

SPLIT TYPE
ROOM AIR CONDITIONER
FLOOR TYPE

SERVICE MANUAL



Indoor unit	Outdoor unit
AGYF09LAC	AOYV09LAC
AGYF12LAC	AOYV12LAC
AGYF14LAC	AOYV14LAC
AGYF14LAC	AOYV14LAL

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SPECIFICATIONS

ELECTRICAL DATA

TYPE		Cooling & heating inverter		
INDOOR UNIT		AGYF09LAC	AGYF12LAC	AGYF14LAC
OUTDOOR UNIT		AOYV09LAC	AOYV12LAC	AOYV14LAC
COOLING CAPACITY		2.60 kW	3.50 kW	4.20 kW
HEATING CAPACITY		3.50 kW	4.50 kW	5.20 kW
POWER SOURCE		230 V	230 V	230 V
FREQUENCY		50 Hz	50 Hz	50 Hz
RUNNING CURRENT	Cooling	2.6 A	4.4 A	5.2 A
	Heating	3.8 A	5.5 A	6.4 A
INPUT WATTS	Cooling	0.53 kW	0.94 kW	1.14 kW
	Heating	0.79 kW	1.19 kW	1.44 kW
E.E.R.	Cooling	4.91 kW/kW	3.72 kW/kW	3.68 kW/kW
COP	Heating	4.43 kW/kW	3.78 kW/kW	3.61 kW/kW
MOISTURE REMOVAL		1.3 L/hr	1.8 L/hr	2.1 L/hr
AIR CIRCULATION HIGH	Cooling	570 m3/hr	570 m3/hr	650 m3/hr
	Heating	600 m3/hr	600 m3/hr	650 m3/hr

FAN MOTOR

POWER SOURCE		230 V	230 V	230 V
INDOOR UNIT cooling (upper fan / lower fan)	High speed	1,190 r.p.m. / 1,000 r.p.m.		1,330 / 1,120 r.p.m.
	Med speed	1,000 r.p.m. / 850 r.p.m.		1,100 / 930 r.p.m.
	Low speed	820 r.p.m. / 690 r.p.m.		890 / 750 r.p.m.
	Quiet	660 r.p.m. / 560 r.p.m.		660 / 560 r.p.m.
INDOOR UNIT heating (upper fan / lower fan)	High speed	1,240 r.p.m. / 1,040 r.p.m.		1,330 / 1,120 r.p.m.
	Med speed	1,040 r.p.m. / 880 r.p.m.		1,100 / 930 r.p.m.
	Low speed	840 r.p.m. / 700 r.p.m.		860 / 730 r.p.m.
	Quiet	660 r.p.m. / 560 r.p.m.		660 / 560 r.p.m.
OUTDOOR UNIT cooling		760 r.p.m.	760 r.p.m.	820 r.p.m.
OUTDOOR UNIT heating		680 r.p.m.	760 r.p.m.	750 r.p.m.

NOISE LEVEL

INDOOR UNIT (cooling / heating)	High speed	40 dB / 40 dB	40 dB / 40 dB	44 dB / 43 dB
	Med speed	35 dB / 35 dB	35 dB / 35 dB	38 dB / 37 dB
	Low speed	29 dB / 29 dB	29 dB / 29 dB	31 dB / 29 dB
	Quiet	22 dB / 22 dB	22 dB / 22 dB	22 dB / 22 dB
OUTDOOR UNIT (cool / heat)		47 dB / 48 dB	48 dB / 49 dB	50 dB / 50 dB

DIMENSIONS

INDOOR UNIT	H x W x D	600 x 740 x 200 mm		
OUTDOOR UNIT	H x W x D	540 x 790 x 290 mm		578 x 790 x 300 mm

WEIGHT

INDOOR UNIT	Gross / Net	17 kg / 14 kg	17 kg / 14 kg	17 kg / 14 kg
OUTDOOR UNIT	Gross / Net	40 kg / 36 kg	40 kg / 36 kg	44 kg / 40 kg

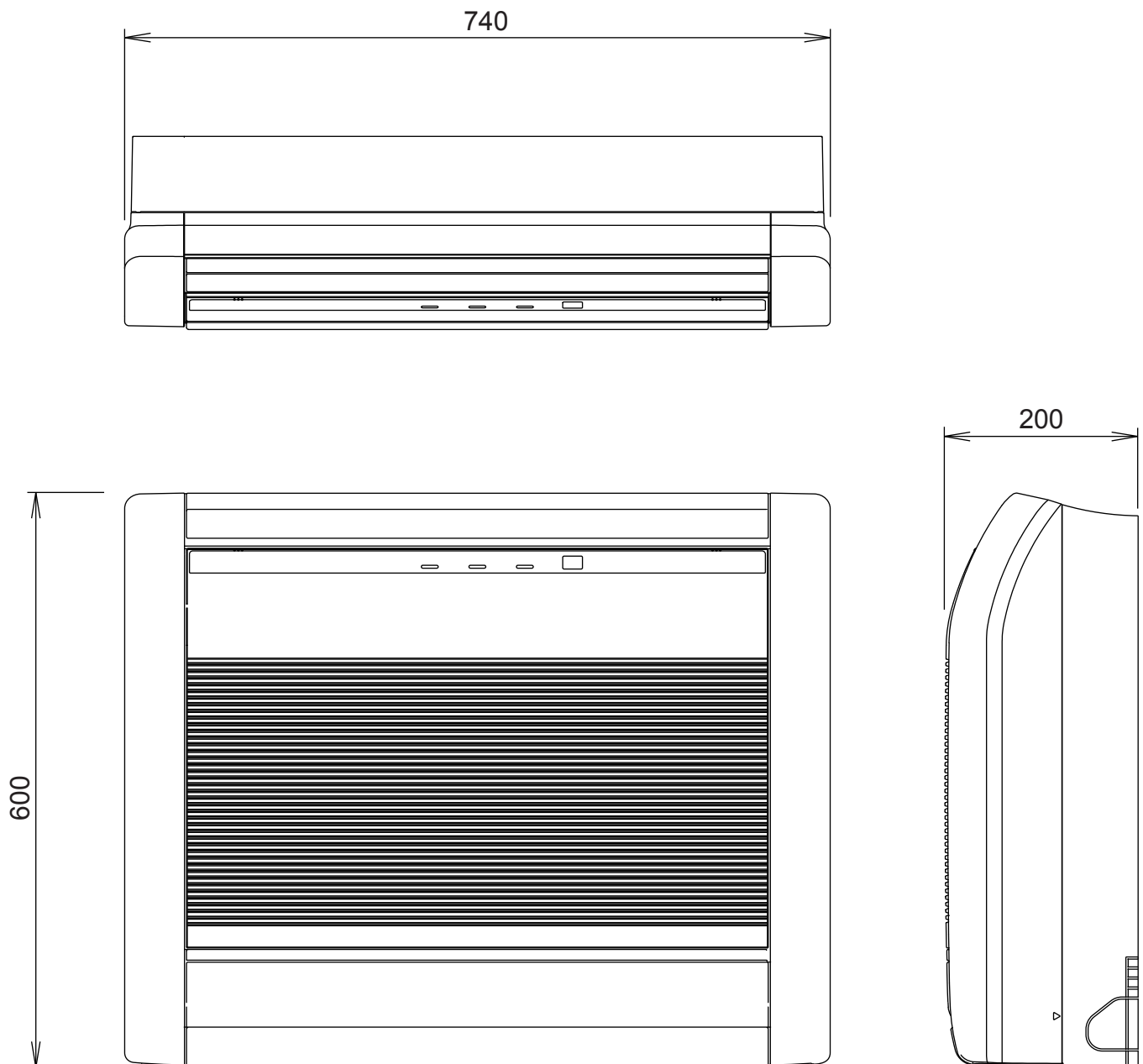
REFRIGERANT

COMPRESSOR TYPE		Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary		
DISCRIMINATION		DA89X1C-20FZ	DA89X1C-20FZ	DA130A1F-25F
STANDARD REFRIGERANT		1,050 g	1,050 g	1,150 g
REFRIGERANT TYPE		R410A	R410A	R410A
FULL CHARGE	Pipe Length 15 m	1,050 g	1,050 g	1,150 g
	20 m	1,150 g	1,150 g	1,250 g
ADDITIONAL CHARGE		20 g/m	20 g/m	20 g/m
MAXIMUM PIPE HEIGHT		15 m	15 m	15 m

DIMENSIONS

INDOOR UNIT

(unit : mm)



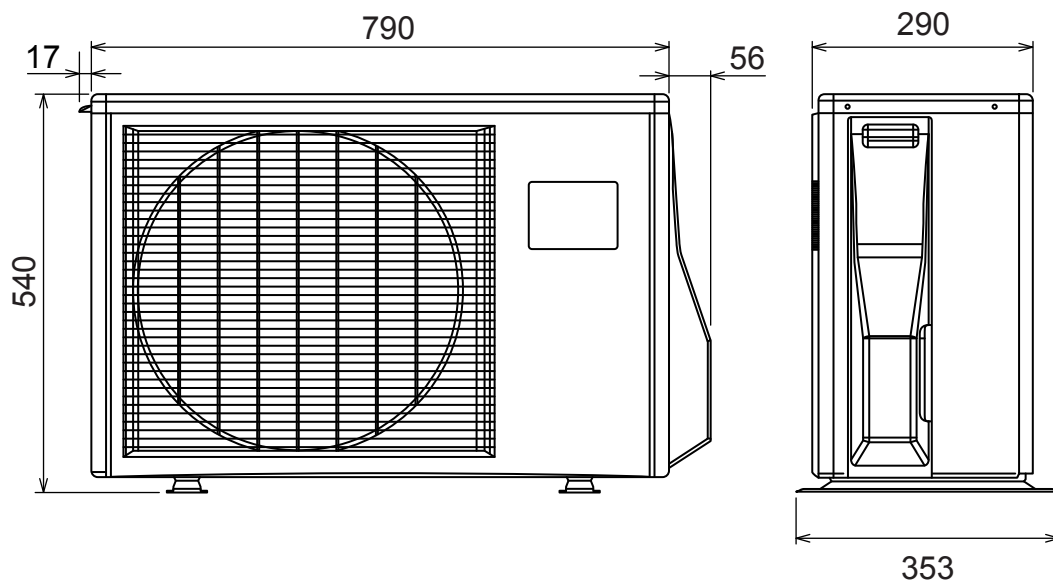
OUTDOOR UNIT

(unit : mm)

Models :

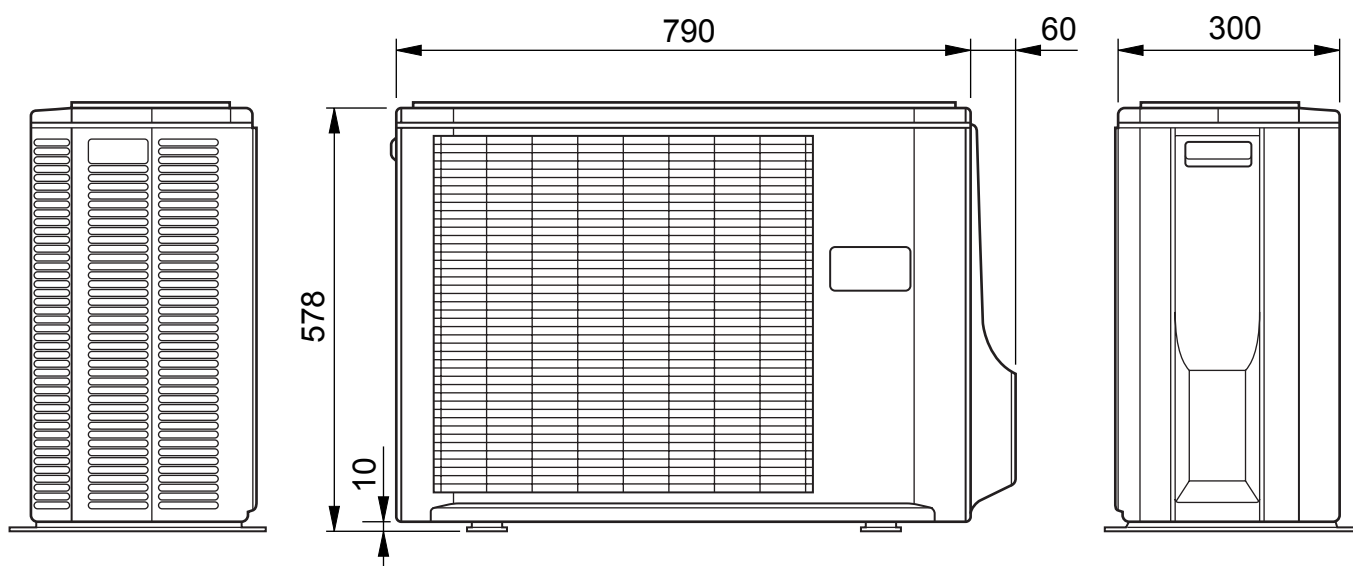
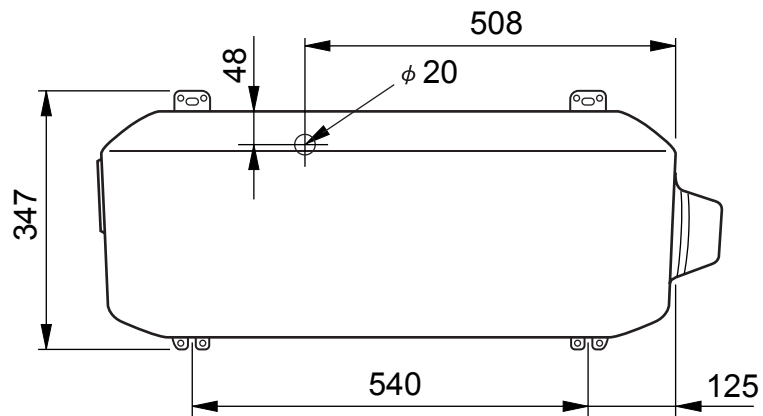
AOYV09LAC

AOYV12LAC

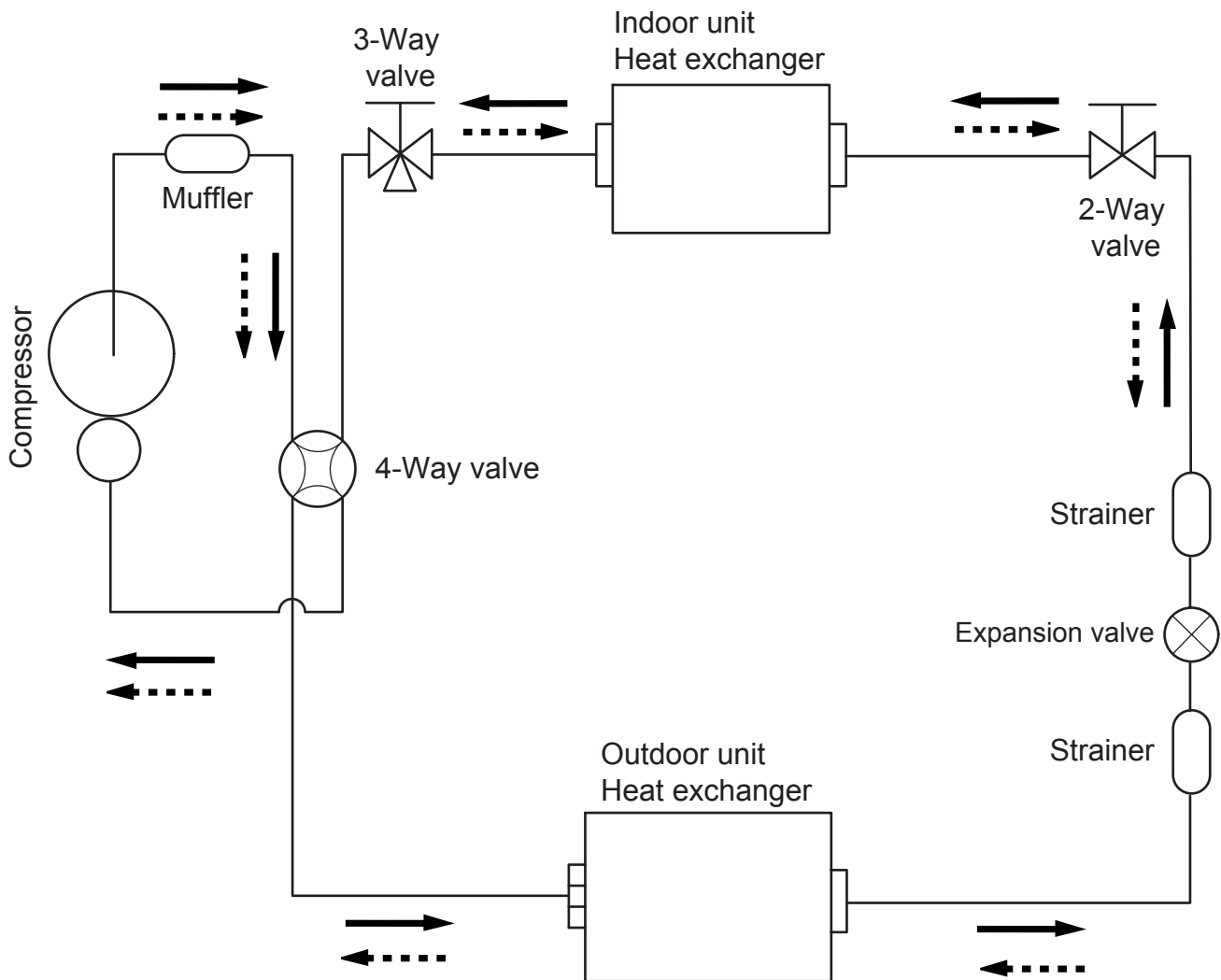


Model :

AOYV14LA_



REFRIGERANT SYSTEM DIAGRAM



Refrigerant direction

————> Cooling

.....> Heating

Refrigerant pipe diameter

AGYF09LAC / AOYV09LAC

AGYF12LAC / AOYV12LAC

Liquid : 1/4" (6.35 mm)

Gas : 3/8" (9.52 mm)

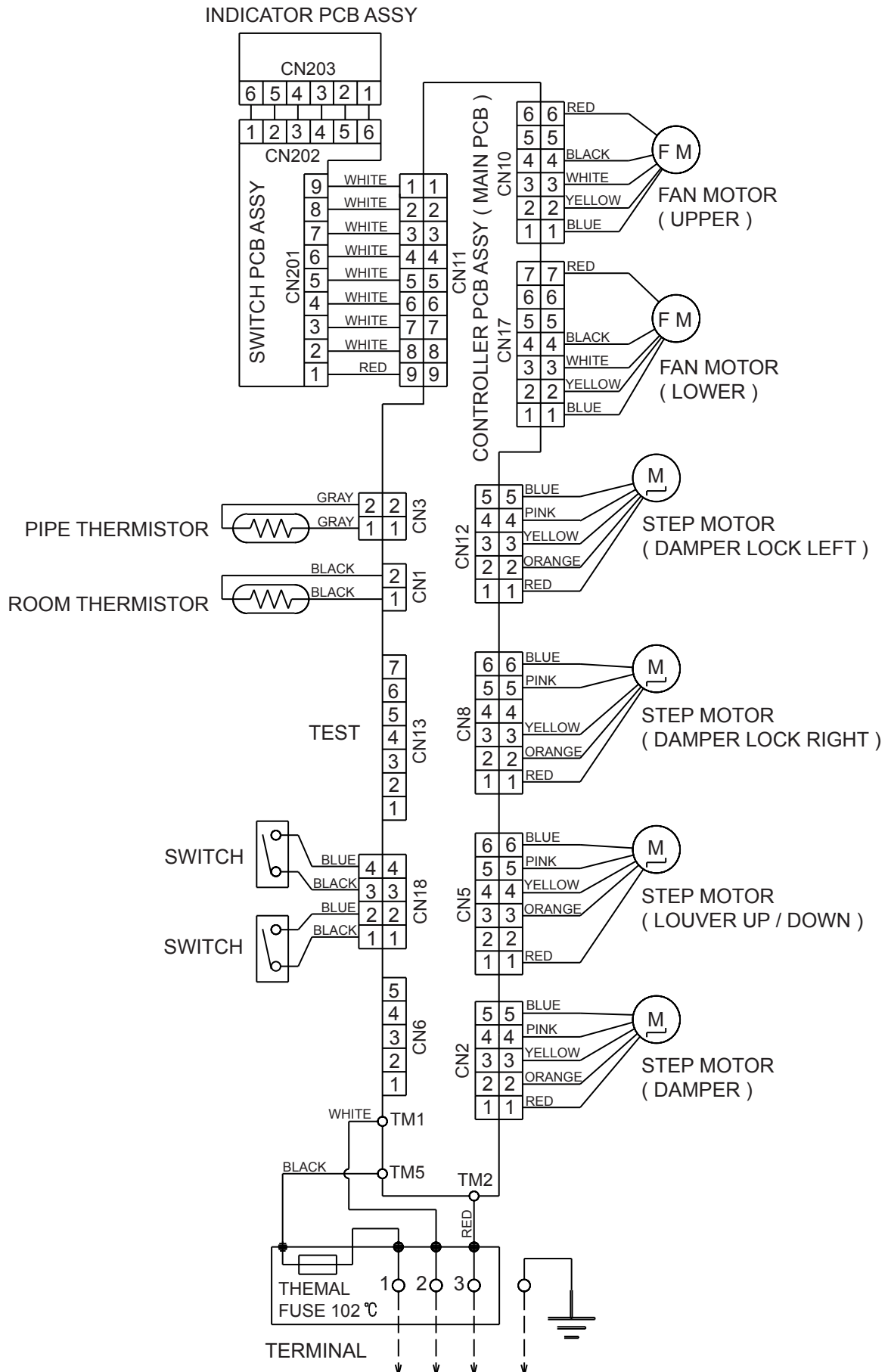
AGYF14LAC / AOYV14LA_

Liquid : 1/4" (6.35 mm)

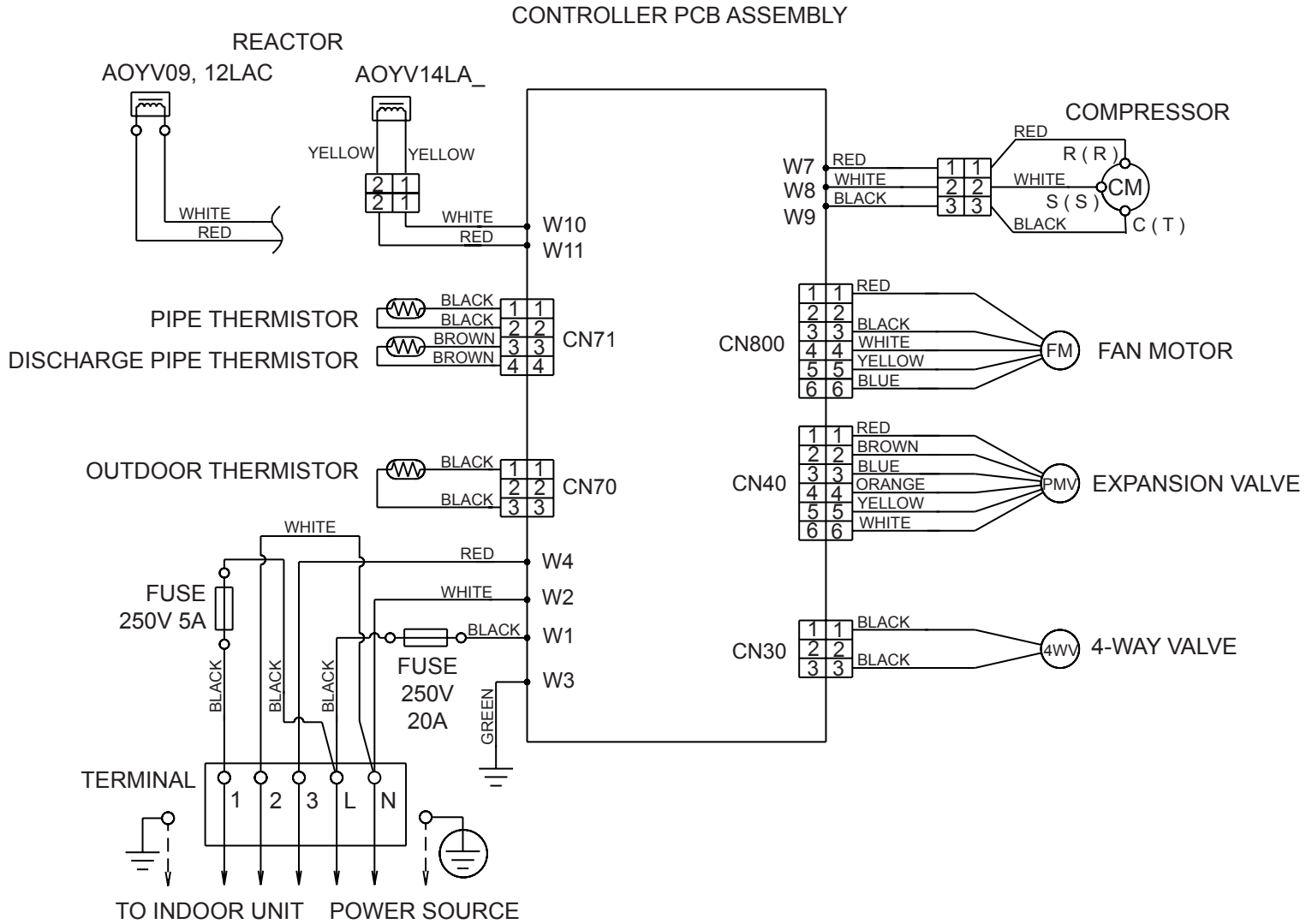
Gas : 1/2" (12.7 mm)

CIRCUIT DIAGRAM

INDOOR UNIT



OUTDOOR UNIT



PCB Circuit Diagrams

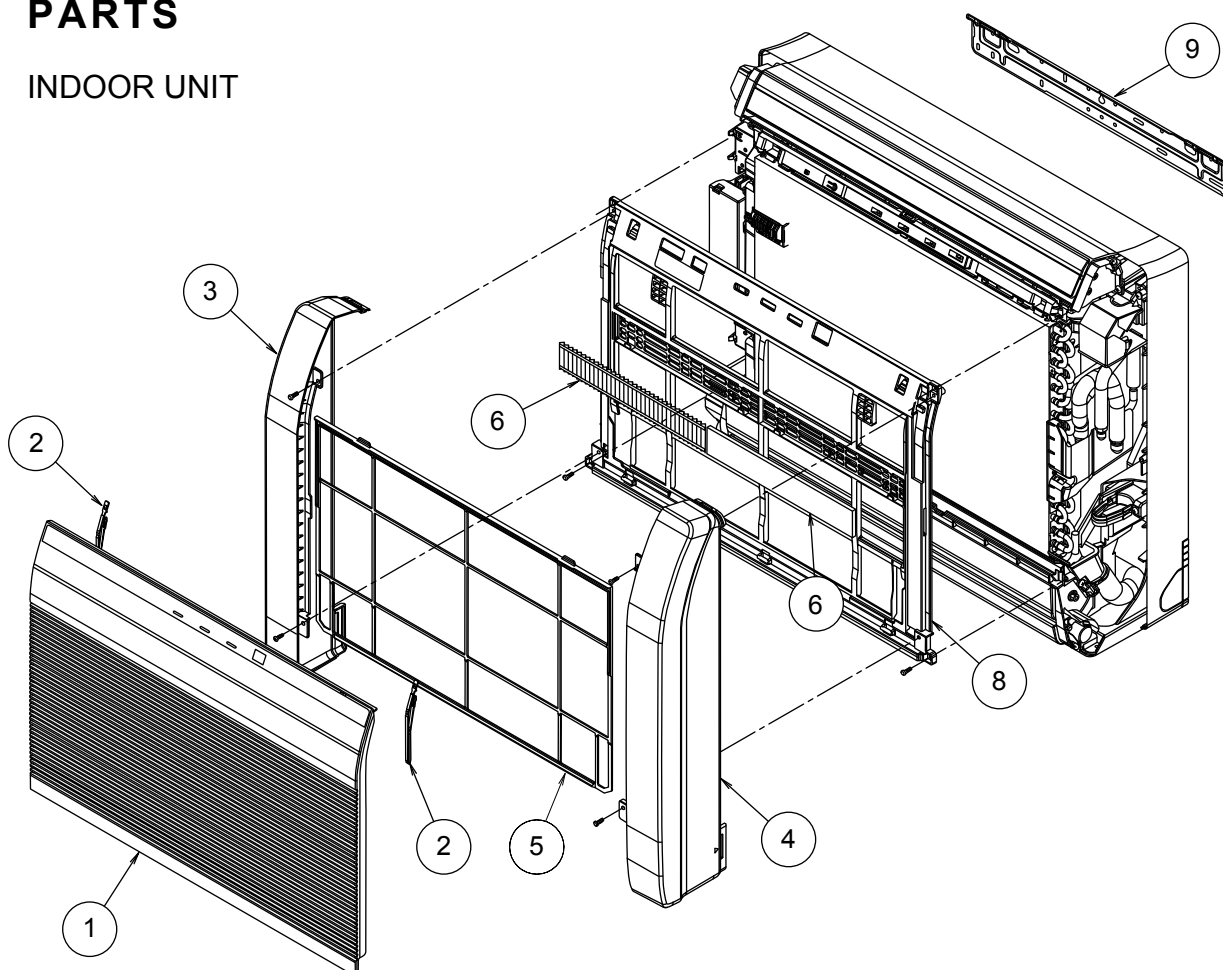
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ERROR CONTENTS

Error	Indoor unit LED			Wired remote controller	Error
	Operation LED	Timer LED	10 °C heat LED		
Serial signal error	Off	2 flash	Off	01	Serial signal (reverse) error, at operation start up
		3 flash	Off	01	Serial signal (reverse) error, during operation
		4 flash	Off	13	Serial signal (forward) error, at operation start up
		5 flash	Off	13	Serial signal (forward) error, during operation
		8 flash	Off	00	Wired remote controller error
Indoor unit thermistor error	2 flash	2 flash	Off	02	Indoor air thermistor error
		3 flash	Off	04	Heat exchanger middle thermistor error
Outdoor unit thermistor error	3 flash	2 flash	Off	0C	Discharge pipe thermistor error
		3 flash	Off	06	Heat exchanger thermistor error
		4 flash	Off	0A	Outdoor air thermistor error
		8 flash	Off	15	Compressor thermistor error
Indoor unit control error	4 flash	2 flash	Off	20	Manual auto button welded
Outdoor unit control error	5 flash	2 flash	Off	17	Current trip error
		3 flash	Off	18	CT abnormal
		5 flash	Off	1A	Compressor location detection error
		6 flash	Off	1b	Outdoor unit fan drive system abnormal
Indoor fan motor error	6 flash	2 flash	Off	12	Abnormal lock (upper fan motor)
		3 flash	Off	12	Abnormal rotation (upper fan motor)
		Off	2 flash	12	Abnormal lock (lower fan motor)
		Off	3 flash	12	Abnormal rotation (lower fan motor)
		5 flash	Off	2E	Damper is not normally open or closed
		Off	4 flash	2E	Damper is not normally open or closed
		Off	5 flash	2E	Damper is not normally open or closed
Refrigerant cycle error	7 flash	2 flash	Off	0F	Discharge temperature abnormal
		3 flash	Off	24	Cooling high pressure abnormal rise
		6 flash	Off	2b	Compressor temperature abnormal
Optional function error	8 flash	4 flash	Off	25	PFC circuit error
Power source error	0.1 sec on/off	Off	0.1 sec on/off	08	Power source error
Model information error	0.1 sec on/off	0.1 sec on/off	0.1 sec on/off	11	Model information error

PARTS

INDOOR UNIT



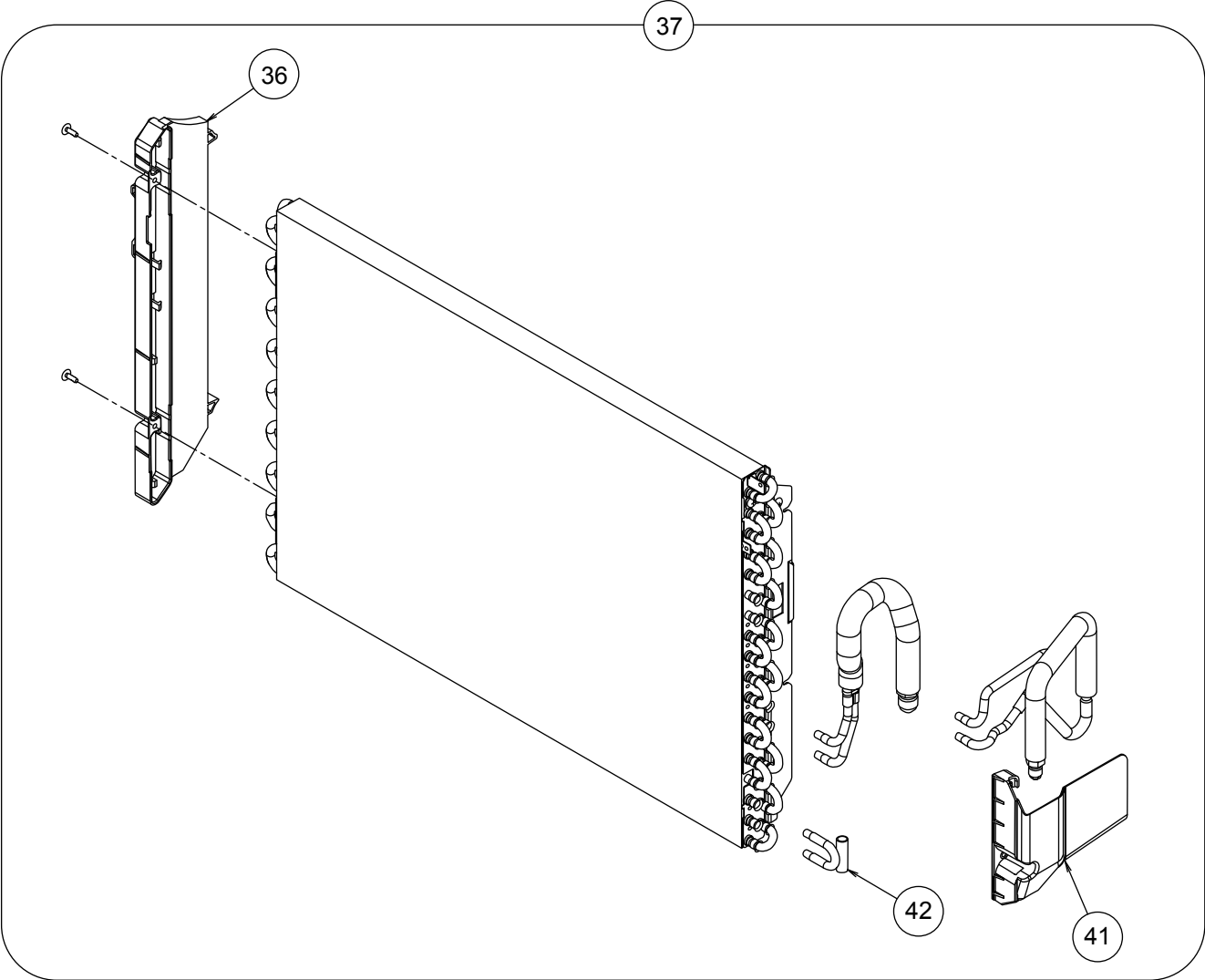
Ref	Description	Parts number	
1	Intake Grille Assy	9316418011	
2	Rope Assy	9316458017	
3	Panel (Front) L	9316187016	
4	Panel (Front) R	9316186019	
5	Air Filter	9316189010	
6	Air Clean Filter Assy	9312152018	
8	Panel (Front)	9316185012	
9	Bracket Panel	9316272019	
--	Remote Control	9316397019	
--	Remote Control Holder	9305642045	

INDOOR UNIT

This exploded view diagram illustrates the assembly of an indoor unit. The central component is a rectangular main body (15) which houses the internal wiring and controls. Attached to the top and bottom of this body are two long, cylindrical coil assemblies (13 and 30). The front of the unit features a large, rectangular grille (31) that is held in place by a frame (32) and secured with screws (33). The back of the unit is supported by a mounting bracket (16) which is attached to a wall. Various other components are shown, including a control panel (17), a power switch (18), and several screws (10, 11, 12, 14, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33) used for assembly. The diagram is labeled 'INDOOR UNIT' in the top left corner.

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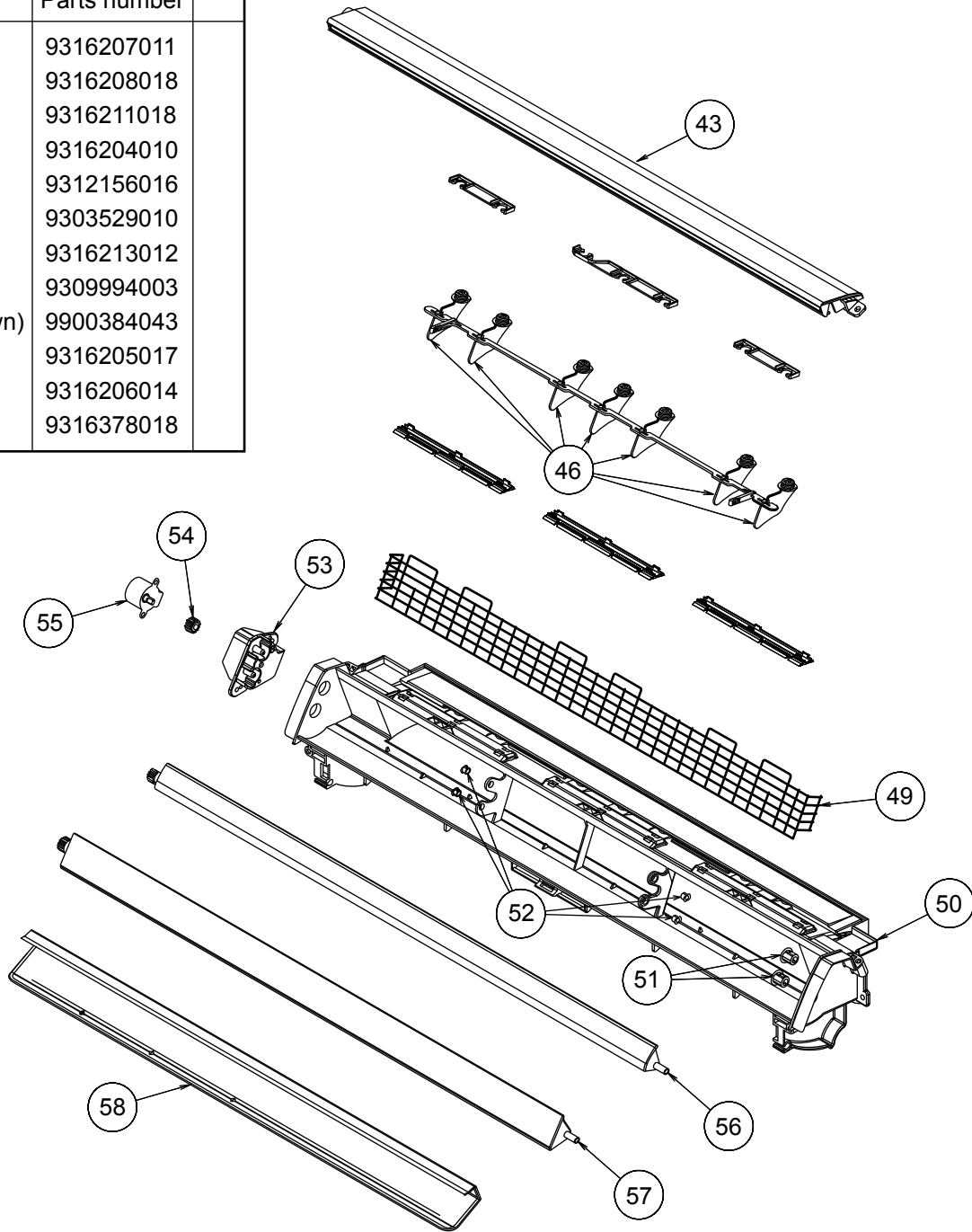
INDOOR UNIT



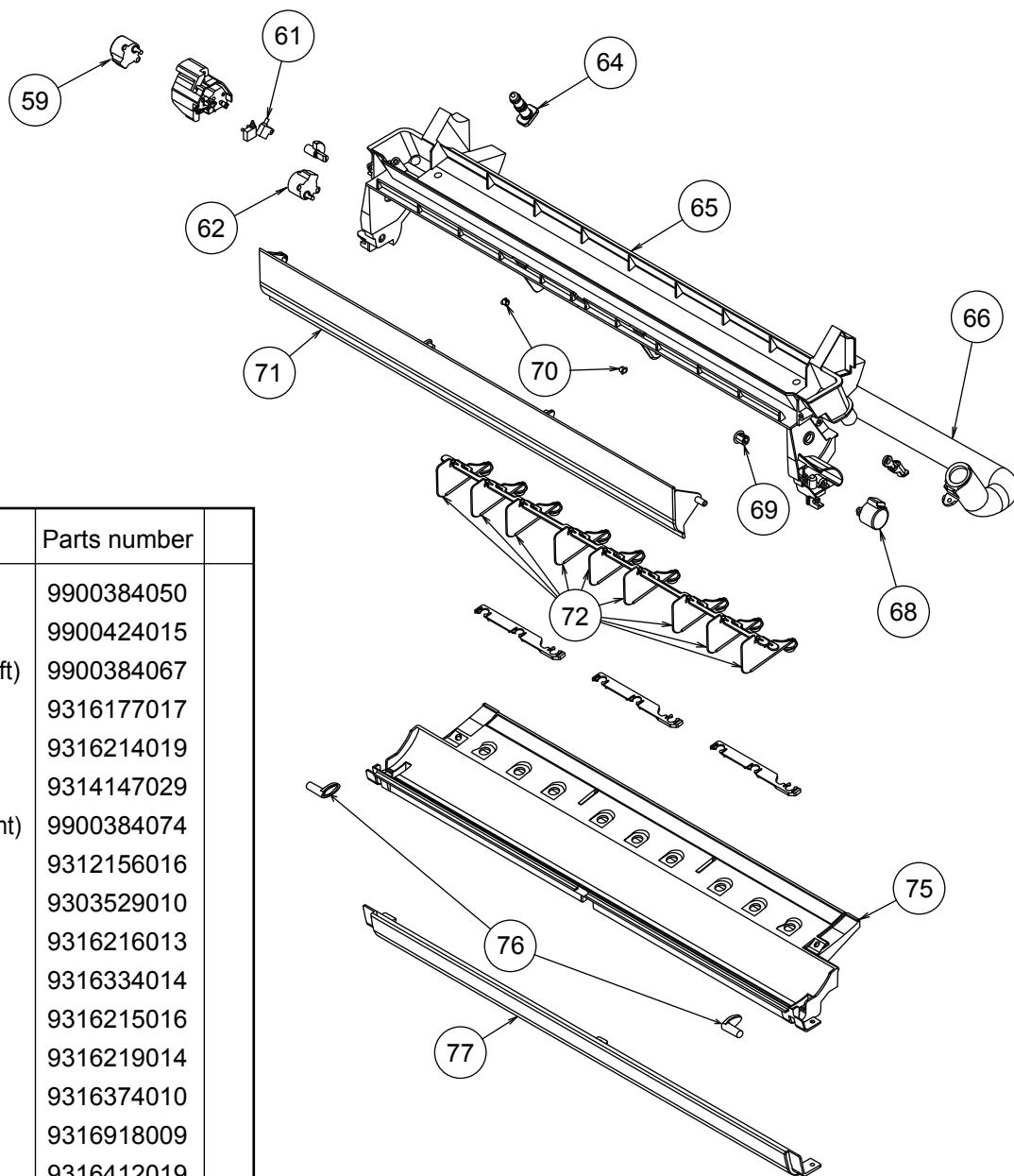
Ref	Description	Parts number	
36	Evaporator Holder	9316199019	
37	Evaporator Total Assy (09, 12)	9316091016	
37	Evaporator Total Assy (14)	9316091023	
41	Water Seal	9316271012	
42	U Pipe AA Assy	9316095014	

INDOOR UNIT

Ref	Description	Parts number	
43	Top Cover	9316207011	
46	R and L Louver U	9316208018	
49	Fan Guard	9316211018	
50	Casing	9316204010	
51	Bushing B	9312156016	
52	Bushing A	9303529010	
53	Gear Case	9316213012	
54	Gear A	9309994003	
55	Motor Step (up / down)	9900384043	
56	Louver U	9316205017	
57	Louver Z	9316206014	
58	REF (Casing)	9316378018	



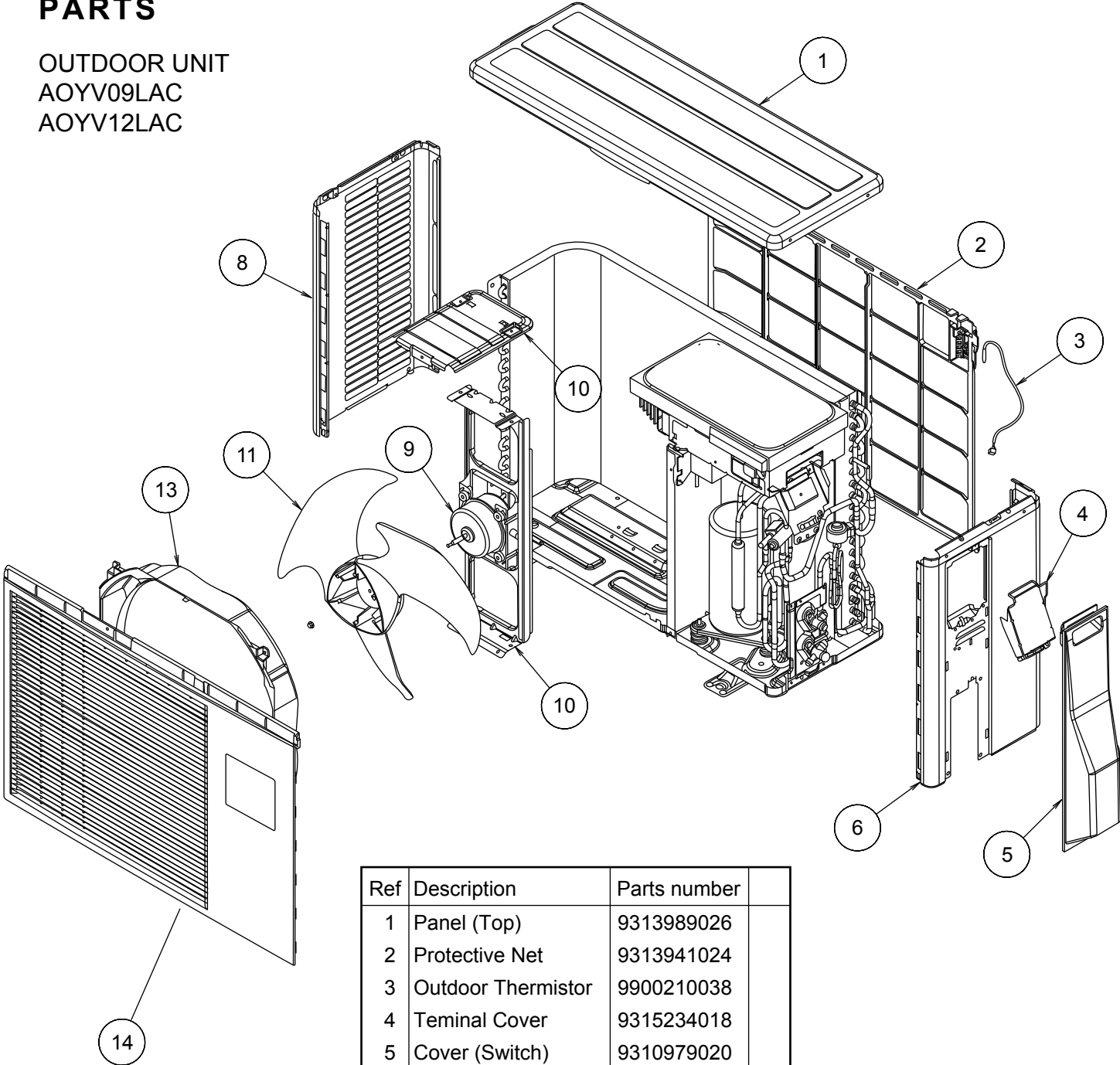
INDOOR UNIT



Ref	Description	Parts number	
59	Motor Step (Damper)	9900384050	
61	Switch Micro	9900424015	
62	Motor Step (Damper Lock Left)	9900384067	
64	Drain Cap	9316177017	
65	Drain Pan U	9316214019	
66	Drain Hose Assy	9314147029	
68	Motor Step (Damper Lock Right)	9900384074	
69	Bushing B	9312156016	
70	Bushing A	9303529010	
71	Damper	9316216013	
72	R and L Louver Z	9316334014	
75	Drain Pan Z	9316215016	
76	Stopper	9316219014	
77	Cover (Lower)	9316374010	
--	Fan Guard Z	9316918009	
--	Drain Pan Assy	9316412019	

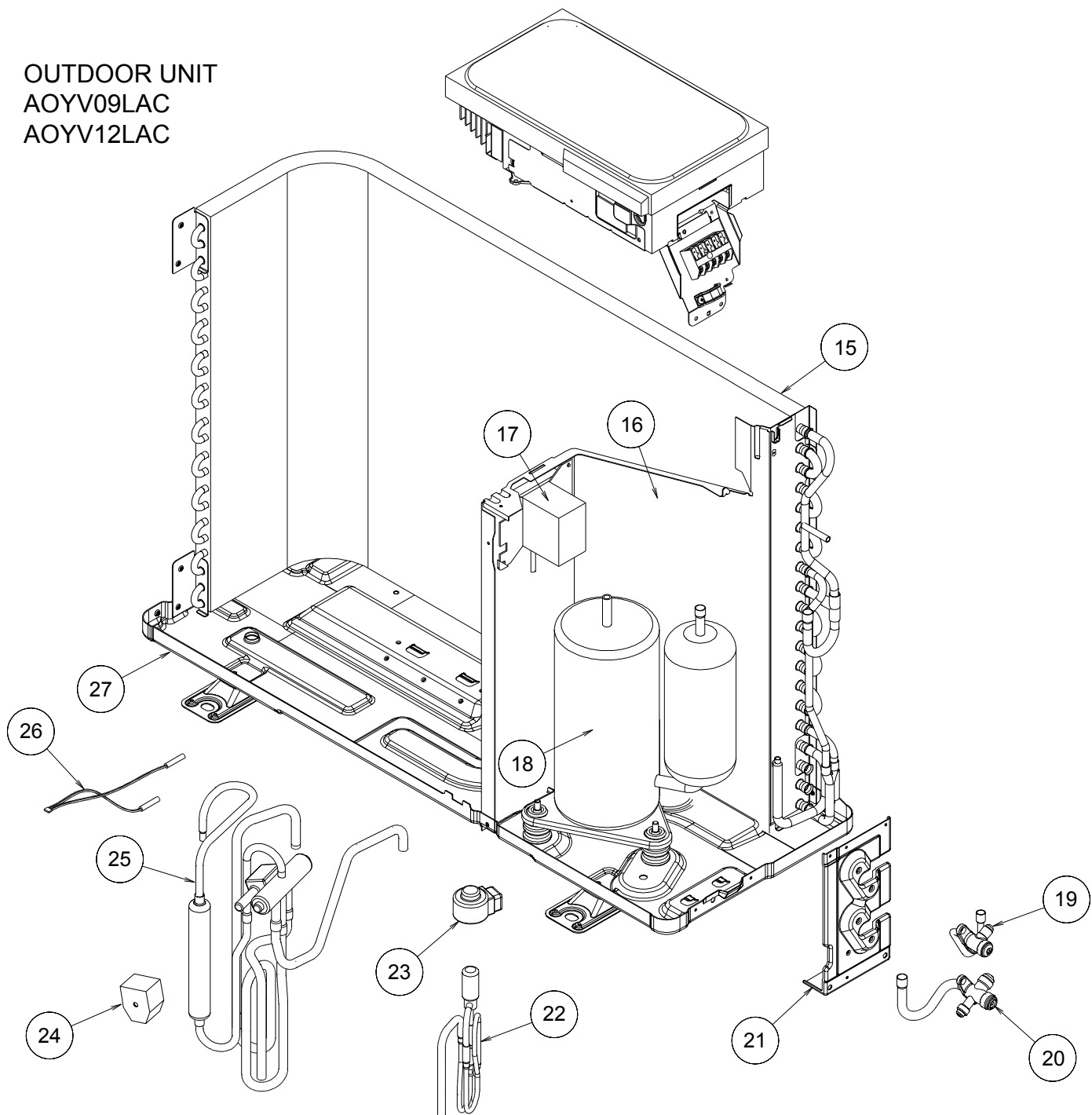
PARTS

OUTDOOR UNIT
AOYV09LAC
AOYV12LAC



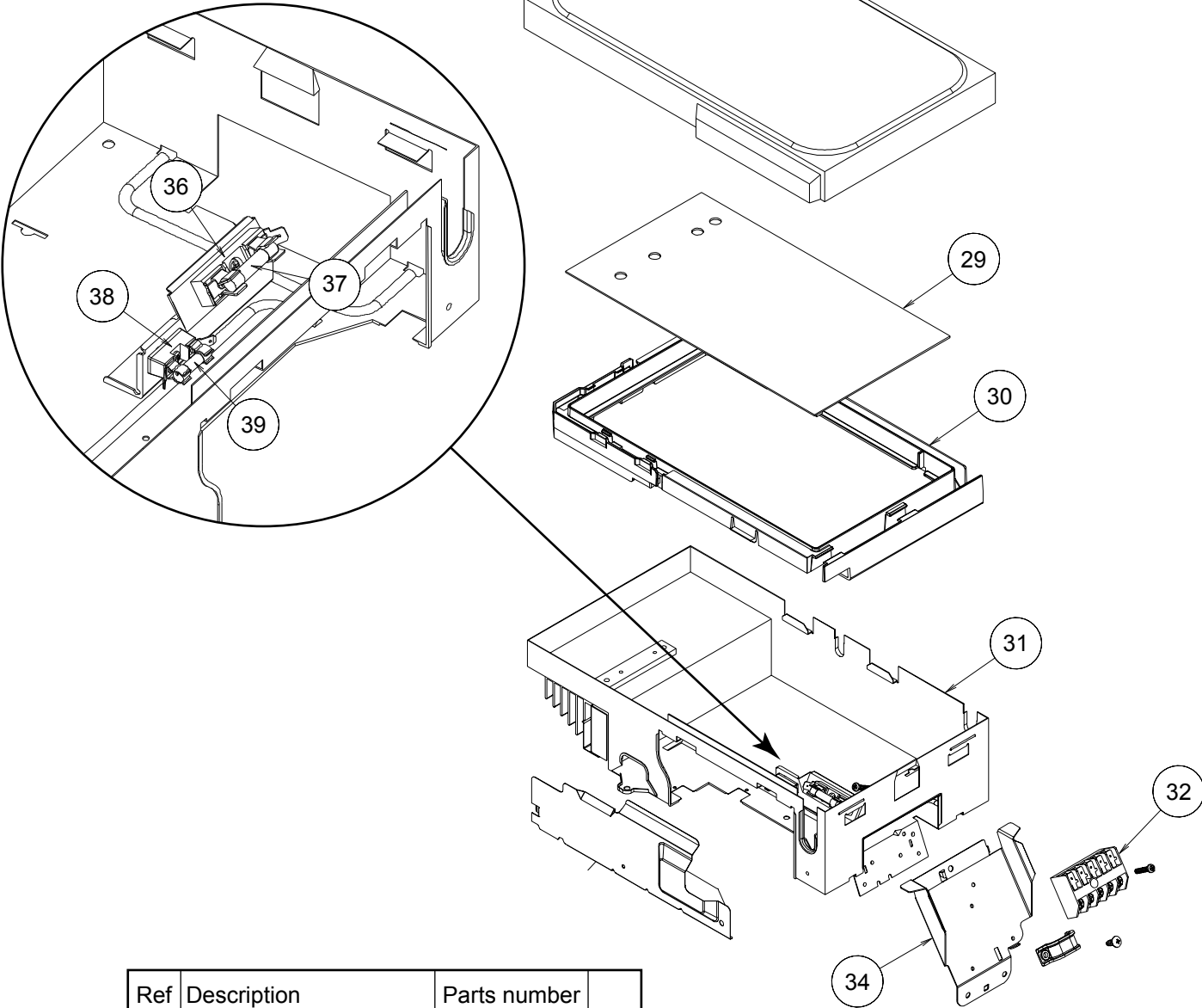
Ref	Description	Parts number
1	Panel (Top)	9313989026
2	Protective Net	9313941024
3	Outdoor Thermistor	9900210038
4	Teminal Cover	9315234018
5	Cover (Switch)	9310979020
6	Cabinet Right Assy	9313994082
8	Cabinet Left Assy	9313991012
9	Motor DC Brushless	9602111015
10	Motor Bracket Assy	9313990039
11	Propeller Fan	9313808013
13	Ring (Fan)	9313807016
14	Panel (Front)	9313806026
--	Emblem Rear	9315210012
--	Drain Pipe Assy	9303029022

OUTDOOR UNIT
AOYV09LAC
AOYV12LAC



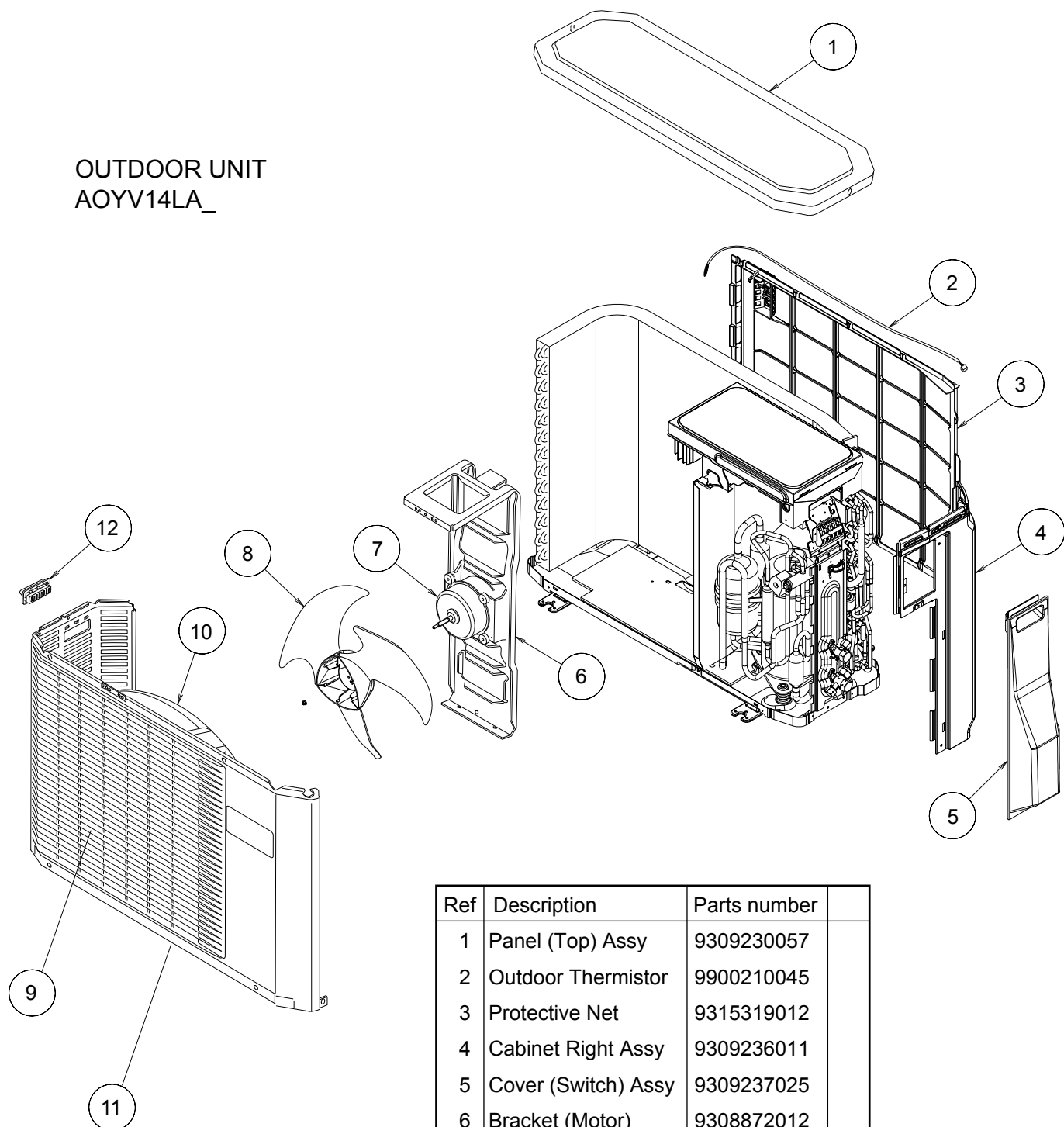
Ref	Description	Parts number
15	Condenser Assy	9314106019
16	Separator B	9313815011
17	Reactor Assy	9900343019
18	Compressor Assy	9315206015
19	2-Way Valve Assy	9314554018
20	3-Way Valve Assy	9314022012
21	Bracket (Valve)	9331649001
22	Pulse Motor Valve Assy	9314557019
23	Coil (Expansion Valve)	9900057039
24	Solenoid	9970033018
25	4-Way Valve Assy	9314093012
26	Thermistor Assy (Discharge)	9900473013
27	Base Assy	9316885004

OUTDOOR UNIT
AOYV09LAC
AOYV12LAC



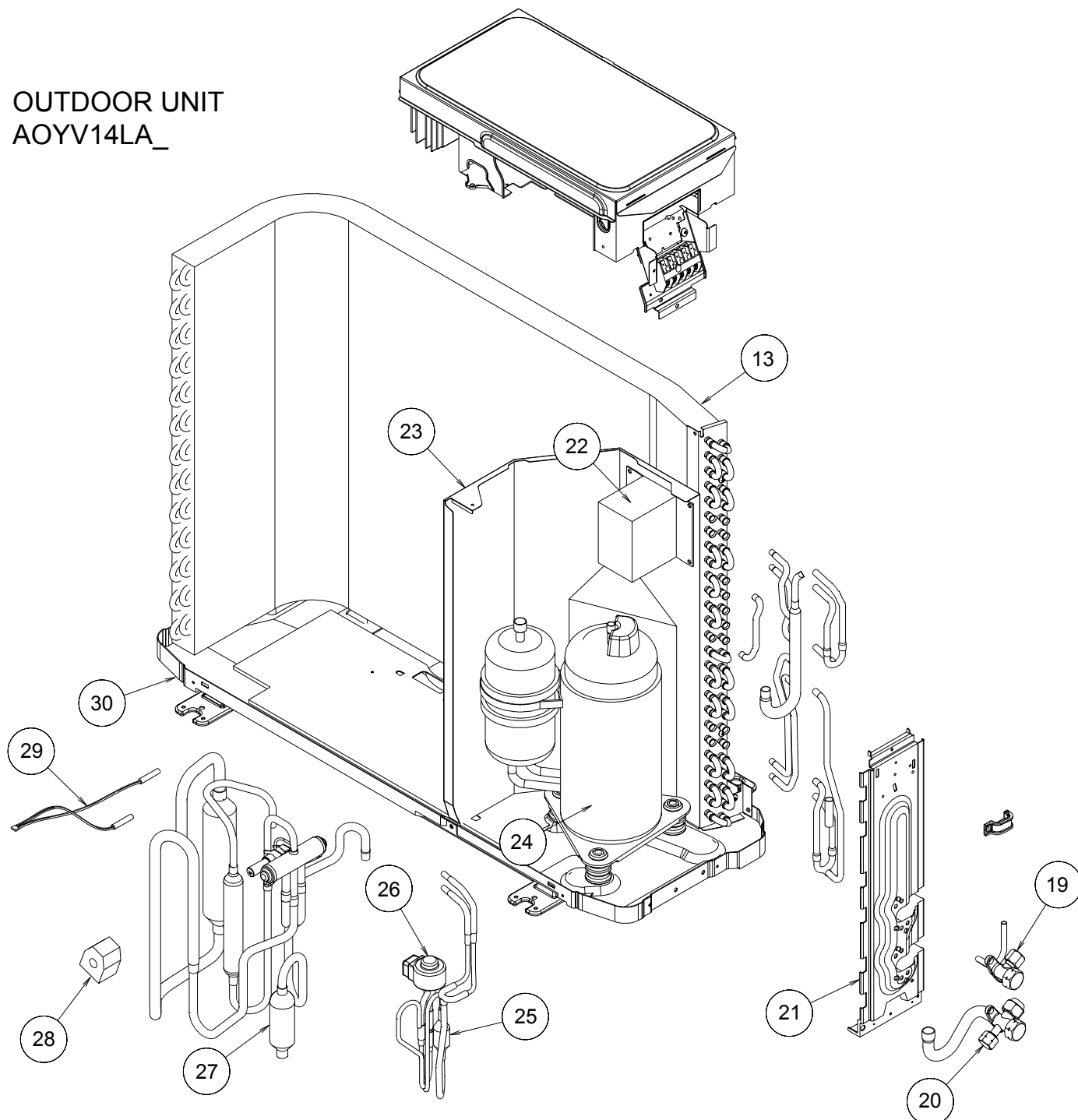
Ref	Description	Parts number	
29	Inverter PCB Assy (09)	9707039221	
29	Inverter PCB Assy (12)	9707039238	
30	Holder (PCB)	9313074029	
31	Inverter Case Assy	9315690012	
32	Terminal	9703874031	
34	Terminal Bracket	9315233028	
36	Fuse Holder	0501454012	
37	Fuse 250V-20A	0600382018	
38	Fuse Holder	0501456016	
39	Fuse 250V- 5A	0600376086	

OUTDOOR UNIT
AOYV14LA_



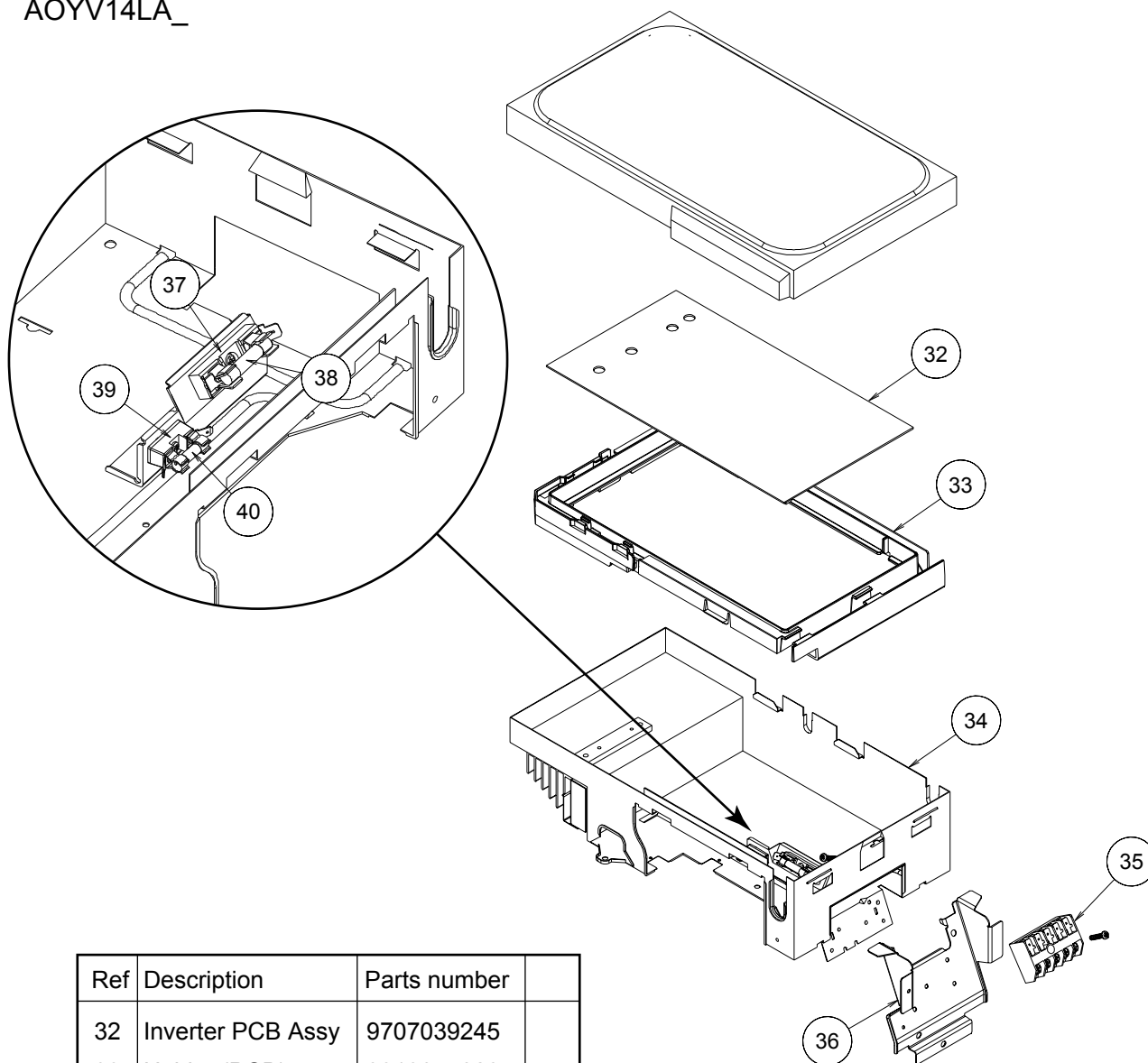
Ref	Description	Parts number
1	Panel (Top) Assy	9309230057
2	Outdoor Thermistor	9900210045
3	Protective Net	9315319012
4	Cabinet Right Assy	9309236011
5	Cover (Switch) Assy	9309237025
6	Bracket (Motor)	9308872012
7	Motor DC Brushless	9601725015
8	Propeller Fan	9309909014
9	Blow Grill	9308884015
10	Ring (Fan)	9308885012
11	Cabinet Assy	9314809040
12	Grip	9308880017
--	Emblem Rear	9315210012
--	Drain Pipe Assy	9303029015

OUTDOOR UNIT AOYV14LA_



Ref	Description	Parts number	
13	Condenser Assy	9311382065	
19	2-Way Valve Assy	9313064013	
20	3-Way Valve Assy	9315159014	
21	Bracket (Valve)	9308870025	
22	Reactor Assy	9900354015	
23	Separater Assy	9312971015	
24	Compressor Assy	9313763022	
25	Pulse Motor Valve Assy	9311641018	
26	Coil (Expansion Valve)	9900057039	
27	Valve (4-Way) Assy	9316475014	
28	Solenoid	9970033018	
29	Thermistor Assy (Discharge)	9900473013	
30	Base Assy	9308869081	

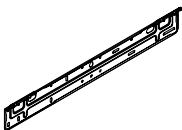
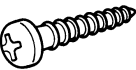
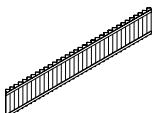
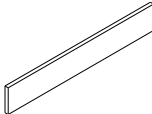
OUTDOOR UNIT
AOYV14LA_



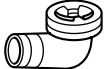
Ref	Description	Parts number
32	Inverter PCB Assy	9707039245
33	Holder (PCB)	9313074029
34	Inverter Case Assy	9315690012
35	Terminal	9703874031
36	Terminal Bracket	9315037039
37	Fuse Holder	0501454012
38	Fuse 250V-20A	0600382018
39	Fuse Holder	0501456016
40	Fuse 250V- 5A	0600376086

ACCESSORIES

INDOOR UNIT

Name and Shape	Q'ty	Use	Part No.
Bracket panel 	1	For indoor unit installation	9316272019
Remote control unit AR-RAC1E 	1	Use for air conditioner operation	9316397019
Battery (penlight) 	2	For remote control unit	0600185527
Cloth tape 	1	For indoor unit installation	9310519004
Remote control unit holder 	1	Use as remote control unit holder	9305642045
Tpping screw (big) ($\phi 4 \times 25$) 	9	For wall hook bracket and body installation	0700076046
Tpping screw (small) ($\phi 3 \times 12$) 	2	For remote control unit holder installation	0700019036
Electric filter UTR-FC03-2 	1	With 2 sheets	9312832002
Ion deodrant filter UTR-FC03-3 	1	With 2 sheets	9312833009

OUTDOOR UNIT

Name and Shape	Q'ty	Use	Part No.	
			AOYV09/12LAC	AOYV14LA_
Drain pipe assy 	1	For outdoor unit drain piping work	9303029022	9303029015

