



INVERTER MULTI AIR CONDITIONER

WALL MOUNTED type

SERVICE MANUAL



Models	Indoor unit	Outdoor unit
	ASH18LMA-W	AOH24LMAM2
	ASH12LMACW	
	ASH9LMACW	
	ASH7LMACW	

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

TYPE	COOL & HEAT			
INDOOR UNIT	ASH18LMA-W	ASH12LMACW	ASH9LMACW	ASH7LMACW
OUTDOOR UNIT	AOH24LMAM2			
COOLING CAPACITY (kW)	5.8			
HEATING CAPACITY (kW)	6.4			

ELECTRICAL DATA

POWER SOURCE (V)	230 - 240			
FREQUENCY (Hz)	50			
RUNNING CURRENT (A)	COOLING	7.6 - 7.3		
	HEATING	7.2 - 6.9		
INPUT WATTS (kW)	COOLING	1.73 - 1.73		
	HEATING	1.64 - 1.64		
E.E.R. (kW / kW)	COOLING	3.35 - 3.35		
	HEATING	3.90 - 3.90		
MOISTURE REMOVAL (ℓ /hr)	2.2	1.6	1.2	1.0
AIR CIRCULATION-Hi (m³/hr)	950	520	460	380

COMPRESSOR

TYPE	Hermetic type, Inverter, 4 poles, Three phase, DC motor, Rotary			
DISCRIMINATION	TNB 220 FPCM			
REFRIGERANT R410A (g)	1,900			

FAN MOTOR

POWER SOURCE (V)	230 - 240				
INDOOR UNIT	DISCRIMINATION	MFA-30HTT	MFA-40GR	MFA-40GR	MFA-40GR
	HI (r.p.m.)	1,160 - 1,180	1,310 - 1,310	1,200 - 1,200	1,000 - 1,000
	MED (r.p.m.)	1,000 - 1,020	1,260 - 1,260	1,100 - 1,100	900 - 900
	LO (r.p.m.)	850 - 870	1,190 - 1,190	1,000 - 1,000	850 - 850
	QUIET (r.p.m.)	800 - 820	1,100 - 1,100	940 - 940	800 - 800
OUTDOOR UNIT (r.p.m.)	780 - 790				

DIMENSIONS

INDOOR UNIT H x W x D (mm)	320 x 1,120 x 220	257 x 808 x 187
OUTDOOR UNIT H x W x D (mm)	650 x 830 x 320	

WEIGHT

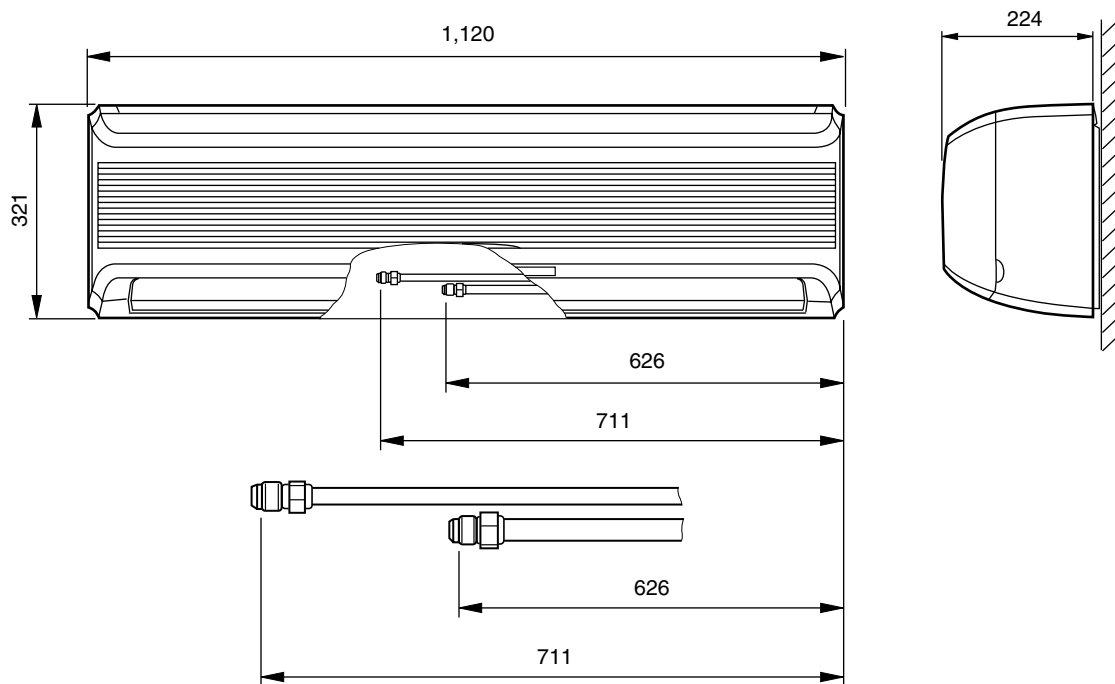
INDOOR UNIT GROSS / NET (kg)	22 / 16	10 / 8
OUTDOOR UNIT GROSS / NET (kg)	62 / 56	

OUTLINE AND DIMENSIONS

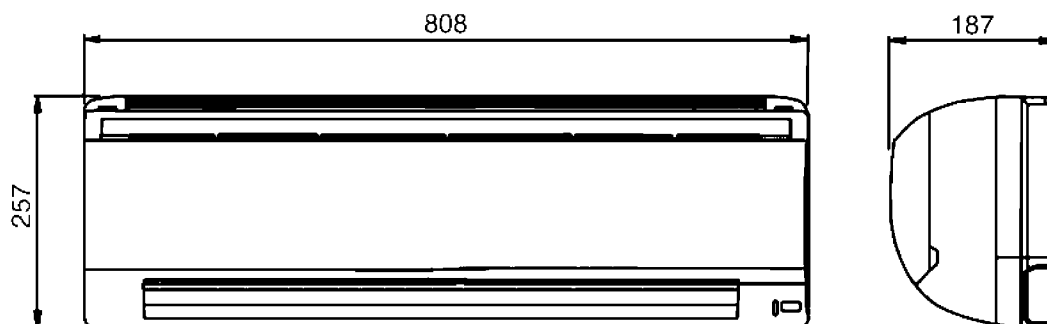
INDOOR UNIT

Unit : mm

Model : ASH18LMA-W



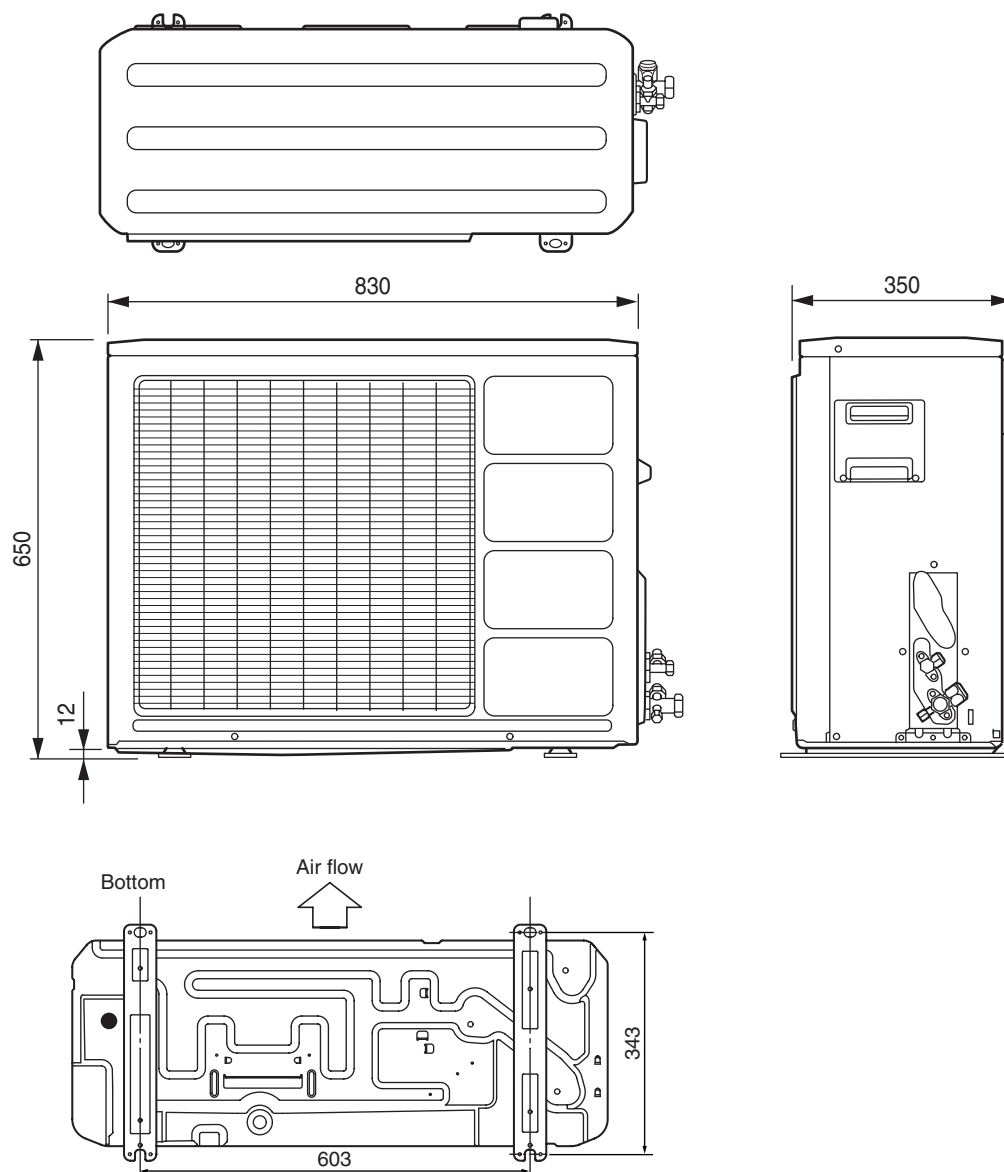
Models : ASH12LMCW ASH9LMACW ASH7LMACW



OUTDOOR UNIT

Unit : mm

Model : AOH24LMAM2



ERROR CONTENTS

○ : Fast flashing

● : Slow flashing

Operation lamp : Red lamp

Timer lamp : Green lamp

ASH18LMA-W

Error contents	Red lamp	Green lamp	Orange lamp
Heat exchanger thermistor error (outdoor unit)	○	● (3times)	—
Outdoor temperature thermistor error (outdoor unit)	○	● (4times)	—
Discharge thermistor error (outdoor unit)	○	● (5times)	—
Compressor thermostat error (outdoor unit)	○	● (8times)	—
Pressure switch error (outdoor unit)	○	● (9times)	—
IPM error (inverter unit)	○	● (10times)	—
Compressor loter location error (inverter unit)	○	● (13times)	—
2way valve thermistor error (outdoor unit)	○	○	● (2times)
3way valve thermistor error (outdoor unit)	○	○	● (3times)
Capacity error of connecting indoor unit	○	—	● (4times)
Serial reverse transmission error	○	—	● (5times)
Thermistor error (room temp.) (indoor unit)	● (2times)	○	(○)
Thermistor error (heat exchanger) (indoor unit)	● (3times)	○	(○)
Serial order transmission error	● (5times)	○	○
fan motor error (indoor unit)	● (6times)	○	—

ASH12LMACW

ASH9LMACW

ASH7LMACW

○ : Fast flashing

● : Slow flashing

Operation lamp : Red lamp

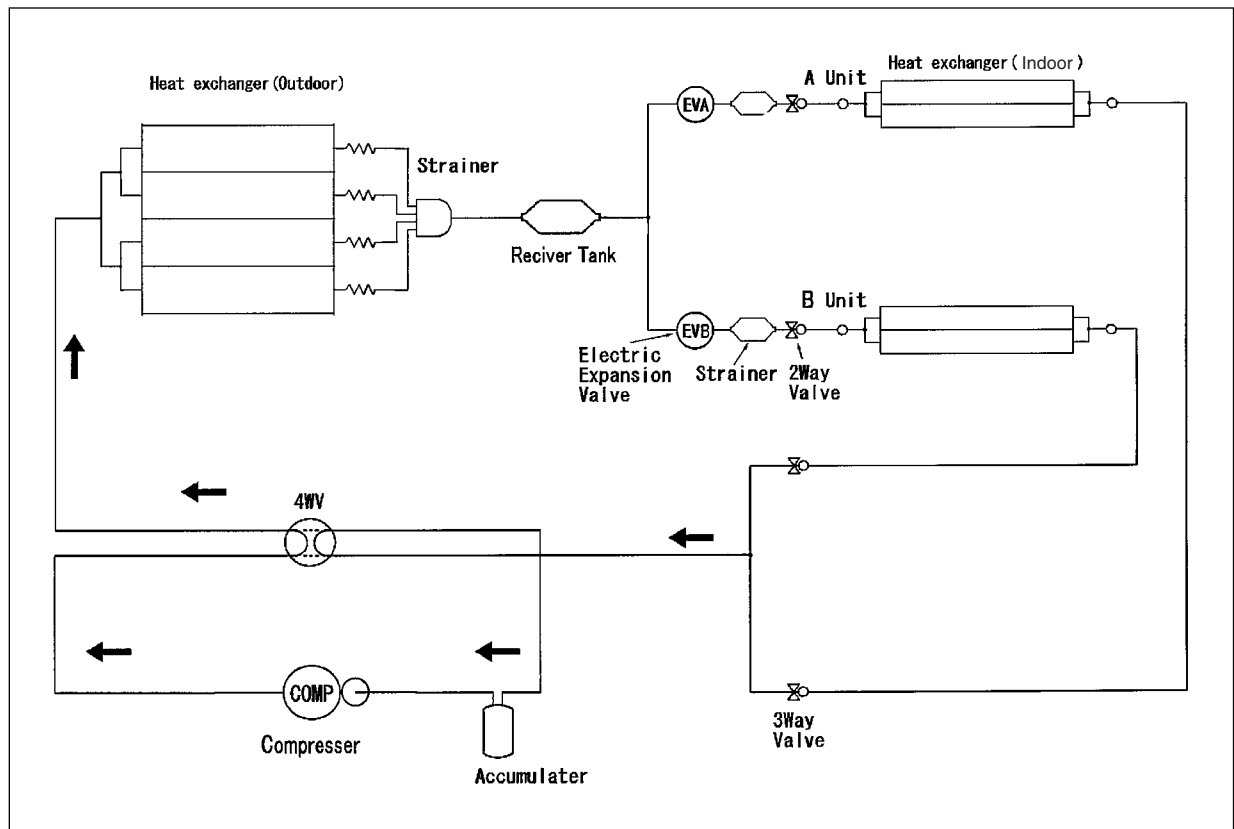
Timer lamp : Green lamp

Large division indication			Small division indication		
Error contents	LED indication		Error contents	LED indication	
Thermistor error (indoor unit)	Red lamp	● (2times)	Thermistor error (room temp.)	Red lamp	○
	Green lamp	○		Green lamp	● (2times)
Control unit error (indoor unit)	Red lamp	● (4times)	Thermistor error (heat exchanger)	Red lamp	○
	Green lamp	○		Green lamp	● (3times)
Serial error	Red lamp	● (5times)	MANUAL AUTO button error	Red lamp	○
	Green lamp	○		Green lamp	● (2times)
Fan motor error (indoor unit)	Red lamp	● (6times)	Power source Hz decision error	Red lamp	○
	Green lamp	○		Green lamp	● (4times)
Thermistor error (outdoor unit)	Red lamp	○	Serial reverse transmission error	Red lamp	○
				Green lamp	● (2times)
			Serial order transmission error	Red lamp	○
				Green lamp	● (3times)
			Lock error	Red lamp	○
				Green lamp	● (2times)
			r.p.m error	Red lamp	○
				Green lamp	● (3times)
			Discharge thermistor error	Red lamp	● (2times)
				Green lamp	○
Pressure switch error	Red lamp	○	Heat exchanger thermistor error	Red lamp	● (4times)
				Green lamp	○
			Outdoor temperature thermistor error	Red lamp	● (6times)
				Green lamp	○
			Compressor thermostat error	Red lamp	● (8times)
				Green lamp	○
Control unit error (outdoor unit)	Red lamp	○	2way valve thermistor error	Red lamp	● (9times)
				Green lamp	○
Inverter error	Red lamp	○	3way valve thermistor error	Red lamp	● (10times)
				Green lamp	○
Pressure switch error	Red lamp	○	Pressure switch error	Red lamp	● (2times)
				Green lamp	○
Control unit error (outdoor unit)	Red lamp	○	Capacity error of connecting indoor unit	Red lamp	● (2times)
				Green lamp	○
Inverter error	Red lamp	○	Outdoor unit IPM error	Red lamp	● (2times)
				Green lamp	○
Compressor loter location error	Red lamp	○	Compressor loter location error	Red lamp	● (5times)
				Green lamp	○

When an error occurs, "Large division indication" is indicated first.

Secondly, "Small division indication" is indicated by pushing "TEST RUN" button of remote controller.

REFRIGERANT SYSTEM DIAGRAM



CAUTION (AOH24LMAM2)

There is a mistake printed in "LABEL WIRING", which is on the back of Top Plate in outdoor unit.

When you reconnect this model you should do as the correct "CIRCUIT DIAGRAM" shows, which is in this service manual.

See the next page. It's the correct "CIRCUIT DIAGRAM".

It's better to take away incorrect "LABEL WIRING" from outdoor unit, and put correct "CIRCUIT DIAGRAM" on it.

NOTE

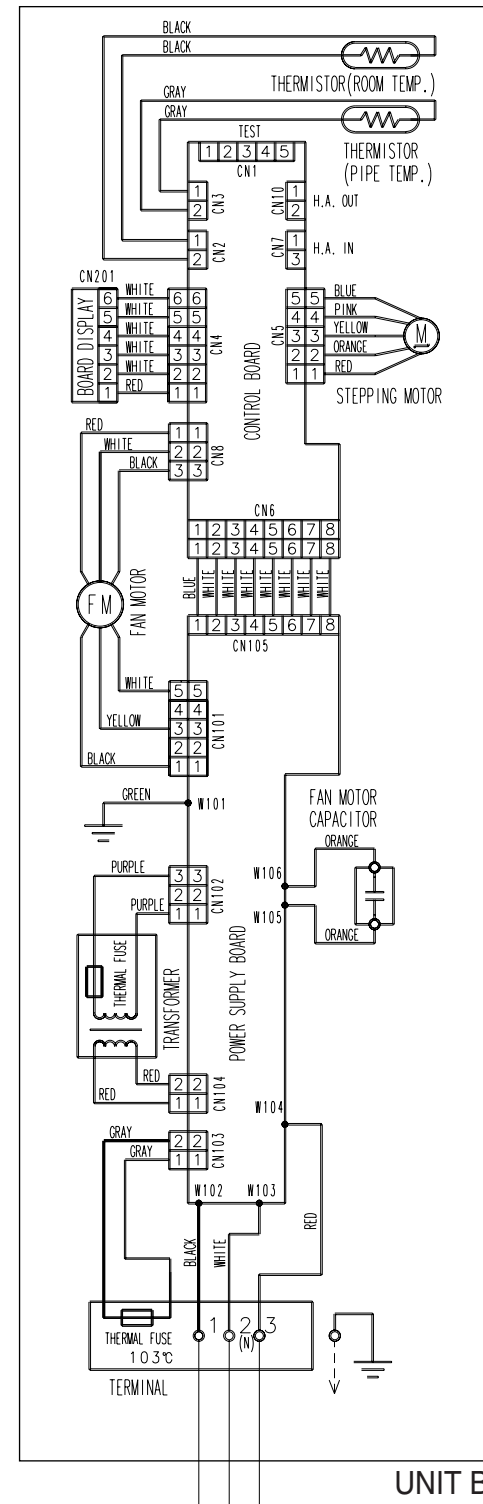
Incorrect "LABEL WIRING" is on the serial No.T000001 to T001020 of AOH24LMAM2.
If you reconnect as it shows, two indoor units go like below.

When you turn on indoor unit A and turn off B,
indoor unit A blows, but it doesn't make you cool or warm.
indoor unit B makes itself cool or warm, but it doesn't blow.

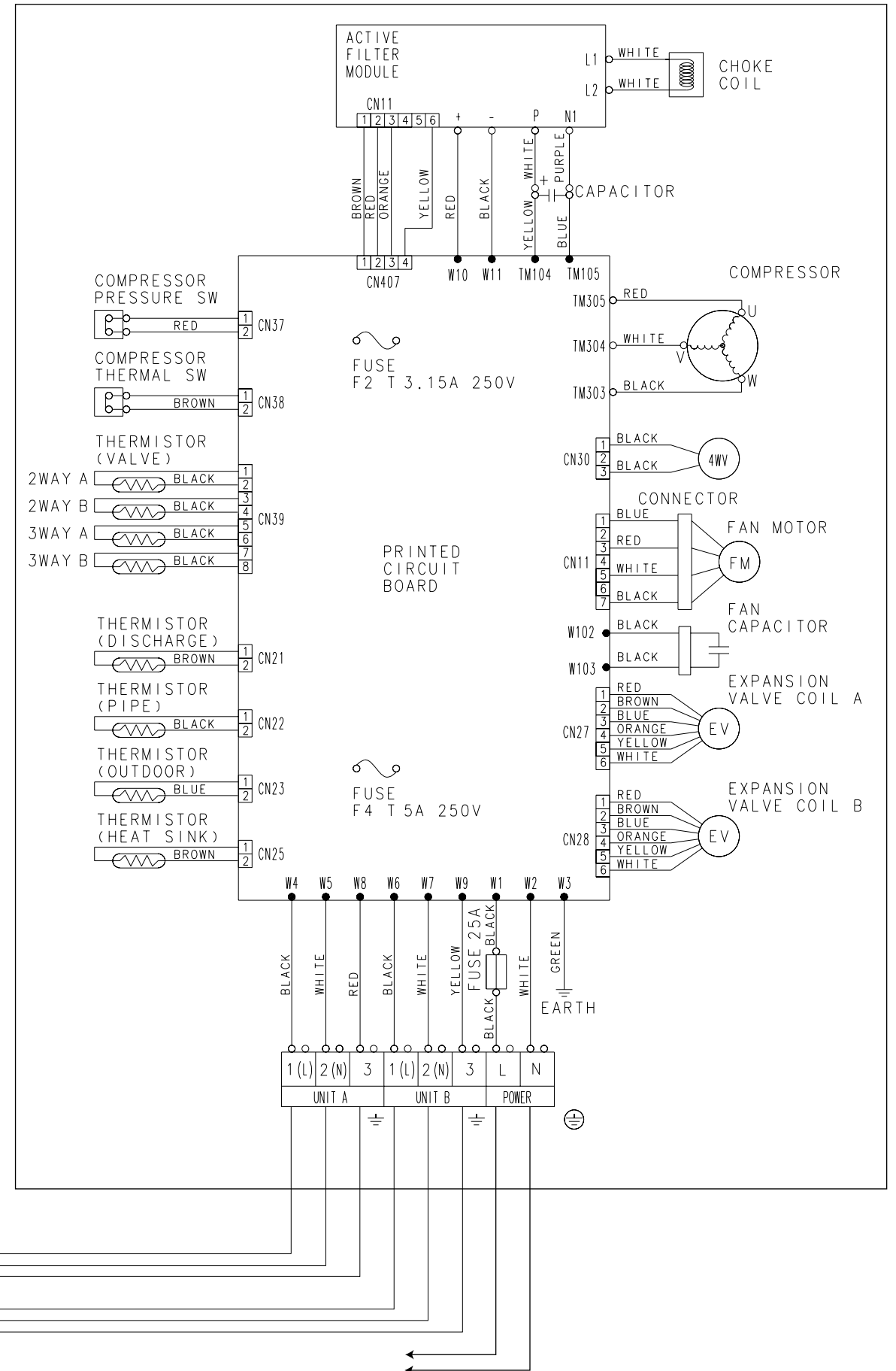
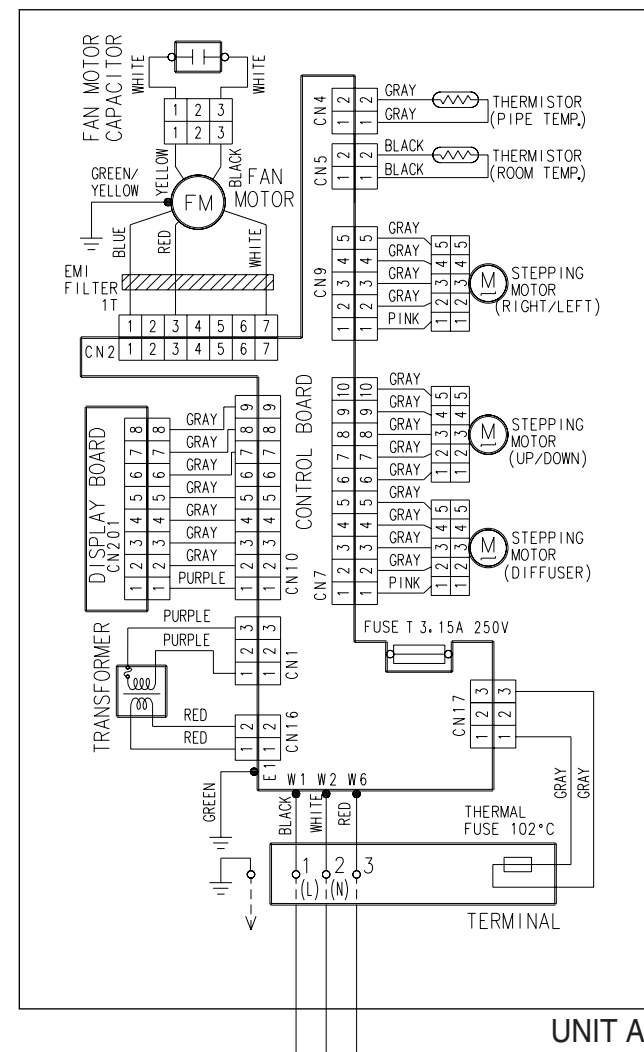
When you turn off indoor unit A and turn on B,
indoor unit A makes itself cool or warm, but it doesn't blow.
indoor unit B blows , but it doesn't make you cool or warm.

OUTDOOR UNIT

Model : AOH24LMAM2

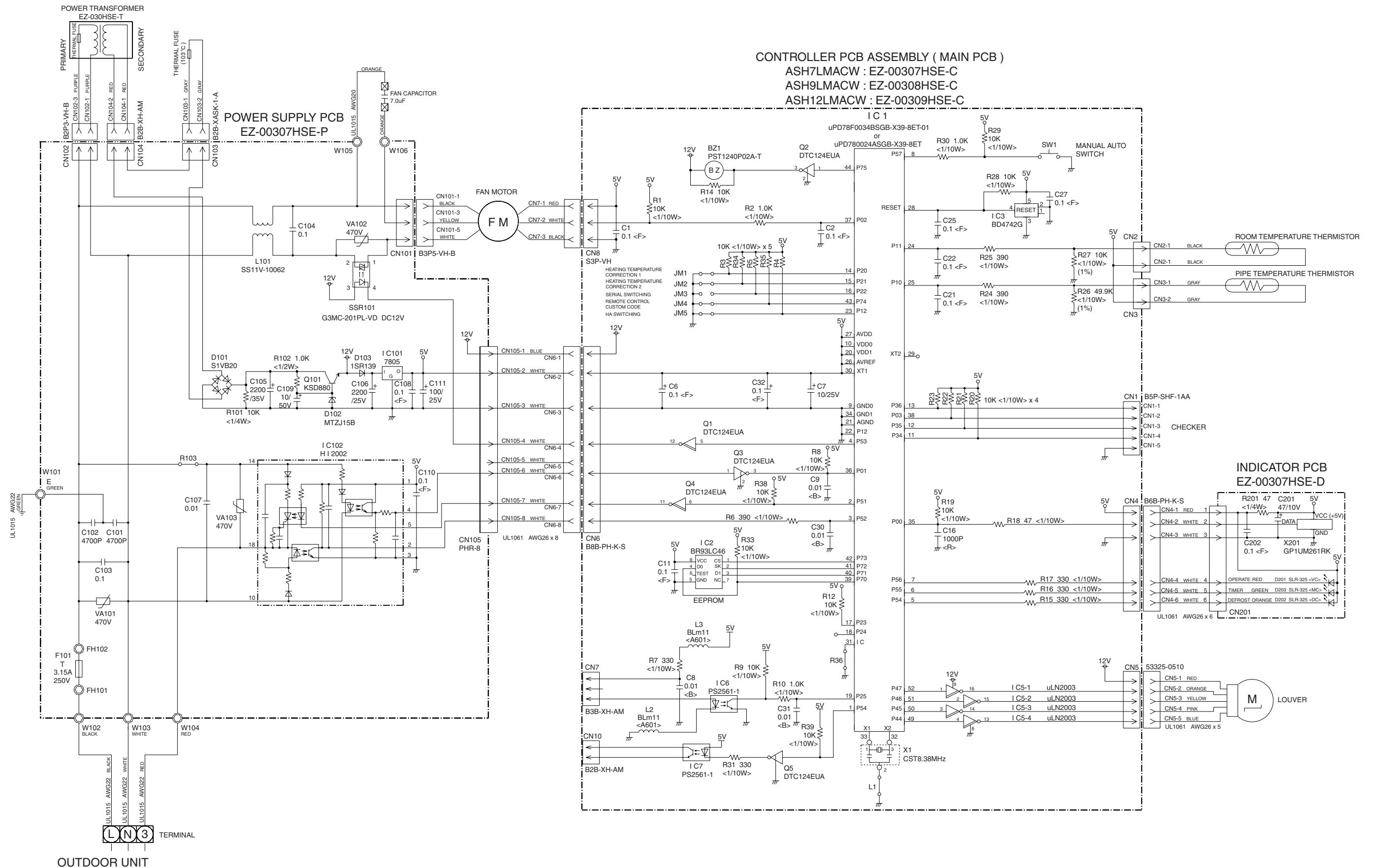


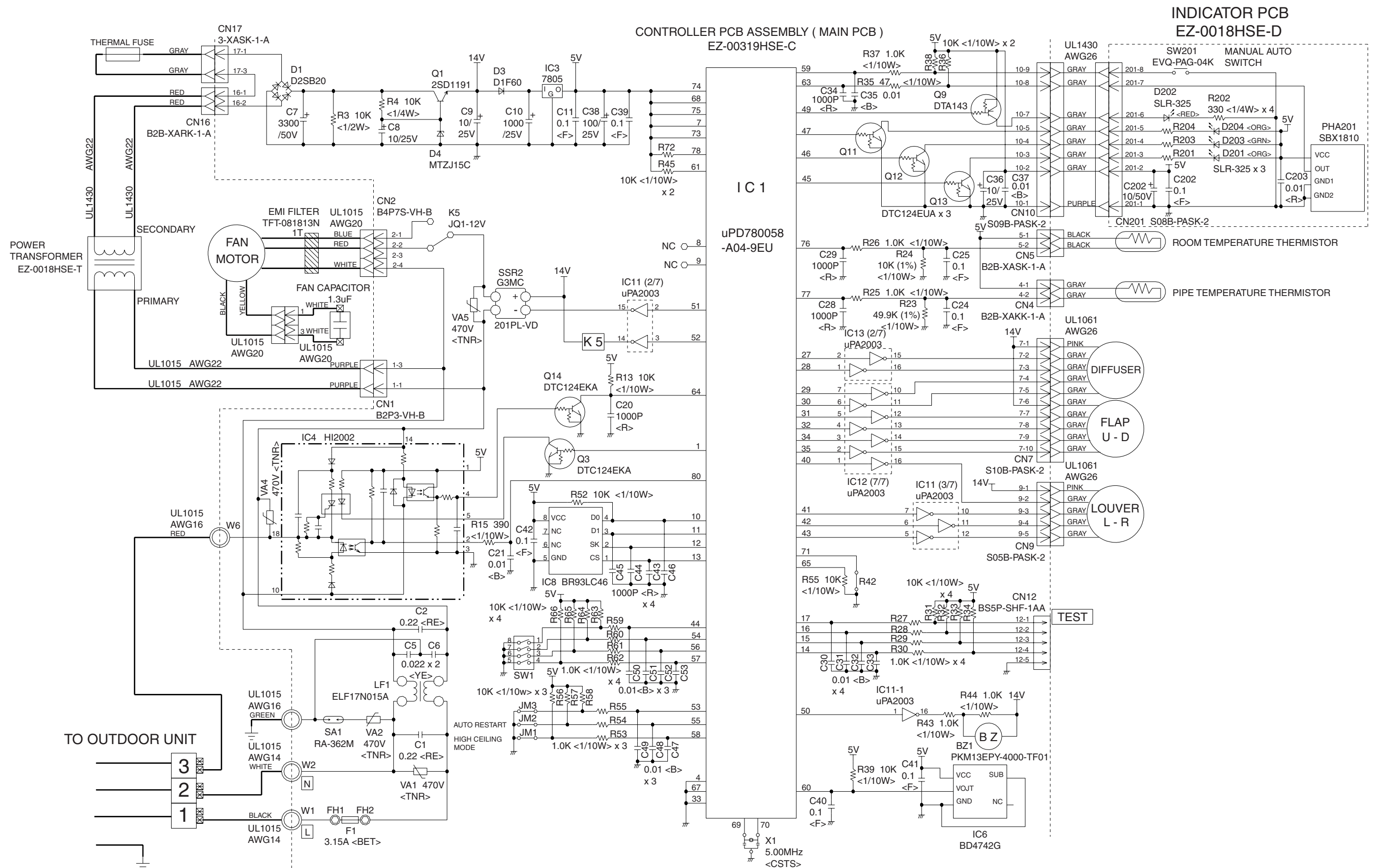
Model : ASH18LMA-W



INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Models : ASH7LMACW
ASH9LMACW
ASH12LMACW





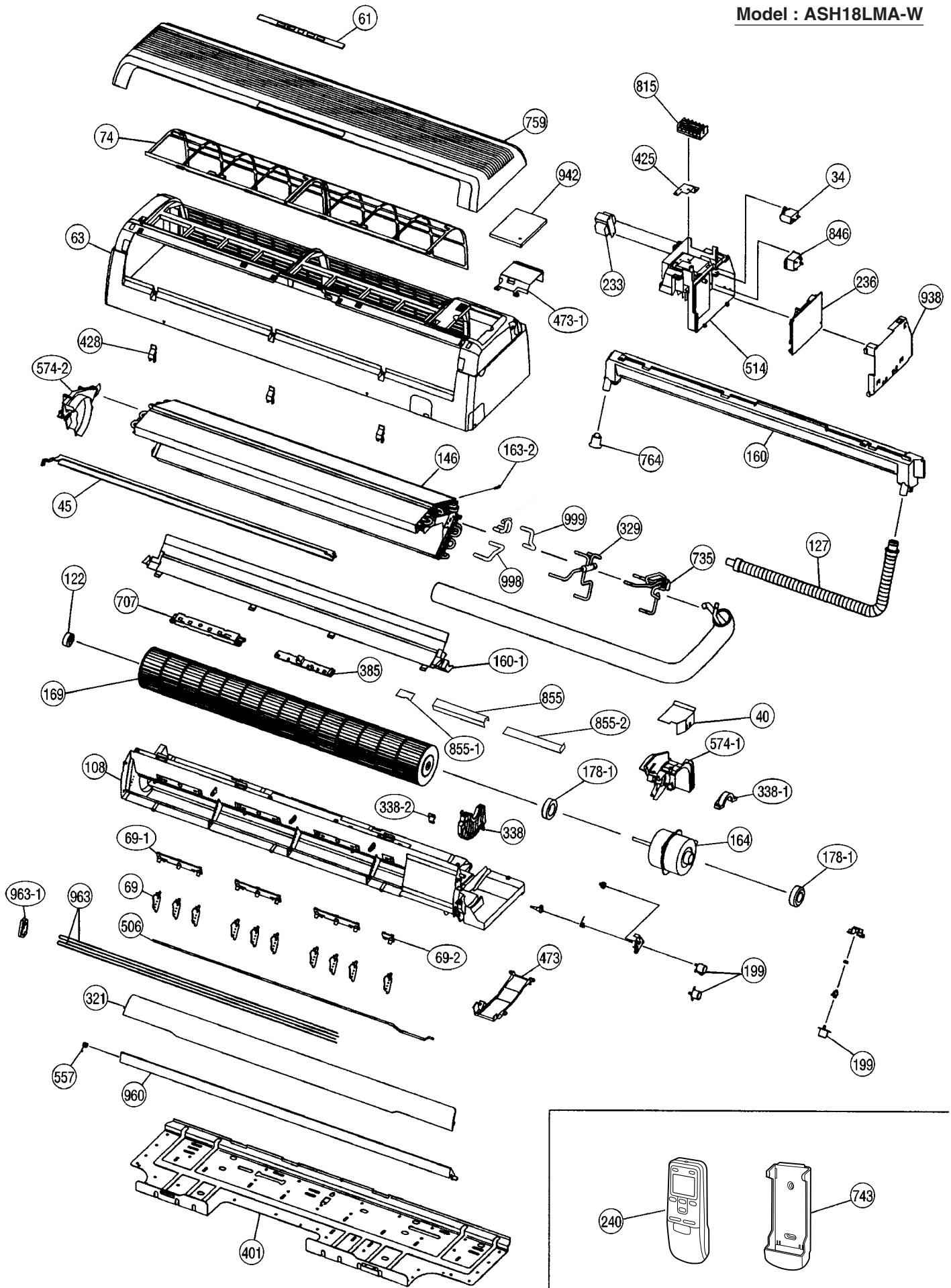
Model : AOH24LMAM2

CHOK COIL
L=0.3MH 30A

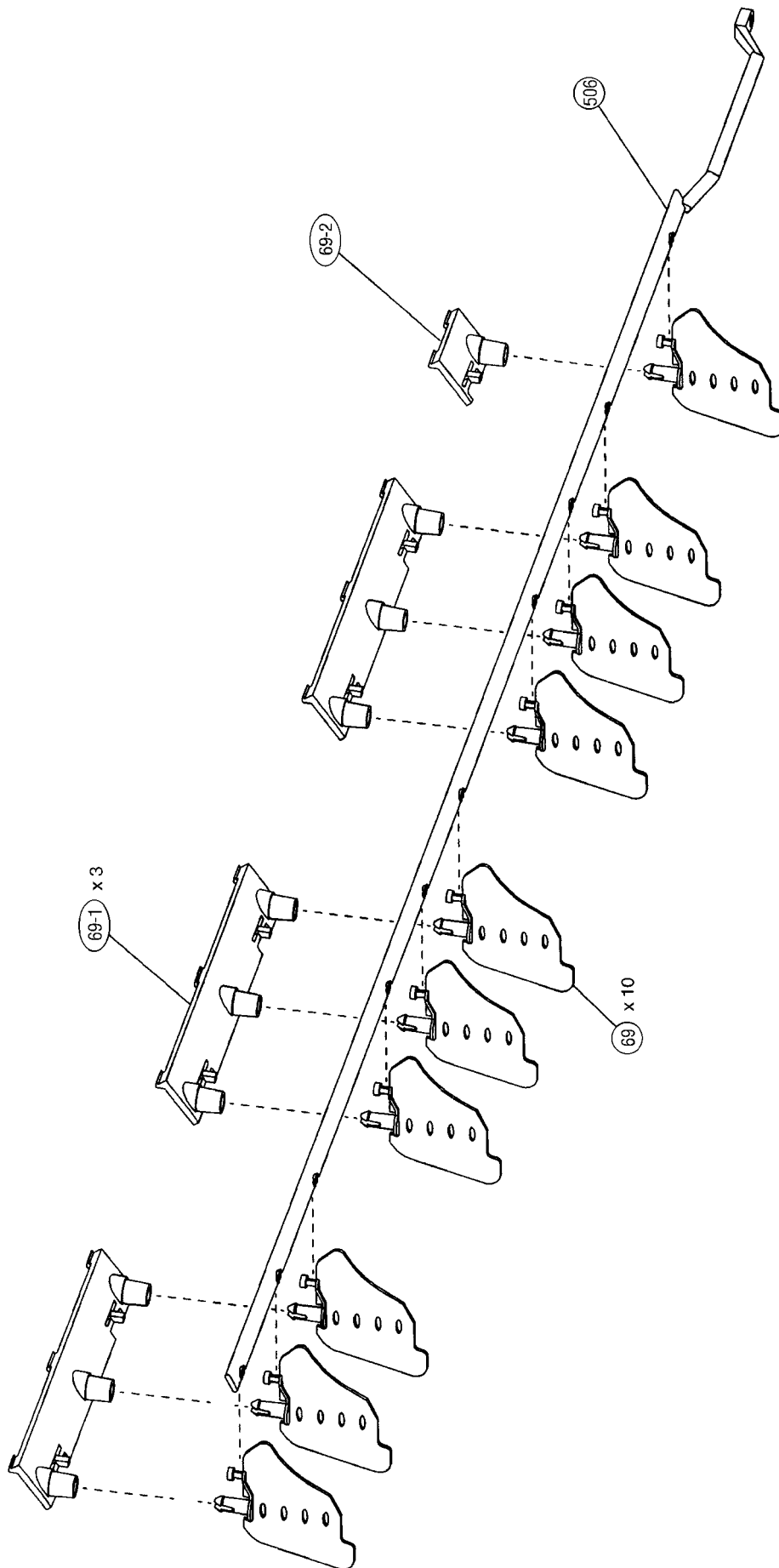


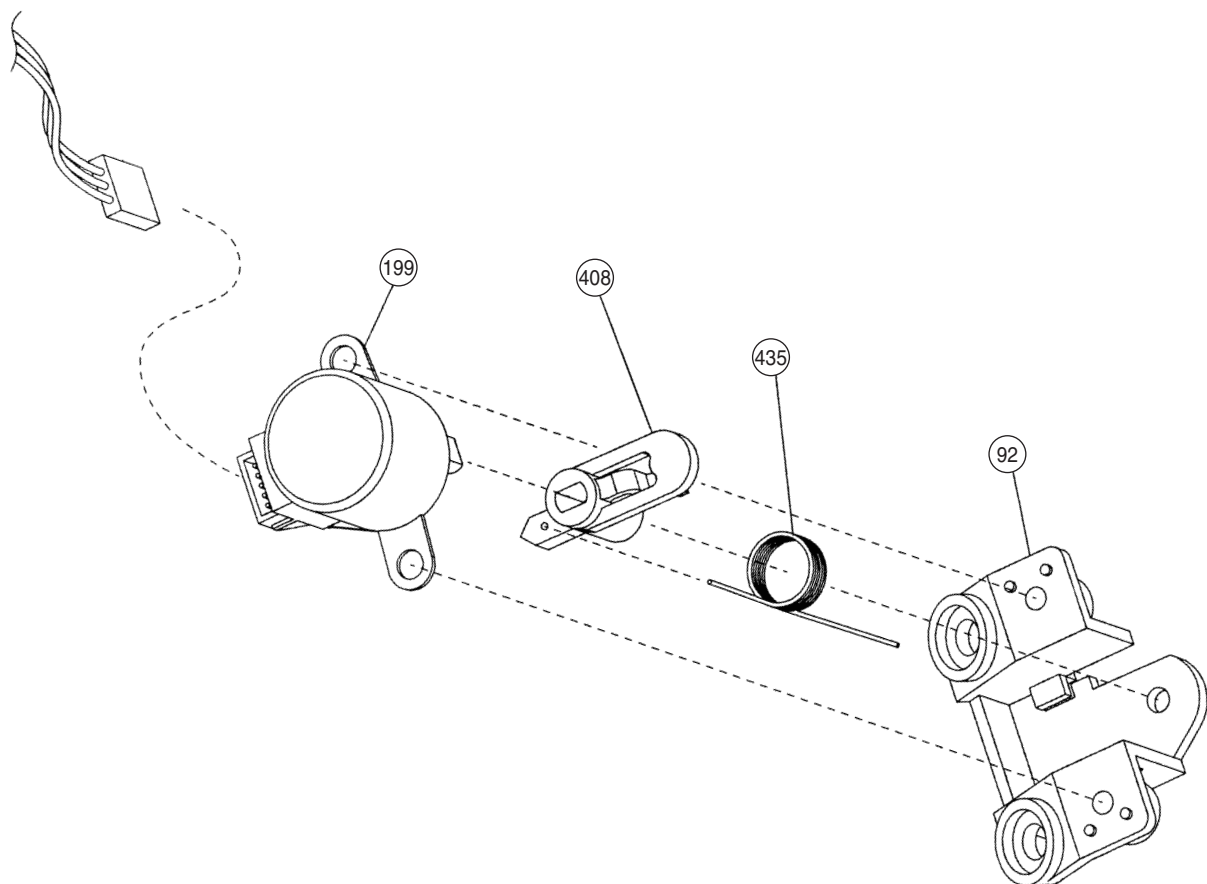
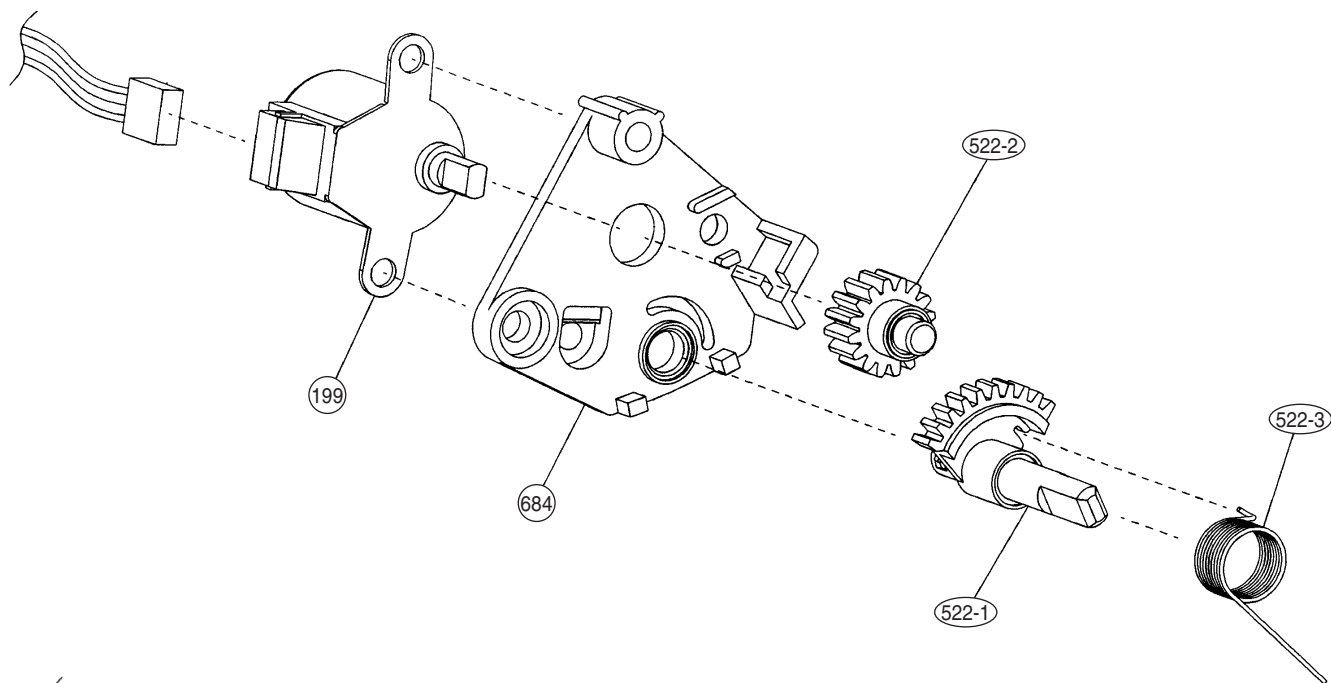
DISASSEMBLY ILLUSTRATION

Model : ASH18LMA-W

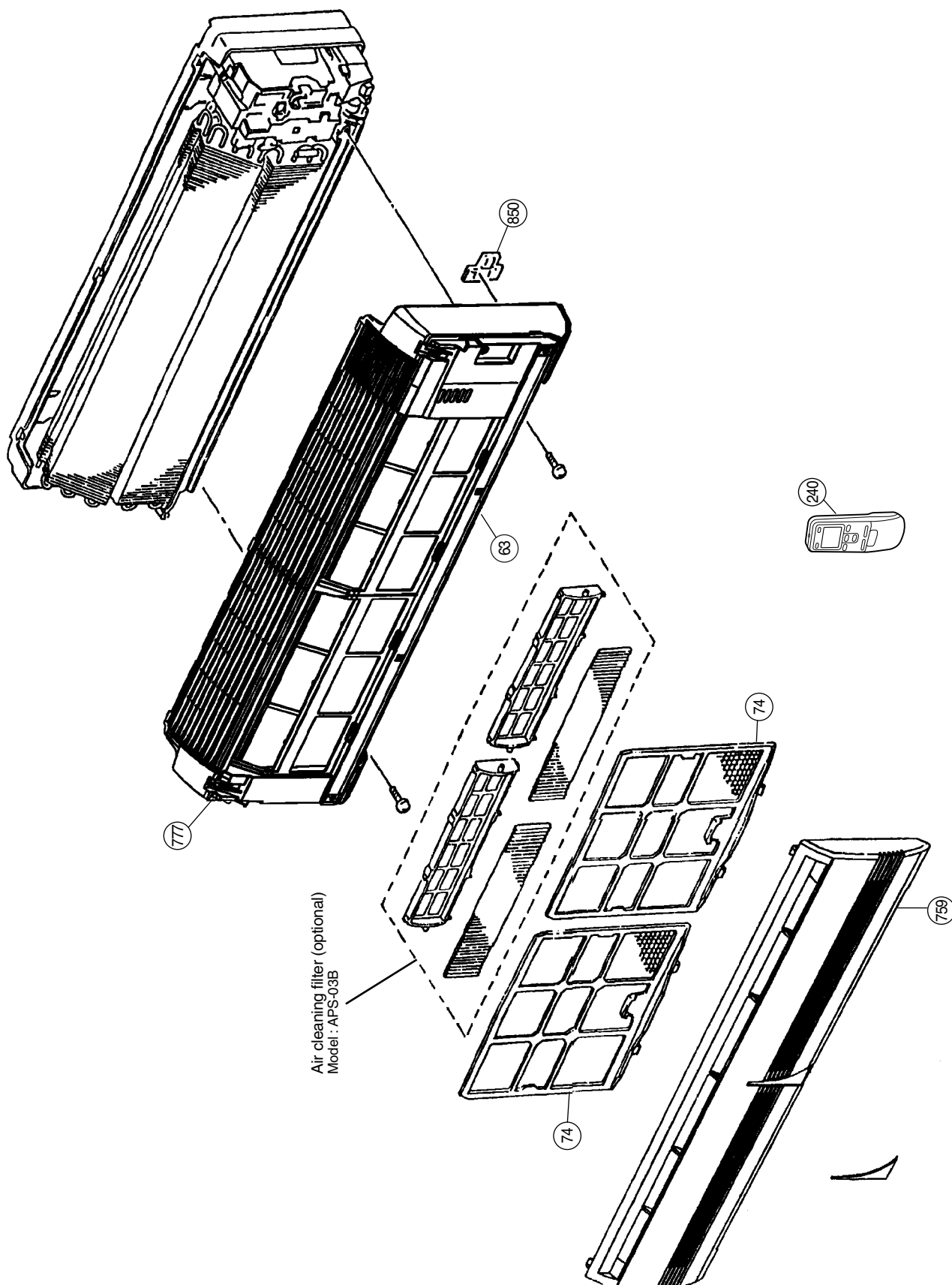


Model : ASH18LMA-W

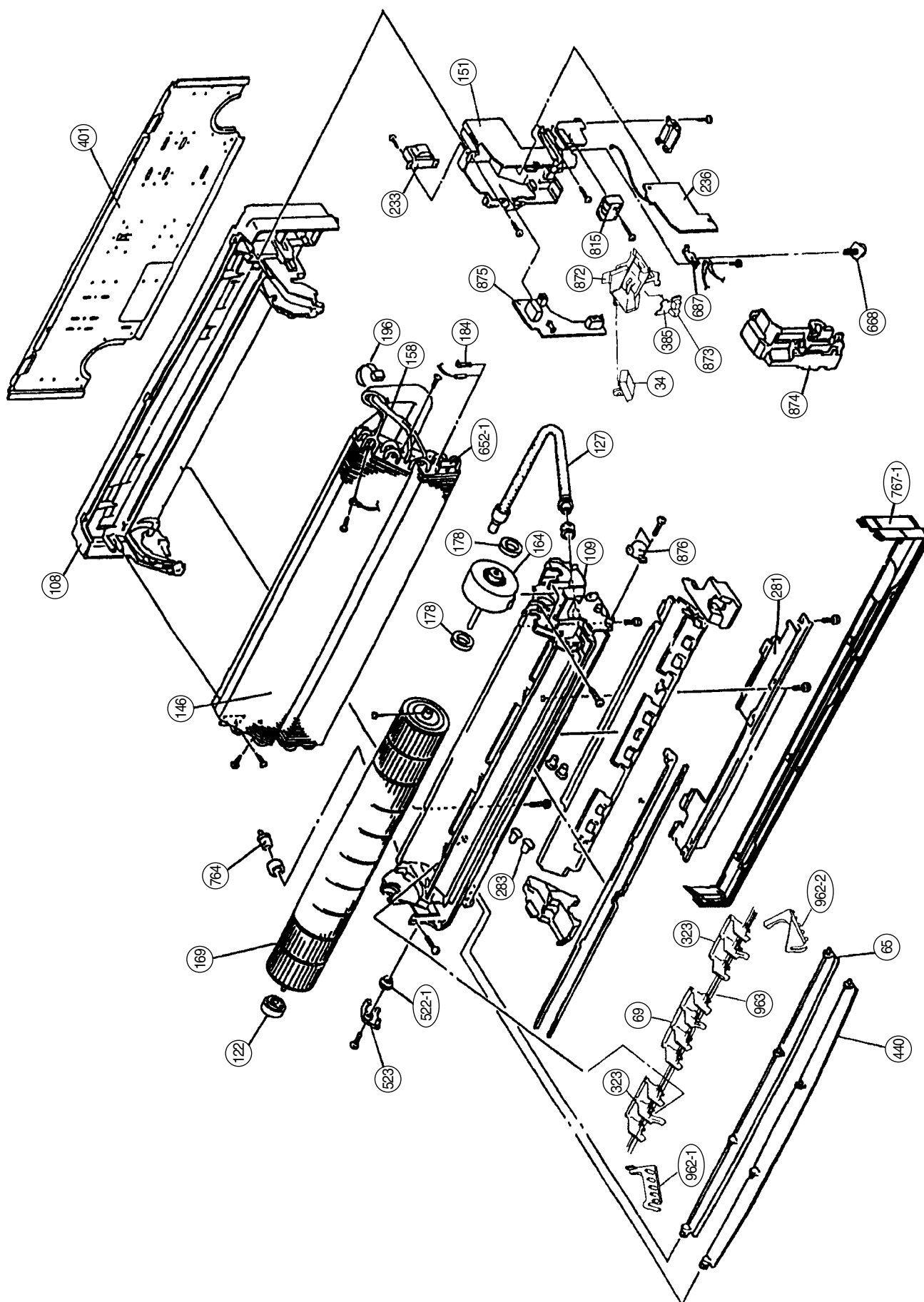




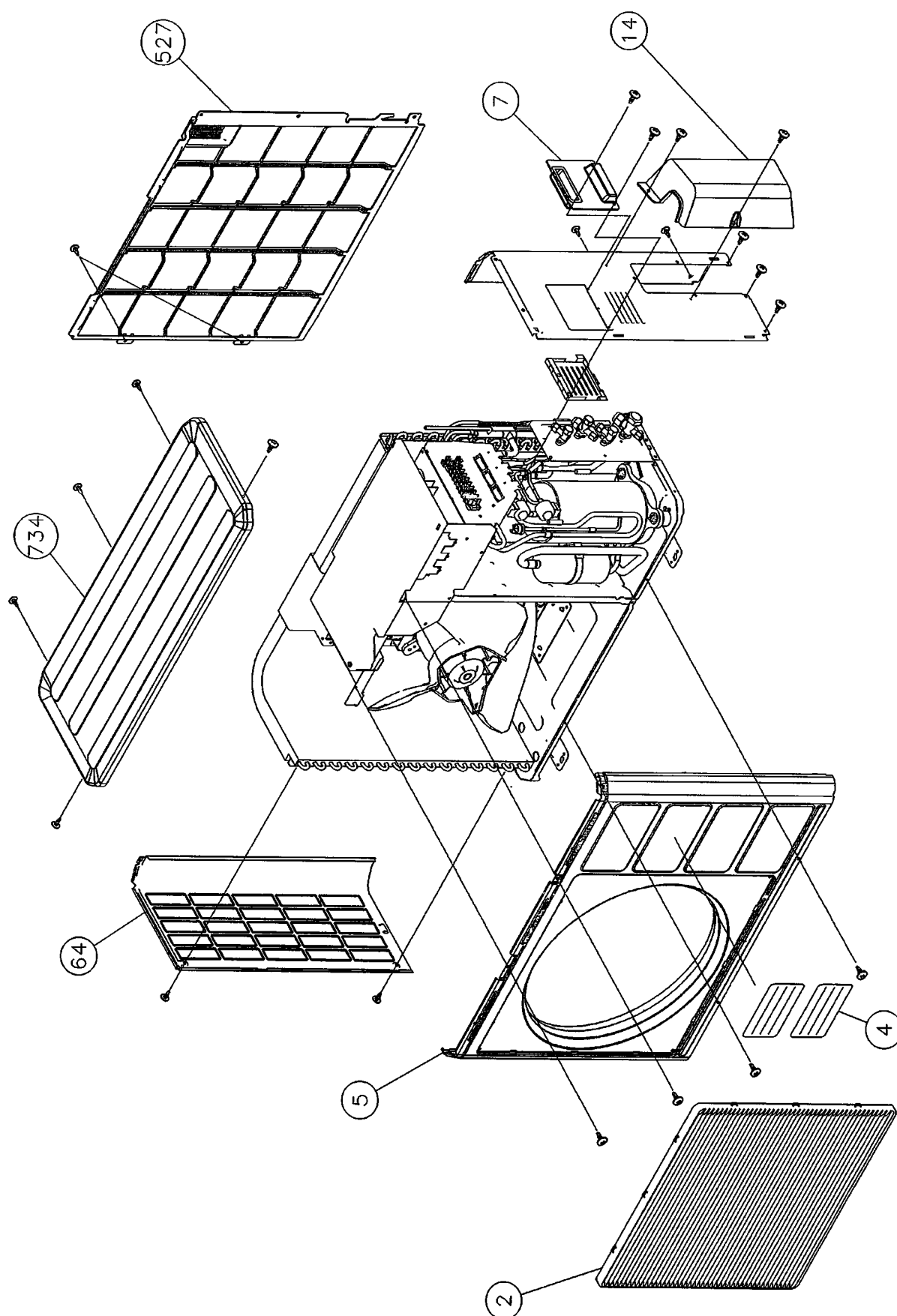
Models : ASH12LMACW
ASH9LMACW
ASH7LMACW

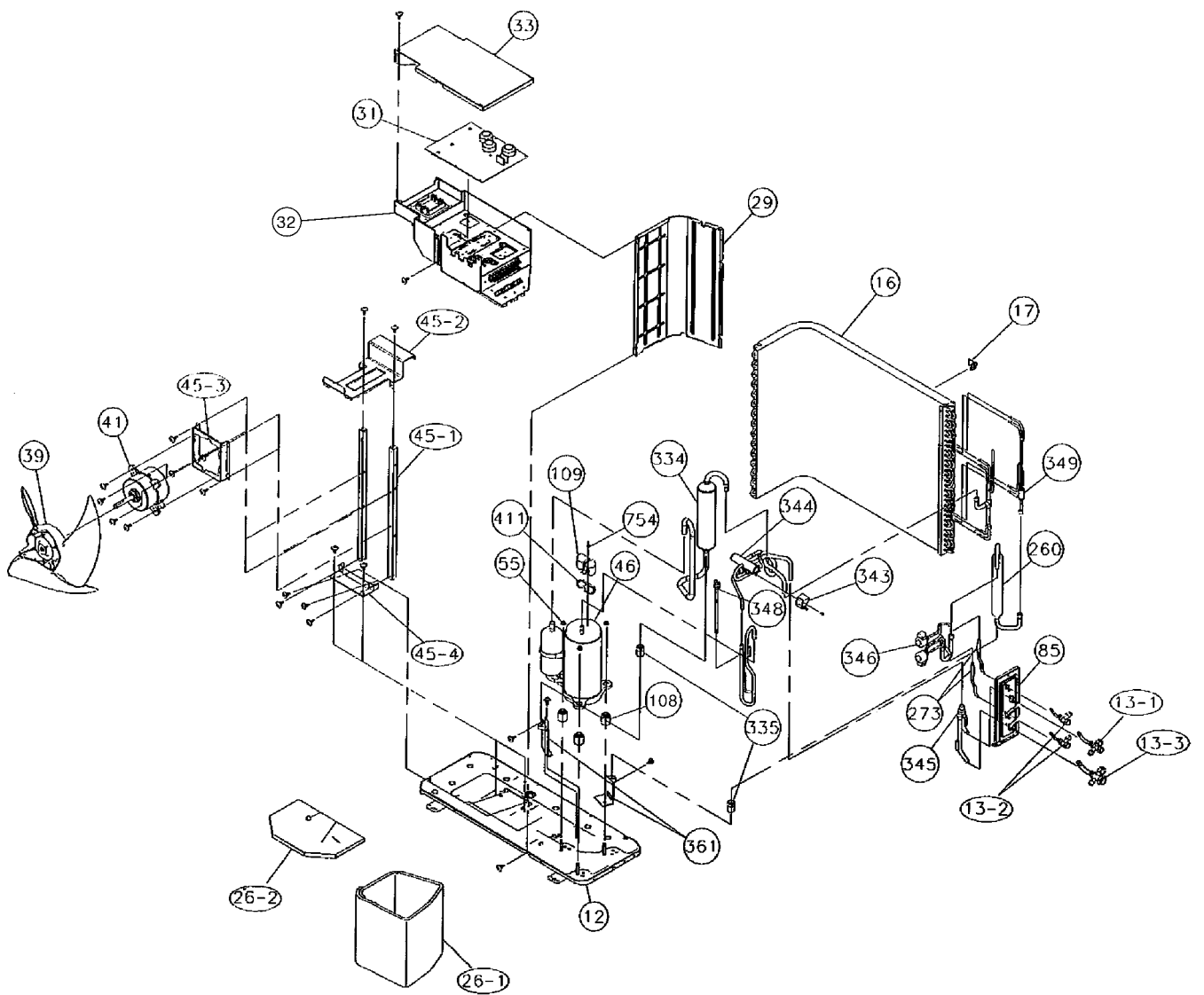


Models : ASH12LMACW
 ASH9LMACW
 ASH7LMACW



Model : AOH24LMAM2





PARTS LIST

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

INDOOR UNIT

Ref. No.	Description	Part No.	Ord. Q'ty
		ASH18LMA-W	
34	Capacitor (Fan Motor)	9704305060	
40	Water Seal Plate	9369684005	
45	Bracket (Evaporator)	9369372001	
61	Decoration Plate	9367731015	
63	Front Panel	9368540012	
69	Louver	9368560010	
69-1	Louver Base-A	9368558017	
69-2	Louver Base-B	9368559014	
74	Air Filter	9368552008	
92	Link Holder	9368563004	
108	Base Assy	9369209017	
122	Bearing Assy	9368574000	
127	Drain Hose	9367695003	
146	Evaporator Assy	9372102015	
160	Front Drain Pan (kit)	9370932010	
160-1	Rear Drain Pan Assy	9369201011	
163-2	Thermistor Spring-A	313728262708	
164	Fan Motor Assy-IN	9601388012	
169	Cross Flow Fan Assy	9368586003	
178-1	Rubber (Motor)	9368575007	
199	Step Motor	9900020019	
233	Power Transformer	9900069018	
236	Controller PCB Assy	9704714091	
240	Remote Control Unit	9371190112	
321	Flap	9368544010	
329	Coupling Pipe Assy	9369241000	
338	Motor Holder-A	9368550004	
338-1	Motor Holder-B	9368551001	
338-2	Motor Holder-C	9368769000	
385	Indicator PCB Assy	9702307011	

Ref. No.	Description	Part No.	Ord. Q'ty
		ASH18LMA-W	
401	Wall Hook Bracket	9368579005	
408	Louver Link	9368562007	
425	Earth Plate	9368580001	
428	Screw Cover	9368576011	
435	Louver Spring	9368613006	
473	Pipe Holder	9368565008	
473-1	Cord Holder	9368566005	
506	Louver Rod	9368561017	
514	Control Box	9368543006	
522-1	Sector Gear	9368556006	
522-2	Pinion Gear	9368557003	
522-3	Flap Spring	9368612009	
557	Diffuser Spring	9368587000	
574-1	Evaporator Support-R	9368549008	
574-2	Evaporator Support-L	9368548001	
684	Motor Base	9368555009	
707	Display Cover	9368564001	
735	Distributor Assy	9371178004	
743	Remote Control Unit Case	9305642014	
759	Intake Grill-G	9368542030	
764	Drain Cap	9367677009	
815	Terminal	9306489106	
846	Relay G5NB-1A	9701316014	
855	Cover Display	9369264016	
855-1	Cover Display-B	9369594014	
855-2	Cover Display-C	9369683015	
938	Control Box Cover-R	9369631009	
942	Control Box Cover	9368611002	
960	Diffuser Assy	9369346019	
963	Fan Guard	9368588007	
963-1	Fan Guard Holder	9368554002	
998	Bypass Pipe-A	9369238000	
999	Bypass Pipe-B	9369239007	

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
		ASH12LMACW	ASH9LMACW	ASH7LMACW	
34	Capacitor (Fan motor)	9900089061	9900089061	9900089061	
63	Front Panel Assy	9312172214	9312172214	9312172214	
65	Flow Control Panel-Z	9306058043	9306058043	9306058043	
69	Louver-A	9306055028	9306055028	9306055028	
74	Filter	9305444014	9305444014	9305444014	
108	Base	9309755062	9309755062	9309755062	
109	Casing	9306052027	9306052027	9306052027	
122	Shaft Holder-B	9303066010	9303066010	9303066010	
127	Drain Hose Assy	9305550029	9305550029	9305550029	
146	Evaporator Assy	9373044017	9308559036	9308559036	
151	Control Box	9330007017	9330007017	9330007017	
158	Connecting Pipe Assy	9306416010	9306416010	9306416010	
164	Fan Motor Assy-IN	9601171010	9601171010	9601171010	
169	Cross-Flow Fan Assy	9307836015	9307836015	9307836015	
178	Motor Cushion-M	9601302018	9601302018	9601302018	
184	Thermistor Spring	313728262708	313728262708	313728262708	
196	Clamp SKB-150	313035356905	313035356905	313035356905	
233	Power Transformer	9900028015	9900028015	9900028015	
236	Controller PCB Assy	9705289031	9705289024	9705289017	
240	Remote Control Unit	9371190174	9371190174	9371190174	
281	BRACKET(PIPE)	9330011014	9330011014	9330011014	
283	Bushing-A	9303529010	9303529010	9303529010	
323	Louver-B	9306056025	9306056025	9306056025	
385	Indicator PCB Assy	9705296015	9705296015	9705296015	
401	Wall Hook Bracket	9304358008	9304358008	9304358008	
440	Flow Control Panel-U	9306057046	9306057046	9306057046	
522-1	Gear-A	9306062002	9306062002	9306062002	
523	Gear Bracket	9306407001	9306407001	9306407001	
652-1	Thermistor Holder Pipe	313714262805	313714262805	313714262805	
668	Screw w/Washer	313681304205	9330012011	9330012011	
687	Earth Terminal	9330012011	313681304205	313681304205	
759	Intake Grille	9330002050	9330002050	9330002050	
764	Drain Cap Assy	9304150008	9304150008	9304150008	
767-1	Bottom Cover	9330004016	9330004016	9330004016	
777	CLAMPER(GRILL)	9306755010	9306755010	9306755010	
815	Terminal	9900040055	9900040055	9900040055	
850	Window (Receiver)	9330003019	9330003019	9330003019	
872	Indicator Case	9330009011	9330009011	9330009011	
873	Lamp Cover	9330014015	9330014015	9330014015	
874	Control Box Cover	9330008014	9330008014	9330008014	
875	Power Supply PCB Assy	9705294011	9705294011	9705294011	
876	Step Motor	9900139018	9900139018	9900139018	
962-1	Guard Holder-L	9306678012	9306678012	9306678012	
962-2	Guard Holder-R	9306677015	9306677015	9306677015	
963	Fan Guard	9305751013	9305751013	9305751013	

OUTDOOR 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
		AOH24LMAM2				AOH24LMAM2	
2	Fan Guard	9371187013		55	Special Nut M8	9355091008	
4	Emblem	9372171011		64	Side Panel L Ptd	9371926018	
5	Front Panel Painted	9371924014		69-3	Bolt, hex, Socket	301210060360	
7	Connecteur Cover (Cabinet)	9366398004		85	Valve Plate Ptd	9371928036	
12	Base Assy, Painted	9371920078		108	Rubber Seat (Comp)	9358080009	
13-1	3-Way Valve	9372205044		109	Terminal Cover (Comp)	9373264019	
13-2	2-Way Valve	9372204054		187	Clip (Cable)	9352715006	
13-3	3-Way Valve	9372205051		199	Br Sheet	9363708042	
14	Valve Cover	9372796016		218-3	Relay	9900117016	
15	Condenser Sub Assy	9372313121		260	Receiver Tank Assy	9373426011	
16	Condenser Assy	9372181096		273	Strainer Assy	9366602019	
17	Thermister Holder Pipe	313714262805		334	Accumulator	9368391003	
26-1	Compressor Cover A	9373730019		335	Accumulator Holder Rubber	9354022010	
26-2	Compressor Cover B	9373730026		343	Solenoid	9900165079	
29	Separate Wall	9372795019		344	4-Way Valve	9900163013	
31	PWB Assy	9705285019		345	Joint Pipe (3Way) Assy	9373729129	
33	Control Cover	9372792018		346	Expansion Valve Assy	9373729068	
34	Capacitor, Plastic	9704305077		348	Pressur Switch Assy	9373729044	
39	Propeller Fan Assy	9366378013		349	Capillary Assy	9373729211	
41	Motor Induct	9601671046		361	Accum Support Assy	9372252017	
45-1	Motor Bracket	9371929019		411	Gasket	9373266013	
45-2	Motor Bracket-Top	9371931012		527	Protective Net	9371934013	
45-3	Motor Bracket-Ctr	9371930015		734	Top Plate	9371925011	
45-4	Motor Bracket-Bottom	9371932019		735-3	Capillary Assy	9373729211	
46	Compressor Assy	9373262015		754	Washer (Rubber)	9358078006	

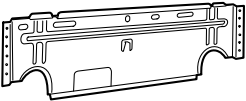
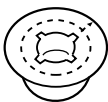
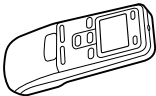
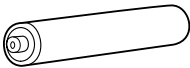
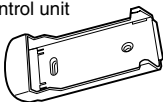
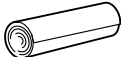
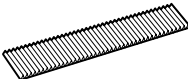
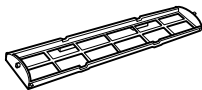
Inverter Assy (Ref. No.32)

Ref. No.	Description	Part No.	Ord. Q'ty
31	Controller PCB Assy	9705285019	
---	ACTPM	9703457012	
---	Capacitor, Elec	9705387010	
34	Capacitor, Plastic	9704305077	
---	Fuse	0600086039	
---	Terminal 8P	9900203047	
---	Fuse Holder	0501454012	
---	Terminal 2P	9701971015	

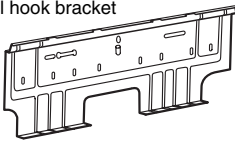
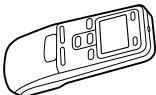
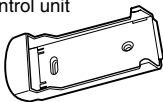
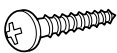
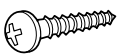
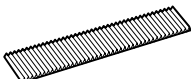
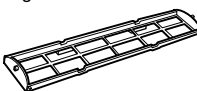
STANDARD ACCESSORIES

INDOOR UNIT ACCESSORIES

Models : ASH12LMACW, ASH9LMACW
ASH7LMACW

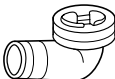
Name and Shape	Part No.
Wall hook bracket 	9304358008
Wall cap-B 	313714296205
Remote control unit 	9371190174 (AR-JW17)
Battery (penlight) 	0600185534
Remote control unit holder 	9305642014
Cloth tape 	9308117007
Tapping screw (big) ($\phi 4 \times 20$) 	301141164200
Tapping screw (small) ($\phi 3 \times 12$) 	0700019036
Air cleaning filter 	DEODRANT FILTER 9310441015 ELECTRIC FILTER 9310442012
Air cleaning filter frame 	9305445011
Adapter D ($1/2'' \rightarrow 3/8''$) 12.7 mm $\rightarrow$ 9.52 mm 	9Q model only 9370244007

Model : ASH18LMA-W

Name and Shape	Part No.
Wall hook bracket 	9368579005
Remote control unit 	9371190112 (AR-JW11)
Battery (penlight) 	0600185534
Remote control unit holder 	9368847012
Tapping screw (big) ($\phi 4 \times 20$) 	301141164200
Tapping screw (big) ($\phi 4 \times 12$) 	301171164129
Tapping screw (small) ($\phi 3 \times 12$) 	301141533125
Air cleaning filter 	DEODORANT FILTER 9370527018 ELECTRIC FILTER 9370528015
Air cleaning filter frame 	9368568009

OUTDOOR UNIT ACCESSORIES

Model : AOH24LMAM2

Name and Shape	Part No.
Drain pipe 	9303029015
Drain cap 	313166024302
Adapter D ($1/2'' \rightarrow 3/8''$) 12.7mm $\rightarrow$ 9.52mm 	9370244007

Thermistor resistance values <Indoor unit side>

1) Room temperature thermistor (TH_{IA})

Room temperature (°C)	0	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30
Resistance value (kΩ)	33.6	29.5	25.9	22.8	20.2	17.9	15.8	14.1	12.5	11.2	10.0	9.0	8.0

Room temperature (°C)	32.5	35	37.5	40	42.5	45	47.5	50
Resistance value (kΩ)	7.2	6.5	5.9	5.3	4.8	4.3	3.9	3.6

2) Indoor heat exchanger temperature thermistor (TH_{HM}, TH_{HI})

Heat exchanger temperature (°C)	0	2.5	5	7.5	10	12.5	15	17.5	20	22.5	25	27.5	30
Resistance value (kΩ)	176.0	153.5	134.2	117.6	103.3	91.0	80.3	71.0	62.9	55.9	49.7	44.3	39.6

Heat exchanger temperature (°C)	32.5	35	37.5	40	42.5	45	47.5	50	52.5	55	57.5	60
Resistance value (kΩ)	35.4	31.7	28.5	25.6	23.1	20.8	18.8	17.1	15.5	14.1	12.8	11.6

