



**SPLIT TYPE AIR
CONDITIONER (50Hz)**

DUCT type

SERVICE MANUAL



Models	Indoor unit	Outdoor unit
	RD 36TB	RO-36TA
	RD-45TB	RO-45TA

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

MODELS		RD-36TB	RD-45TB
		RO-36TA	RO-45TA
COOLING CAPACITY	(kW)	10.3 - 10.5	12.4 - 12.7
HEATING CAPACITY	(kW)	10.8 - 11.0	14.0 - 14.3

ELECTRICAL DATA

POWER SOURCE		3N-380-415V 50Hz	
RUNNING CURRENT (A)	COOL	7.1 - 6.9	8.3 - 8.5
	HEAT	5.9 - 5.9	8.4 - 8.5
INPUT WATTS (kW)	COOL	4.15 - 4.17	4.73 - 4.79
	HEAT	3.34 - 3.37	4.73 - 4.80
E.E.R. (kW/kW)	COOL	2.48 - 2.52	2.62 - 2.65
	HEAT	3.23 - 3.26	2.96 - 2.98
MOISTURE REMOVAL (ℓ /hr)		4.0	5.5
AIR CIRCULATION-Hi (m³/hr)		2,000	2,200

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

COMPRESSOR

TYPE	Hermetic type, 2 pole, 3-phase, Induction motor	
CODE	ZR49KCE-TFD	ZR61KCE-TFD

FAN MOTOR

INDOOR UNIT	TYPE	MFA-45BTT	
	HI-SPEED (r.p.m.)	1,280	1,320
	MED-SPEED (r.p.m.)	1,200	1,270
	LO-SPEED (r.p.m.)	1,130	1,200
OUTDOOR UNIT	TYPE	MFB-362FT	
	HI-SPEED (r.p.m.)	770	

Note : The above list shows values at the external static pressure of 0Pa, 415V.

DIMENSIONS

INDOOR UNIT	H x W x D (mm)	270 x 1,210 x 700	
OUTDOOR UNIT		1,152 x 940 x 370	

WEIGHT

INDOOR UNIT	GROSS / NET (kg)	60 / 45	
OUTDOOR UNIT		100 / 114	110 / 124

MODELS				RD-36TB	RD-45TB
				RO-36TA	RO-45TA
REFRIGERANT CIRCUIT	DISCHARGE PRESSURE	kg/cm²G	COOL	22.5	20.5
			HEAT	17.0	21.5
	SUCTION PRESSURE	kg/cm²G	COOL	5.0	4.5
			HEAT	4.0	4.0
	DISCHARGE TEMP.	°C	COOL	85	80
			HEAT	75	75
	DISCHARGE AIR TEMP.	°C	COOL	13.5	12.5
			HEAT	41.0	43.5
CONDITION	INDOOR ENTERING AIR TEMP.	COOL	DB/WB °C	27.0 / 19.0	
		HEAT		20.0 (15)	
	OUTDOOR ENTERING AIR TEMP.	COOL	DB/WB °C	35.0 / 24.0	
		HEAT		7.0 / 6.0	
PIPING	PIPE DIA. SIZE	LIQUID	mm (inch)	9.53 (3/8")	
		GAS		19.05 (3/4")	
	CONNECTION METHOD			Flare	
	LENGTH			m	7.5
STATIC PRESSURE			Pa	98	

ADDITIONAL REFRIGERANT CHARGE

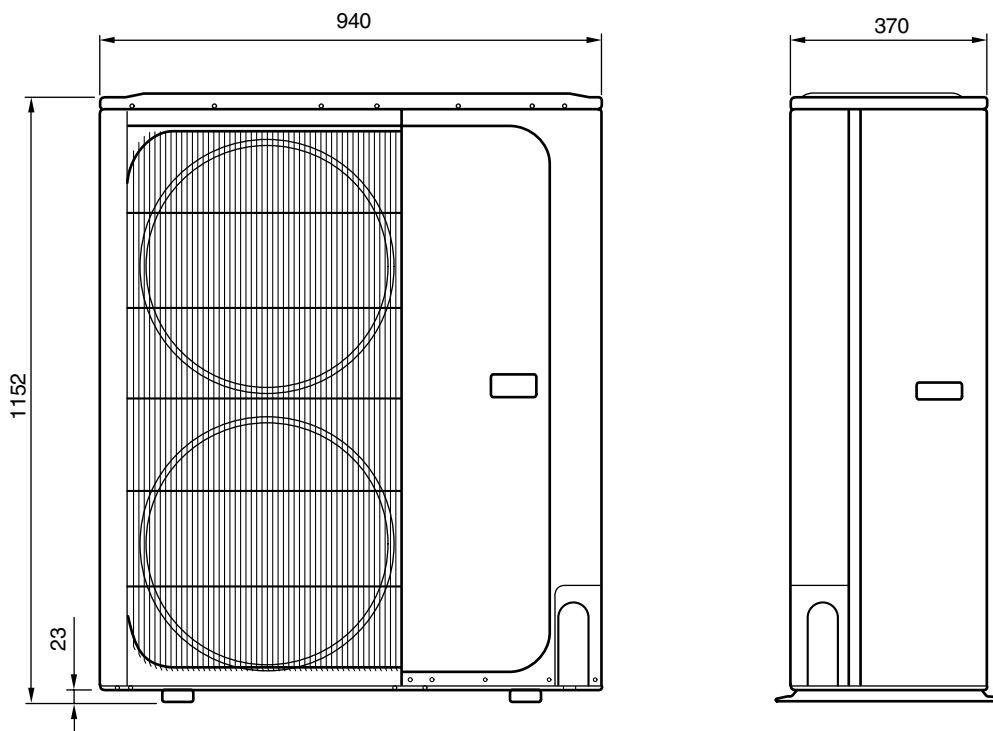
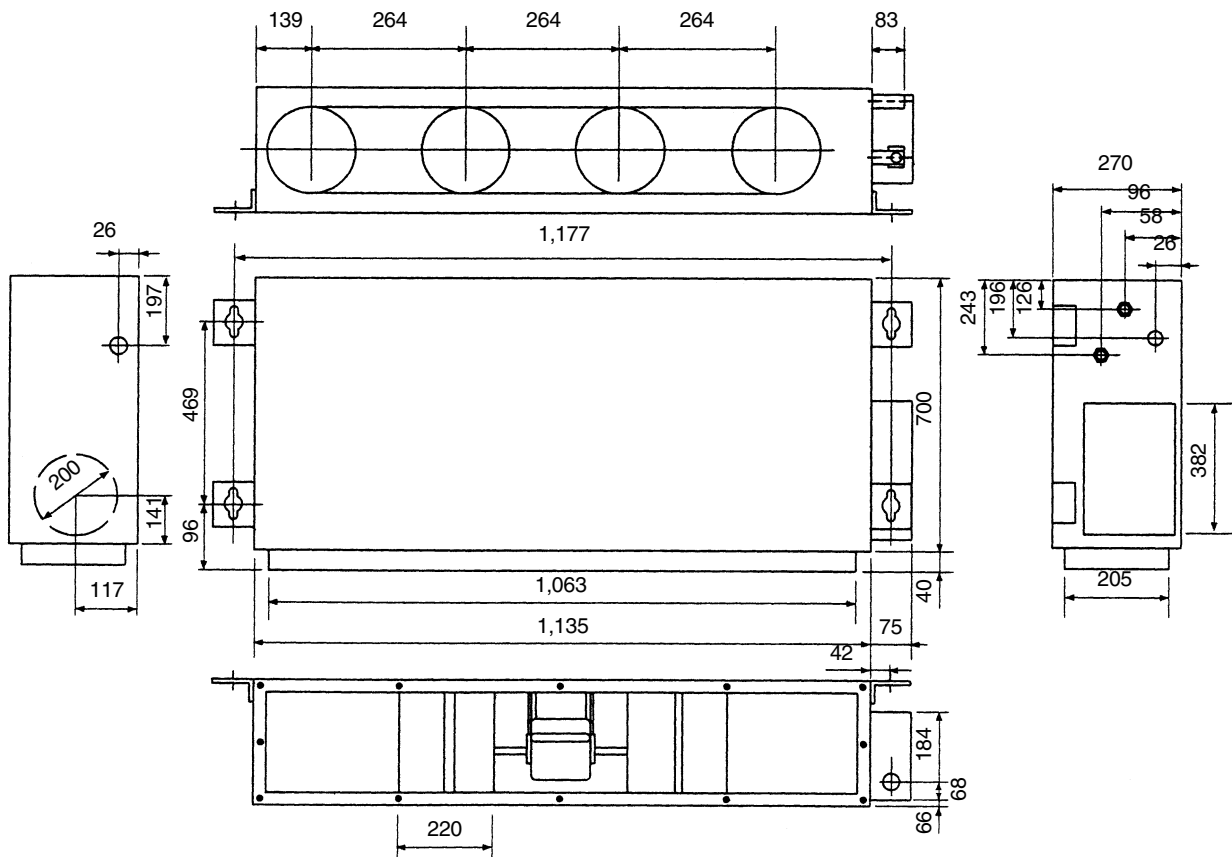
PIPE LENGTH		10 m (33 ft)	20 m (66 ft)	30 m (99 ft)	40 m (132 ft)	50 m (164 ft)	Additional refrigerant g/m
FULL CHARGE AMOUNT (R407C)	RD-36TB	2,600 g (91.9 oz)		2,900 g (102.5 oz)	3,200 g (113.1 oz)	3,500 g (123.7 oz)	30 g/m (1.06 oz / 3.3 ft)
	RD-45TB	3,500 g (123.7 oz)		3,800 g (134.3 oz)	4,100 g (144.9 oz)	4,400 g (155.5 oz)	

Note : In the case that 20 m are exceeded, when using a connection pipe other than that in the table, charge additional refrigerant with 30 g (1.06 oz) / 1 m (3.3 ft) as the criteria.

DIMENSIONS

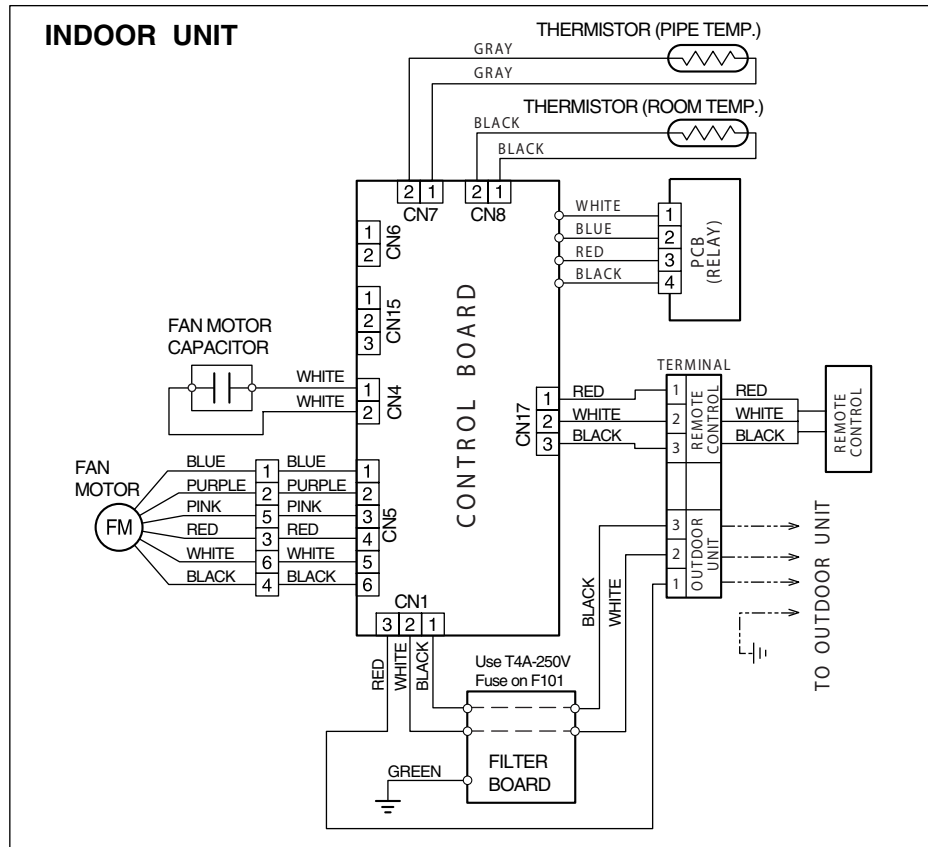
Models : RD-36TB / RO-36TA
RD-45TB / RO-45TA

Unit : mm

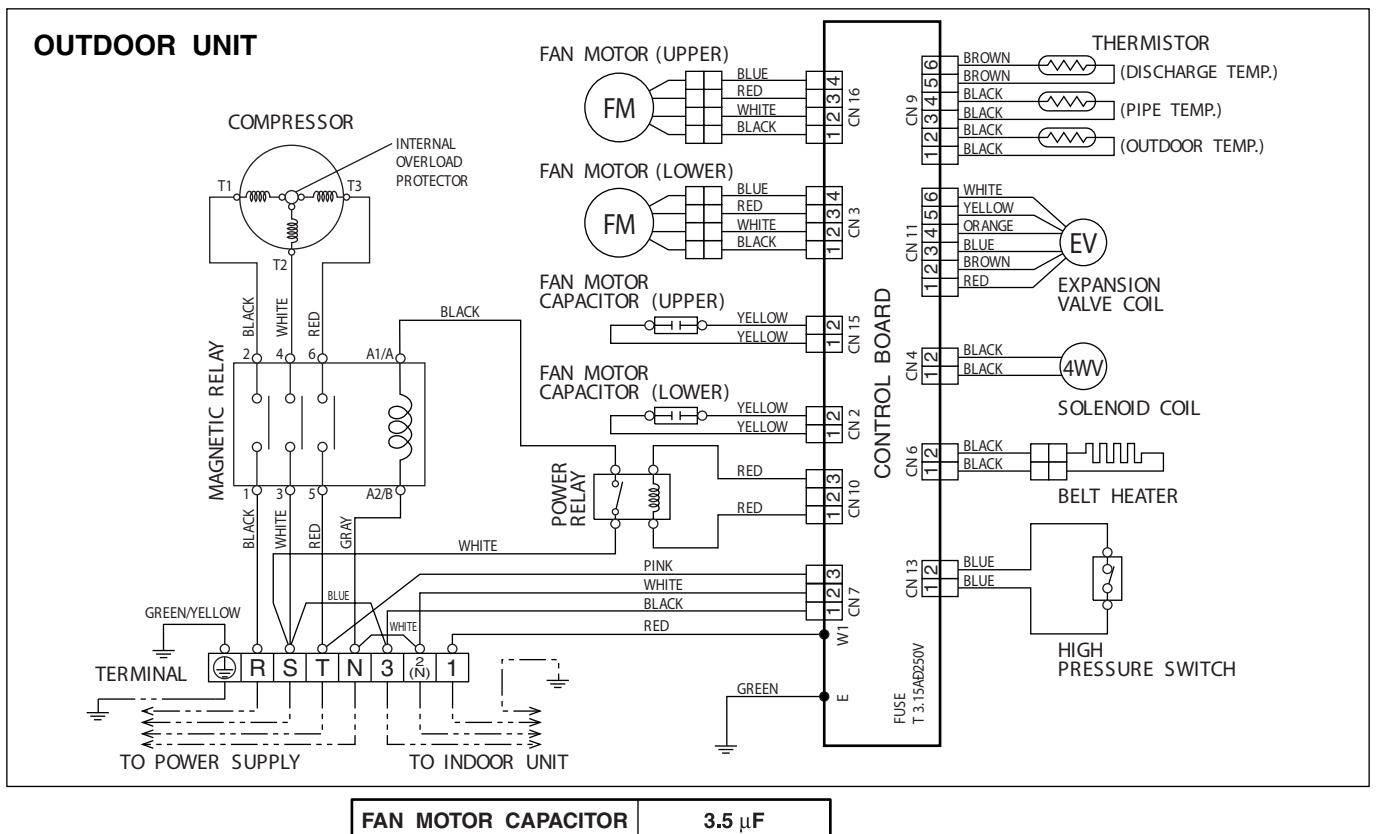


CIRCUIT DIAGRAM

Models : RD-36TB / RO-36TA
RD-45TB / RO-45TA



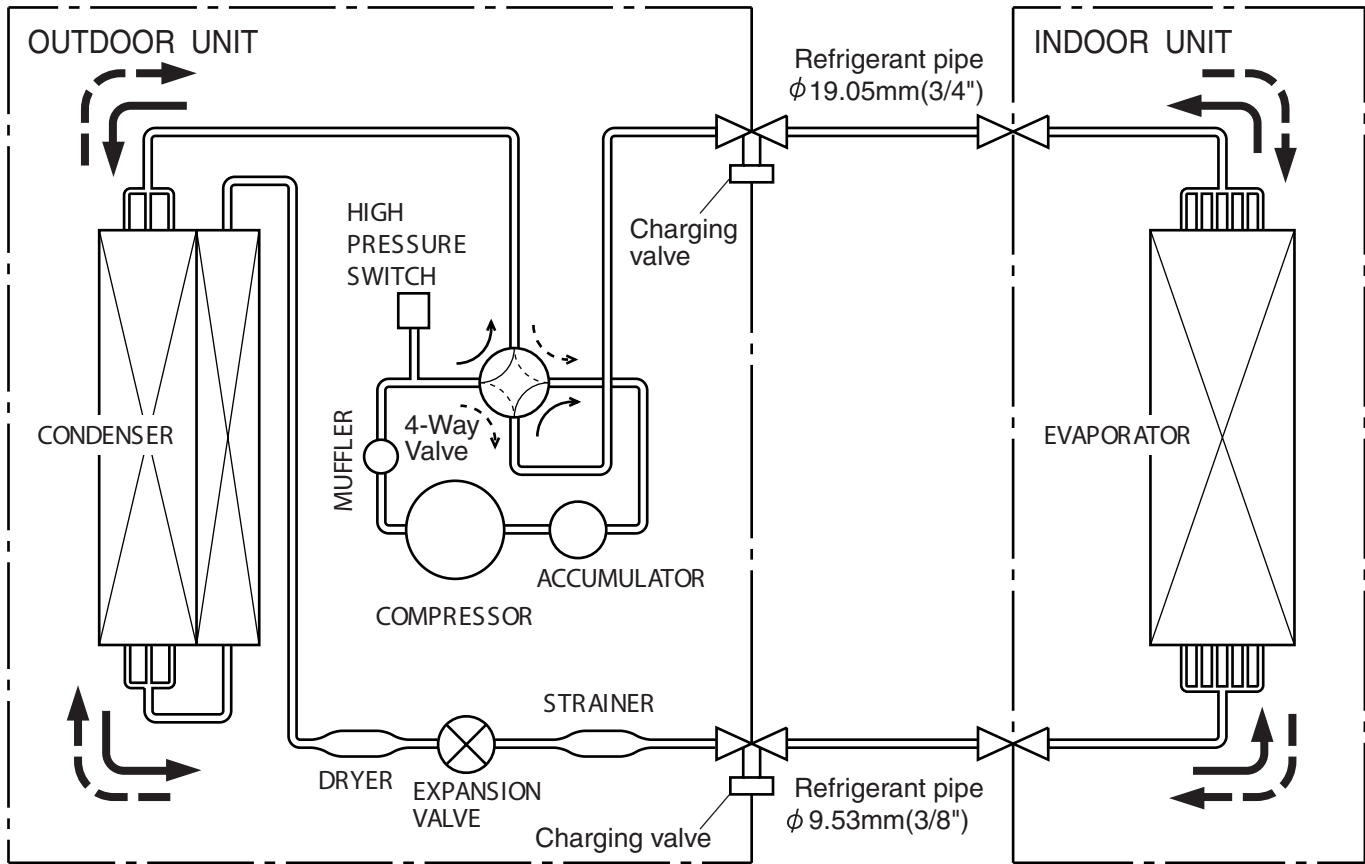
	RD-36TB	RD-45TB
FAN MOTOR CAPACITOR	10.0 μ F	15.0 μ F



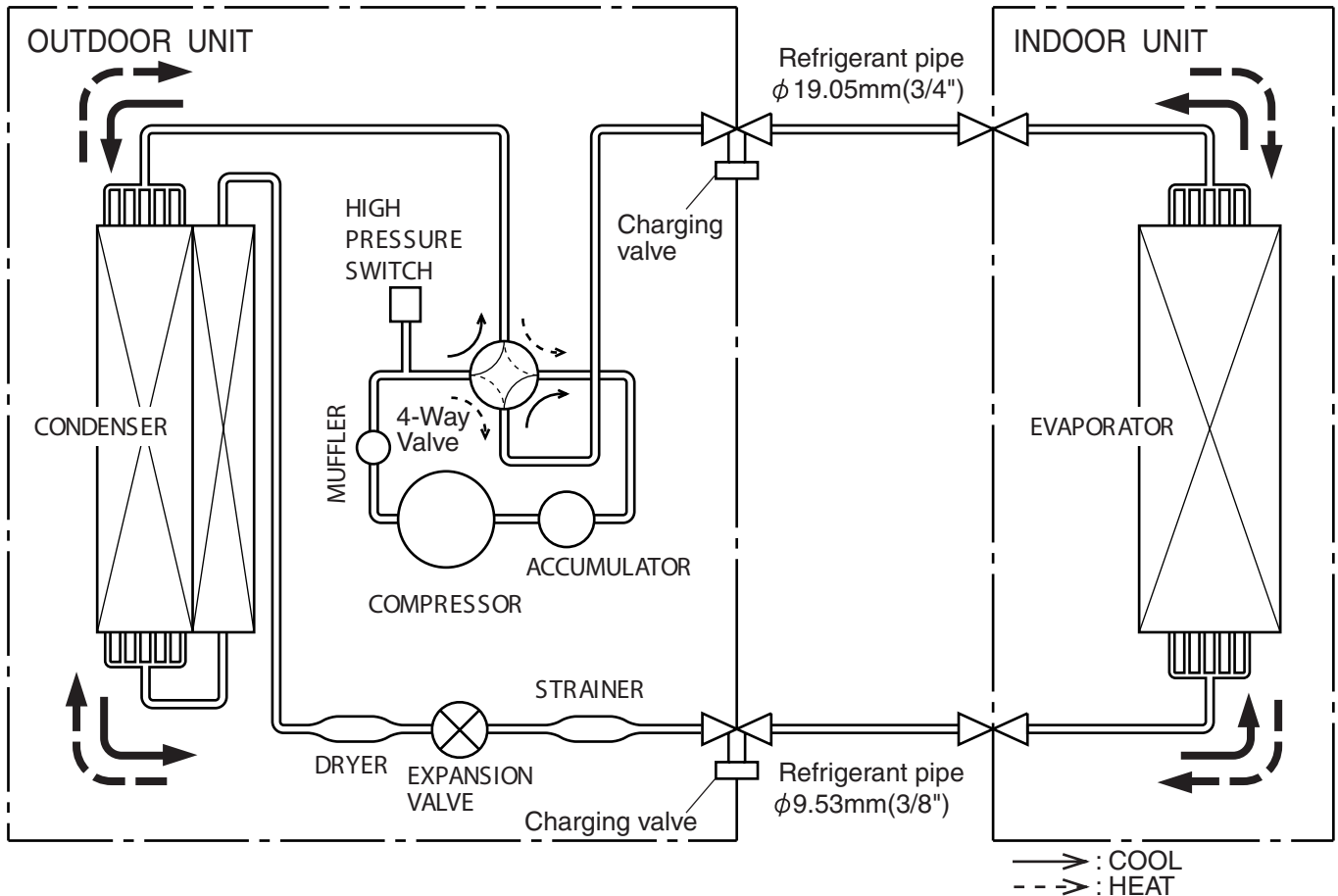
FAN MOTOR CAPACITOR	3.5 μ F
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REFRIGERANT SYSTEM DIAGRAM

Models : RD-36TB / RO-36TA



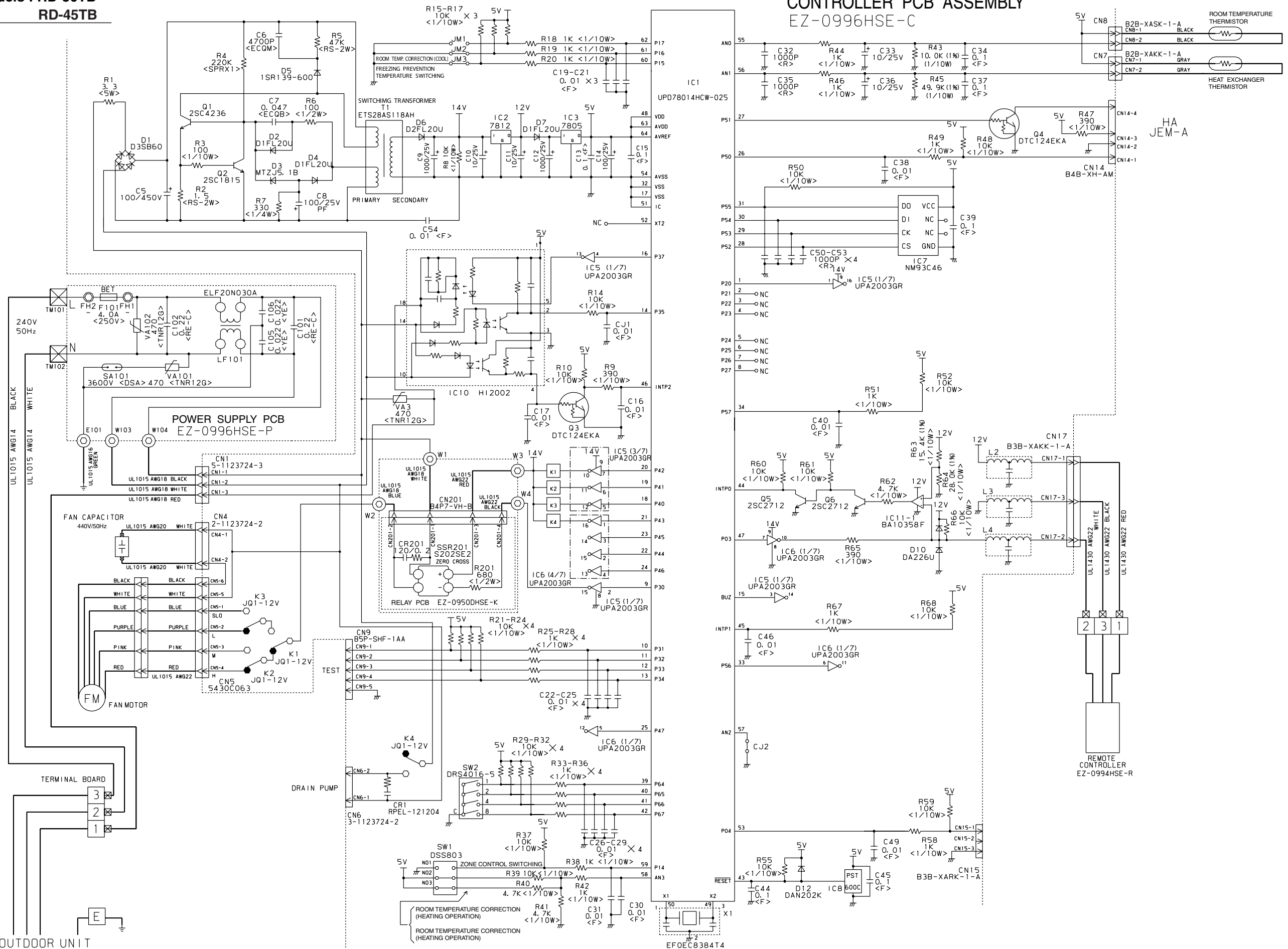
Models : RD-45TB / RO-45TA



INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Models : RD-36TB
RD-45TB

CONTROLLER PCB ASSEMBLY
EZ-0996HSE-C



**Models : RO-36TA
RO-45TA**

ERROR CONTENTS

Models ; RD-36TB / RO-36TA, RD-45TB / RO-45TA

1. REMOTE CONTROLLER

- When EE : EE blinks at the current time display, there is an error inside the air conditioner. If the SET TIME button (▼) and TEMP./DAY 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).

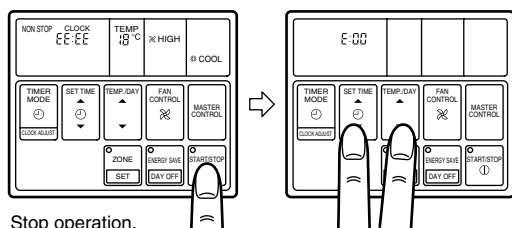


Table 1

Error cord	Error contents
E:00	Communication error (indoor unit ↔ remote controller)
E:01	Communication error (indoor unit ↔ outdoor unit)
E:02	Room temperature sensor open
E:03	Room temperature sensor shortcircuited
E:04	Indoor heat exchanger temperature sensor open
E:05	Indoor heat exchanger temperature sensor shortcircuited
E:06	Outdoor heat exchanger temperature sensor open
E:07	Outdoor heat exchanger temperature sensor shortcircuited
E:08	Power source connection error
E:09	Float switch operated
E:0A	Outdoor temperature sensor open
E:0B	Outdoor temperature sensor shortcircuited
E:0C	Discharge pipe temperature sensor open
E:0D	Discharge pipe temperature sensor shortcircuited
E:0E	Outdoor high pressure abnormal
E:0F	Discharge pipe temperature abnormal
E:11	Model abnormal
E:12	Indoor fan abnormal
E:13	Outdoor signal abnormal
E:14	Outdoor EEPROM 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.

2. OUTDOOR UNIT

When the outdoor temperature drops, the outdoor unit's fans may switch to low speed, or one of the fans may stop intermittently.

ERROR : Heat & Cool model (Reverse cycle) only

The LED lamps operate as follows (Table 2) according to the error contents.

The LED lamps are on the outdoor unit board.

Table 2

Error contents	LED1	LED2	LED3	LED4	LED5	LED6
Signal abnormal	—	—	X	○	X	X
Indoor unit abnormal	—	—	X	X	○	X
Discharge pipe temperature abnormal	—	—	X	X	X	○
Outdoor heat exchanger temperature abnormal	—	—	X	X	○	○
Outdoor temperature abnormal	—	—	X	○	X	○
Power source connection error	—	—	○	X	X	X
EEPROM abnormal	—	—	○	○	○	○
	◎	◎	◎	◎	◎	◎
Outdoor high pressure abnormal	○	—	—	—	—	—
Discharge pipe temperature abnormal	—	○	—	—	—	—

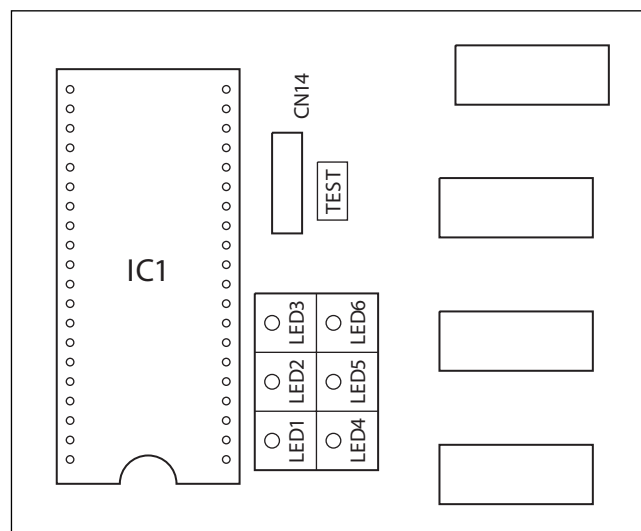
○ : 0.5s ON / 0.5s OFF (flash) X : OFF

◎ : 0.1s ON / 0.1s OFF (flash) — : Indefinite

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

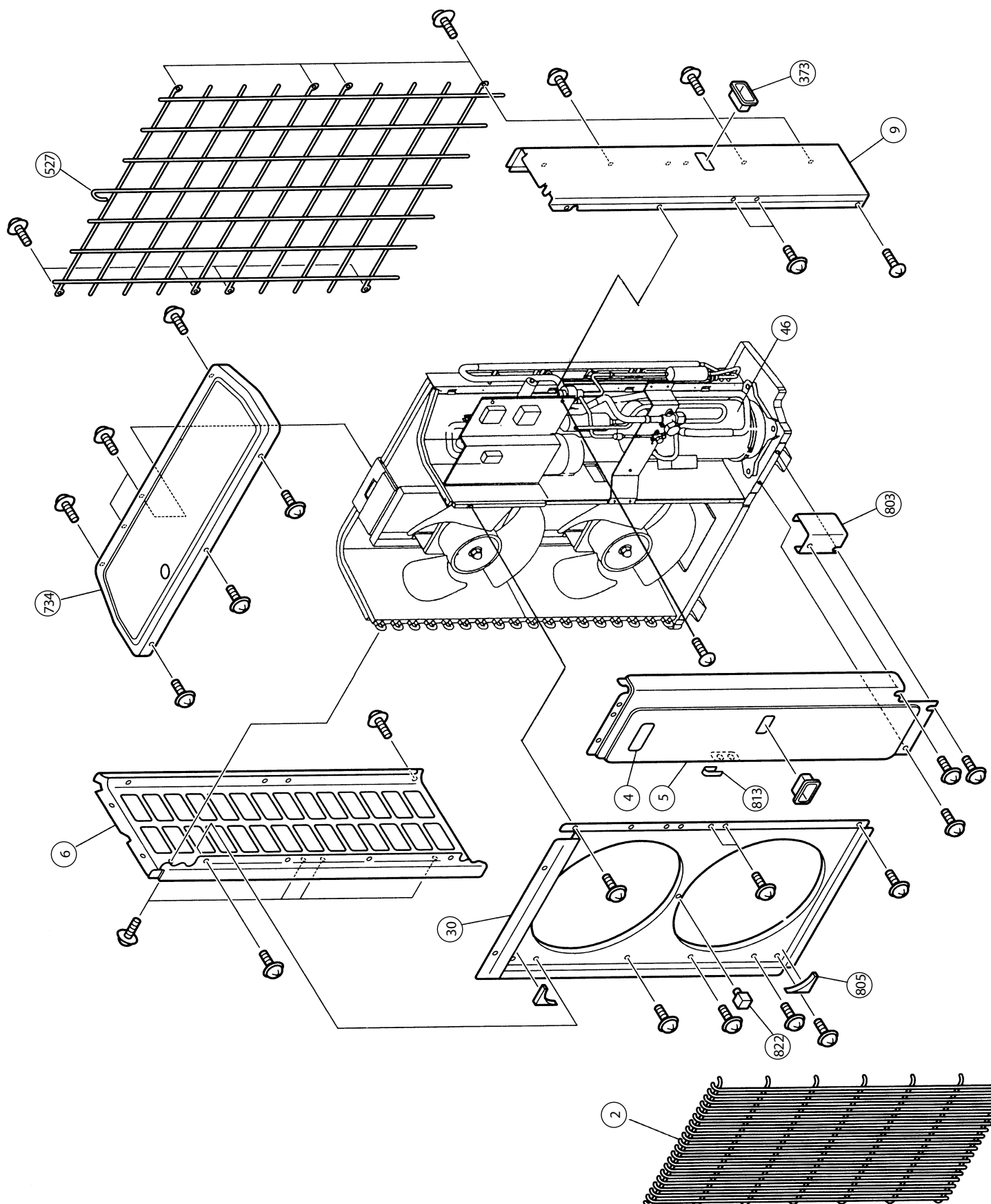
However, for discharge pipe temperature abnormal and high pressure abnormal, the LED lamp lights continuously for 24 hours, as long as the power is not turned off.

ERROR LED DISPLAY LAYOUT

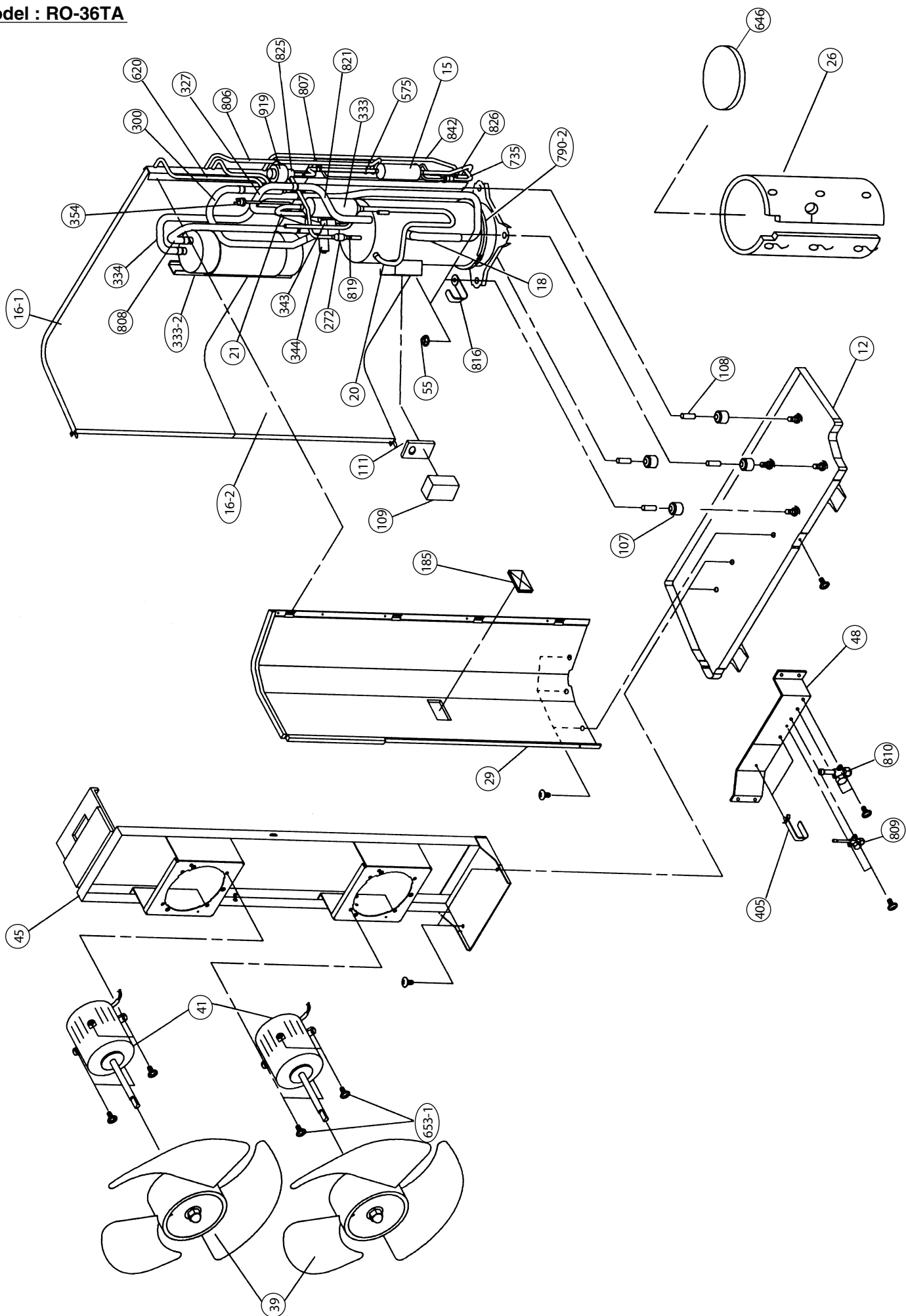


DISASSEMBLY ILLUSTRATION

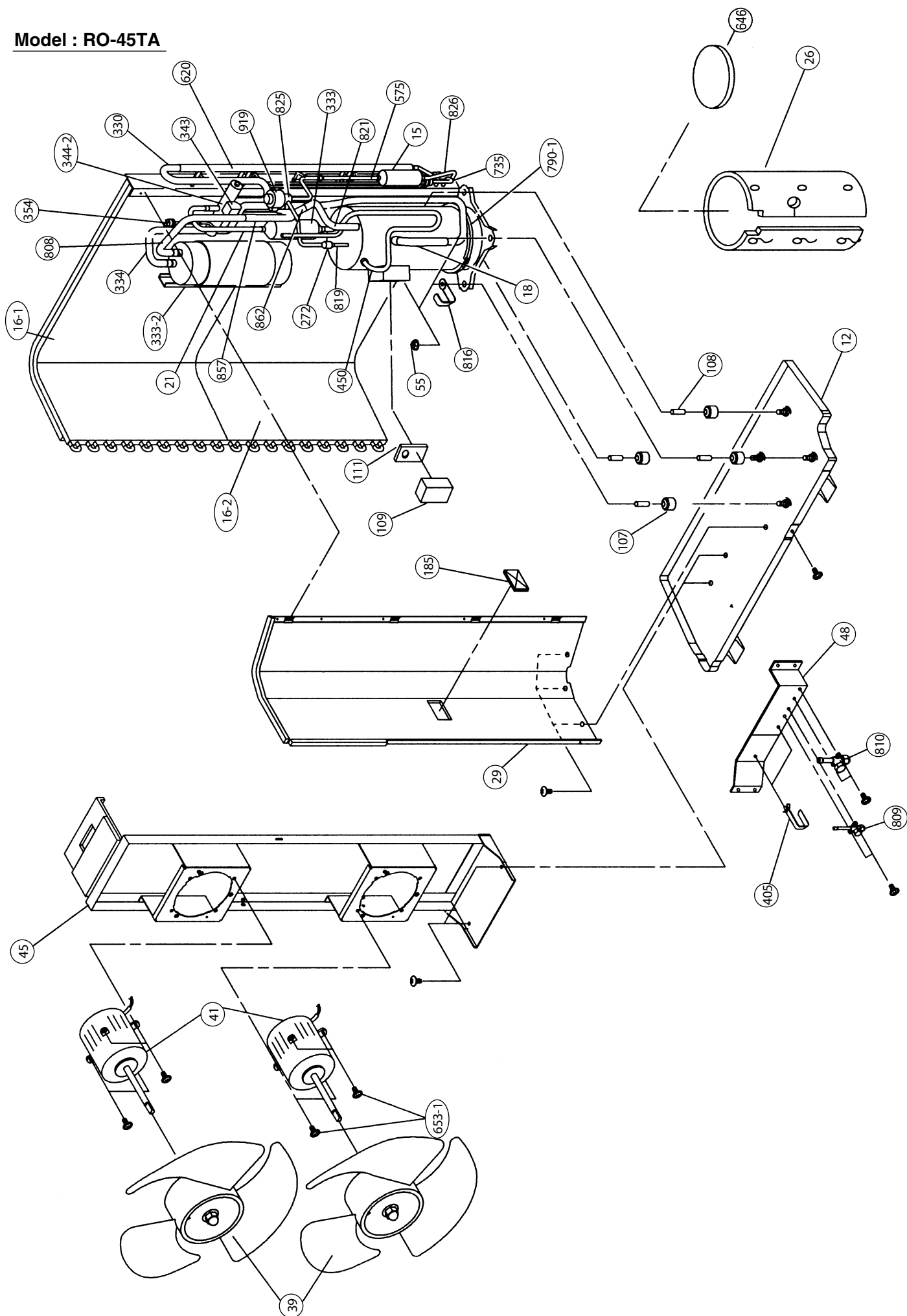
Models : RO-36TA / RO-45TA



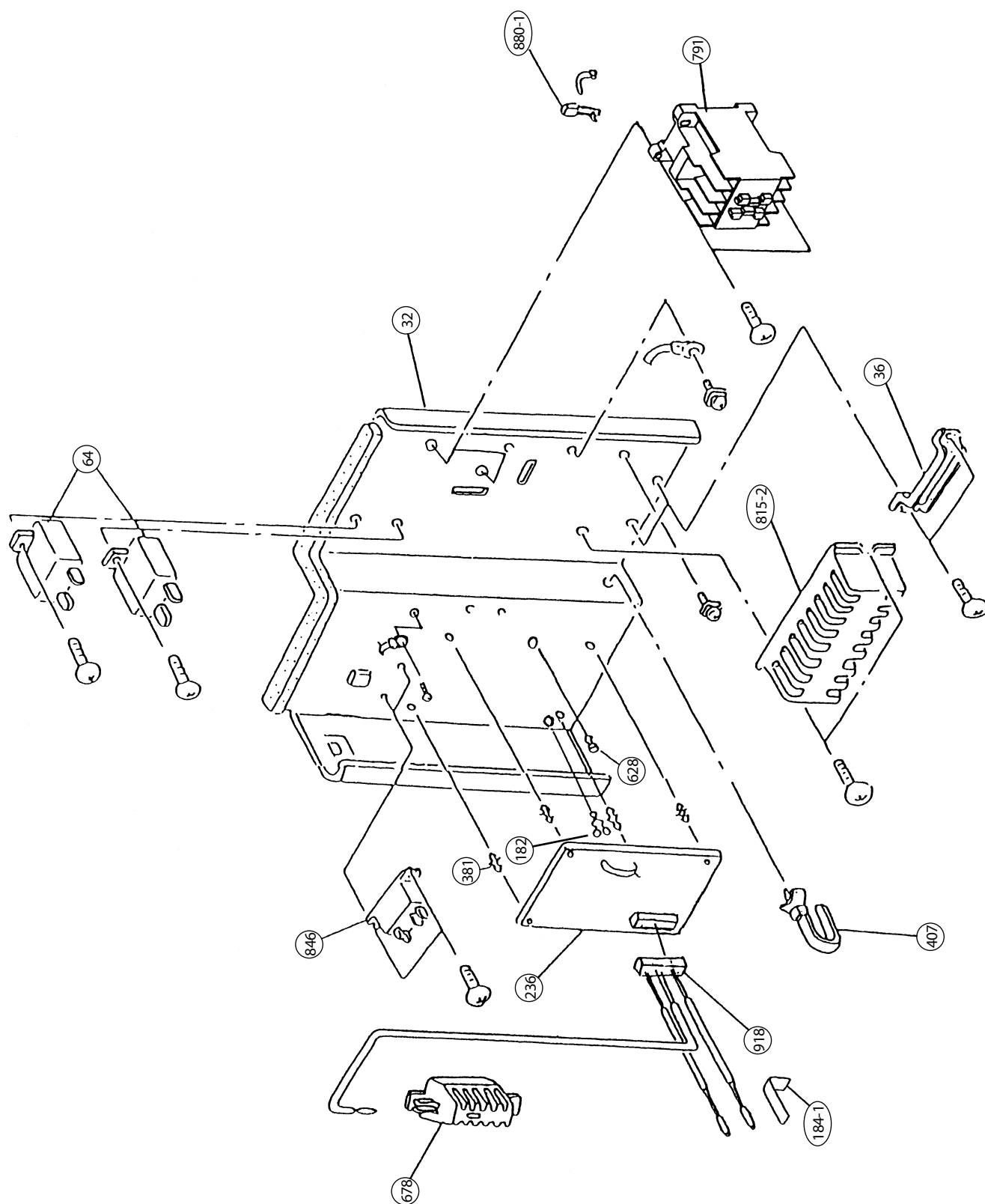
Model : RO-36TA



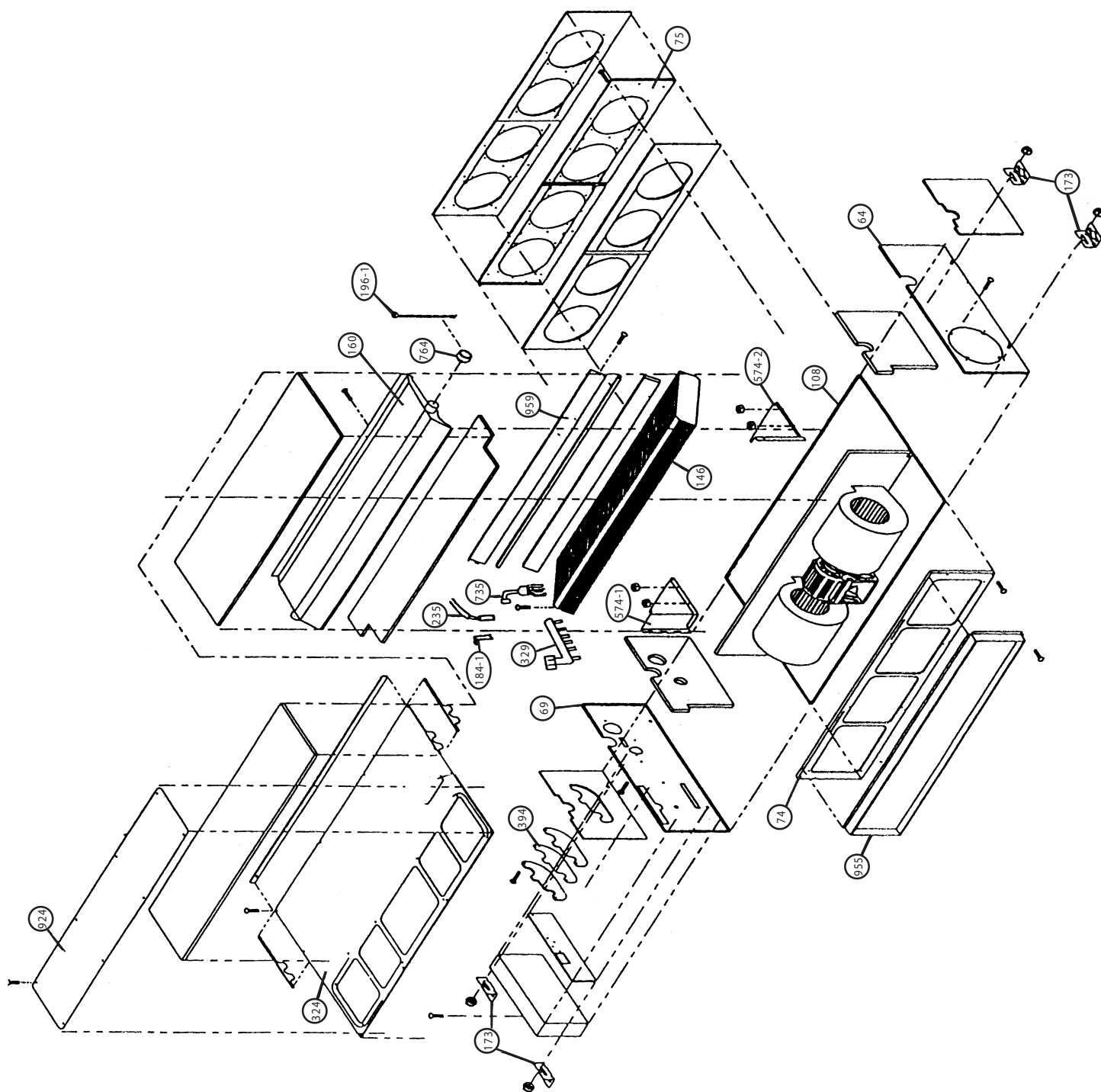
Model : RO-45TA



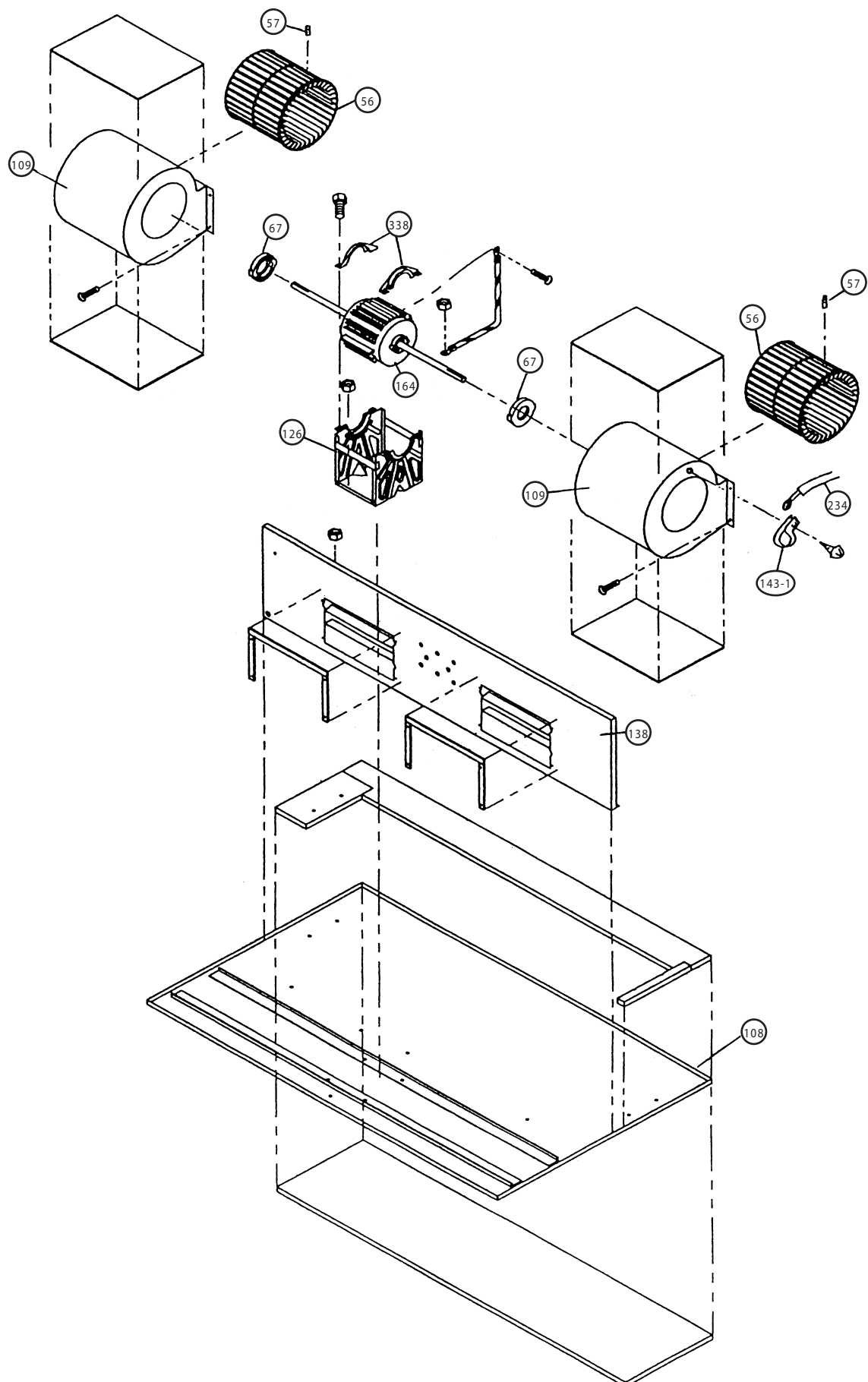
Models : RO-36TA
RO-45TA



Models : RD-36TB
RD-45TB



Models : RD-36TB
RD-45TB



2003.06.02



PARTS LIST

INDOOR UNIT

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

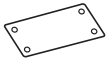
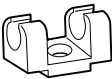
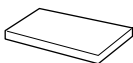
Ref. No.	Description	Part No.		Ord. Q'ty	Ref. No.	Description	Part No.		Ord. Q'ty
		RD-36TB	RD-45TB				RD-36TB	RD-45TB	
34	Capacitor (Fan Motor)	9704305053	9700468042		234	Thermistor Assy-Room	9703299056	9703299056	
36-2	Cord Holder Metal	9356362008	9356362008		235	Thermistor Assy-Pipe	9703297045	9703297045	
56	Sirocco Fan Assy	9356531022	9356531022		236	Controller PCB Assy	9702349134	9702349134	
57	Hex. Socket Screw	313616213202	313616213202		240	Remote Control Unit	9371438030	9371438030	
64	Cabinet-Left Metal	9356551006	9356551006		287	Cap (Power)	9352173011	9352173011	
67	Rubber (Vibration-proof)	313659068604	313659068604		324	Top Plate	9356546002	9356546002	
69	Cabinet-Right Metal	9356547009	9356547009		329	Coupling Pipe Assy	9364734002	9364734002	
74	Intake Panel	9356537000	9356537000		338	Motor Fixture	9356536003	9356536003	
75	Outlet Panel Assy	9356538007	9356538007		381	Locking Spacer	313209391506	313209391506	
108	Base Assy	9356518009	9356518009		394	Pipe Fixing Plate	9356554007	9356554007	
109	Casing Assy	9356527001	9356527001		448	Control Box Metal-B	9356560008	9356560008	
126	Motor Fixing Table Assy	9356533002	9356533002		466	Clamp NK-4N	313714328805	313714328805	
138	Separate Wall	9356523003	9356523003		574-1	Eva. Fixing Plate-R	9356521009	9356521009	
143-1	Clamp NK-3N	313361274700	313361274700		574-2	Eva. Fixing Plate-L	9356522006	9356522006	
146	Evaporator Assy	9364732008	9364732008		628	Locking Spacer	313005446558	313005446558	
160	Drain Pan Assy	9356542028	9356542028		735	Distributor Assy	9364733005	9364733005	
164	Fan Motor Assy-IN	9600830017	9600830017		764	Drain Cap	9356541007	9356541007	
173	Hanger Bracket	9356563009	9356563009		815	Terminal-7P	9703403019	9703403019	
184-1	Thermo. Spring-A	313728262708	313728262708		875	Filter PCB Assy	9703171017	9703171017	
185-1	Rubber Bushing	9357376004	9357376004		924	Intake Seal Plate	9356553000	9356553000	
187	Clamp No.1219	313361271706	313361271706		955	Square Flange Assy	9356555004	9356555004	
192	Clamp No.062	313361271402	313361271402		956	Control Box Metal-E	9356900002	9356900002	
195	Clamp SKB-100	313361275805	313361275805		959	Eva. Seal Plate	9356540000	9356540000	
196-1	Clamp SKB-3M	312300787605	312300787605		968	Relay PCB Assy	9701594030	9701594030	
223	Control Box Metal Assy	9356558005	9356558005						

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	Ref. No.	Description	Part No.		Ord. Q'ty
		RO-36TA	RO-45TA				RO-36TA	RO-45TA	
2	Fan Cover	9352159015	9352159015		344-2	4-Way Valve	-----	9353532008	
4	Emblem-Rear	9361328006	9361628006		354	Pressure Switch	9703667008	9704045003	
5	Cabinet-A, Painted	9352146015	9352146015		373	Grip	9352157004	9352157004	
6	Cabinet-C, Painted	9352149016	9352149016		381	Locking Spacer	313209391506	313209391506	
9	Cabinet-B, Painted	9352147012	9352147012		405	Clamp No. 1763	313816345304	313816345304	
12	Base Assy, Painted	9352136016	9352136016		407	Clamp (Cable) No. 1259	313739340109	313739340109	
15	Dryer	9369978043	9369978043		450	Discharge Pipe-A	-----	9368338008	
16-1	Condenser-A Assy	9368356002	9368409005		527	Protection Net	9352163012	9352163012	
16-2	Condenser-B Assy	9368353001	9368536008		575	Condensing Pipe-C	9368535001	9368535001	
18	Suction Pipe Assy	9370948028	9364514000		620	Inlet Pipe (Cond.) Assy	9368355005	9362532006	
20	Discharge Pipe-A Assy	9370950021	-----		628	Locking Spacer	313005446558	313005446558	
21	Discharge Pipe-B Assy	9368347000	9368331009		646	Compressor Cover-B	9364089003	9364089003	
26	Compressor Cover-A	9364088006	9364088006		653-1	Bolt (Fan Motor Fixing)	9375089020	9375089020	
29	Separate Wall	9355277013	9355277013		678	Bracket (Thermistor)	313557406106	313557406106	
30	Blower Cover, Painted	9352151019	9352151019		734	Cabinet Top Plate	9352161018	9352161018	
32	Control Box Metal	9352134012	9352134012		735	Distributor Assy	9368352004	9362533003	
36	Cord Holder Metal	9356934007	9356934007		790-1	Belt Heater-A	-----	9361140042	
39	Propeller Fan Assy	9366378013	9366378013		790-2	Belt Heater	9361140066	-----	
41	Fan Motor Assy-Out	9600832028	9600832028		791	Magnetic Relay	9363277005	9363277005	
45	Bracket (Motor) Assy	9368108007	9368108007		803	Cabinet-D, Painted	9352150012	9352150012	
46	Compressor Assy	9370772012	9367376001		805	Blower Cover Corner	9352160011	9352160011	
48	Bracket (Coupler) Assy	9355281010	9355281010		806	Cond. Pass Pipe-A Assy	9368351007	-----	
55	Special Nut M8 (For Comp.)	9355091008	9355091008		807	Cond. Pass Pipe-B	9368360009	-----	
64	Capacitor (Fan Motor)	9357965024	9357965024		808	Inlet Pipe (Accumulator)-A	9368349004	9368341008	
107	Rubber Seat-A (For Comp.)	9364084008	9364084008		809	Ball Valve-A	9362578004	9362578004	
108	Sleeve-A (For Comp.)	9364085005	9364085005		810	Ball Valve-B	9362579001	9362579001	
109	Terminal Cover (For Comp.)	9364087009	9364087009		813	Cabinet Hook	9352148002	9352148002	
111	Terminal Packing	9364086002	9364086002		815-2	Terminal 8P	9363276022	9363276022	
182	Clamp No. 249	313361271505	313361271505		816	Wire Clamp Metal	313584219902	313584219902	
184-1	Thermo. Spring-A	313728262708	313728262708		819	Valve-A Coupl. Pipe	9368342005	9368342005	
185	Rubber Bushing	313005066051	313005066051		821	Joint Pipe (Valve-B)	9364080000	9368340001	
236	Controller PCB Assy	9703332012	9703332029		822	Fan Cover Fixture-A	9352158018	9352158018	
272	Strainer Assy	9368343002	9368343002		825	Expansion Valve Assy	9368364007	9368363000	
300	Suction Pipe-C	9368350000	-----		826	Condensing Pipe-B	9368354008	9368335007	
327	Suction Pipe-A	9368348007	-----		842	Cond. Pass Pipe-C	9368361006	-----	
330	Inlet Pipe (Cond.)-A	-----	9368334000		846	Relay	9304375005	9304375005	
333	Accumulator	9350363018	9350363018		857	Inlet Pipe (Accumulator)-B	-----	9368333003	
333-2	Accumulator Assy (B)	9368463007	9368463007		862	Valve-B Coupl. Pipe	-----	9368332006	
334	Suction Pipe-B	9362557009	9362557009		880-1	Network	9700987017	9700987017	
343	Solenoid Coil	9359616108	9359616108		918	Thermistor Assy	9900129019	9900129019	
344	4-Way Valve	9353055002	-----		919	Expansion Valve Coil	9363467017	9363467017	

INDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Parts No.
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		9371438030
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	9357038001
Drain hose insulation 	1	Insulates the drain hose and vinyl hose connection	313806217708

OUTDOOR UNIT ACCESSORIES

Name and Shape	Q'ty	Application	Parts No.
Power cap 	1	For power cord installation	9352173011
Auxiliary pipe assembly 	1	For wiring conduit (gas side) connection (May not be supplied, depending on the model)	9355292016
Edge cover 	1	For wiring conduit installation hole edge protection	9352436000
Tapping screw 	2	For cabinet A and cabinet D mounting (1) Spare (1)	301463040100
Binder 	1	For power cord binding	313035356905
Putty 	1	For sealing	303020200114
Coupler heat insulation 	1	For outdoor side pipe joint	313005074759
Pipe (drain) 	2	For outdoor unit drain piping work (May not be supplied, depending on the model.)	313728031005
Flexible tube 	2		313013042915
Cap (drain) 	2		313166024302



MANUFACTURER :

Fuji Denki Sosetsu Co., Ltd.

Tokyo, Japan