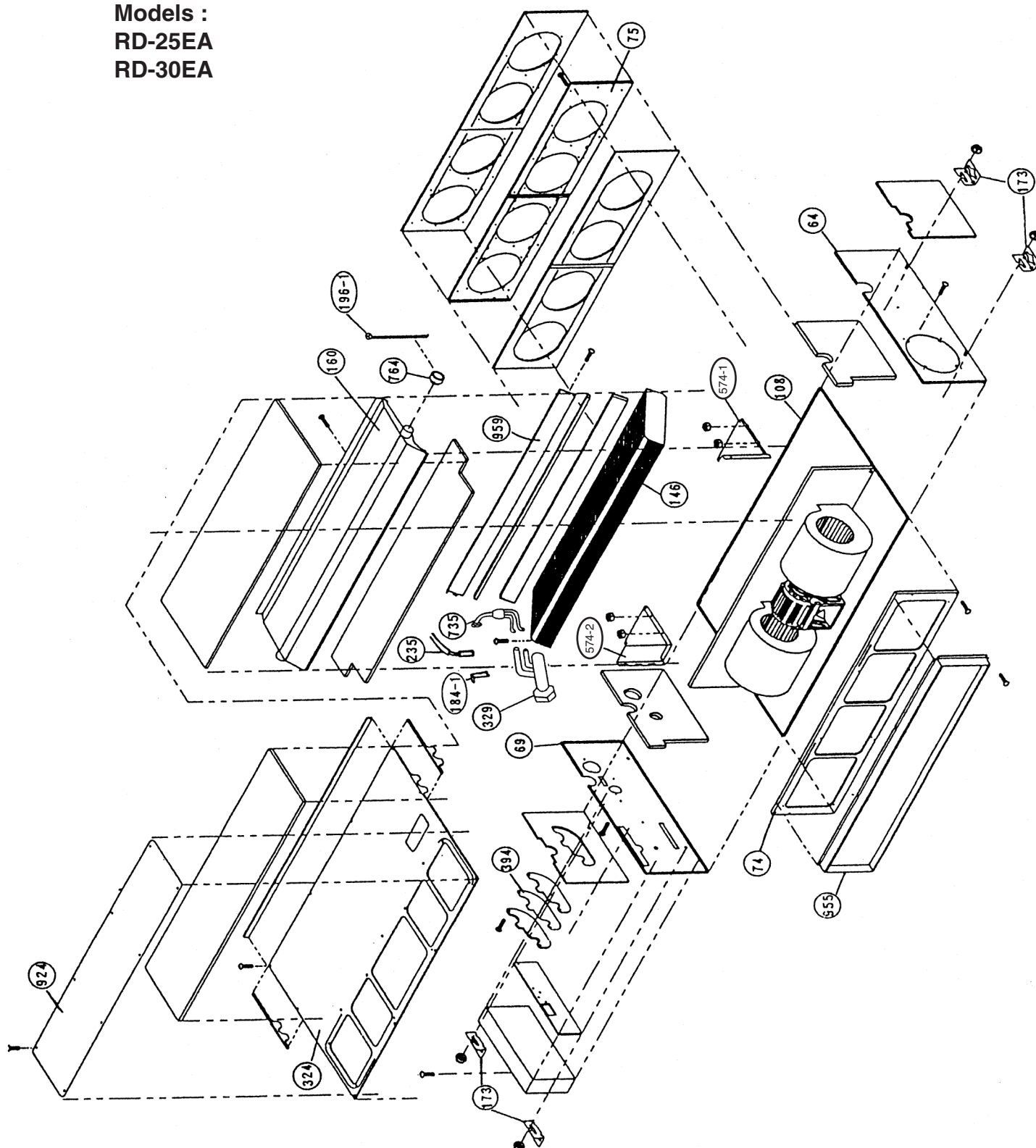




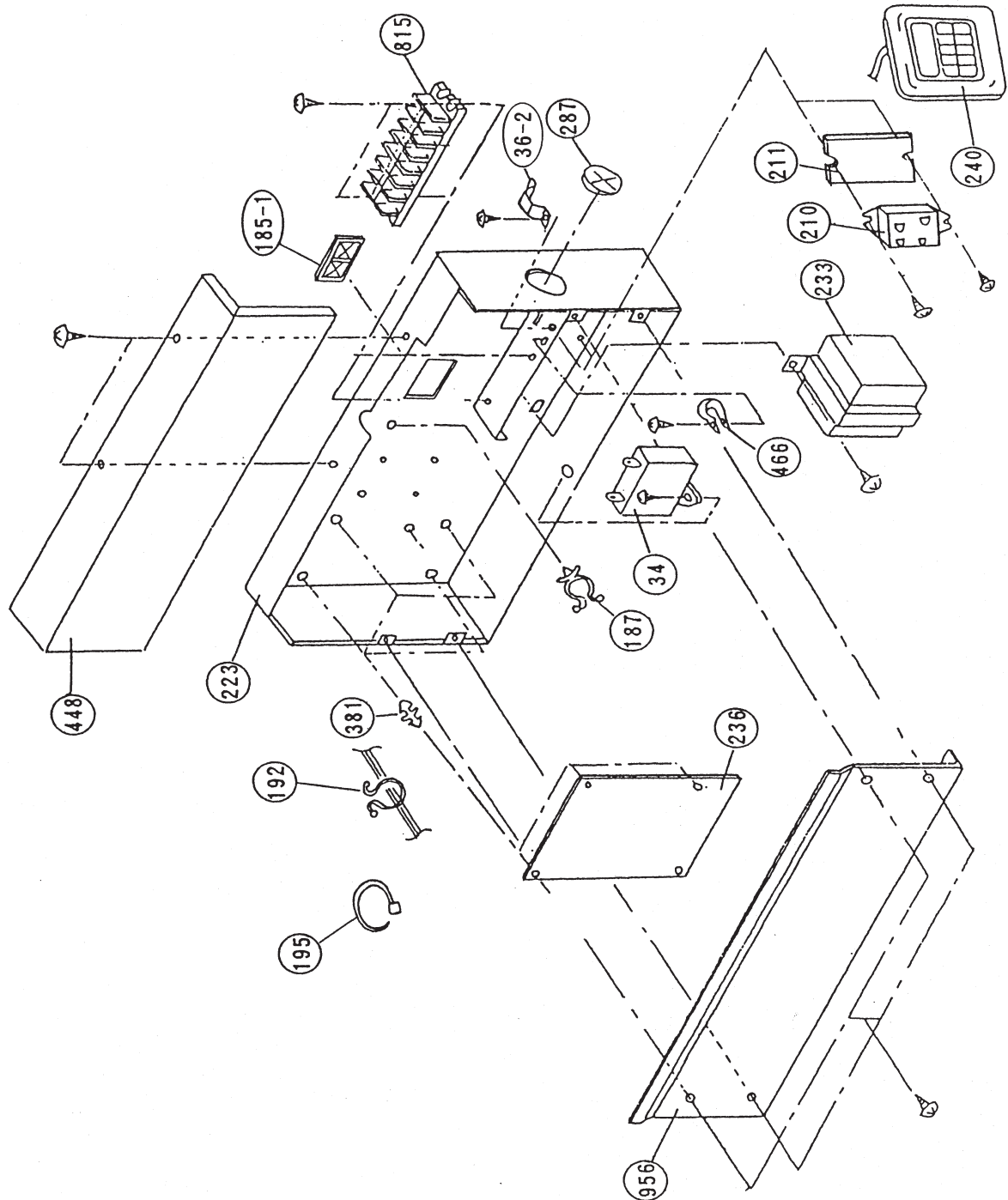
Model : RO-30EA



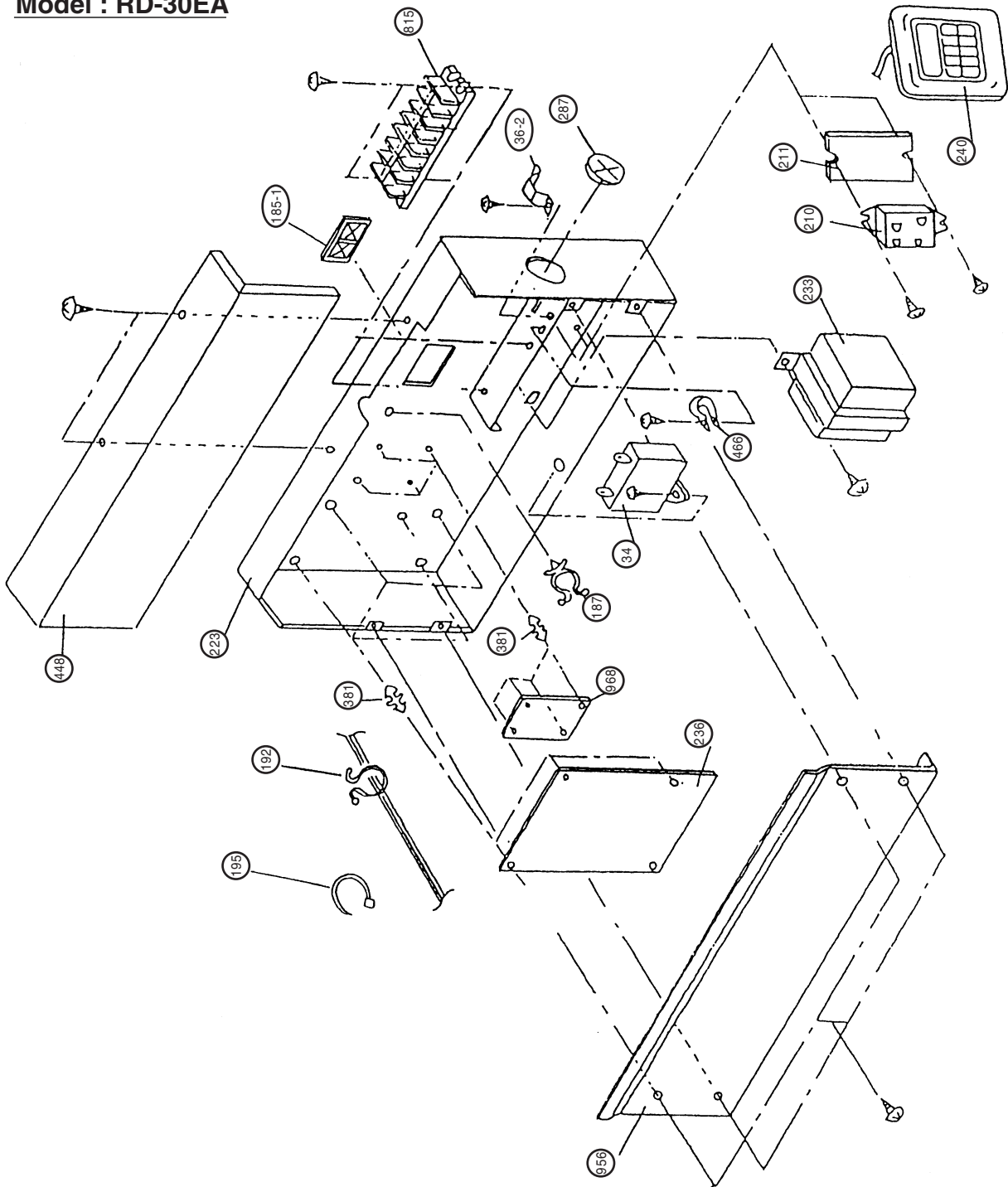
Models :
RD-25EA
RD-30EA



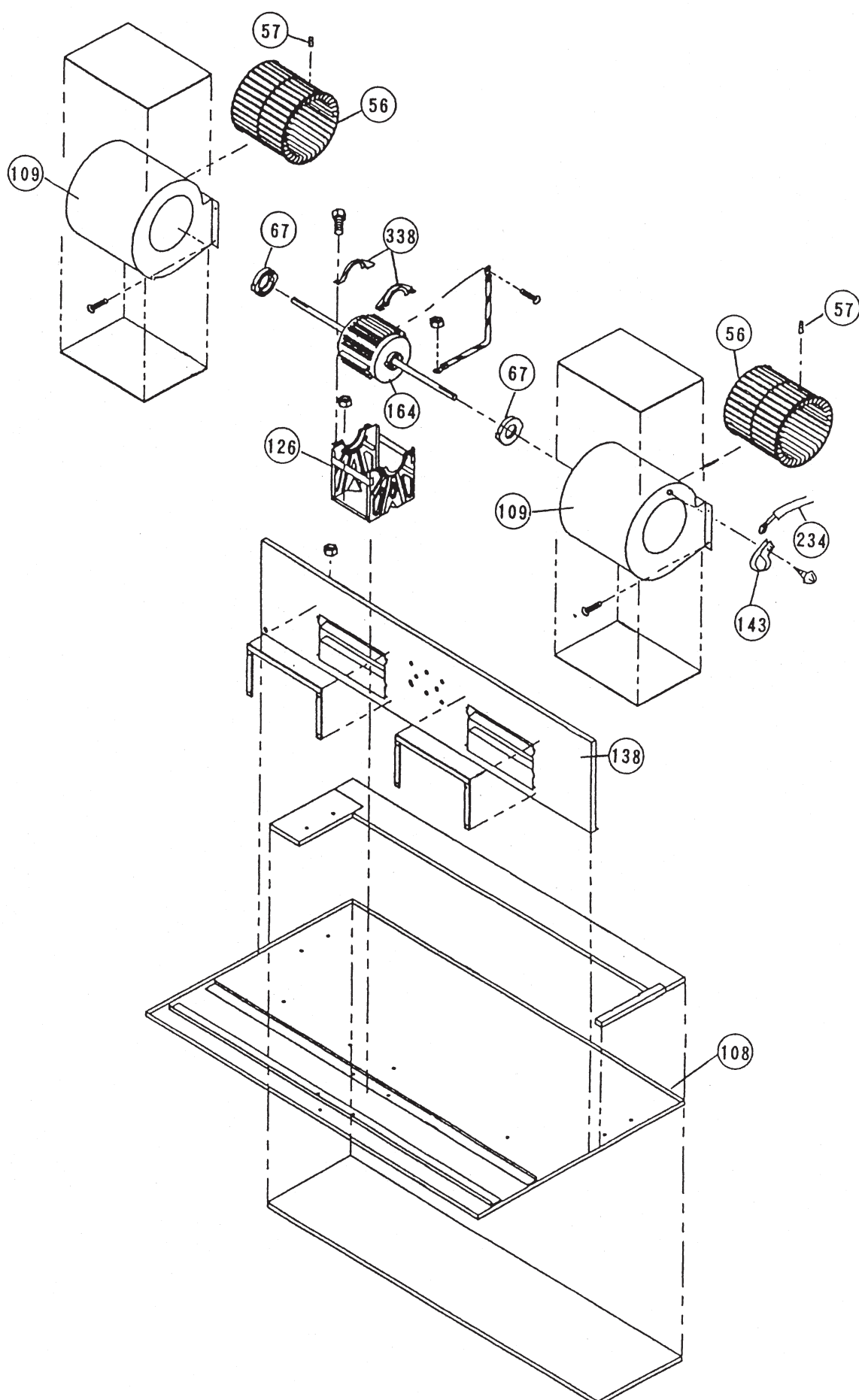
Model : RD-25EA



Model : RD-30EA



Models : RD-25EA / RD-30EA



P A R T S L I S T

INDOOR UNIT

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	Ref. No.	Description	Part No.		Ord. Q'ty
		RD-25EA	RD-30EA				RD-25EA	RD-30EA	
34	Capacitor (Fan Motor)	9703306020	9703306068		211	Cushion Rubber	313806328306	313806328306	
36-2	Cord Holder Metal	9356362008	9356362008		223	Control Box Metal Assy	9356558005	9356558005	
56	Sirocco Fan Assy	9356531022	9356531022		233	Power Transformer	9701678013	9701678013	
57	Hex. Socket Screw	313616213202	313616213202		234	Thermistor (Room)	9900118013	9900118013	
64	Cabinet-Left Metal	9356551006	9356551006		235	Thermistor (Pipe)	9900119034	9900119034	
67	Rubber (Vibration-proof)	313659068604	313659068604		236	Controller PCB Assy	9701705023	9701705016	
69	Cabinet-Right Metal	9356547009	9356547009		240	Remote Control Unit	9701673032	9701673032	
74	Intake Panel	9356537000	9356537000		287	Cap (Power)	9352173011	9352173011	
75	Outlet Panel Assy	9356538007	9356538007		324	Top Plate	9356546002	9356546002	
108	Base Assy	9356518009	9356518009		329	Coupling Pipe Assy	9365026007	9366258001	
109	Casing Assy	9356527001	9356527001		338	Motor Fixture	9356536003	9356536003	
126	Motor Fixing Table Assy	9356533002	9356533002		381	Locking Spacer	313209391506	313209391506	
138	Separate Wall	9356523003	9356523003		394	Pipe Fixing Plate	9356554007	9356554007	
143	Clamp NK-3N	313361274700	313361274700		448	Control Box Metal-B	9356560008	9356560008	
146	Evaporator Assy	9365024003	9366256007		466	Clamp NK-4N	313714328805	313714328805	
160	Drain Pan Assy	9356542028	9356542028		574-1	Eva. Fixing Plate-L	9356522006	9356522006	
164	Fan Motor Assy-IN	9600830024	9600830024		574-2	Eva. Fixing Plate-R	9356521009	9356521009	
173	Hanger Bracket	9356563009	9356563009		735	Distributor Assy	9365025000	9366257004	
184-1	Thermo. SpringDA	313728262708	313728262708		764	Drain Cap	9356541007	9356541007	
185-1	Rubber Bushing	9357376004	9357376004		815	Terminal-7P	9358660102	9358660102	
187	Clamp No.1219	313361271706	313361271706		924	Intake Seal Plate	9356553000	9356553000	
192	Clamp No.062	313361271402	313361271402		955	Square Flange Assy	9356555004	9356555004	
195	Clamp SKB-100	313361275805	313361275805		956	Control Box Metal-E	9356900002	9356900002	
196-1	Clamp SKB-3M	312300787605	312300787605		959	Eva. Seal Plate	9356540000	9356540000	
210	Main Relay	9356781007	9356781007		968	Relay PCB Assy	---	9701594030	

P A R T S L I S T

OUTDOOR UNIT

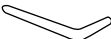
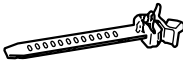
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Ref. No.	Description	Part No.		Ord. Q'ty	Ref. No.	Description	Part No.		Ord. Q'ty
		RO-25EA	RO-30EA				RO-25EA	RO-30EA	
2	Fan Cover (Guard)	9371187013	9371187013		109	Terminal Cover (For Comp.)	9362369008	9364087009	
4	Emblem-Rear "FUJI"	9361328006	9361328006		111	Terminal Packing (For Comp.)	—	936408602	
5	Cabinet-A, Painted	9359797043	9359797029		117-3	Hexagon Nut (Spring Lock Washer)	301721180114	—	
7	Connector Cover (Panel, Top)	9358011010	---		128-1	Rubber (Discharge Pipe)	313155086308	—	
8	Shield Assy-D	9359904052	9366201007		187	Clamp No.1219	313361271706	313361271706	
9	Cabinet-B, Painted	9361323025	9359798026		218-2	Power Relay	—	9900008017	
12	Base Assy, Painted	9359813019	9359812029		218-3	Power Relay	9704171016	9704171016	
13-2	2-Way Valve (3/8)	9362380003	9362380003		328	Compressor Plate Assy	9362272001	—	
13-3	3-Way Valve (5/8)	9362378000	9366193005		348	Outlet Pipe	9362386005	9366157003	
15	Dryer	9369978036	9369978036		349	Outlet Pipe E Assy	—	9366198000	
16	Condenser Assy	9362384001	9366202004		353	Valve-A Assy(3/8)	9362379007	9366194002	
18	Suction Pipe Assy	9363643008	9366190004		354	Pressure Switch	9363259001	—	
20	Discharge Pipe Assy	9362372008	9370726008		355	Switch Bracket	313986353607	—	
26	Compressor Cover	9362394000	9365270004		373	Grip	—	9352157004	
29	Separate Wall	9359805014	9359804017		401	Terminal	—	9701971015	
32	Control Box Metal-A	9361409026	9359839019		407	Clip (cable) No.1259	—	313739340109	
34	Capacitor (Fan Motor)	9357965024	9703306082		412	Terminal Gasket (For Comp.)	9362370004	—	
37	Running Capacitor	9703107122	9703107023		477	Bellmouth	9359809012	9359809012	
38	Capacitor Clamp Metal	9351770013	9360610010		527	Protection Net (Condenser)	9359845010	9359844013	
39	Propeller Fan	9359837015	9359837015		549	Thermostat-Outdoor	9352553004	9352553004	
41	Fan Motor Assy-Out	9600832011	9600832011		620	Inlet Pipe (cond.) Assy	—	9366196006	
45-1	Motor Bracket A	9369627002	9369627002		646	Compressor Cover-B	9362395007	9365271001	
45-2	Motor Bracket B	9371439013	9369628009		653-1	Cup Screw	9385089020	9385089020	
45-3	Motor Bracket C	9369629006	9369629006		734	Cabinet Top Plate, Painted	9359799023	9359799023	
45-4	Motor Bracket D	9369630002	9369630002		744	Clamp (Condenser)	313166374106	313166374106	
46	Compressor Assy	9365380000	9367373000		790-2	Belt Heater A	—	9361140066	
47-1	Rubber (Discharge Pipe)	313194159807	313194159807		815	Terminal-5P	9356497021	—	
55	Special Nut M8 (For Comp.)	9355091008	9355091008		815-3	Terminal-8P	—	9358660119	
64	Cabinet Left, Painted	9359840046	9359840022		817	Thermostat Fixture	9352164019	9352164019	
69-3	Bolt, Hexagon Socket	301210060360	301210060360		823-2	Fuse Holder	0500063024	0500063024	
81	Strap (For Comp.)	9362371001	—		824-4	Fuse	0600222529	0600222529	
82	Check Joint Assy	—	9366186007		880-2	Network	9701020010	9701020010	
83	Check Joint Bracket	—	9359807018		983	Thermostat Cover	9358274002	9358274002	
84	Valve Cover	9361325012	9359817017		989-1	Cord Clamp-A	9359822011	9359822011	
85	Valve Fixing Plate	9361324015	9359806011		989-2	Cord Clamp-B	9359823018	9359823018	
107	Rubber Mount (For Comp.)	9362368001	9364084008						
108	Sleeve-A (For Comp.)	—	9364085005						

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	RD-25EA RD-30EA
Installation template 	1	For positioning the indoor unit	9357036007
Hanger 	4	For suspending the indoor unit from ceiling	9356563009
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) 	2	For indoor side pipe joint (large pipe)	9350716029
Coupler heat insulation (small) 	1	For indoor side pipe joint (small pipe)	9352766015
Nylon fastener 	1	For fixing the drain hose	312300787605
Remote control unit 	1		9701673032
Remote control unit cord clamp 	10	For installing the remote control unit cord	313714181904
Tapping screw (flush heads) 	10	For installing the remote control unit cord clamp	301141153027
Auxiliary pipe assembly 	1	For wiring conduit(gas side) connection	9356995022
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	RO-25EA	RO-30EA
Hexagon wrench 	1	For opening the refrigerant valve on the outdoor unit.	9351228019	9351228019
Cable clip 	2	For power cord binding.	---	313739340109
Tapping screw (painted) 	1	For fixing the valve cover.	---	301463640100



MANUFACTURER :

Fuji Denki Sosetsu Co., Ltd.

Tokyo, Japan