

INVERTER MULTI
AIR CONDITIONER
WALL MOUNTED TYPE

**SERVICE
MANUAL**



Indoor unit		Outdoor unit
ASY7LMACW	}	AOY30LMAW4
ASY9LMACW		
ASY12LMACW		

CONTENTS

SPECIFICATIONS	1
OUTLINE AND DIMENSIONS	3
REFRIGERANT SYSTEM DIAGRAM	5
CIRCUIT DIAGRAM	6
INDOOR PCB CIRCUIT DIAGRAM	8
OUTDOOR PCB CIRCUIT DIAGRAM	9
ERROR CONTENTS	12
PARTS (INDOOR UNIT)	14
PARTS (OUTDOOR UNIT)	18

SPECIFICATIONS

INDOOR UNIT

TYPE	COOL & HEAT		
MODEL NAME	ASY7LMACW	ASY9LMACW	ASY12LMACW

ELECTRICAL DATA

COOLING CAPACITY	2.2 kW	2.7 kW	3.5 kW
HEATING CAPACITY	2.6 kW	3.2 kW	4.0 kW
MOISTURE REMOVAL	1.0 L/hr	1.2 L/hr	1.6 Lhr
AIR CIRCULATION HIGH	430 m3/hr	480 m3/hr	530 m3/hr

FAN MOTOR

POWER SOURCE		230 - 240 V		
DISCRIMINATION		MFA-40GR	MFA-40GR	MFA-40GR
FAN SPEED (r.p.m.)	High	1,000 - 1,000	1,200 - 1,200	1,310 - 1,310
	Med	900 - 900	1,100 - 1,100	1,260 - 1,260
	Low	850 - 850	1,000 - 1,000	1,190 - 1,190
	Quiet	800 - 800	940 - 940	1,100 - 1,100

MEASUREMENT

DIMENSIONS	H x W x D	257 x 808 x 187 mm
WEIGHT	Gross / Net	10 kg / 8 kg

NOISE LEVEL

HIGH	34 dB	36 dB	38 dB
LOW	29 dB	29 dB	33 dB

OUTDOOR UNIT

TYPE	Cooling & Heating Multi
MODEL NAME	AOY30LMAW4
COOLING CAPACITY	8.0 kW
HEATING CAPACITY	9.6 kW

ELECTRICAL SPECIFICATIONS

POWER SUPPLY	(220) - 230 - (240) V	
FREQUENCY	50 Hz	
RUNNING CURRENT	Cooling	9.7 A
	Heating	10.5 A
INPUT	Cooling	2.22 kW
	Heating	2.40 kW
EER	Cooling	3.60 kW/kW
	Heating	4.00 kW/kW
AIR CIRCULATION HIGH	3,300 m ³ /hr	

COMPRESSOR

TYPE	Hermetic type, Inverter, 4 poles, 3-phase, DC motor, Twin Rotary	
DISCRIMINATION	TNB220FPBM9	
REFRIGERANT	R410	3,300 g

FAN MOTOR

DISCRIMINATION	MFE-60PO
HIGH SPEED (Cooling)	820 r.p.m.
HIGH SPEED (Heating)	780 r.p.m.

MEASUREMENT

DIMENSIONS	H x W x D	830 x 900 x 330 mm
WEIGHT	Gross / Net	78 kg / 68 kg

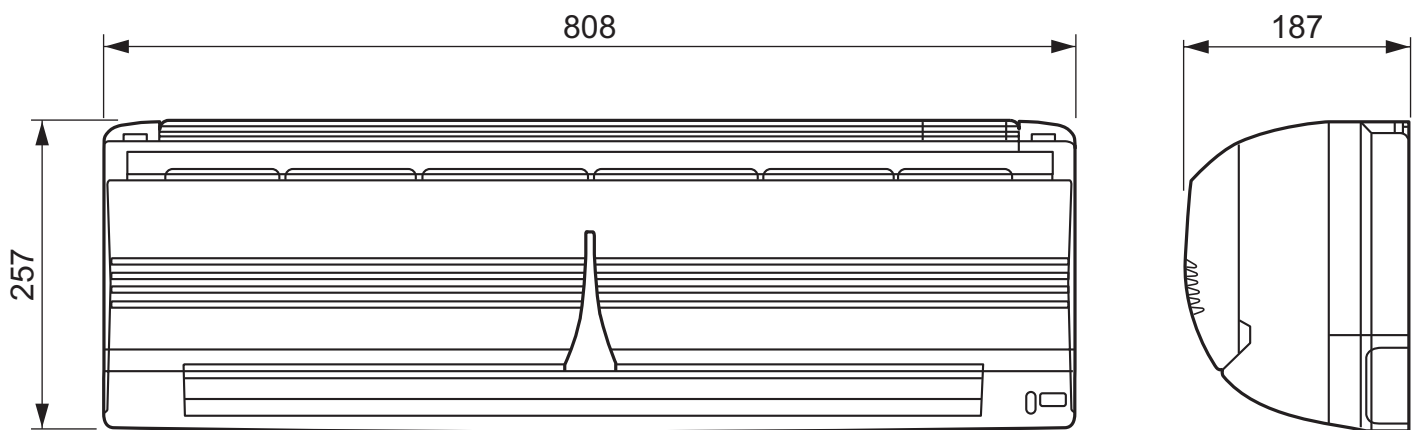
REFRIGERANT CHARGE (R410A)

FULL CHARGE	Total Pipe Length 50 m	3,300 g
	60 m	3,550 g
	70 m	3,800 g
ADDITIONAL CHARGE		25 g/m
CHARGELESS		50 m
MAX PIPE LENGTH (each unit)		25 m
MAX PIPE LENGTH (total)		70 m
MAX ELEVATION (between indoor units)		10 m
MAX ELEVATION (between indoor and outdoor)		10 m
MIN. PIPE LENGTH (each unit)		5 m

OUTLINE AND DIMENSIONS

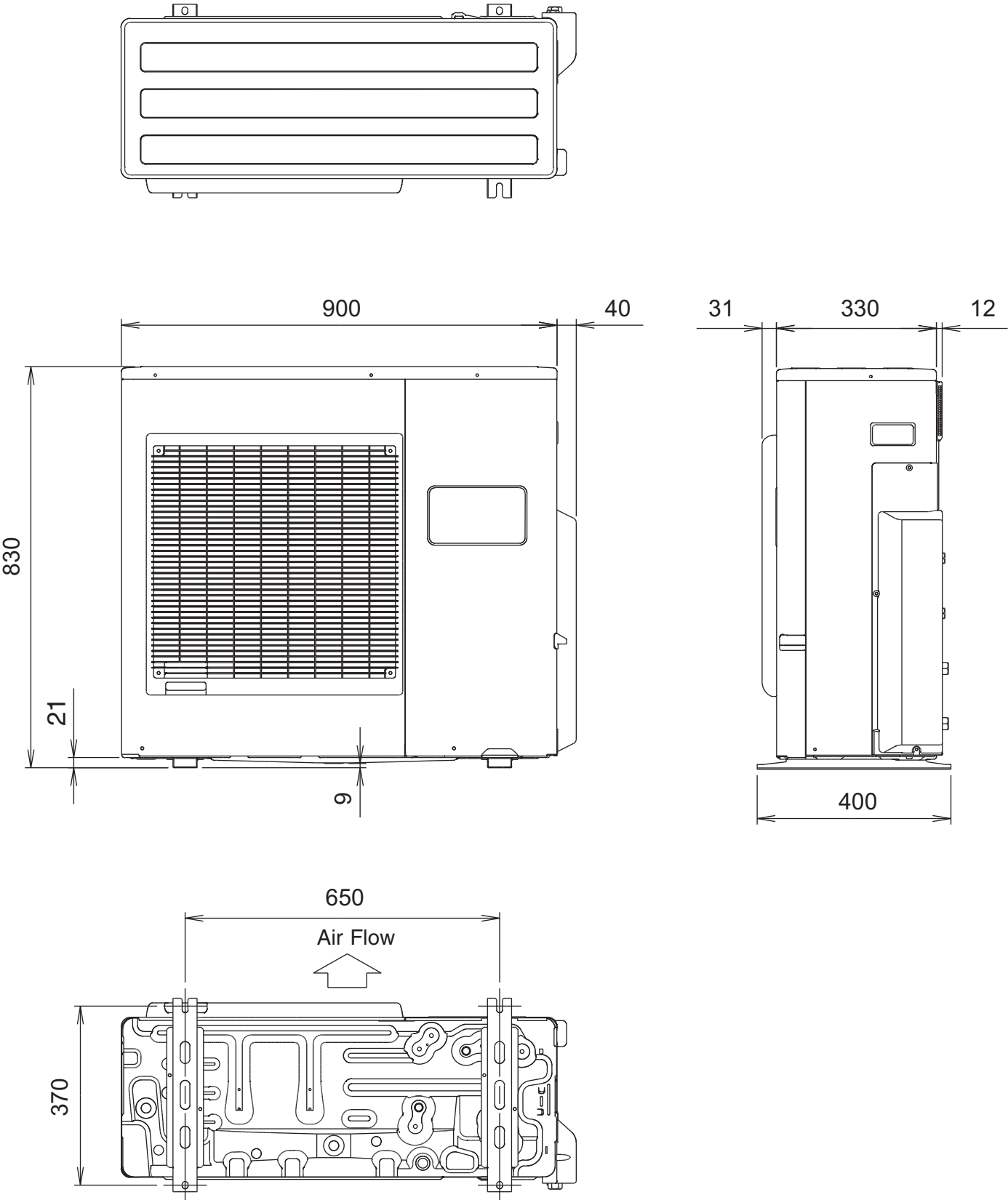
INDOOR UNIT

Unit : mm



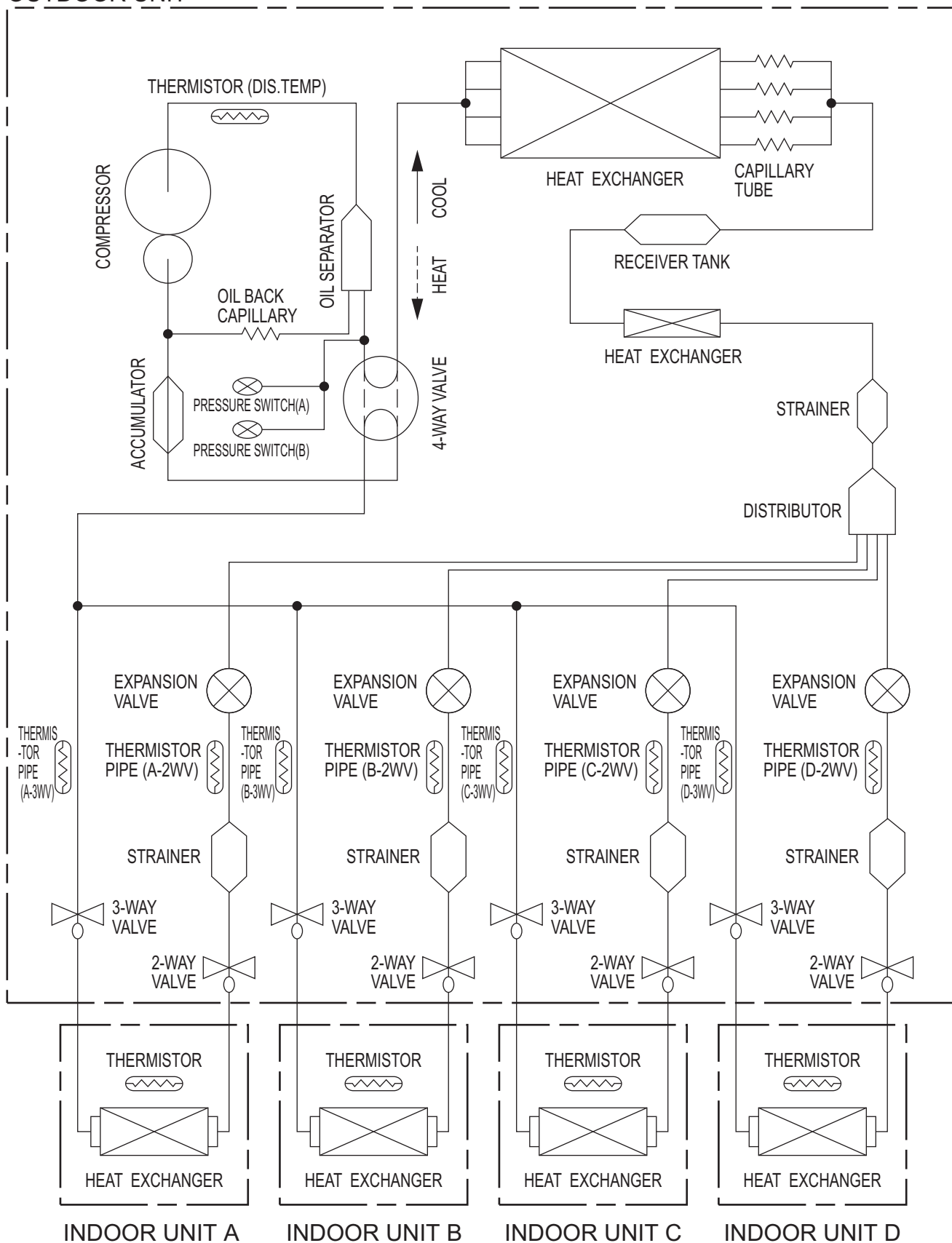
OUTDOOR UNIT

(Unit : mm)



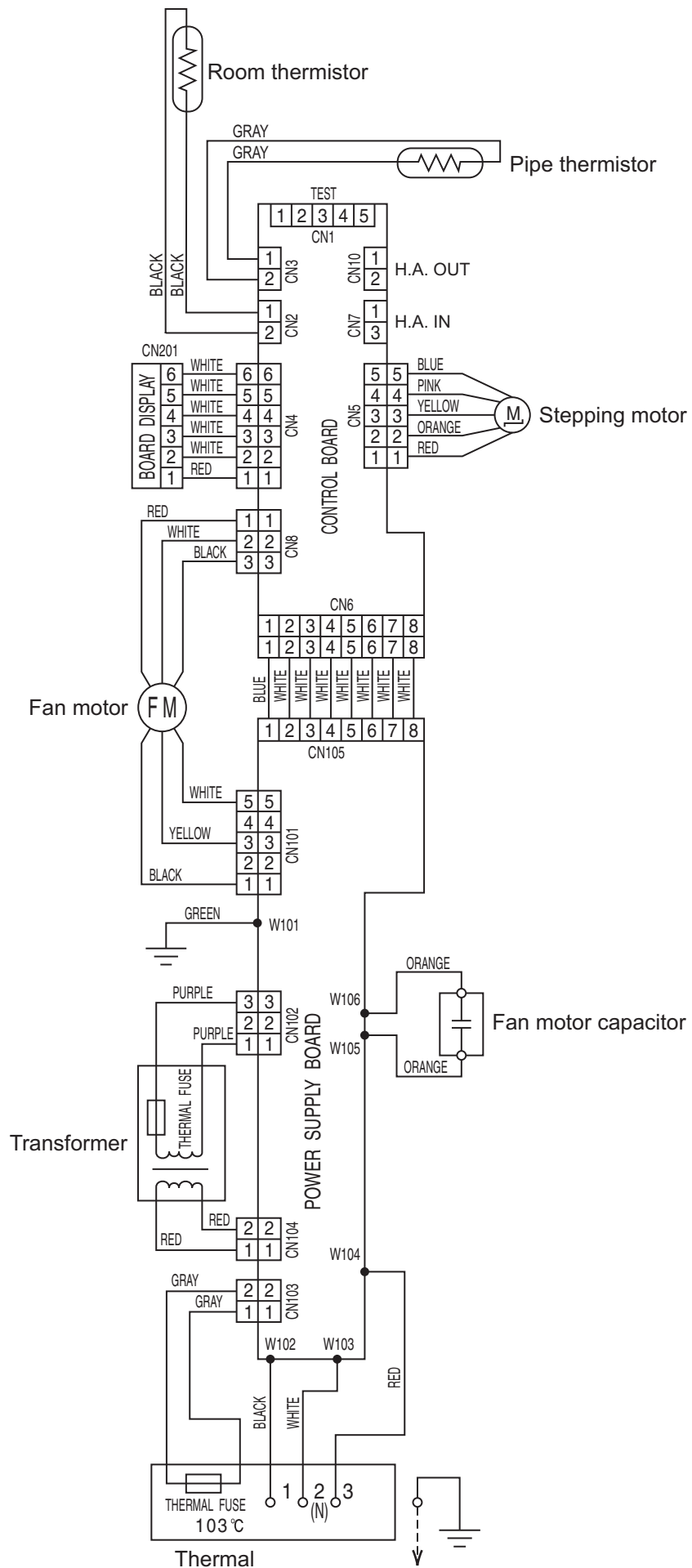
REFRIGERANT SYSTEM DIAGRAM

OUTDOOR UNIT

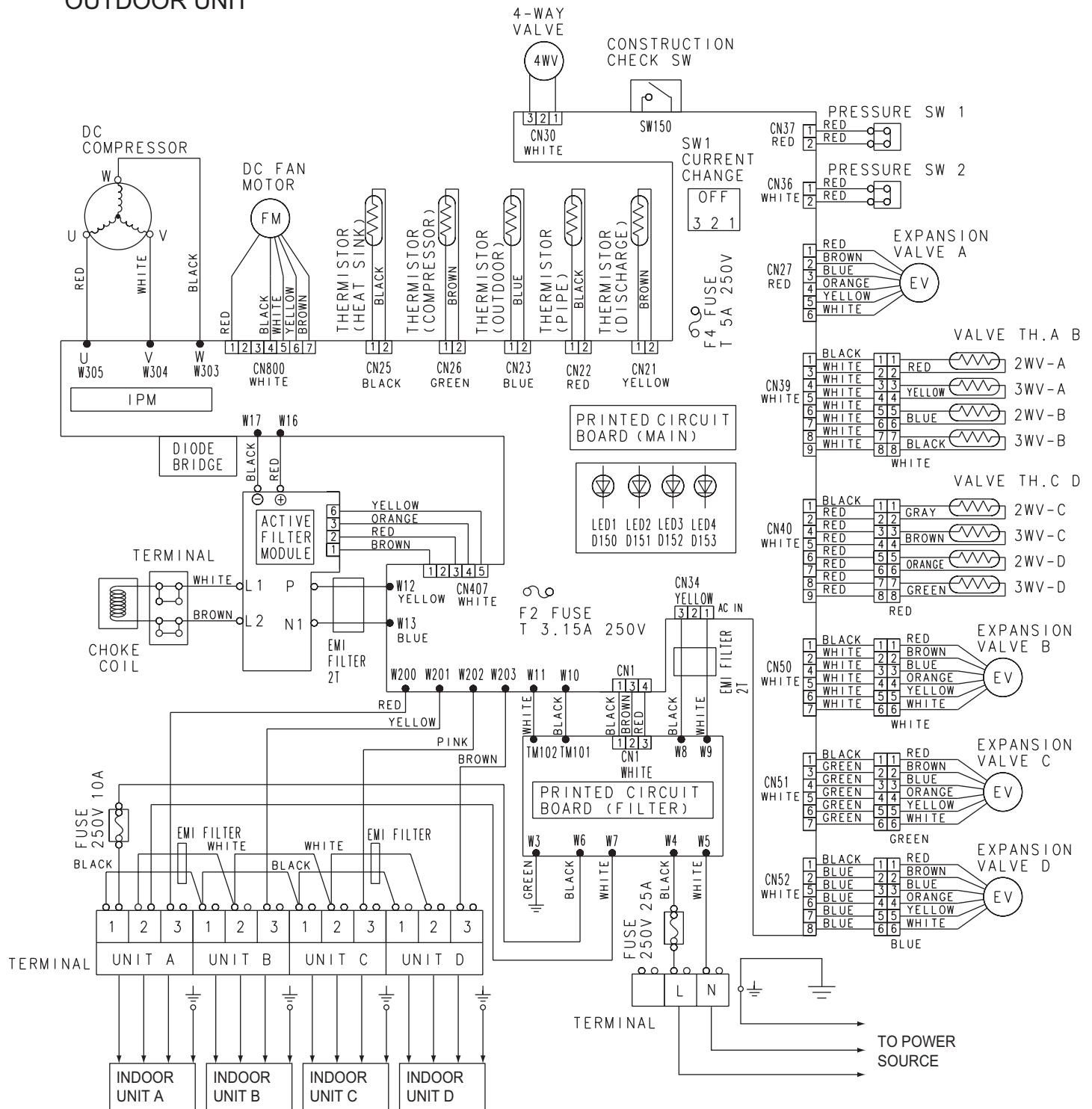


CIRCUIT DIAGRAM

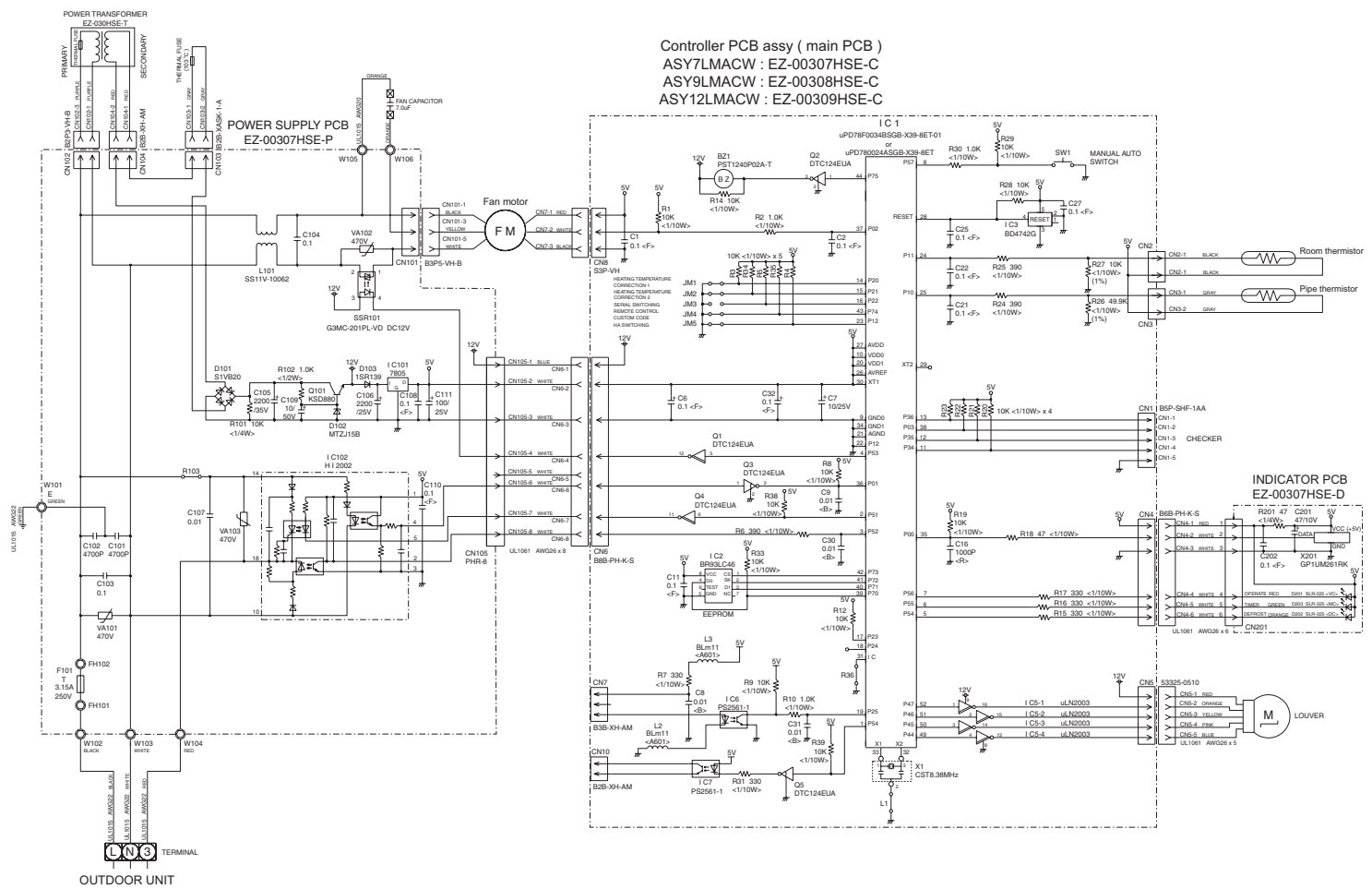
INDOOR UNIT



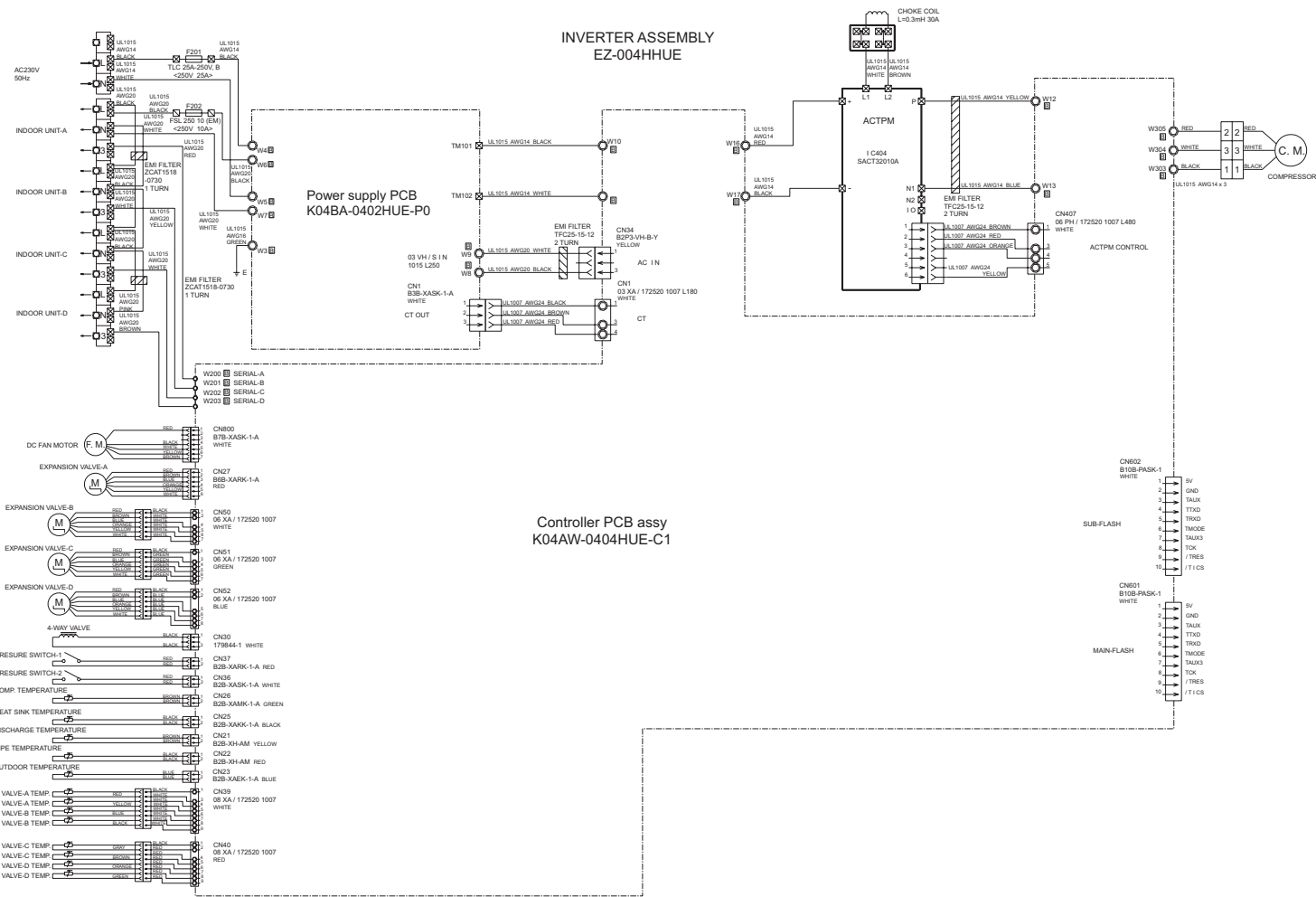
OUTDOOR UNIT



INDOOR PCB CIRCUIT DIAGRAM

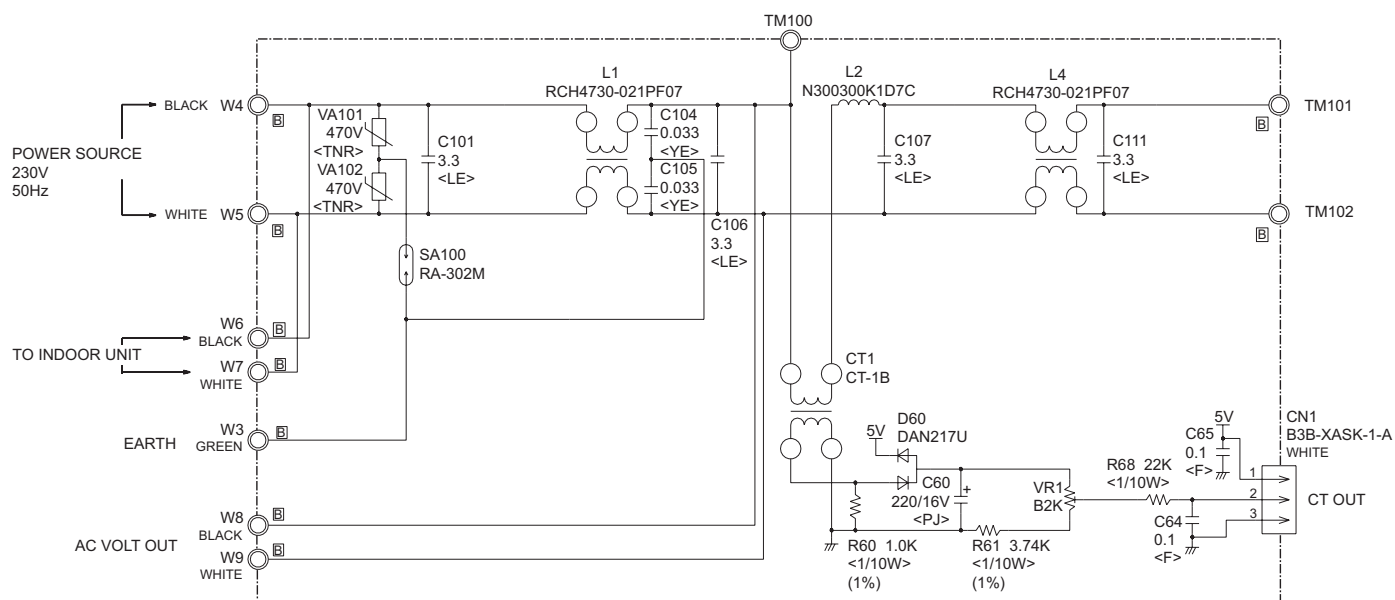


OUTDOOR PCB CIRCUIT DIAGRAM



OUTDOOR UNIT

Power supply PCB assy K04BA-0400HUE-P0



ERROR CONTENTS

INDOOR UNIT

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

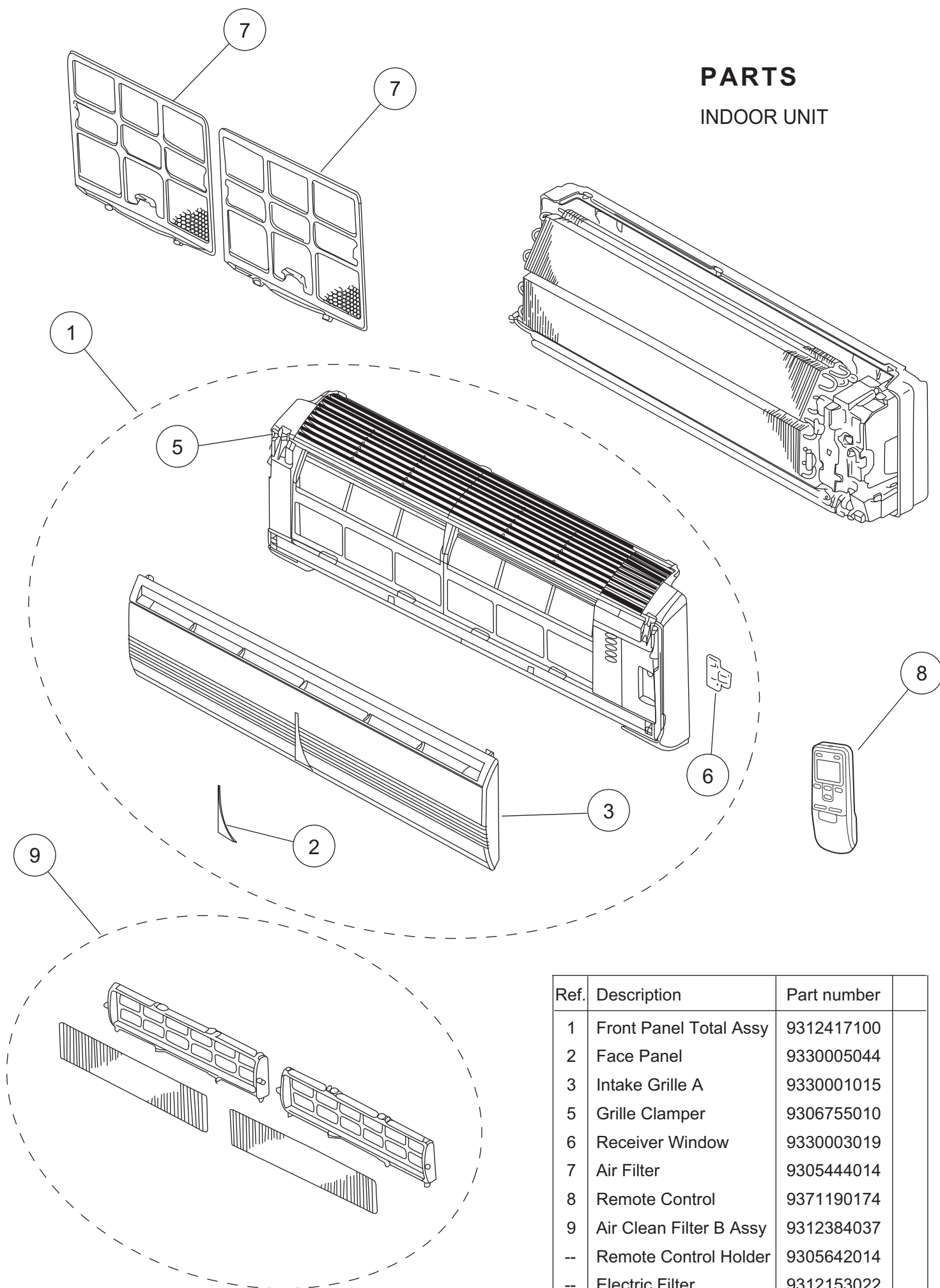
OUTDOOR UNIT

	LED A	LED B	LED C	LED D
Communication error (indoor unit A to outdoor unit)	● 1 time	—	—	—
Communication error (indoor unit B to outdoor unit)	—	● 1 time	—	—
Communication error (indoor unit C to outdoor unit)	—		● 1 time	—
Communication error (indoor unit D to outdoor unit)	—	—	—	● 1 time
Discharge pipe temperature sensor	● 2 times	—	—	—
Outdoor heat exchanger temperature sensor	● 3 times	—	—	—
Outdoor temperature sensor	● 4 times	—	—	—
Outdoor 2way valve(A) temperature sensor	● 5 times	—	—	—
Outdoor 2way valve(B) temperature sensor	—	● 5 times	—	—
Outdoor 2way valve(C) temperature sensor	—	—	● 5 times	
Outdoor 2way valve(D) temperature sensor	—	—	—	● 5 times
Outdoor 3way valve(A) temperature sensor	● 6 times	—	—	—
Outdoor 3way valve(B) temperature sensor	—	● 6 times	—	—
Outdoor 3way valve(C) temperature sensor	—	—	● 6 times	—
Outdoor 3way valve(D) temperature sensor	—	—	—	● 6 times
Compressor temperature sensor	● 7 times	—	—	—
Heatsink temperature sensor	● 8 times	—	—	—
Pressure switch A abnormal	● 9 times	—	—	—
Pressure switch B abnormal	● 10 times	—	—	—
Indoor unit connection capacity error	● 11 times	—	—	—
IPM error	● 12 times	—	—	—
Compressor loter location error	● 13 times	—	—	—
Compressor can not start to operate	● 14 times	—	—	—
Outdoor fan (upper) motor error	● 15 times	—	—	—
Outdoor fan (lower) motor error	● 16 times	—	—	—
Microcomputer error	● 17 times	—	—	—

● : Slow flashing — : Off

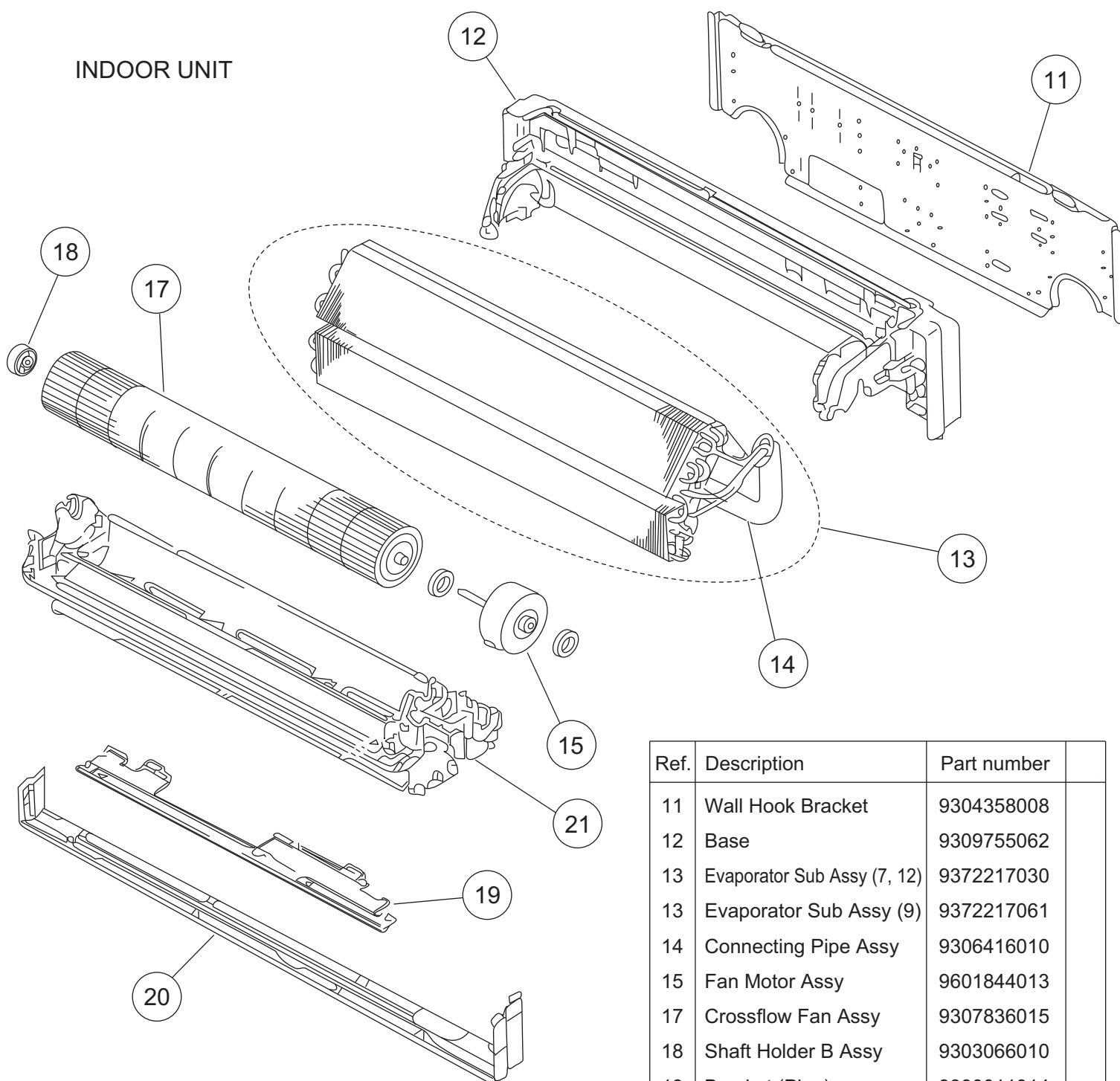
PARTS

INDOOR UNIT



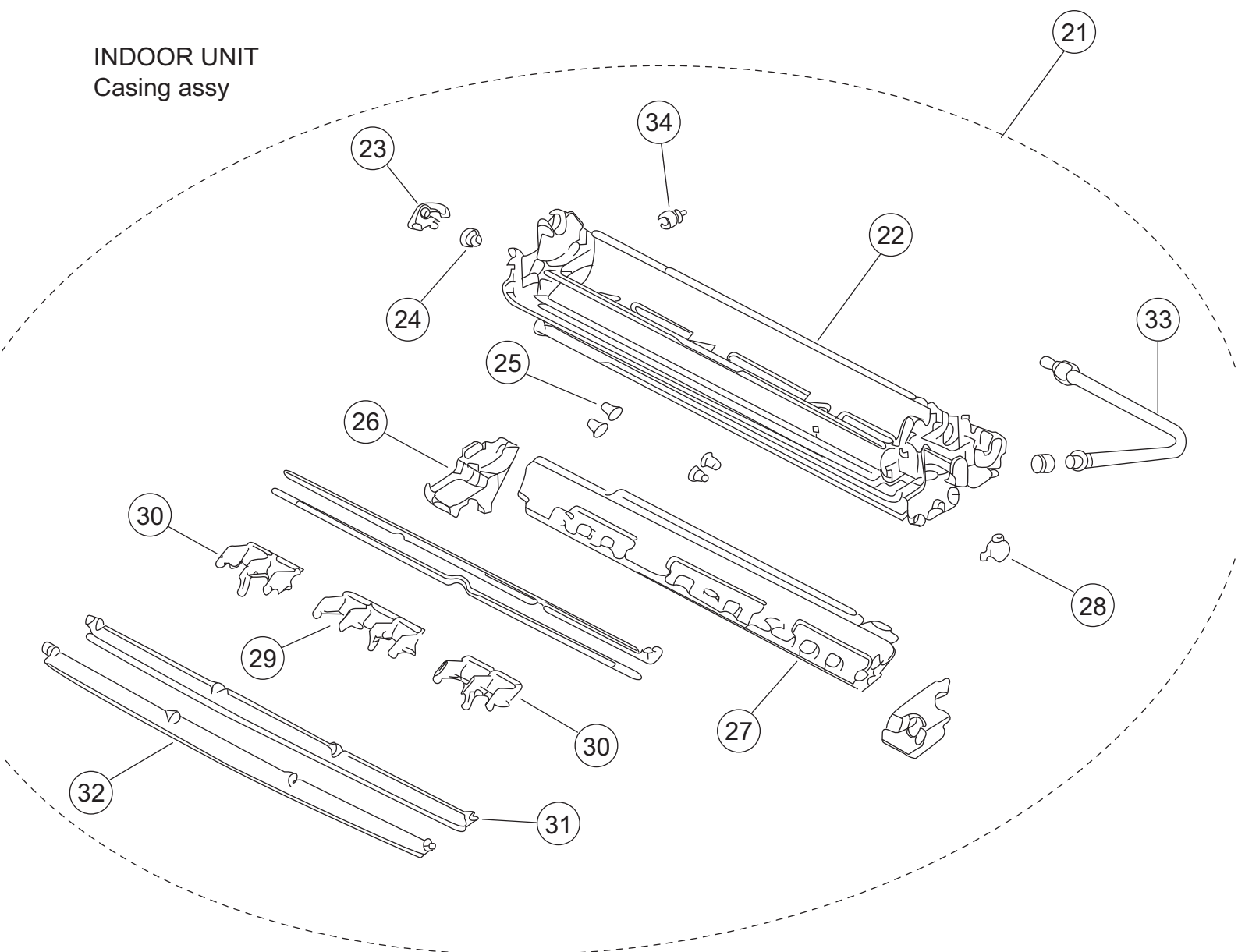
Ref.	Description	Part number
1	Front Panel Total Assy	9312417100
2	Face Panel	9330005044
3	Intake Grille A	9330001015
5	Grille Clamer	9306755010
6	Receiver Window	9330003019
7	Air Filter	9305444014
8	Remote Control	9371190174
9	Air Clean Filter B Assy	9312384037
--	Remote Control Holder	9305642014
--	Electric Filter	9312153022
--	Air Clean Filter Frame	9305445011

INDOOR UNIT



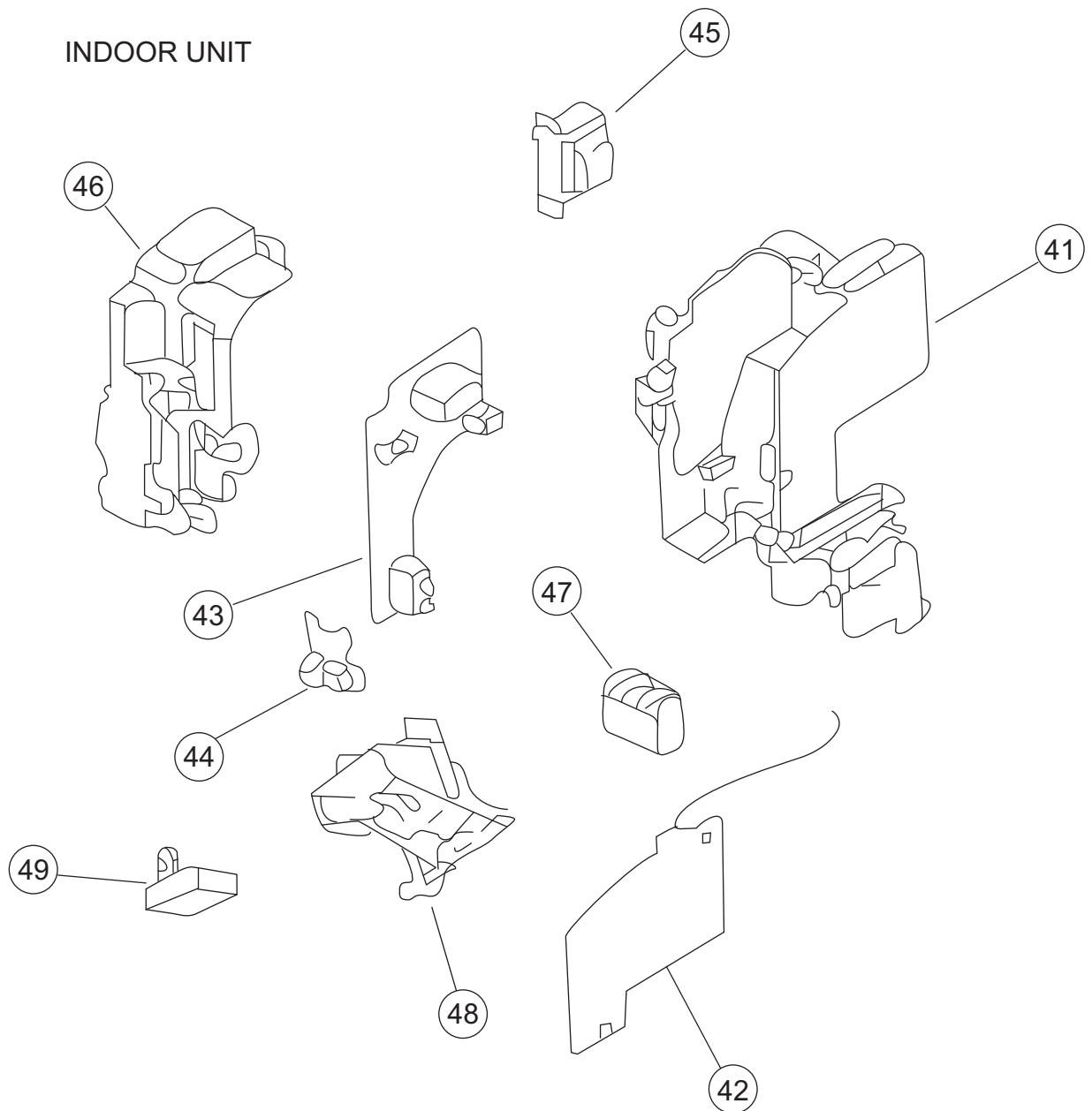
Ref.	Description	Part number	
11	Wall Hook Bracket	9304358008	
12	Base	9309755062	
13	Evaporator Sub Assy (7, 12)	9372217030	
13	Evaporator Sub Assy (9)	9372217061	
14	Connecting Pipe Assy	9306416010	
15	Fan Motor Assy	9601844013	
17	Crossflow Fan Assy	9307836015	
18	Shaft Holder B Assy	9303066010	
19	Bracket (Pipe)	9330011014	
20	Lower Cover	9330004016	
21	Casing Assy	9312173037	

INDOOR UNIT
Casing assy



Ref.	Description	Part number	
21	Casing Assy	9312173037	
22	Casing	9306052027	
23	Gear Bracet	9306407001	
24	Gear A	9306062002	
25	Bushing A	9303529010	
26	Casing Cover LR	9306064006	
27	Casing Cover B	9306121006	
28	Step Motor	9900139018	
29	Louver A	9306055028	
30	Louver B	9306056025	
31	Louver Z	9306058043	
32	Louver U	9306057046	
33	Drain Hose Assy	9310357026	
34	Drain Cap	9304150008	
--	Casing Cover F	9306066000	

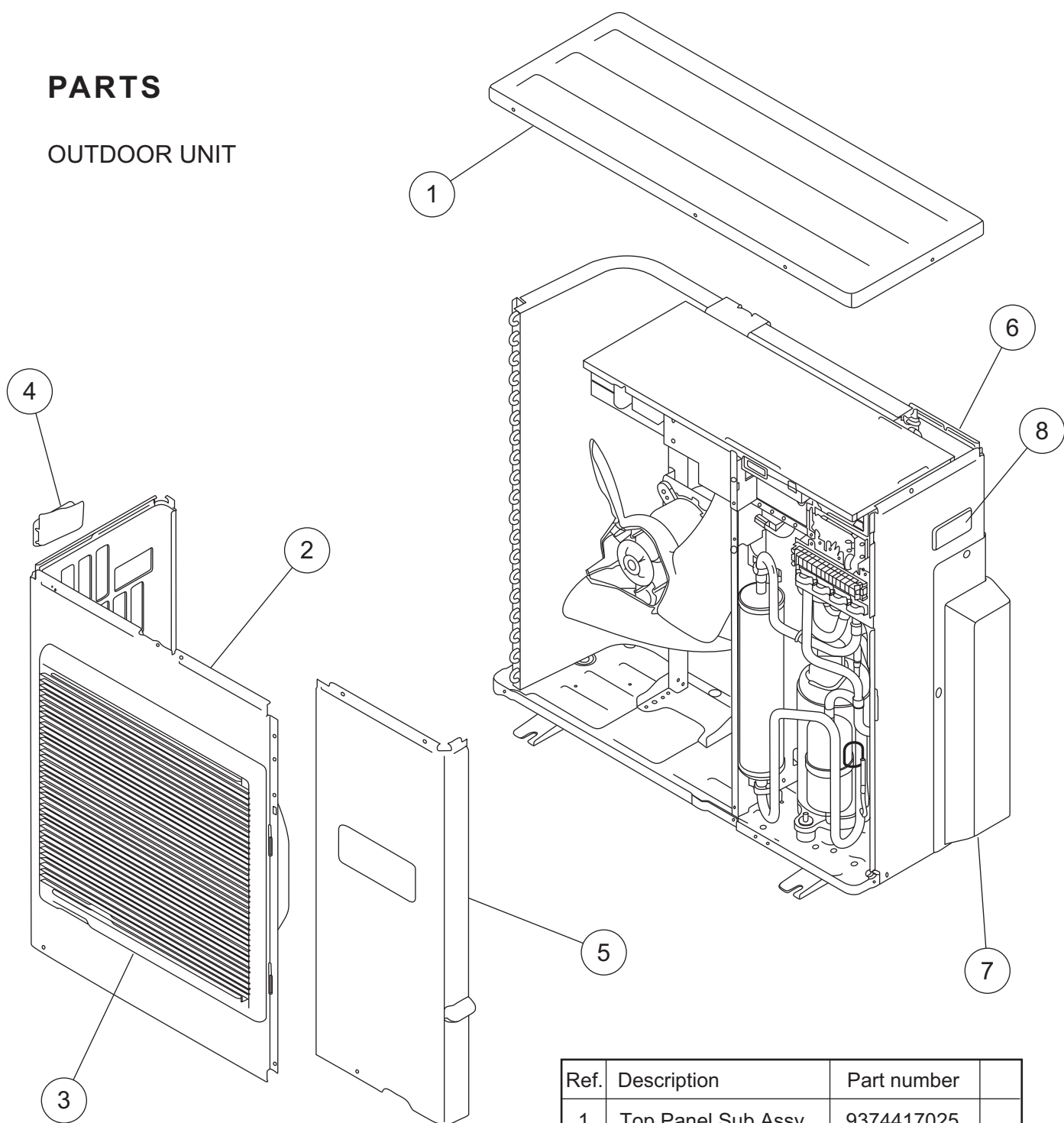
INDOOR UNIT



Ref.	Description	Part number	
41	Switch Box	9330007017	
42	Controller PCB Assy (7)	9705289017	
42	Controller PCB Assy (9)	9705289024	
42	Controller PCB Assy (12)	9705289031	
43	PCB Assy (Power & Indicator)	9705293014	
44	Lamp Cover	9330014015	
45	Power Transformer	9900028015	
46	Control Box Cover	9330008014	
47	Terminal	9900040055	
48	Indicator Case	9330009011	
49	Fan Capacitor	9900089061	

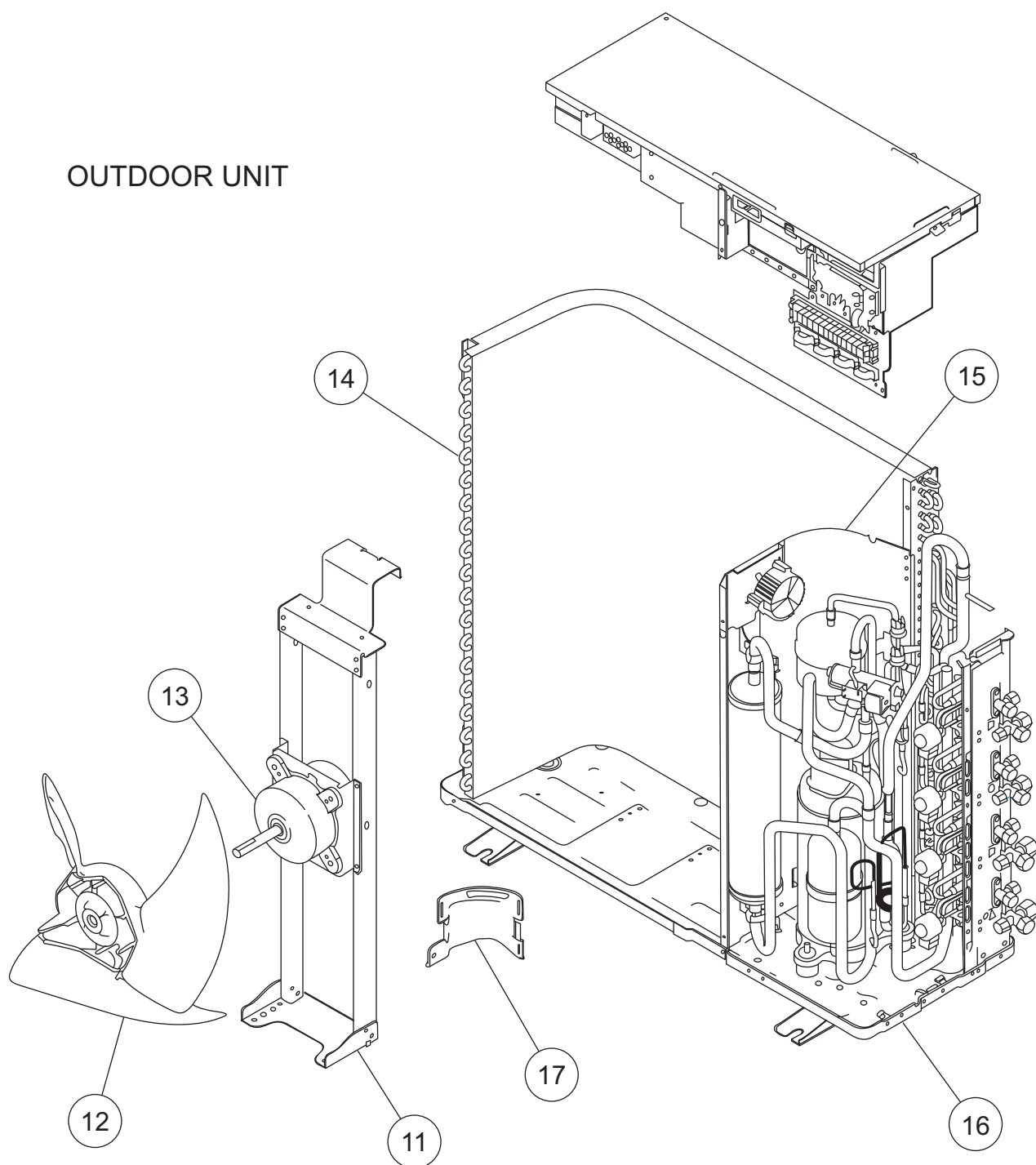
PARTS

OUTDOOR UNIT



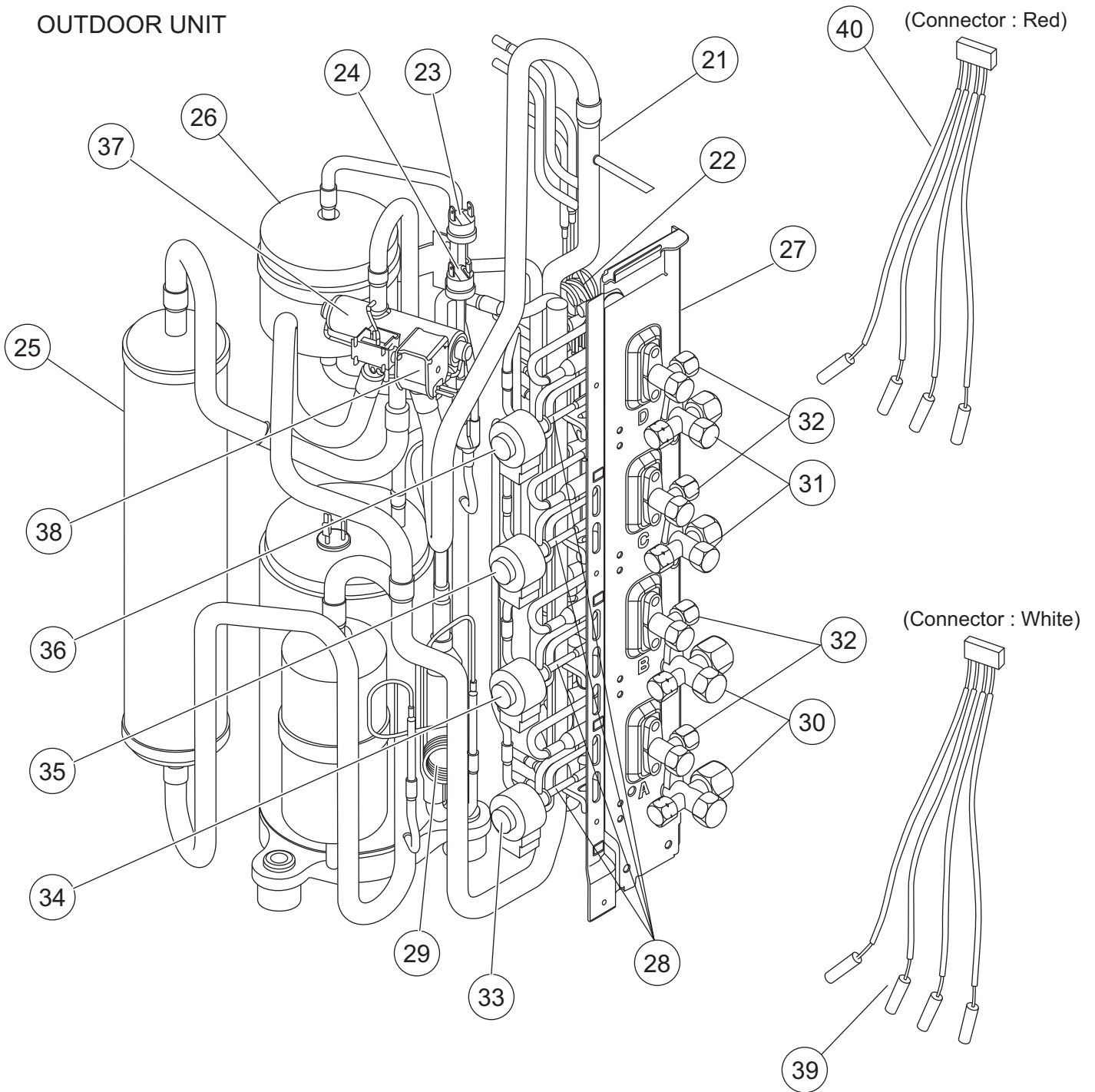
Ref.	Description	Part number	
1	Top Panel Sub Assy	9374417025	
2	Front Panel	9374094066	
3	Fan Guard	9374330010	
4	Grip Side	9374173013	
5	Service Panel Assy	9374415038	
6	Right Panel M	9374599028	
7	Valve Cover Sub Assy	9374827015	
8	Grip	9374172016	
--	Emblem Rear	9351355005	
--	Protective Net	9375381011	

OUTDOOR UNIT



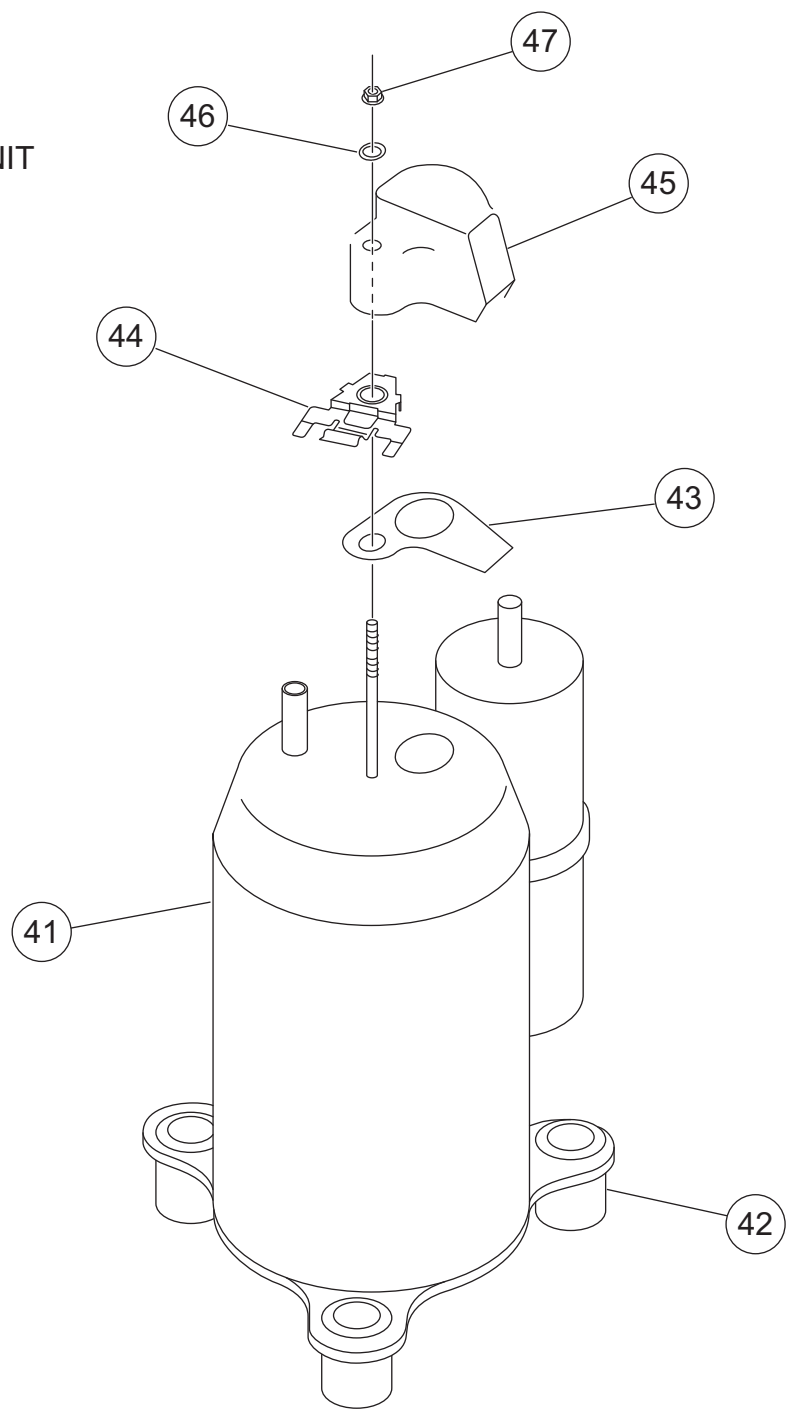
Ref.	Description	Part number	
11	Motor Bracket Sub Assy	9374418053	
12	Propeller Fan Assy	9366378020	
13	Fan Motor	9601882015	
14	Condenser A Assy	9374433056	
15	Separate Wall Assy	9374629022	
16	Base Assy	9374166084	
17	Cap Foot	9374345014	
--	Drain Assy	9303029015	
--	Drain Cap	313166024302	

OUTDOOR UNIT



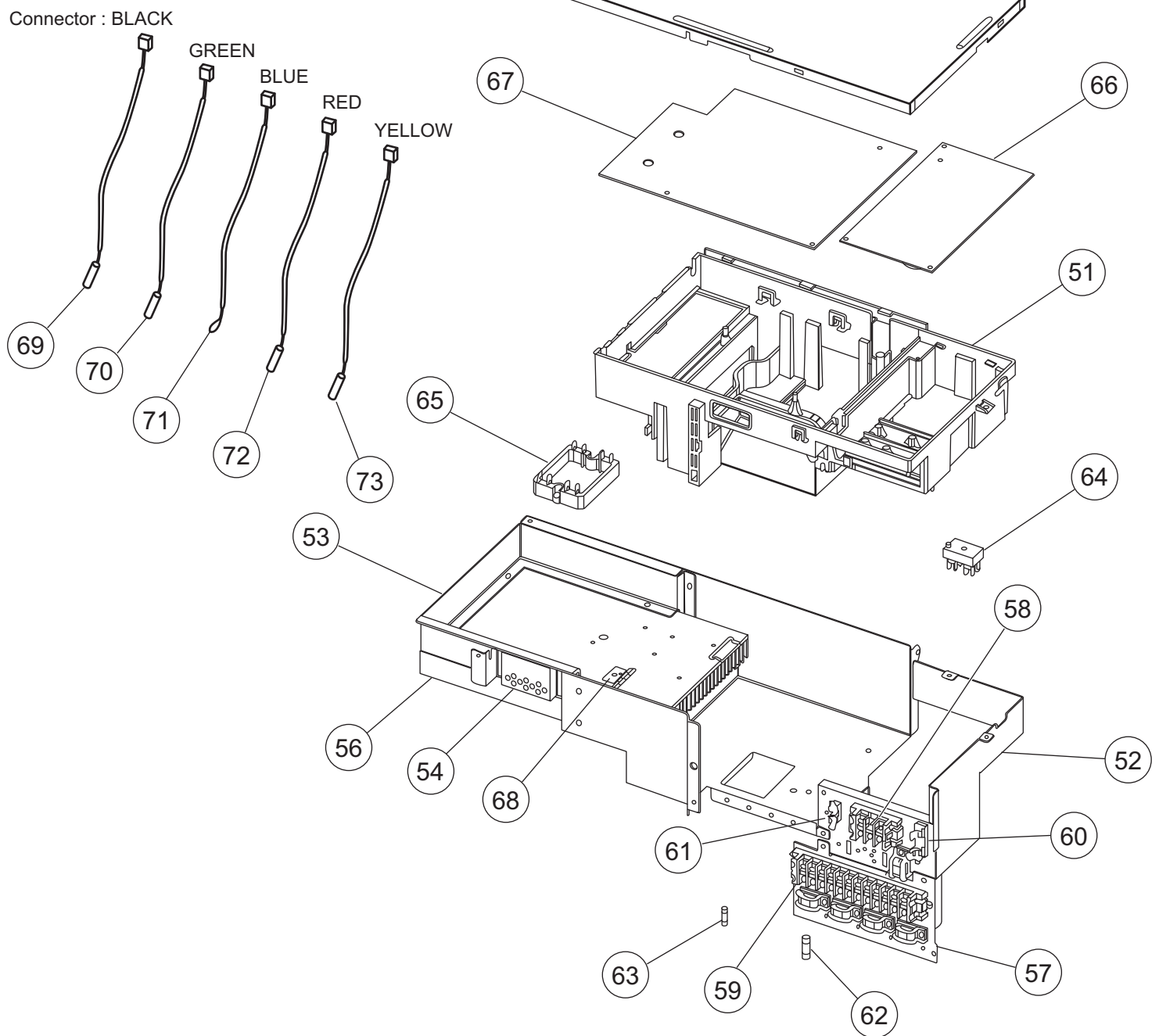
Ref.	Description	Part number	Ref.	Description	Part number
21	Inlet Pipe (Cond) A Assy	9373461067	32	2-Way Valve Assy	9372204054
22	Outlet Pipe (Cond) A Assy	9374266067	33	Expansion Valve Coil (A, Red)	9900057084
23	Pressure Switch A Assy	9367726028	34	Expansion Valve Coil (B, White)	9900057053
24	Pressure Switch B Assy	9367727025	35	Expansion Valve Coil (C, Green)	9900057060
25	Accumulator Sub Assy	9374426072	36	Expansion Valve Coil (D, Blue)	9900057077
26	Receiver Tank Sub Assy	9373426028	37	4-Way Valve Assy	9374425044
27	Valve Plate A Assy	9374628025	38	Solenoid	9900165055
28	Expansion Valve Assy	9370947106	39	Pipe Thermistor (White)	9900322014
29	Capillary Assy	9372197370	40	Pipe Thermistor (Red)	9900289010
30	3-Way Valve Assy (1/2")	9372205051	--	Strainer	9372524015
31	3-Way Valve Assy (3/8")	9372205044	--	Strainer	9366602019

OUTDOOR UNIT
Compressor



Ref.	Description	Part number	
41	Compressor Assy	9377946010	
42	Rubber Seat	9377951014	
43	Terminal Packing	9377948014	
44	Holder	9377952011	
45	Terminal Cover	9377947017	
46	Washer (Rubber)	9377949011	
47	Frang Nut	9377950017	
--	Compressor Cover A	9374430055	
--	Compressor Cover B	9374431052	
--	Compressor Cover C	9372067048	

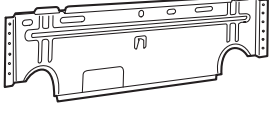
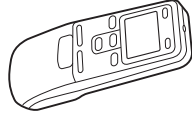
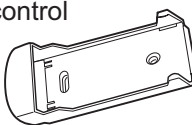
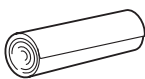
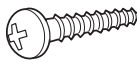
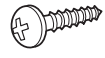
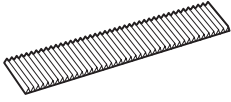
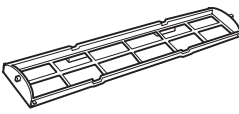
OUTDOOR UNIT
Inverter assy



Ref.	Description	Part number		Ref.	Description	Part number	
51	Inverter Box A	9374603015		63	Fuse (Small)	0600376116	
52	Inverter Box B Assy	9374625017		64	Terminal	9701971015	
53	Inverter Box C	9374605019		65	ACTPM	9703457012	
54	Inverter Box Duct	9374609017		66	Power Supply PCB Assy	9705647039	
55	Inverter Box Cover	9374608010		67	Controller PCB Assy	9705642058	
56	Heat Sink A	9374607013		68	Holder (Thermo)	9372797013	
57	Inverter Box D	9374606016		69	Heat Sink Thermistor	9900311018	
58	Terminal (3P)	9900203016		70	Compressor Thermistor	9900156022	
59	Terminal (12P)	9358660164		71	Thermistor (Outdoor)	9703516078	
60	Fuse Holder (Big)	0501454012		72	Heat Exchanger Thermistor	9704220059	
61	Fuse Holder (Small)	0501456016		73	Discharge Pipe Thermistor	9704219114	
62	Fuse (Big)	0600086039					

ACCESSORIES

INDOOR UNIT

Name and Shape	Part number
Wall hook bracket 	9304358008
Wall cap-B 	313714296205
Remote control 	9371190174 (AR-JW17)
Battery (penlight) 	0600185534
Remote control 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 ($1\frac{1}{2}'' \rightarrow 3\frac{3}{8}''$) 12.7 mm $\rightarrow$ 9.52 mm 	9Q model only 9370244007

0510G2920