

SERVICE MANUAL



Indoor unit	Outdoor unit
RS-10FB	RO-10FBC
RS-10UB	RO-10UBC
RS-12FB	RO-12FBC
RS-12UB	RO-12UBC

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

TYPE		COOL	COOL & HEAT	COOL	COOL & HEAT
INDOOR UNIT		RS-10FB	RS-10UB	RS-12FB	RS-12UB
OUTDOOR UNIT		RO-10FBC	RO-10UBC	RO-12FBC	RO-12UBC
COOLING CAPACITY	(kW)	2.90 - 2.95	2.95 - 3.00	3.45 - 3.50	3.45 - 3.50
HEATING CAPACITY	(kW)	-----	3.35 - 3.40	-----	4.15 - 4.20

ELECTRICAL DATA

POWER SOURCE (V)		220 - 240			
FREQUENCY (Hz)		50			
RUNNING CURRENT (A)	COOLING	4.7 - 4.6	4.9 - 4.7	6.1 - 6.1	5.8 - 5.8
	HEATING	-----	4.4 - 4.3	-----	6.1 - 6.2
INPUT WATTS (kW)	COOLING	1.015 - 1.045	1.05 - 1.08	1.27 - 1.32	1.22 - 1.26
	HEATING	-----	0.940 - 0.985	-----	1.27 - 1.33
EER (kW/kW)	COOLING	2.86 - 2.82	2.81 - 2.78	2.72 - 2.65	2.83 - 2.78
	HEATING	-----	3.56 - 3.45	-----	3.27 - 3.16
MOISTURE REMOVAL (ℓ /hr)		1.3	1.3	1.8	1.8
AIR CIRCULATION-Hi (m³/hr)		C 490 - 490	C 490 - 490 H 500 - 500	C 500 - 500	C 500 - 500 H 500 - 500

COMPRESSOR

TYPE	Hermetic type, Permanent split condenser, 2 pole, Single phase, Induction motor			
DISCRIMINATION	80230135 220-240V 50Hz	80230135 220-240V 50Hz	80235035 220-240V 50Hz	80235035 220-240V 50Hz
REFRIGERANT R410A (g)	590	660	720	770

Note : Always use a vacuum pump to purge the air.
Refrigerant for purging the air is not charged in the outdoor unit at the factory.

FAN MOTOR

POWER SOURCE (V)		220 - 240	220 - 240	220 - 240	220 - 240
INDOOR UNIT	HI-SPEED (r.p.m.)	C 1,300 - 1,300	C 1,300 - 1,300 H 1,330 - 1,330	C 1,330 - 1,330	C 1,330 - 1,330 H 1,330 - 1,330
	MED-SPEED (r.p.m.)	C 1,200 - 1,200	C 1,200 - 1,200 H 1,180 - 1,180	C 1,250 - 1,250	C 1,250 - 1,250 H 1,180 - 1,180
	LO-SPEED (r.p.m.)	C 1,100 - 1,100	C 1,100 - 1,100 H 1,030 - 1,030	C 1,170 - 1,170	C 1,170 - 1,170 H 1,030 - 1,030
	QUIET (r.p.m.)	C 1,040 - 1,040	C 1,040 - 1,040 H 1,970 - 1,970	C 1,080 - 1,080	C 1,080 - 1,080 H 1,970 - 1,970
OUTDOOR UNIT (r.p.m.)		730 - 765	730 - 765	725 - 760	725 - 760

DIMENSIONS

INDOOR UNIT H x W x D (mm)	260 x 815 x 175		
OUTDOOR UNIT H x W x D (mm)	535 x 695 x 250		530 x 695 x 250

WEIGHTS

INDOOR UNIT	GROSS / NET	(kg)	10 / 8	
OUTDOOR UNIT	GROSS / NET	(kg)	33 / 30	35 / 32

NOISE LEVEL

INDOOR UNIT	HI-SPEED	(dB)	C 39 - 39	C 39 - 39 H 38 - 38	C 40 - 40	C 40 - 40 H 39 - 39
	MED-SPEED	(dB)	C 38 - 38	C 38 - 38 H 35 - 35	C 39 - 39	C 39 - 39 H 35 - 35
	LO-SPEED	(dB)	C 36 - 36	C 36 - 36 H 31 - 31	C 37 - 37	C 37 - 37 H 30 - 30
	QUIET	(dB)	C 34 - 34	C 34 - 34 H 30 - 30	C 35 - 35	C 36 - 36 H 29 - 29
OUTDOOR UNIT			(dB)	C 45 - 46 H 46 - 47	C 47 - 48	C 46 - 47 H 48 - 49

Note : Noise was measured in accordance with JIS standards, Japan.

ADDITIONAL REFRIGERANT CHARGE

Refrigerant suitable for a piping length of 5 m is charged in the outdoor unit at the factory.

When the piping is longer than 5 m, additional charging is necessary.

For the additional amount, see the table below.

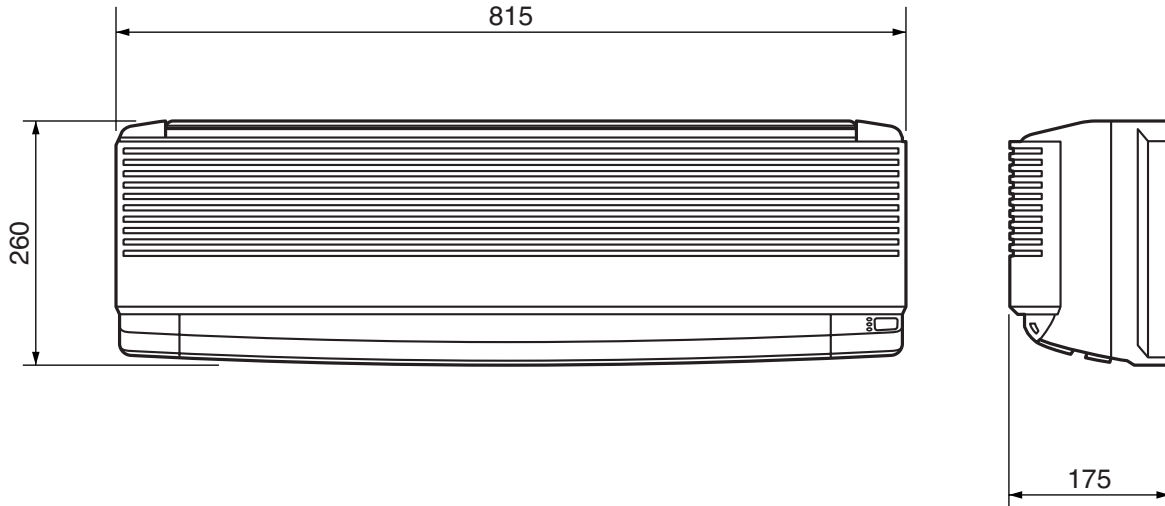
PIPE LENGTH	5 m	10 m	15 m
ADDITIONAL REFRIGERANT	None	100 g	200 g

Between 5 m and 10 m, when using a connection pipe other than that in the table, charge additional refrigerant with 20 g /1 m as the criteria.

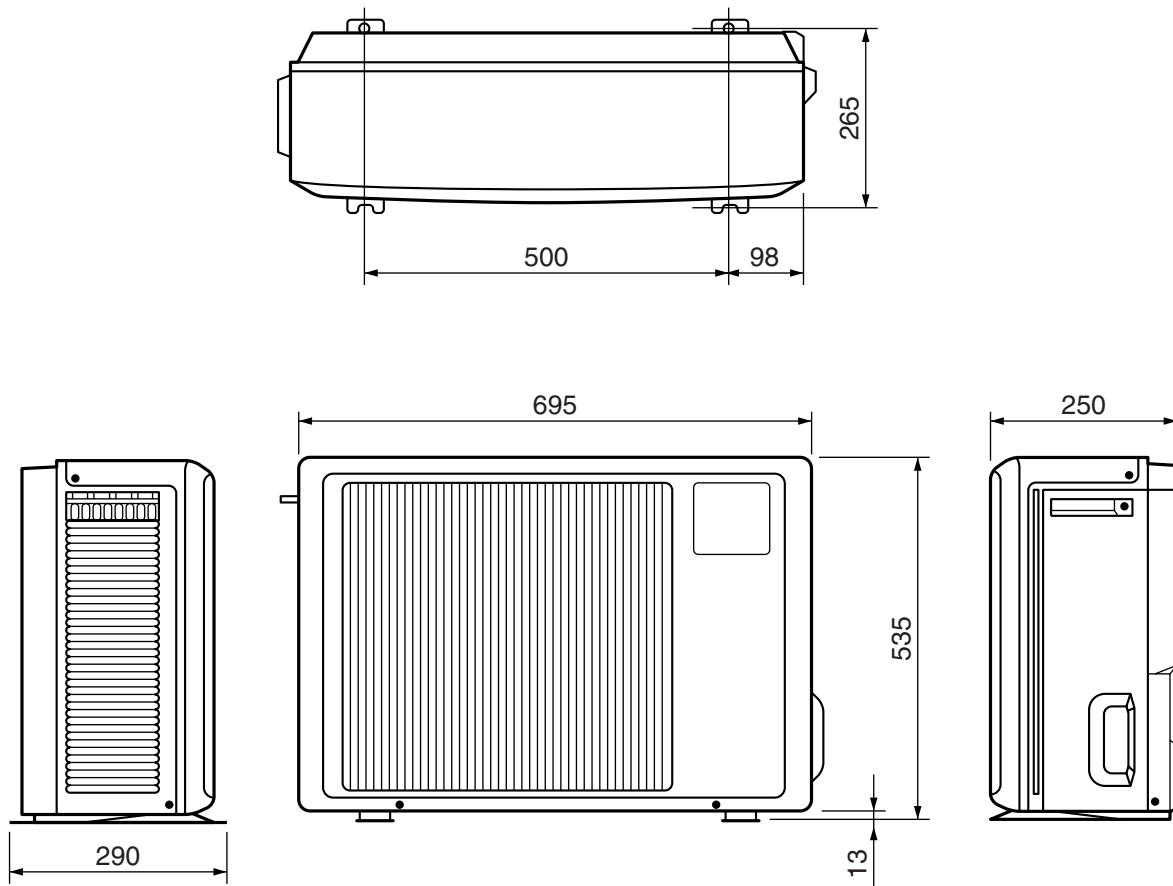
D I M E N S I O N S

INDOOR UNIT

Unit : mm

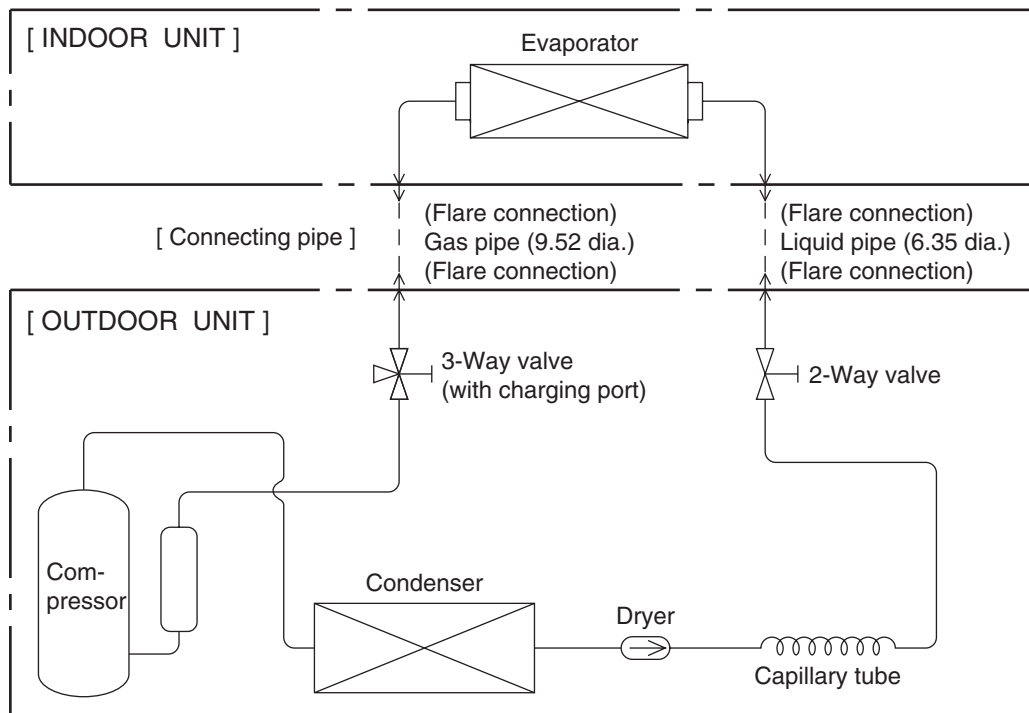


OUTDOOR UNIT

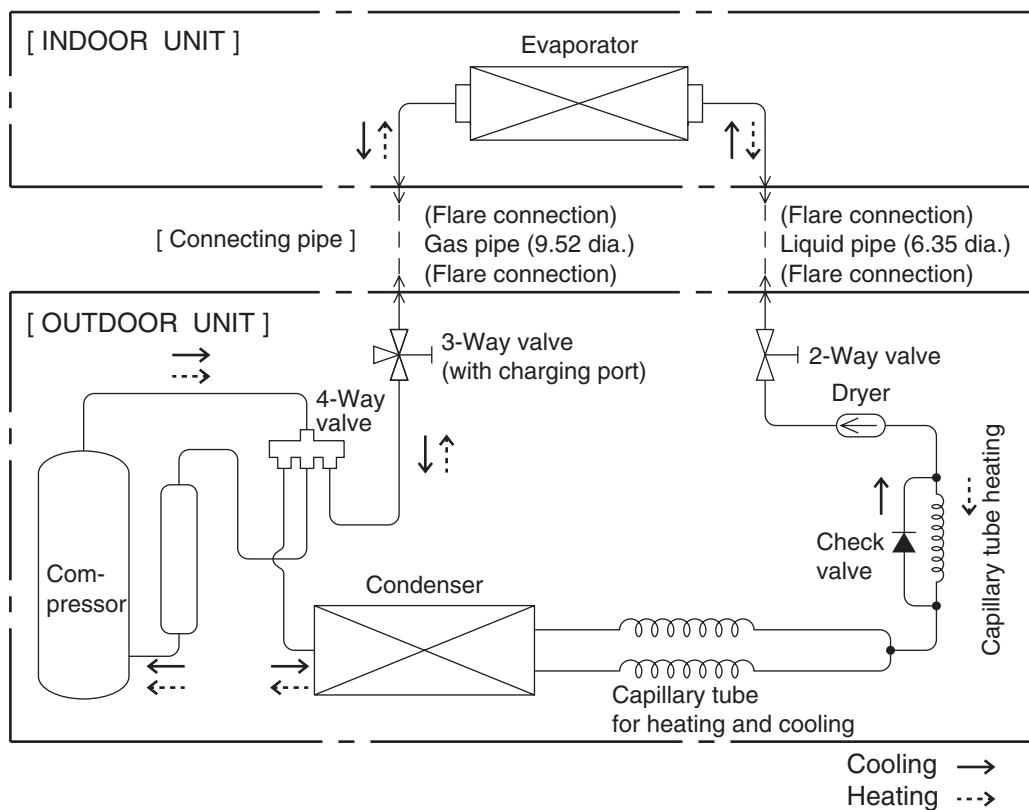


REFRIGERANT SYSTEM DIAGRAM

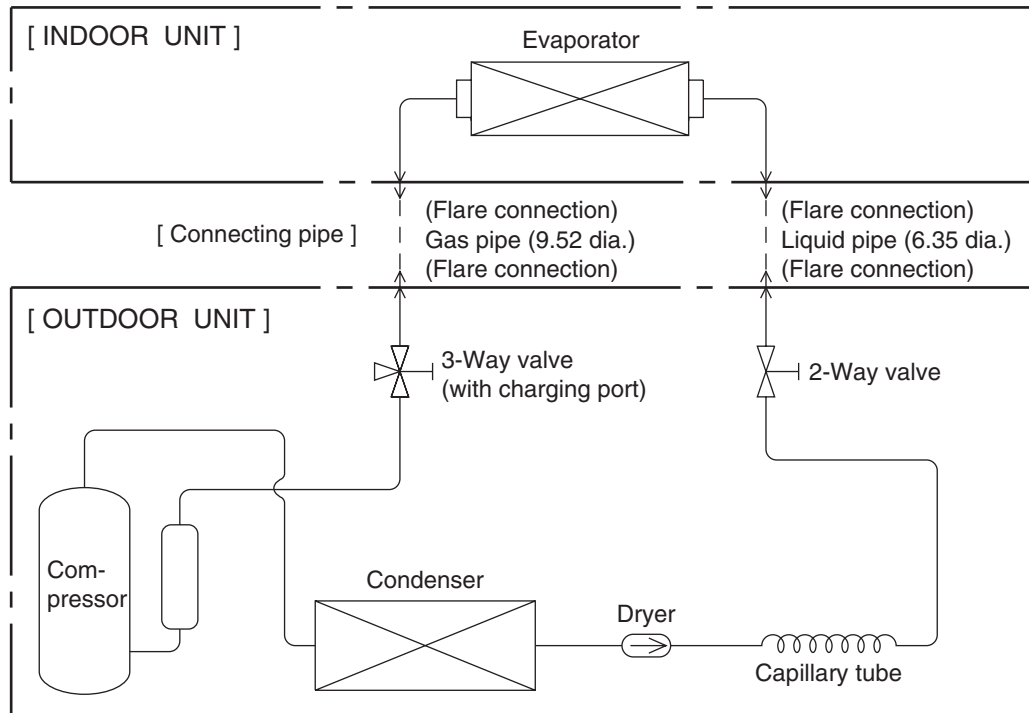
Models : RS-10FB / RO-10FBC



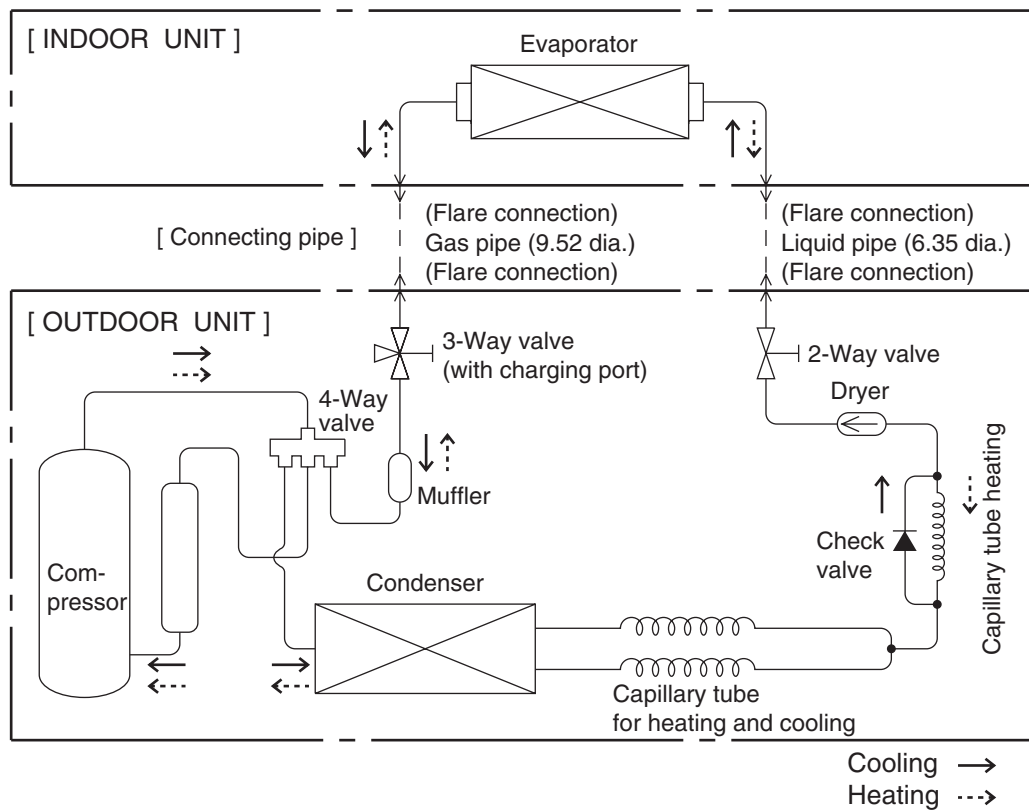
Models : RS-10UB / RO-10UBC



Models : RS-12FB / RO-12FBC

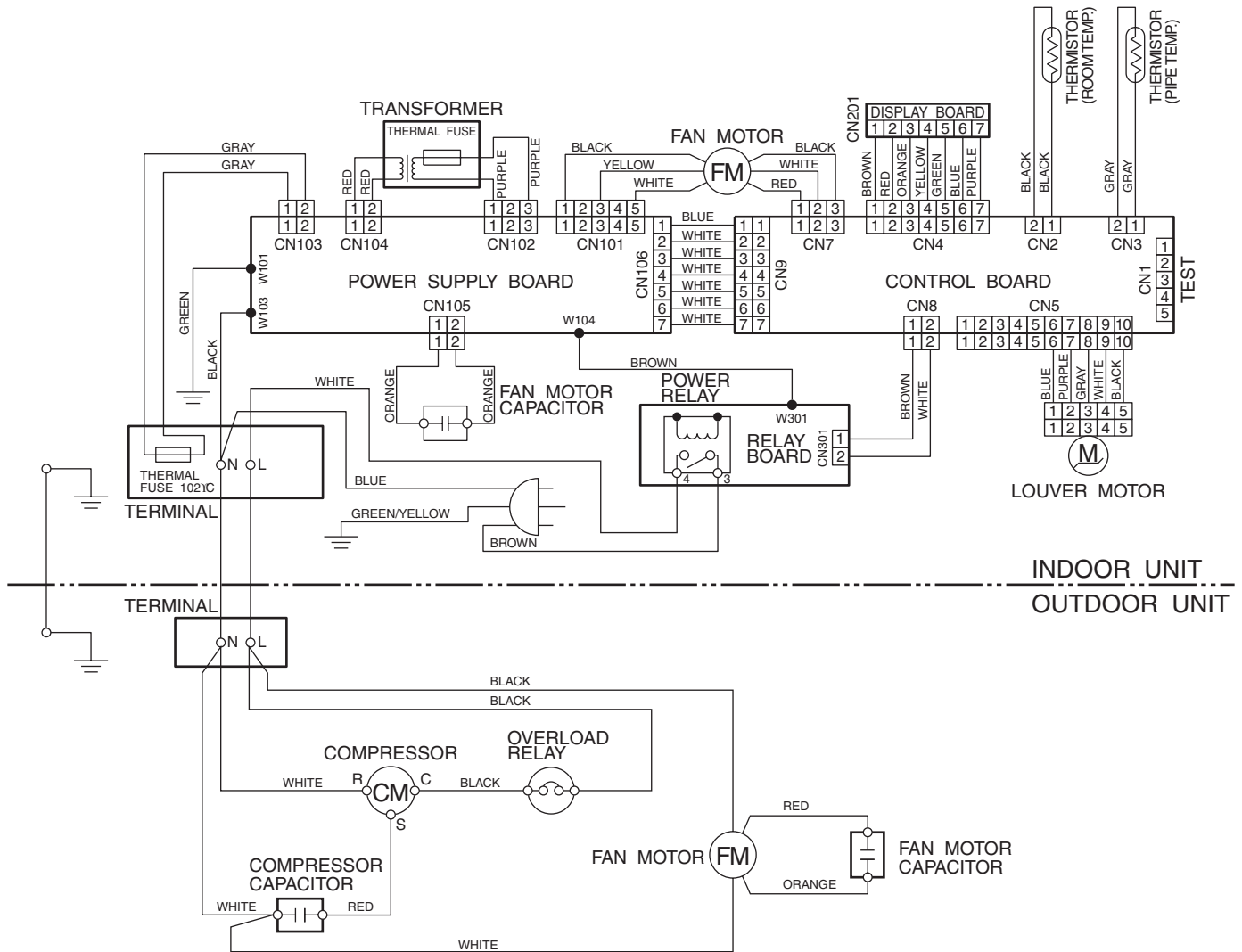


Models : RS-12UB / RO-12UBC

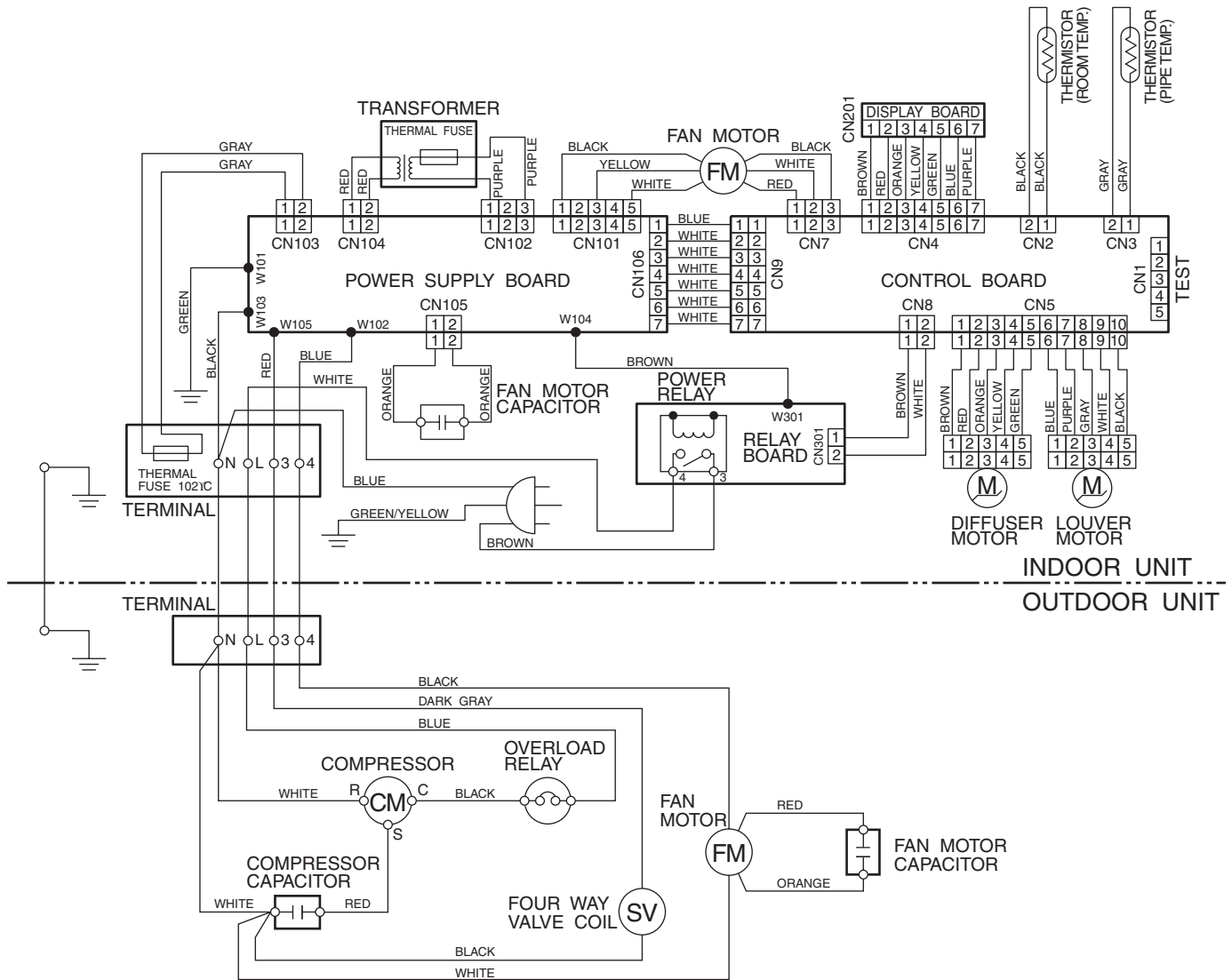


CIRCUIT DIAGRAM

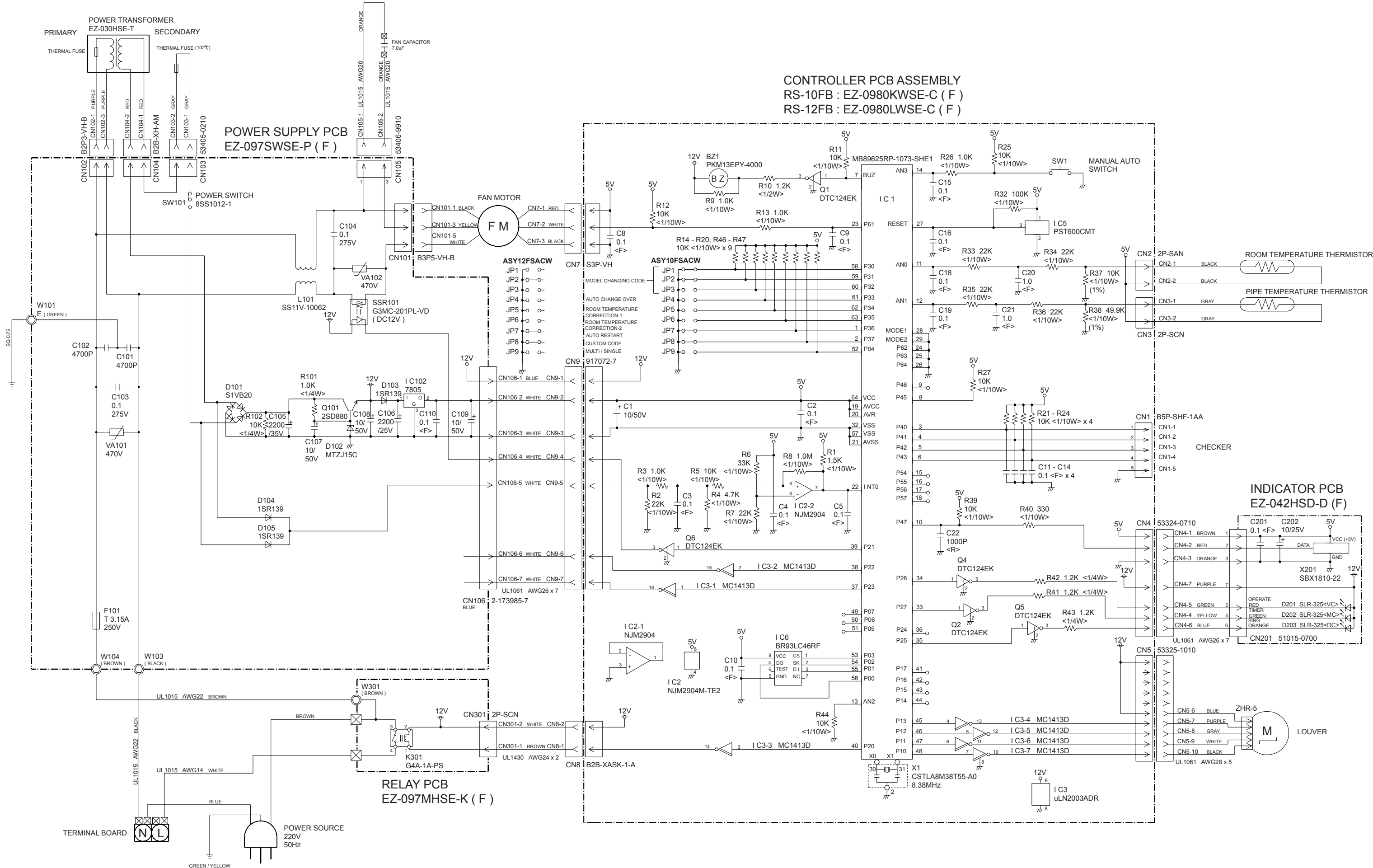
Models : RS-10FB / RO-10FBC
RS-12FB / RO-12FBC

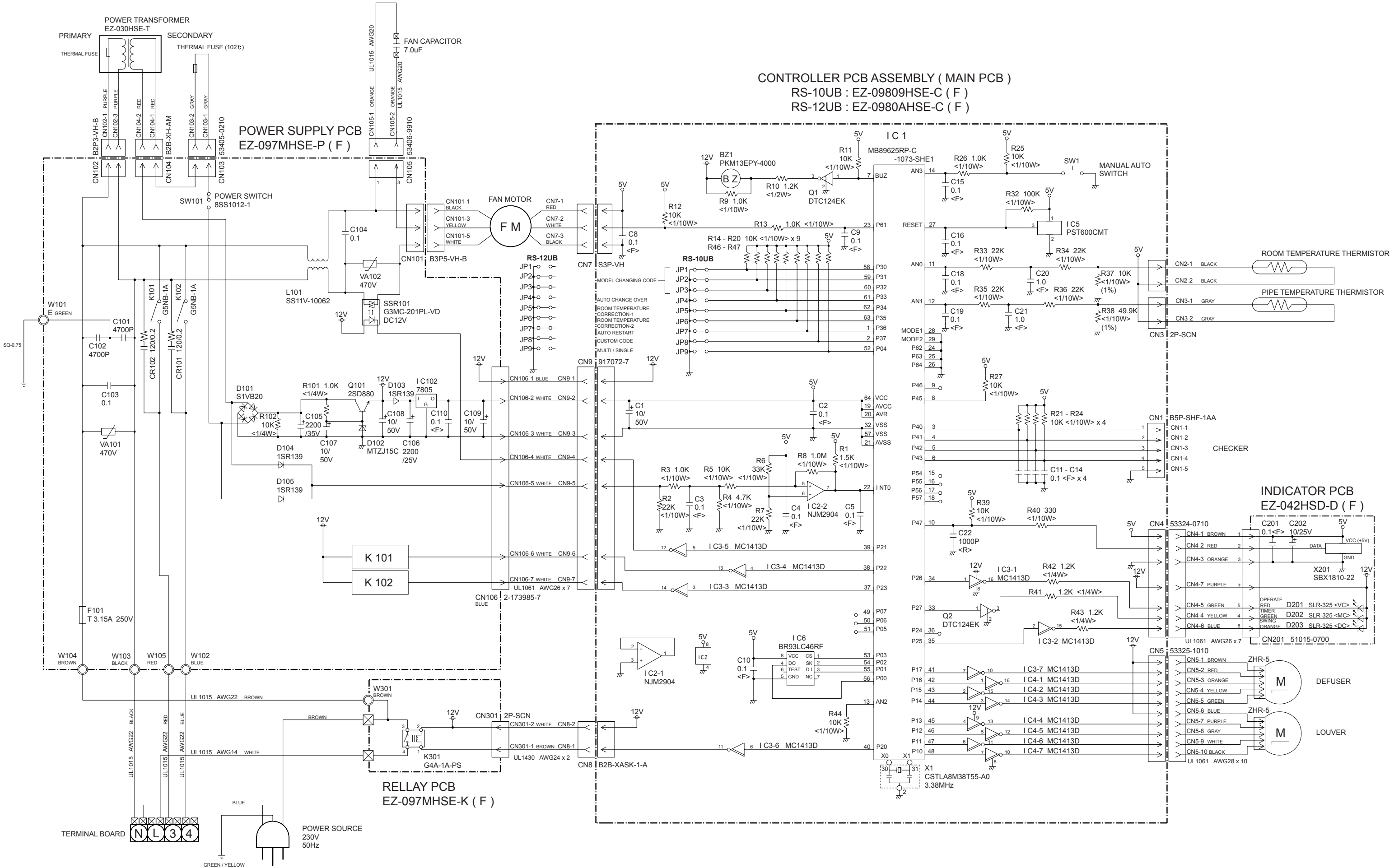


**Models : RS-10UB / RO-10UBC
RS-12UB / RO-12UBC**

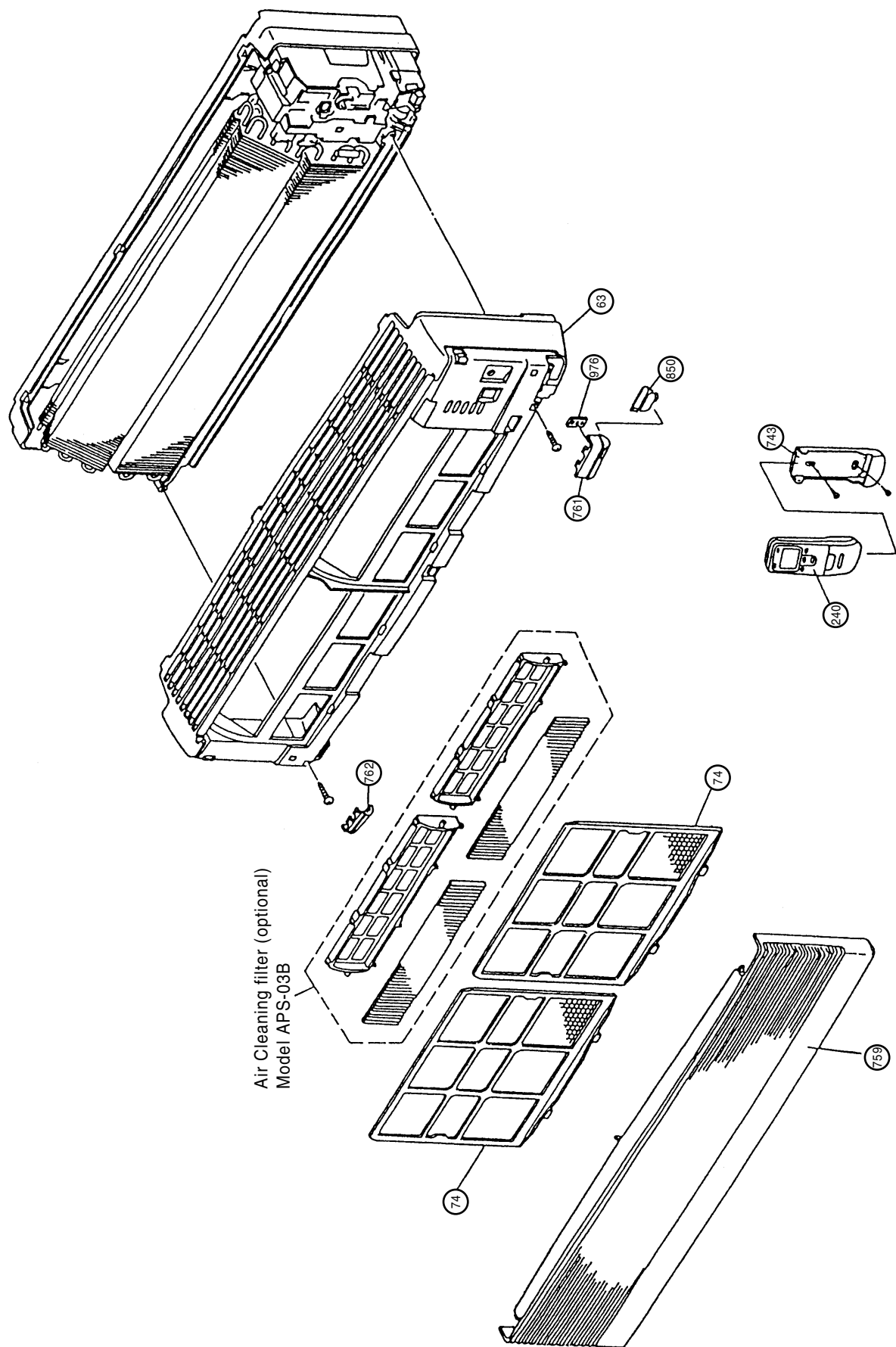


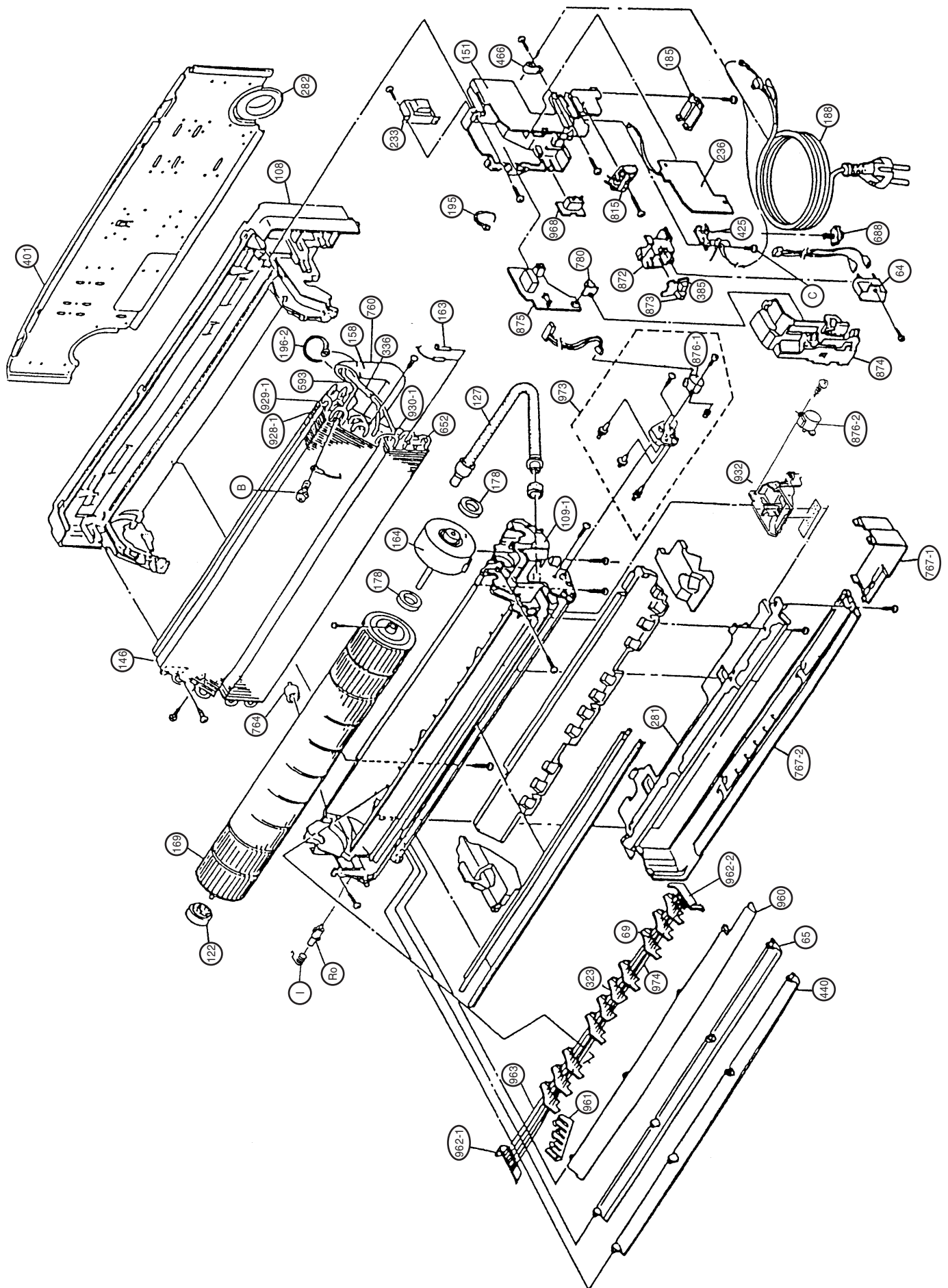
**Models : RS-10FB
RS-12FB**



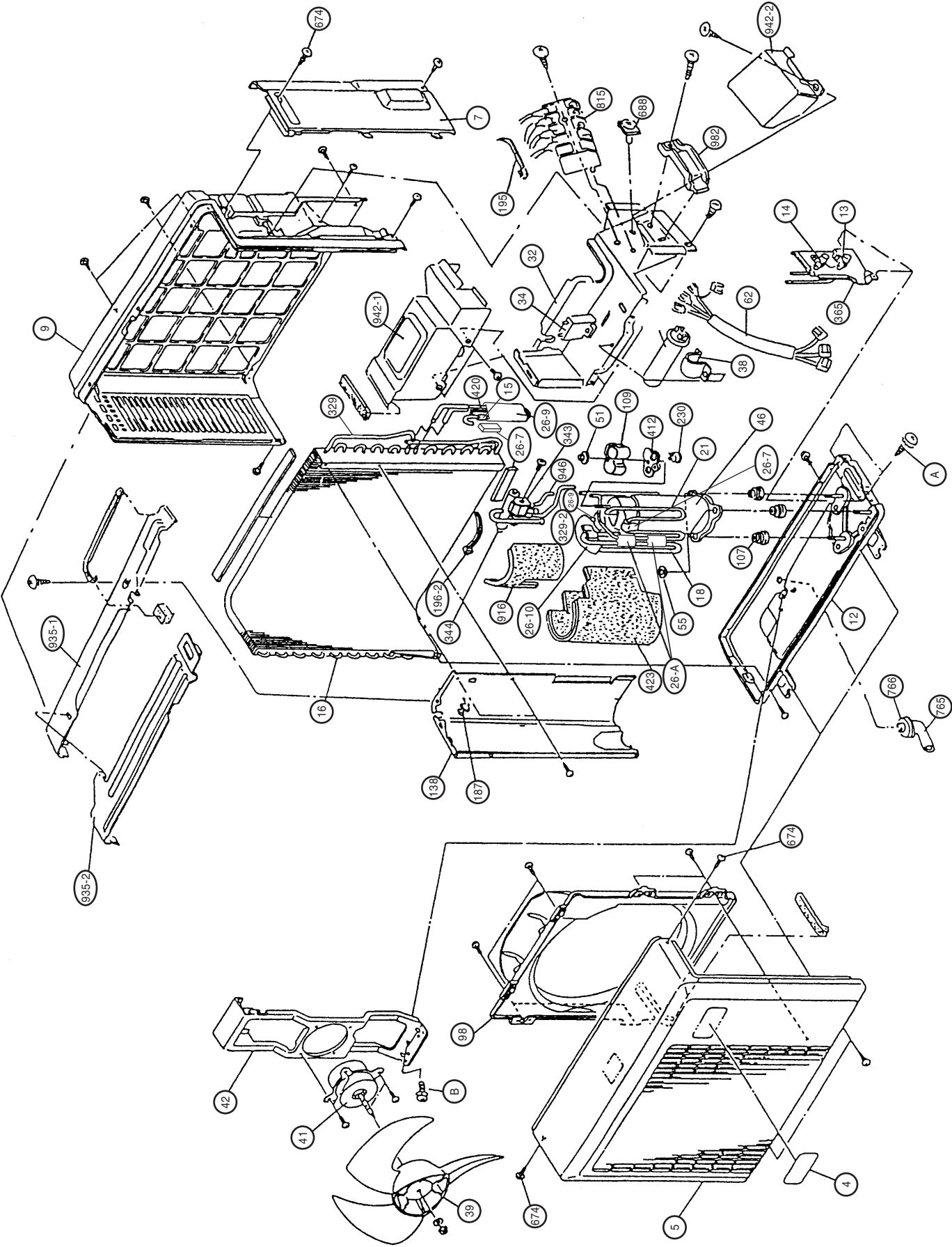


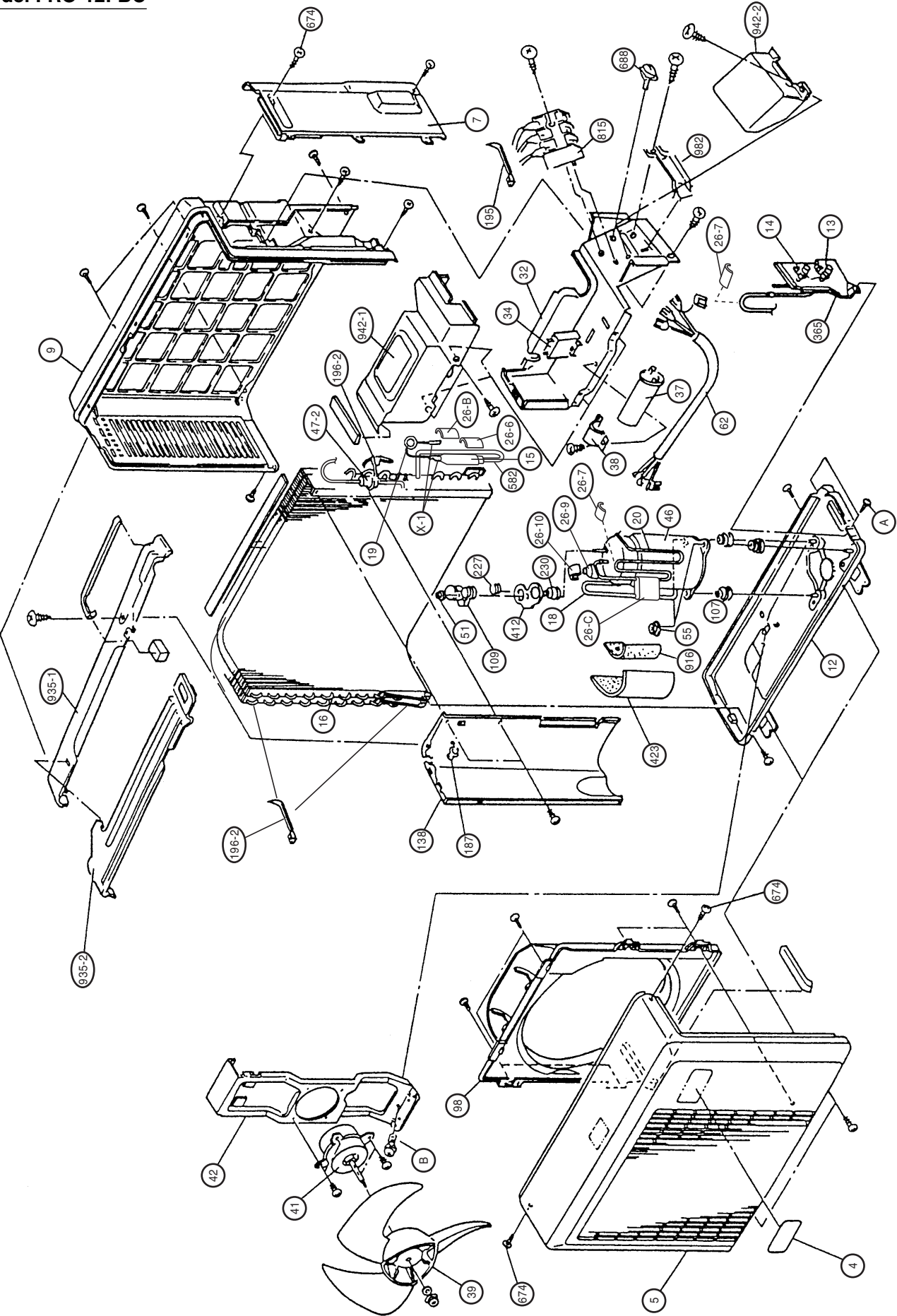
DISASSEMBLY ILLUSTRATION

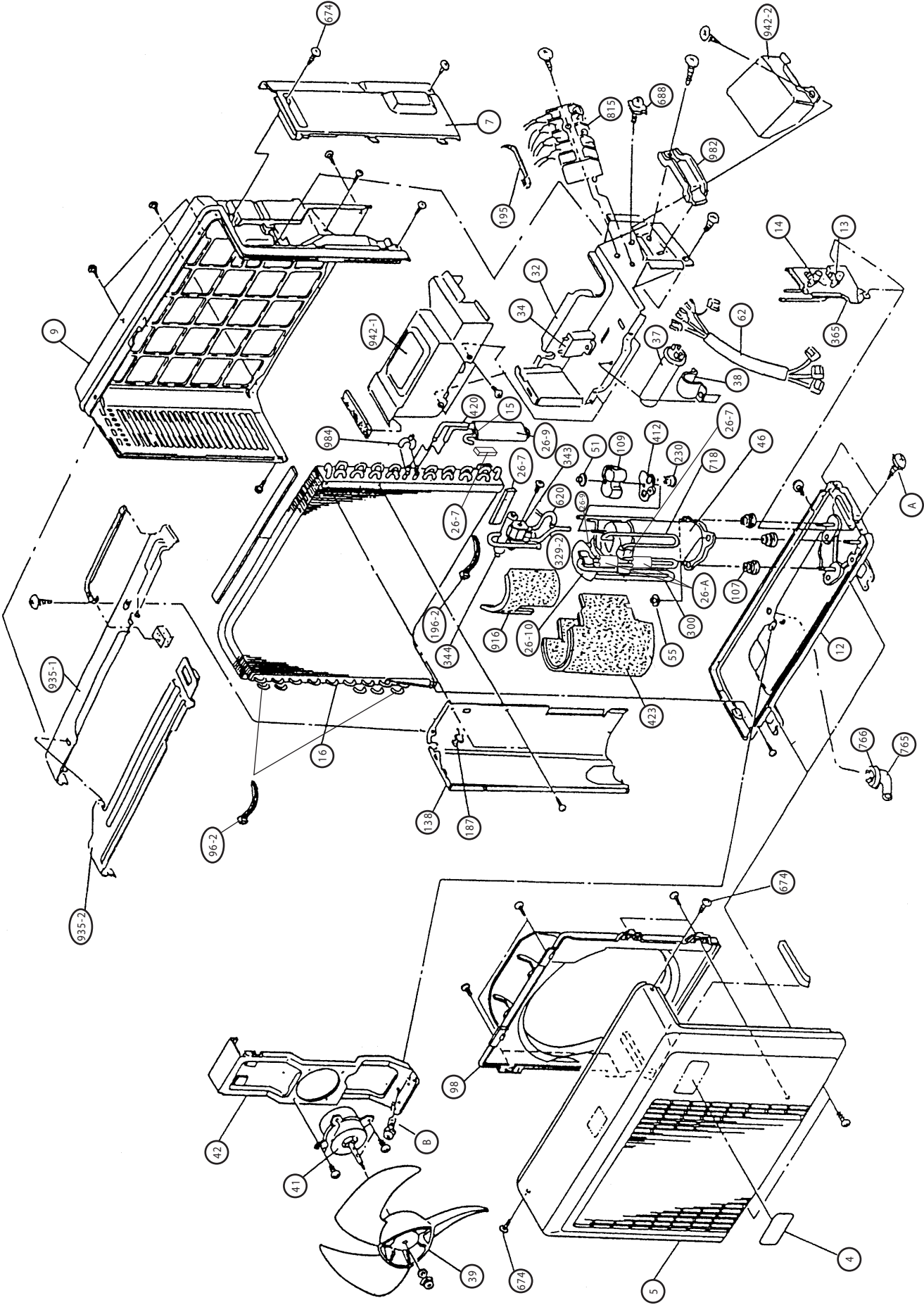




Exploded view diagram of the RO-10FBC refrigerator, showing the main body, door, and various internal components. The diagram includes numerous numbered callouts (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100) indicating the location and assembly of each part. Key components shown include the main body (1), door (2), evaporator (3), condenser (4), compressor (5), fan (6), and various internal wiring and structural parts. The diagram is a technical drawing used for assembly and repair.







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.
		RS-10FB	RS-10UB	RS-12FB	RS-12UB	Q'ty
63	Front Panel Assy	9305656394	9305656394	9305656394	9305656394	
64	Capacitor (Fan Motor)	9702105020	9702105020	9702105020	9702105020	
65	Flow Control Panel-Z	9305443017	9305443017	9305443017	9305443017	
69	Louver-A	9305415014	9305415014	9305415014	9305415014	
74	Filter	9305444014	9305444014	9305444014	9305444014	
108	Base	9309755017	9309755017	9309755017	9309755017	
109-1	Casing	9305411016	9305411016	9305411016	9305411016	
122	Shaft Holder-B	9303066010	9303066010	9303066010	9303066010	
127	Drain Hose Assy	9305550029	9305550029	9305550029	9305550029	
146	Evaporator Assy	9308555021	9308555021	9308555021	9308555021	
151	Control Box	9306763015	9306763015	9306763015	9306763015	
158	Connecting Pipe Assy	9306416010	9306416010	9306416010	9306416010	
163	Thermistor Spring	313104262701	313104262701	313104262701	313104262701	
164	Fan Motor Assy-IN	9600917015	9600917015	9600917015	9600917015	
169	Cross-Flow Fan Assy	9307836015	9307836015	9307836015	9307836015	
178	Motor Cushion-B	9306274009	9306274009	9306274009	9306274009	
185	Wire Clamp	9305940004	9305940004	9305940004	9305940004	
188	Power Cord Assy	9701758012	9701758012	9701758012	9701758012	
195	Clamp SKB-10	313361275805	313361275805	313361275805	313361275805	
196-2	Clamp SKB-150	313035356905	313035356905	313035356905	313035356905	
233	Power Transformer	9701803026	9701803026	9701803026	9701803026	
236	Controller PCB Assy	9702973018	9702970031	9702973025	9702971021	
240	Remote Control Unit	9307113062	9307113079	9307113062	9307113079	
281	Clamp Metal (Pipe)	9306192006	9305430000	9306192006	9305430000	
282	Wall Cap-B (Accessory)	313714296205	313714296205	313714296205	313714296205	
323	Louver-B	9305597017	9305597017	9305597017	9305597017	
336	Suction Pipe-A Assy	9305741014	9305741014	9305741014	9305741014	
385	Indicator PCB Assy	9701364015	9701364015	9701364015	9701364015	
401	Wall Hook Bracket	9304358008	9304358008	9304358008	9304358008	
425	Earth Terminal	9306483005	9306483005	9306483005	9306483005	
440	Flow Control Panel-U	9306173043	9306173043	9306173043	9306173043	
466	Clamp NK-4N	313714328805	313714328805	313714328805	313714328805	
593	Discharge Pipe-A Assy	9306417017	9306417017	9306417017	9306417017	
652-1	Thermistor Holder Pipe	313714262805	313714262805	313714262805	313714262805	
688	Screw w/Washer	313681304205	313681304205	313681304205	313681304205	
743	Remote Control Holder	9305642014	9305642014	9305642014	9305642014	
755-2	Casing Cover-R	9305418008	9305418008	9305418008	9305418008	
755-4	Casing Cover-B	9305419005	9305419005	9305419005	9305419005	
755-5	Insulation (Casing)-U	9305730001	9305730001	9305730001	9305730001	
755-6	Insulation (Casing)-V	9305925018	9305925018	9305925018	9305925018	
759	Intake Grille-D	9305441082	9305441082	9305441082	9305441082	
760	Insulation (Pipe)-E	9304607007	9304607007	9304607007	9304607007	
761	Side Cover-R	9305996032	9305996032	9305996032	9305996032	
762	Side Cover-L	9305437061	9305437061	9305437061	9305437061	
764	Drain Cap Assy	9304150008	9304150008	9304150008	9304150008	
767-1	Bottom Cover-A	9309801011	9309801011	9309801011	9309801011	
767-2	Bottom Cover-B	9309802018	9309802018	9309802018	9309802018	
780	Key Top (Slide Switch)	9303526002	9303526002	9303526002	9303526002	
815	Terminal-2P	9701955022	-----	9701955022	-----	
815	Terminal-4P	-----	9701955039	-----	9701955039	

INDOOR UNIT (Continued)

Ref. No.	Description	Part No.				Ord.
		RS-10FB	RS-10UB	RS-12FB	RS-12UB	Q'ty
850	Window (Receiver)	9305439010	9305439010	9305439010	9305439010	
872	Indicator Case	9305978014	9305978014	9305978014	9305978014	
873	Lamp Cover	9305451012	9305451012	9305451012	9305451012	
874	Control Box Cover	9305977017	9305977017	9305977017	9305977017	
875	Power Supply PCB Assy	9702441012	9702441029	9702441012	9702441029	
876-1	Step Motor	9305780006	9305780006	9305780006	9305780006	
876-2	Step Motor	ÐÐÐÐ	9305892006	ÐÐÐÐ	9305892006	
928-1	U-Pipe (BB)	9305747009	9305747009	9305747009	9305747009	
929-1	U-Pipe (V)	9305748006	9305748006	9305748006	9305748006	
930-1	U-Pipe (W)	9305749003	9305749003	9305749003	9305749003	
932	Outlet Cover	9305414017	9305414017	9305414017	9305414017	
960	Diffuser Assy	9306013011	9305768011	9306013011	9305768011	
961	Guard Clamp	9306332013	9306332013	9306332013	9306332013	
962-1	Guard Holder-L	9305753017	9305753017	9305753017	9305753017	
962-2	Guard Holder-R	9305752010	9305752010	9305752010	9305752010	
963	Fan Guard	9305751013	9305751013	9305751013	9305751013	
964	Flare Nut-A	9307767005	9307767005	9307767005	9307767005	
965	Flare Nut-B	9307768002	9307768002	9307768002	9307768002	
966	Bonnet-A	9304798019	9304798019	9304798019	9304798019	
967-1	Bonnet-B	9304799016	9304799016	9304799016	9304799016	
968	Relay PCB Assy	9702443214	9702443214	9702443214	9702443214	
973	Gear Assy	9305452002	9305452002	9305452002	9305452002	
974	Joint (Louver)	9305416011	9305416011	9305416011	9305416011	
976	Window (Indicator)	9305440016	9305440016	9305440016	9305440016	
B	Machine Screw (with Spring Washer)	0700179013	0700179013	0700179013	0700179013	
C	Machine Screw (Special)	0700184031	0700184031	0700184031	0700184031	
I	Diffuser Spring	9305731008	9305731008	9305731008	9305731008	
Ro	Connecting Pin	9305413010	9305413010	9305413010	9305413010	

OUTDOOR UNIT

Ref. No.	Description	Part No.				Ord.
		RO-10FBC	RO-10UBC	RO-12FBC	RO-12UBC	Q'ty
4	Emblem-Rear	9308892010	9308892010	9308892010	9308892010	
5	Cabinet Front Panel, Plastic	9306386016	9306386016	9306386016	9306386016	
7	Connector Cover (Cabinet)	9306119010	9306119010	9306119010	9306119010	
9	Cabinet Rear Panel, Plastic	9306385019	9306385019	9306385019	9306385019	
12	Base Assy, Painted	9306118020	9306118020	9306118020	9306118020	
13	3-Way Valve	9310085011	9310085011	9310085011	9310085011	
14	2-Way Valve	9310084014	9310084014	9310084014	9310084014	
15	Dryer	9308440006	9308440006	9308440006	9308440006	
16	Condenser Assy	9308462015	9308459015	9308463012	9308460011	
18	Suction Pipe	9308675002	9308448019	9308679000	9308453013	
19	Capillary Tube	9308670007	----	9308668004	----	
20	Discharge Pipe Assy	9308677006	9307035012	9308681003	9307035012	
26-6	BR Sheet 100x120x T5	9305039029	----	9305039029	----	
26-7	BR Sheet 30x120x T7	----	9305039036	9305039036	9305039036	
26-9	BR Sheet 180x180x T2	9305039067	9305039067	9305039067	9305039067	
26-10	BR Sheet 100x160x T5	9305039074	9305039074	9305039074	9305039074	
26-A	BR Sheet 50x160x T3	----	9300389129	----	9300389129	
26-B	BR Sheet 170x130x T2	9305498062	----	9305498062	----	
26-C	BR Sheet 55x135x T2	9305039166	----	9305039166	----	
32	Control Box Metal	9308561015	9308561015	9308561015	9308561015	
34	Capacitor (Fan Motor)	9700468097	9700468097	9700468097	9700468097	
37	Capacitor (Running)	9306512019	9306512019	9306512019	9306512019	
38	Clamp Metal (Capacitor)	313468061808	313468061808	313468061808	313468061808	
39	Propeller Fan	9305538003	9305538003	9305538003	9305538003	
41	Fan Motor Assy-Out	9307715020	9307715020	9307715020	9307715020	
42	Bracket (Motor)	9305536016	9305536016	9305536030	9305536030	
46	Compressor Assy	9310112014	9310112014	9310110010	9310110010	
47-2	Discharge Pipe Rubber (Pipe Absorber)	313185159802	----	313185159802	----	
51	Special Nut M5	313199233602	313199233602	313199233602	313199233602	
55	Special Nut M8	313252257701	313252257701	313252257701	313252257701	
62	Wire Assy (Shield)-A	9395695027	9305971026	9395695027	9305971026	
98	Fan Ring	9305581023	9305581023	9305581023	9305581023	
107	Rubber Seat-A	9351813017	9351813017	9351813017	9351813017	
109	Terminal Cover (Comp.)	9351120009	9351120009	9351120009	9351120009	
138	Separate Wall	9305971008	9305971008	9305971008	9305971008	
187	Clamp No.1219	313361271706	313361271706	313361271706	313361271706	
195	Clamp SKB-100	313361275805	313361275805	313361275805	313361275805	
196-2	Clamp SKB-150	----	313035356905	----	313035356905	
196-2	Clamp SKB-3MC	9305335008	9305335008	9305335008	9305335008	
230	Overload Relay	9308430007	9308430007	9308443001	9308443001	
246	Outlet Pipe (Cond.)	9308669001	----	9308666000	----	
259	Muffler	----	----	----	9308625007	
329	Coupling Pipe Assy	----	9308486011	----	----	
329-2	Coupling Pipe-C	----	9306433000	----	----	
343	Solenoid Coil	----	9307252013	----	9307252013	
344	4-Way Valve	----	9308438003	----	9308438003	
365	Bracket (Valve)	9306748036	9306748036	9306748036	9306748036	
412	Terminal Gasket (Comp.)	9351121006	9351121006	9351121006	9351121006	
420	Capillary Assy (with Check Valve)	----	9308337009	----	9308340009	
423	Noise nsulation-F	9308464019	9308464019	9308464019	9308464019	

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

OUTDOOR UNIT (Continued)

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
		RO-10FBC	RO-10UBC	RO-12FBC	RO-12UBC	
519-2	Check Valve	----	9308342003	----	9308342003	
582	Discharge Pipe	9308669001	----	9308666000	----	
620	Inlet Pipe Assy	----	----	----	9308455017	
674	Tapping Screw (Special)	9305848010	9305848010	9305848010	9305848010	
688	Screw (with Square Washer)	313681304205	313681304205	313681304205	313681304205	
765	Drain Pipe	----	9301102000	----	9301102000	
766	Drain Pipe Packing	----	9301143003	----	9301143003	
815	Terminal-3P	9306489014	----	9306489014	----	
815	Terminal-5P	----	9306488017	----	9306488017	
916	Noise Insulation-G	9306362003	9306362003	9306362003	9306362003	
935-1	Reinforcement (Cabinet Top)	9305973002	9305973002	9305973002	9305973002	
935-2	Reinforcement-F (Cabinet Top)	9306123000	9306123000	9306123000	9306123000	
942-1	Control Box Cover-A Metal	9308562012	9308562012	9308562012	9308562012	
942-2	Control Box Cover-B Metal	9305975006	9305975006	9305975006	9305975006	
946	Inlet Pipe Assy	----	9308452016	----	----	
982	Cord Clamp (Plastic, Black)	9302271002	9302271002	9302271002	9302271002	
984	U Pipe (Y) D7	----	----	----	9308442000	
985	Special Nut. w/Washer	9304902003	9304902003	----	----	
986	Special Washer	9304903000	9304903000	----	----	
A	Screw (with Inner Washer)	9357297002	9357297002	9357297002	9357297002	
B	Screw (with Spring Washer)	0700179013	0700179013	0700179013	0700179013	
X-1	Connection Pipe (Capillary)	9308667007	----	9308667007	----	

Note : Always use specified screws, since Ref. No.668, A, B and C are screws for the earth.

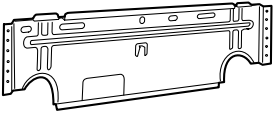
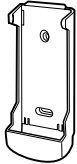
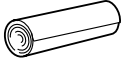
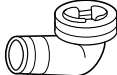
Ref. No.688 : Machine screw (with spring washer) M4 x P0.7 x L10, plating thickness 5μ or more

A : Tapping screw (with inner clip washer) M4 x L10, plating thickness 5μ or more

B : Machine screw (with spring washer) M4 x P0.7 x L10, plating thickness 5μ or more

C : Machine screw (with spring washer) M4 x P0.7 x L8, plating thickness 5μ or more

STANDARD ACCESSORIES

Name and Shape	Part No.			
	RS-10FB	RS-10UB	RS-12FB	RS-12UB
Wall hook bracket 	9304358008	9304358008	9304358008	9304358008
Wall cap-B 	313714296205	313714296205	313714296205	313714296205
Remote control unit 	9307113048	9307113055	9307113048	9307113055
Remote control holder case 	9305642014	9305642014	9305642014	9305642014
Battery (penlight) 	0600185534	0600185534	0600185534	0600185534
Cloth tape 	9308117007	9308117007	9308117007	9308117007
Cable mark 	_____	9301385007	_____	9301385007
Tapping screw (big) (ϕ 4 x 20) 	301141164200	301141164200	301141164200	301141164200
Tapping screw (small) (ϕ 3 x 12) 	0700019036	0700019036	0700019036	0700019036
Allen wrench 	9351228019	9351228019	9351228019	9351228019
Drain pipe (Including drain packing) 	_____	9303029015	_____	9303029015

