



INVERTER SPLIT TYPE
AIR CONDITIONER (50Hz)
CEILING TYPE

SERVICE MANUAL



Indoor unit	Outdoor unit
RYG24LVTA	ROG24LALA

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SPECIFICATIONS

ELECTRICAL DATA

TYPE		Inverter cool & heat
INDOOR UNIT		RYG24LVTA
OUTDOOR UNIT		ROG24LALA
COOLING CAPACITY		6.80 kW
HEATING CAPACITY		8.00 kW
POWER SOURCE		230 V
FREQUENCY		50 Hz
RUNNING CURRENT	Cooling	9.7 A
	Heating	9.9 A
INPUT WATTS	Cooling	2.21 kW
	Heating	2.26 kW
E.E.R.	Cooling	3.08 kW/kW
COP	Heating	3.54 kW/kW
AIR FLOW, INDOOR UNIT		980 m3/h
AIR FLOW, OUTDOOR UNIT		2,470 m3/h
MOISTURE REMOVAL		2.9 L/hr
MAXIMUM CURRENT	Cooling	12.0 A
	Heating	13.5 A

FAN SPEED

INDOOR UNIT	Discrimination	MFH-24RVL
	High	1,040 r.p.m.
	Medium	950 r.p.m.
	Low	800 r.p.m.
	Quiet	740 r.p.m.
OUTDOOR UNIT	Discrimination	MFE-24ROAM
	Cooling	1,050 r.p.m.
	Heating	1,050 r.p.m.

NOISE LEVEL

INDOOR UNIT	High	48 dB
	Medium	44 dB
	Low	40 dB
	Quiet	35 dB
OUTDOOR UNIT	Cooling	52 dB
	Heating	53 dB

COMPRESSOR AND REFRIGERANT

TYPE		Hermetic type, 4 poles
DISCRIMINATION		DA150A1F-20NA
COMPRESSOR WEIGHT (with oil)		10.0 kg
PRECHARGED REFRIGERANT		1,700 g
REFRIGERANT TYPE		R410A
FULL CHARGE	Pipe length 15 m	1,700 g
	20 m	1,800 g
	25 m	1,900 g
	30 m	2,000 g
ADDITIONAL CHARGE		20 g/m
MAXIMUM PIPE HEIGHT		20 m

DIMENSIONS

INDOOR UNIT	H x W x D	190 x 990 x 655 mm
OUTDOOR UNIT	H x W x D	570 x 790 x 315 mm

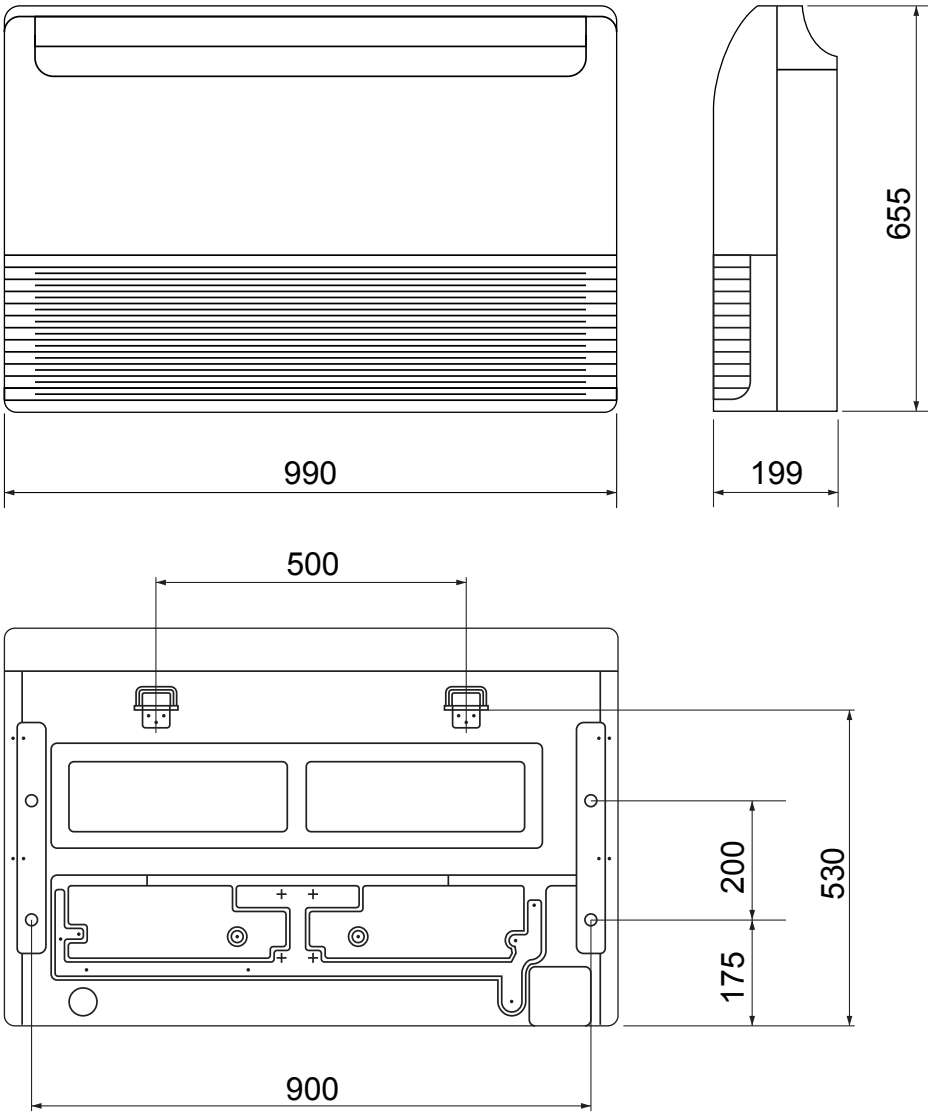
WEIGHT

INDOOR UNIT	Net / Shipping	27 kg / 36 kg
OUTDOOR UNIT	Net / Shipping	44 kg / 48 kg

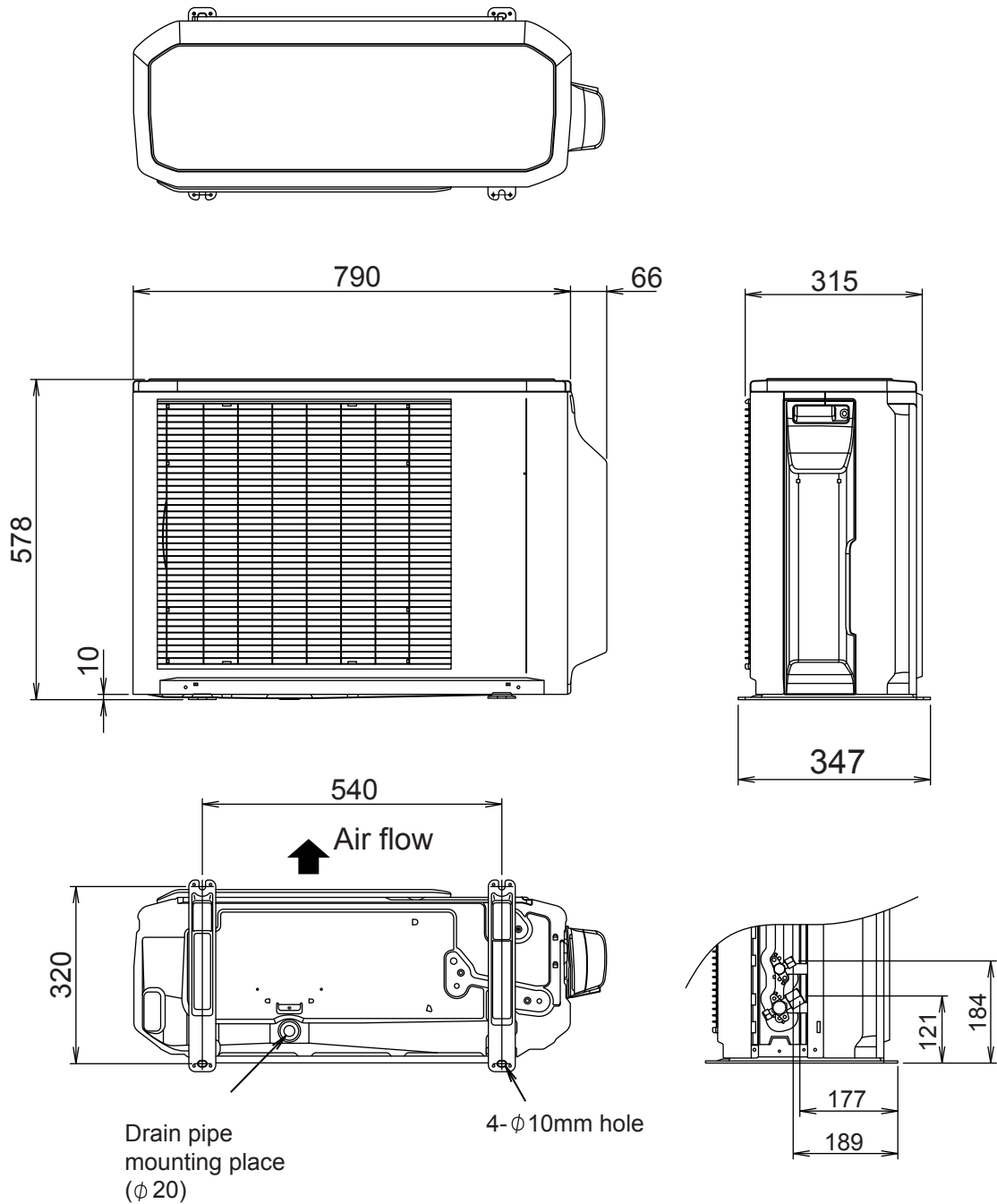
DIMENSIONS

Unit : mm

INDOOR UNIT

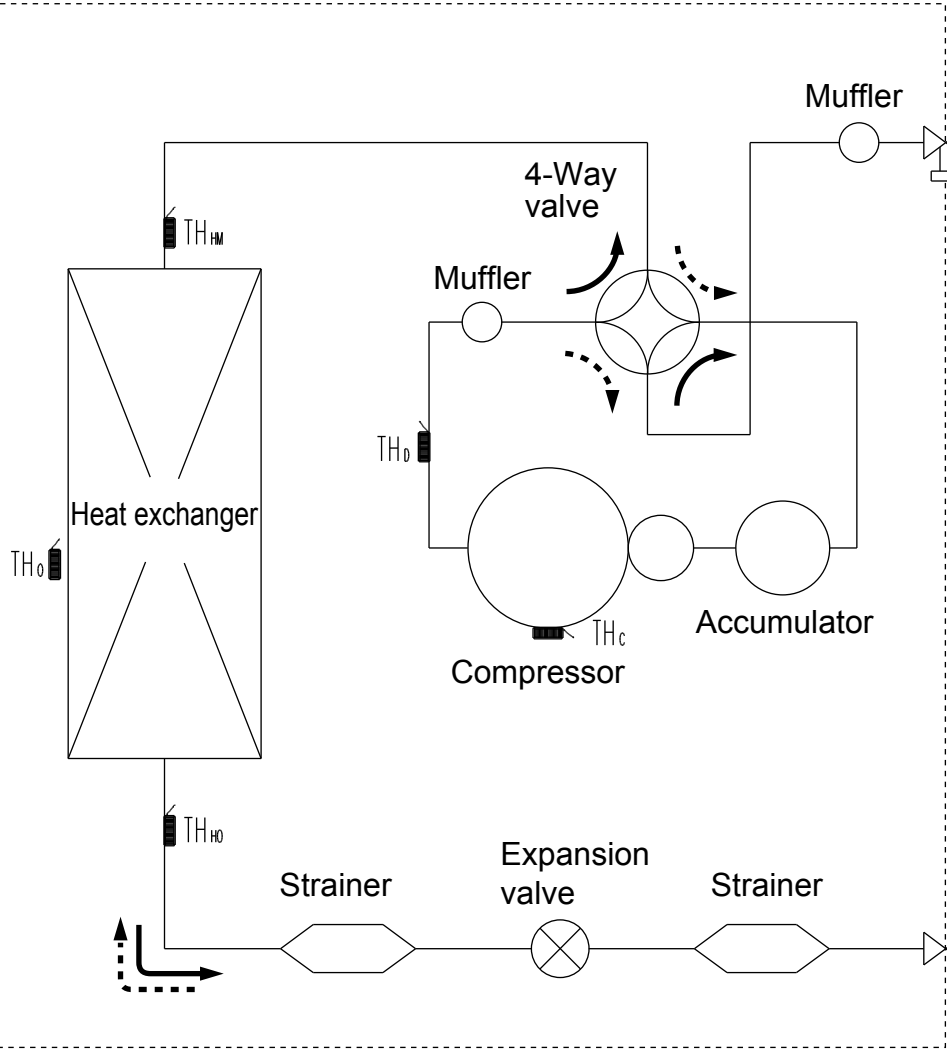


OUTDOOR UNIT

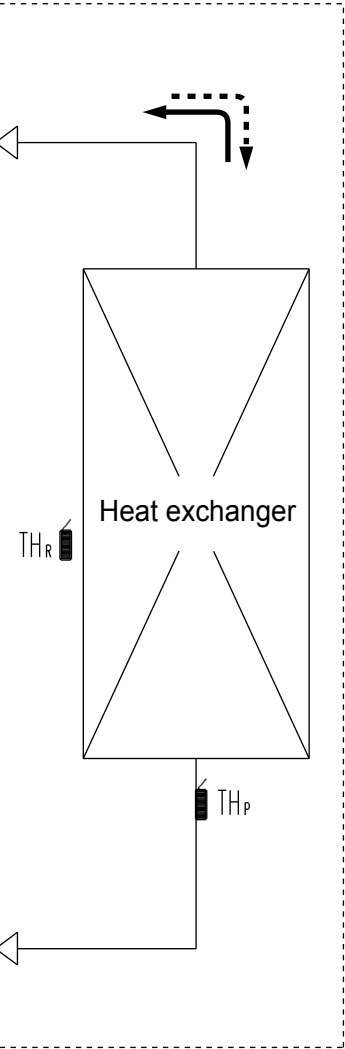


REFRIGERANT SYSTEM DIAGRAM

OUTDOOR UNIT



INDOOR UNIT



Refrigerant flow

→ Cool
--- Heat

Refrigerant pipe diameter

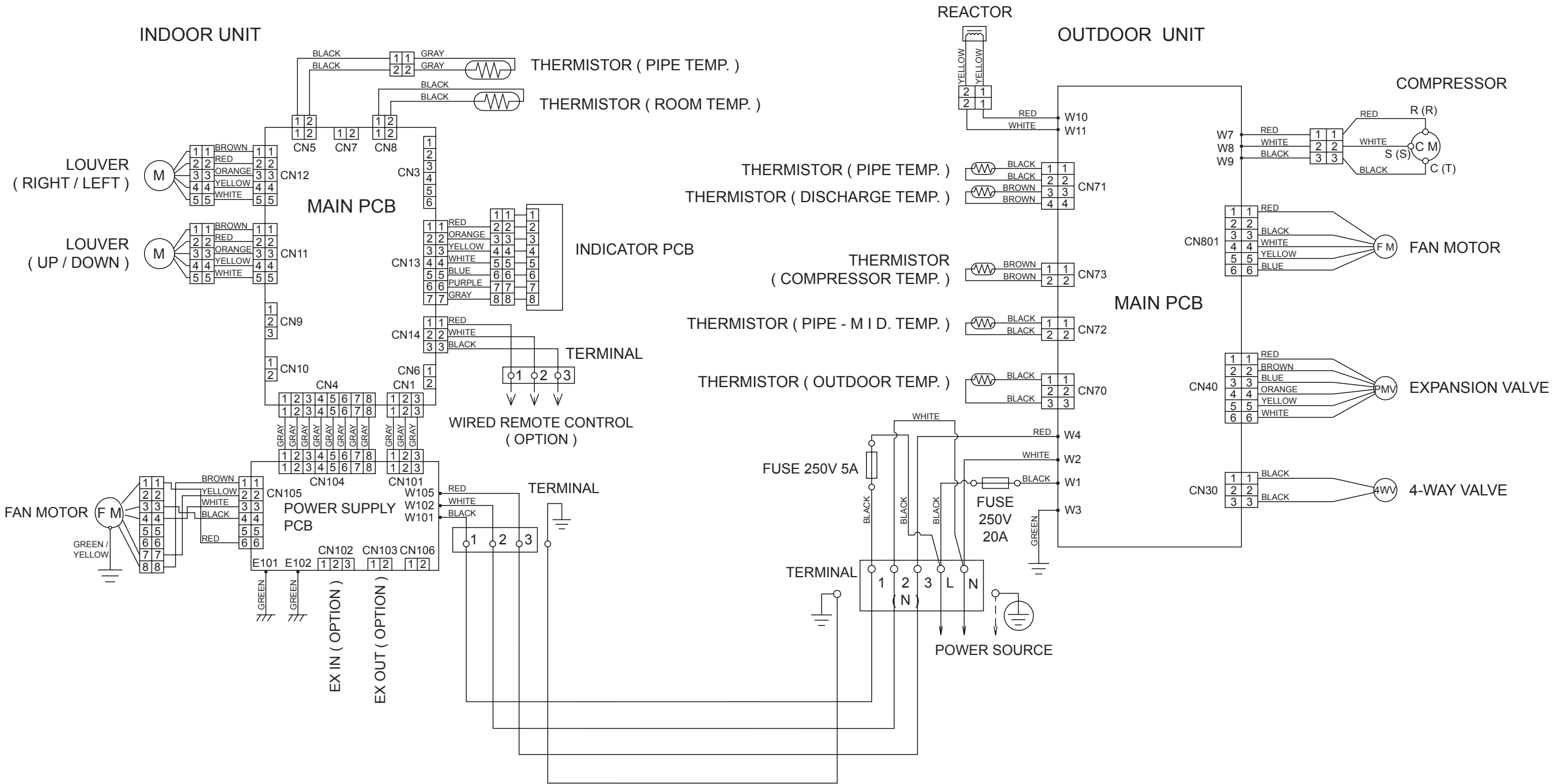
Liquid : 1/4" (6.35 mm)

Gas : 5/8" (15.88 mm)

- TH_C : THERMISTOR (COMPRESSOR TEP.)
- TH_D : THERMISTOR (DISCHARGE TEP.)
- TH_{HM} : THERMISTOR (HEAT EXCHANGER MED TEP.)
- TH_{HO} : THERMISTOR (HEAT EXCHANGER OUT TEP.)
- TH_O : THERMISTOR (OUTDOOR TEP.)

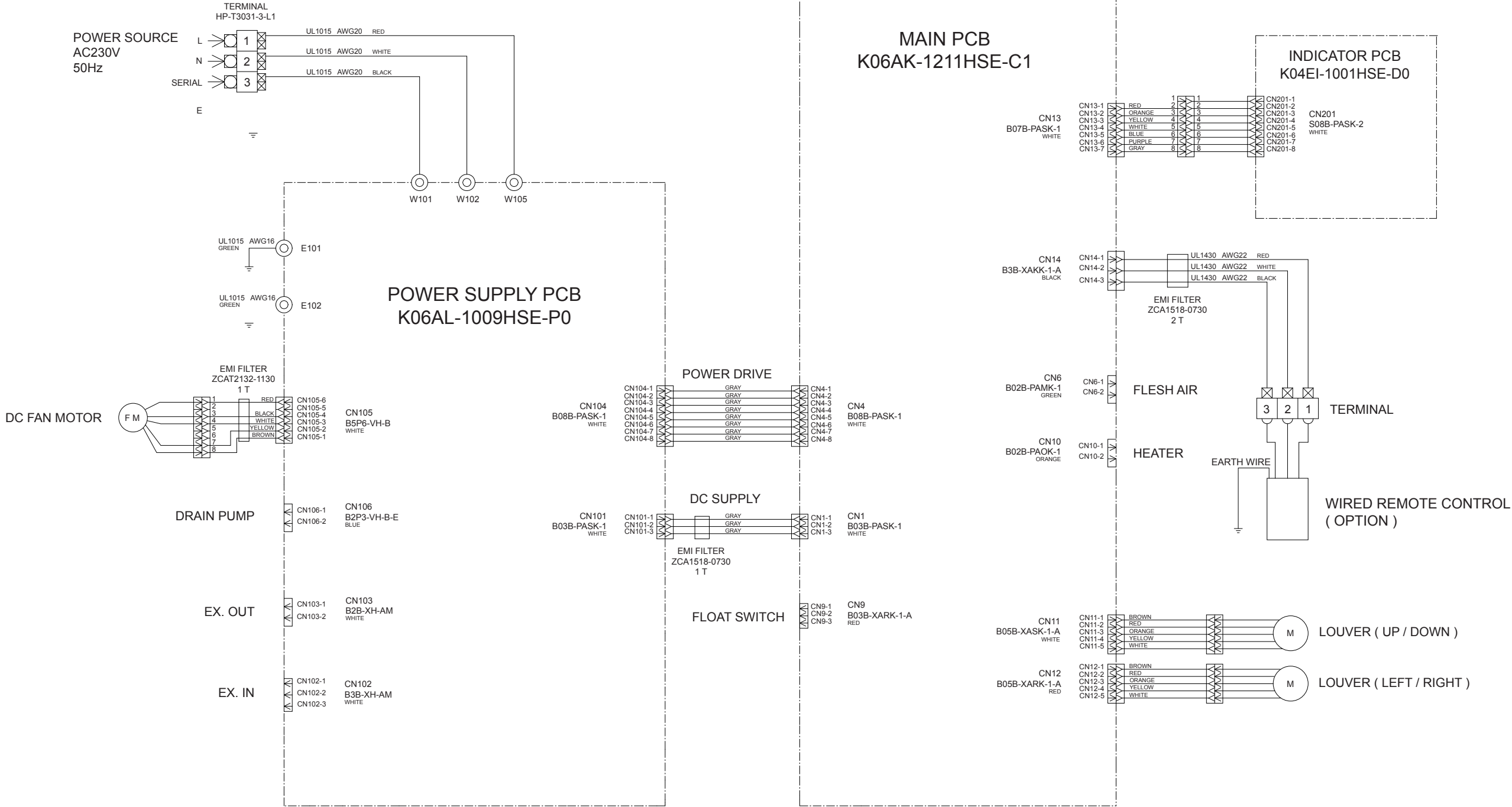
- TH_P : THERMISTOR (PIPE TEP.)
- TH_R : THERMISTOR (ROOM TEP.)

CIRCUIT DIAGRAM



INDOOR PCB
CIRCUIT DIAGRAM

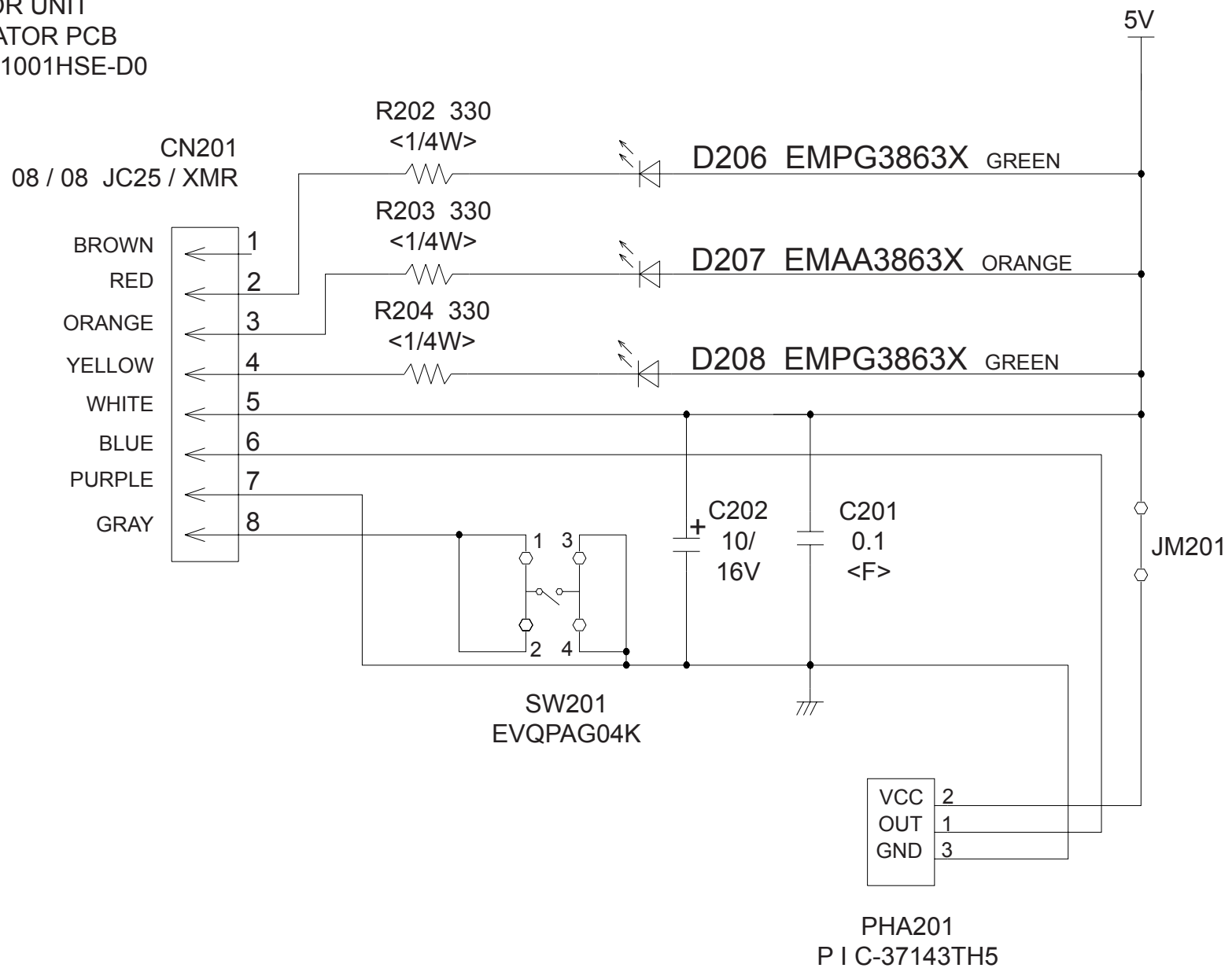
CONTROL UNIT
EZ-0122CHSE



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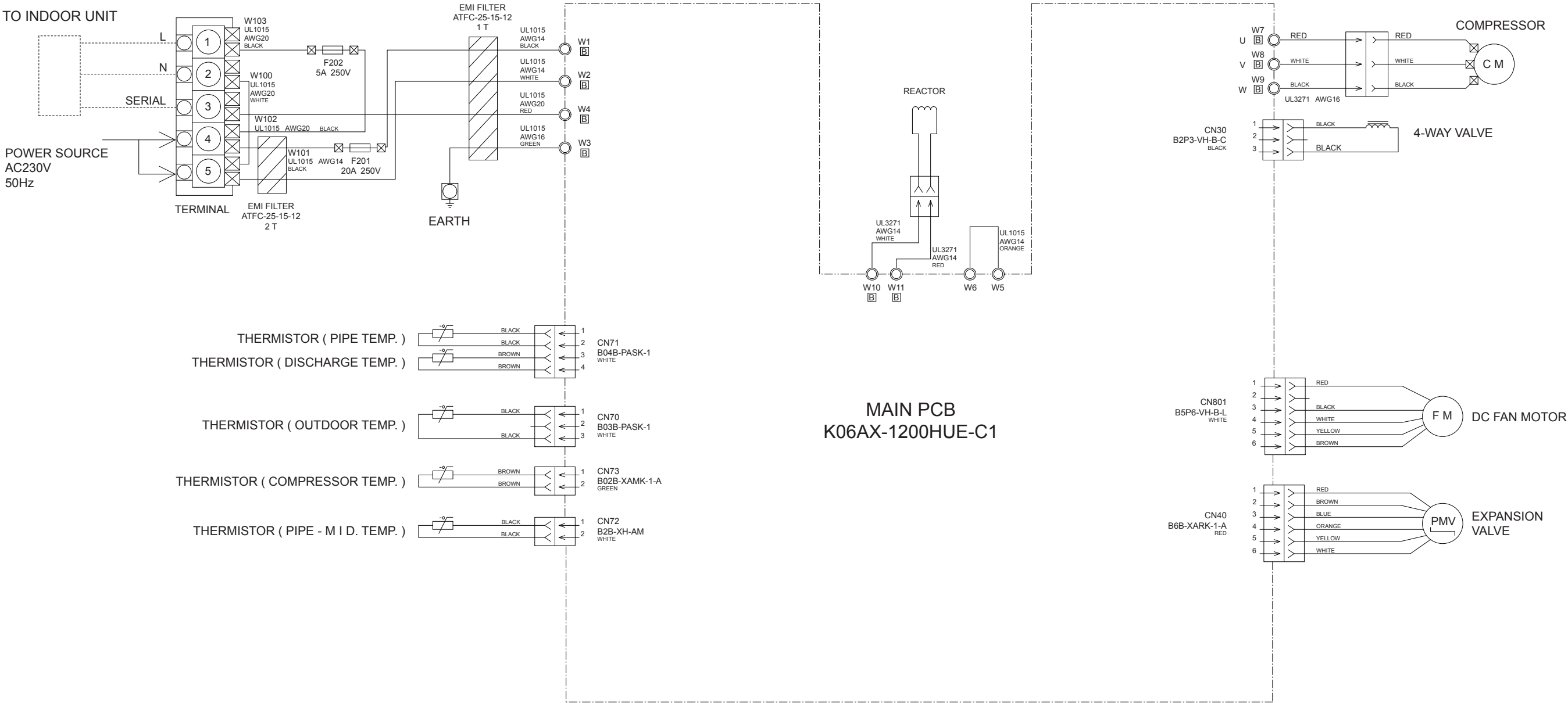


INDOOR UNIT
INDICATOR PCB
K04EI-1001HSE-D0

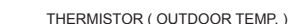


OUTDOOR PCB CIRCUIT DIAGRAM

INVERTER ASSEMBLY
EZ-0121EHUE



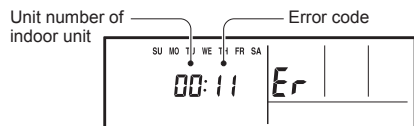
K06AX-1200HUE-C1



ERROR DETECTION

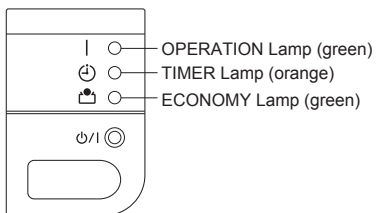
WIRED REMOTE CONTROL

This is possible only on a wired remote control.
If an error occurs, the following display will be shown.
("Er" will appear in the set room temperature display.)



EX. Self-diagnosis

INDOOR UNIT (CEILING)



- : 0.5s on / 0.5s off
- ◇ : 0.1s on / 0.1s off
- () : Number of flashing

Indoor unit			Wired remote control	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
● (1)	● (1)	◇	11	Serial communication error
● (1)	● (2)	◇	12	Wired remote control communication error
● (1)	● (5)	◇	15	Check run unfinished
● (2)	● (1)	◇	21	Unit number or Refrigerant circuit address setting error [Simultaneous Multi]
● (2)	● (2)	◇	22	Indoor unit capacity error
● (2)	● (3)	◇	23	Combination error
● (2)	● (4)	◇	24	• Connection unit number error (indoor slave unit) [Simultaneous Multi] • Connection unit number error (indoor unit or branch unit) [Flexible Multi]
● (2)	● (7)	◇	27	Master unit, slave unit set-up error [Simultaneous Multi]
● (3)	● (1)	◇	31	Power supply interruption error
● (3)	● (2)	◇	32	Indoor unit PCB model information error
● (3)	● (5)	◇	35	Manual auto switch error
● (4)	● (1)	◇	41	Inlet air temp. sensor error
● (4)	● (2)	◇	42	Indoor unit Heat Ex. Middle temp. sensor error
● (5)	● (1)	◇	51	Indoor unit fan motor error
● (5)	● (3)	◇	53	Drain pump error
● (5)	● (7)	◇	57	Damper error
● (5)	● (15)	◇	5U	Indoor unit error
● (6)	● (2)	◇	62	Outdoor unit main PCB model information error or communication error
● (6)	● (3)	◇	63	Inverter error
● (6)	● (4)	◇	64	Active filter error, PFC circuit error
● (6)	● (5)	◇	65	Trip terminal Error
● (6)	● (10)	◇	6A	Display PCB microcomputers communication error

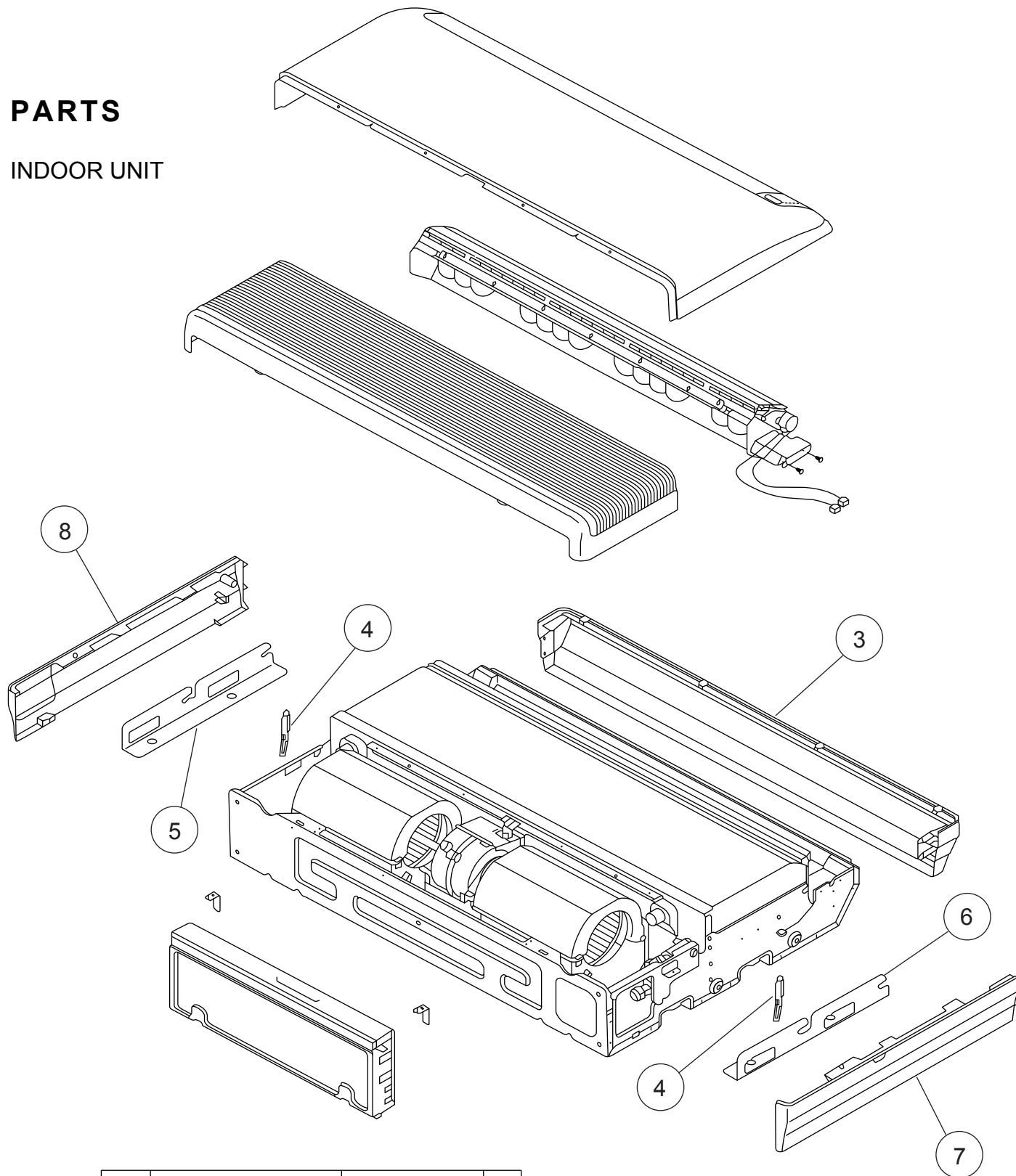
Indoor unit			Wired remote control	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
● (7)	● (1)	◇	71	Discharge temp. sensor error
● (7)	● (2)	◇	72	Compressor temp. sensor error
● (7)	● (3)	◇	73	Outdoor unit Heat Ex. liquid temp. sensor error
● (7)	● (4)	◇	74	Outdoor temp. sensor error
● (7)	● (5)	◇	75	Suction Gas temp. sensor error
● (7)	● (6)	◇	76	• 2-way valve temp. sensor error • 3-way valve temp. sensor error
● (7)	● (7)	◇	77	Heat sink temp. sensor error
● (8)	● (2)	◇	82	• Sub-cool Heat Ex. gas inlet temp. sensor error • Sub-cool Heat Ex. gas outlet temp. sensor error
● (8)	● (3)	◇	83	Liquid pipe temp. sensor error
● (8)	● (4)	◇	84	Current sensor error
● (8)	● (6)	◇	86	• Discharge pressure sensor error • Suction pressure sensor error • High pressure switch error
● (9)	● (4)	◇	94	Trip detection
● (9)	● (5)	◇	95	Compressor rotor position detection error (permanent stop)
● (9)	● (7)	◇	97	Outdoor unit fan motor error
● (9)	● (8)	◇	98	Outdoor unit fan motor 2 error
● (9)	● (9)	◇	99	4-way valve error
● (9)	● (10)	◇	9A	Coil (expansion valve) error
● (10)	● (1)	◇	A1	Discharge temp. error
● (10)	● (3)	◇	A3	Compressor temp. error
● (10)	● (4)	◇	A4	High pressure error
● (10)	● (5)	◇	A5	Low pressure error
● (13)	● (2)	◇	12	Branch boxes error [Flexible Multi]

OUTDOOR UNIT

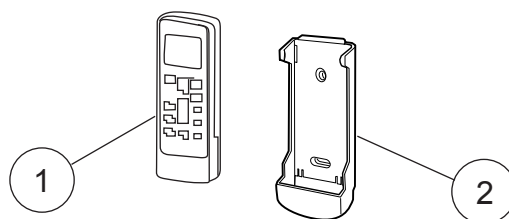
Error contents	LED
Thermistor malfunction	on 0.1 sec / off 0.1 sec
Abnormal discharge temperature	on
Current surge protection	on 0.5 sec / off 0.5 sec
CT abnormality	on 2.0 sec / off 2.0 sec
Compressor position detection malfunction	on 0.1 sec / off 2.0 sec
Fan malfunction	on 5.0 sec / off 5.0 sec
PAM voltage abnormality	on 5.0 sec / off 0.1 sec
Timer short	on 1.0 sec / off 1.0 sec
Compressor temperature protection (permanent stop)	on 2.0 sec / off 5.0 sec
PFC surge protection (permanent stop)	on 5.0 sec / off 2.0 sec

PARTS

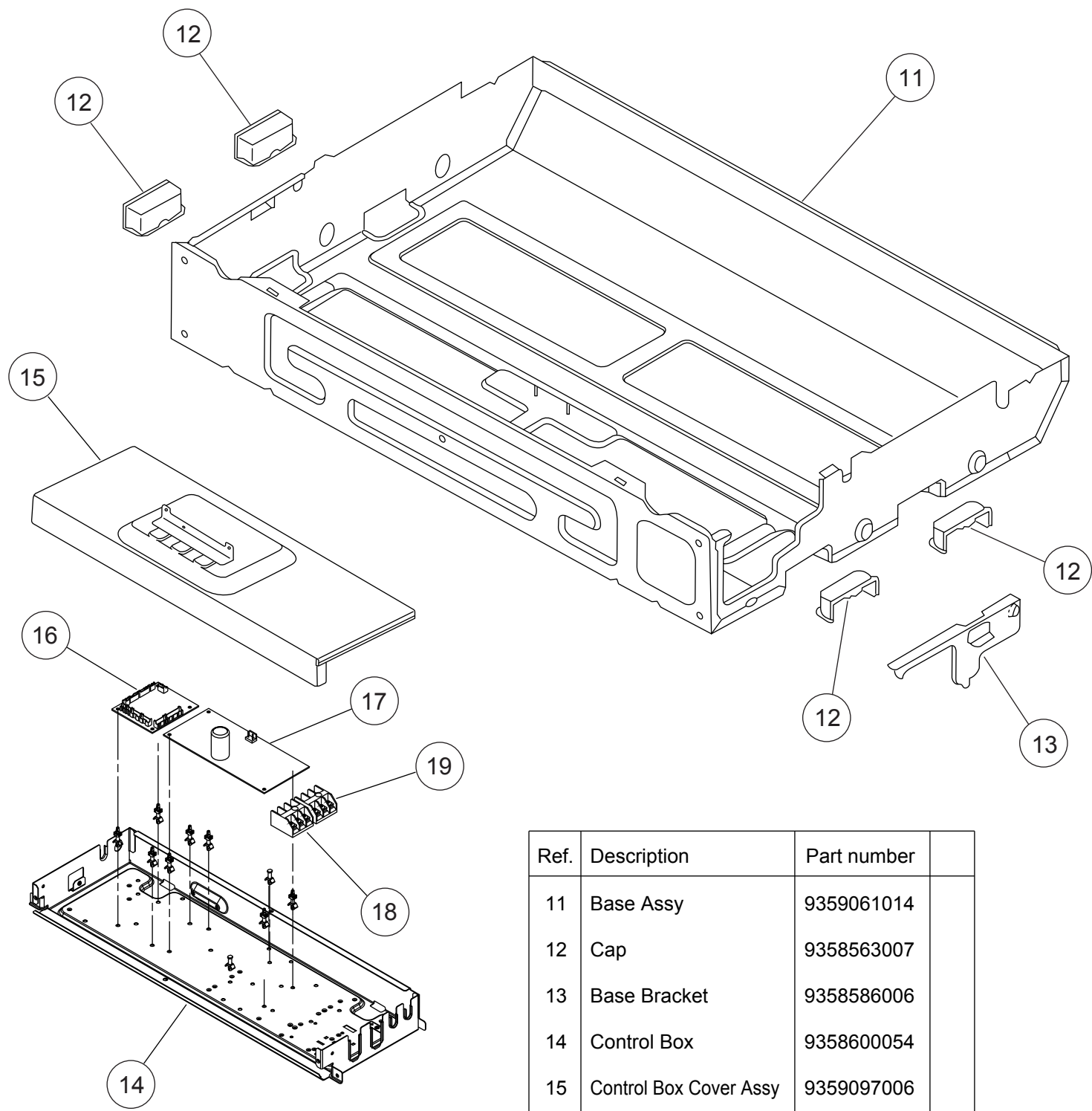
INDOOR UNIT



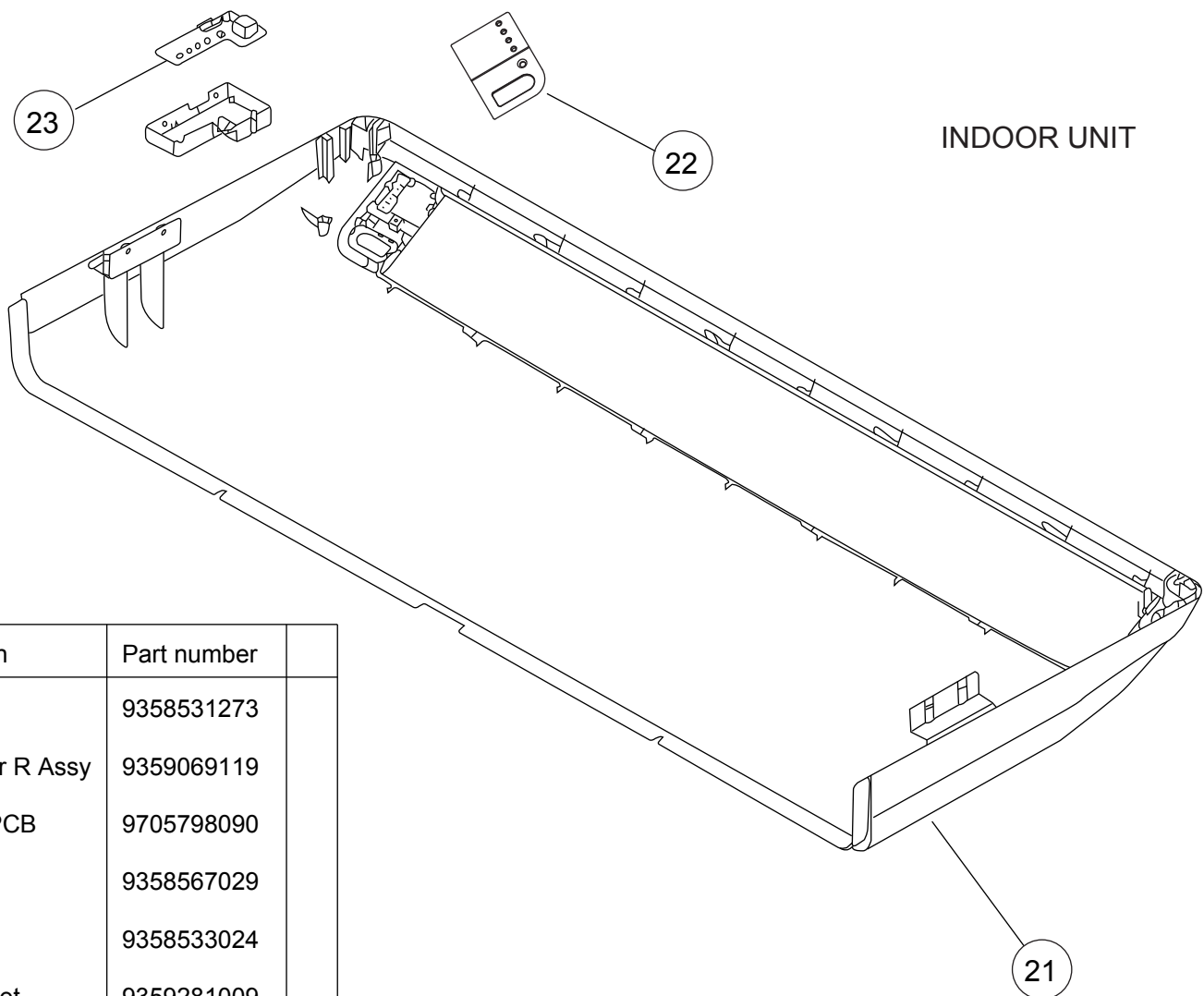
Ref.	Description	Part number
1	Remote Control	9379219037
2	Remote Control Holder	9305642045
3	Top Cover	9358534021
4	Arm	9358565001
5	Hanger Bracket L	9358596005
6	Hanger Bracket R	9358595008
7	Cosmetic Panel R	9358535028
8	Cosmetic Panel L	9358536025



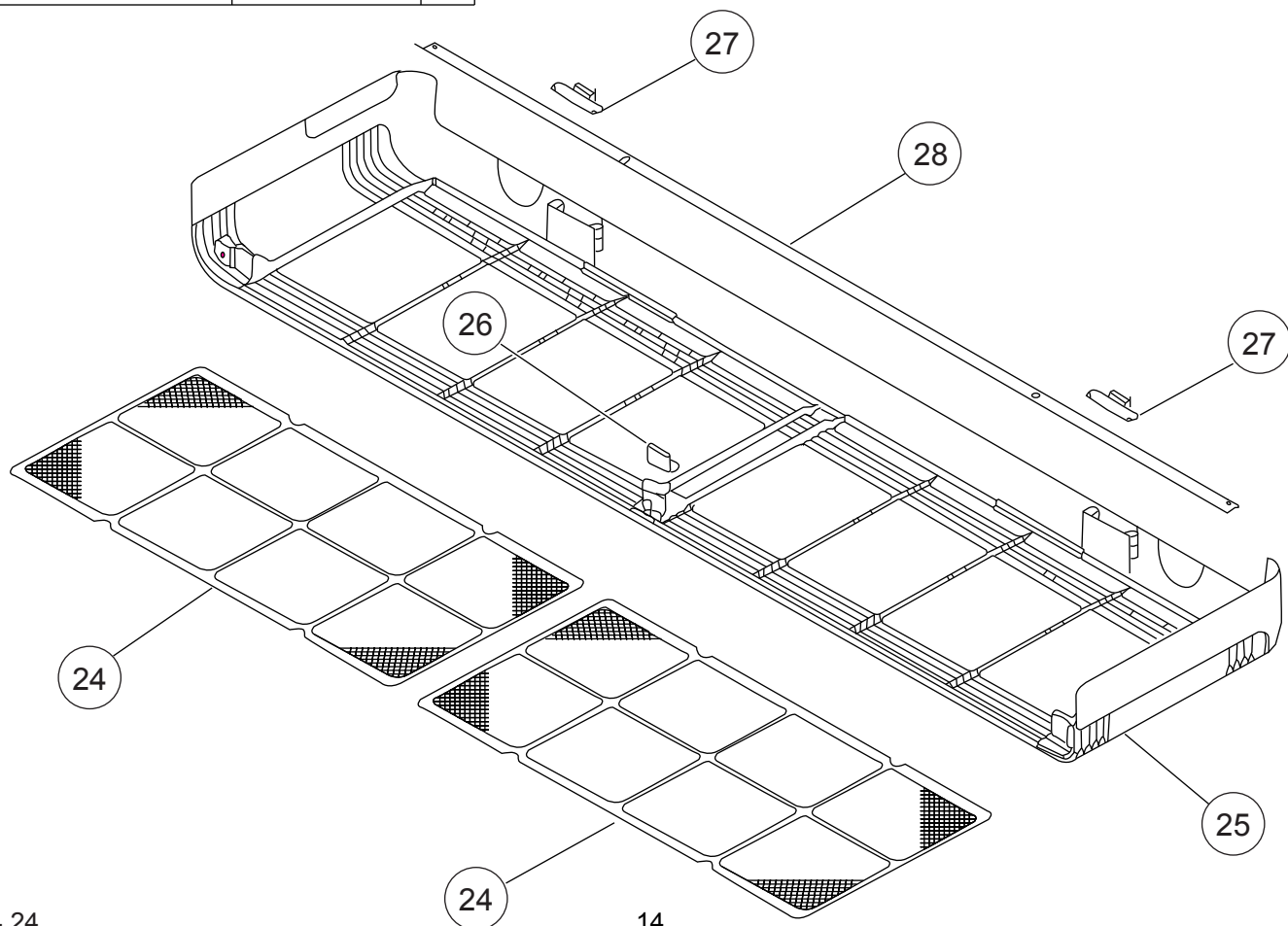
INDOOR UNIT



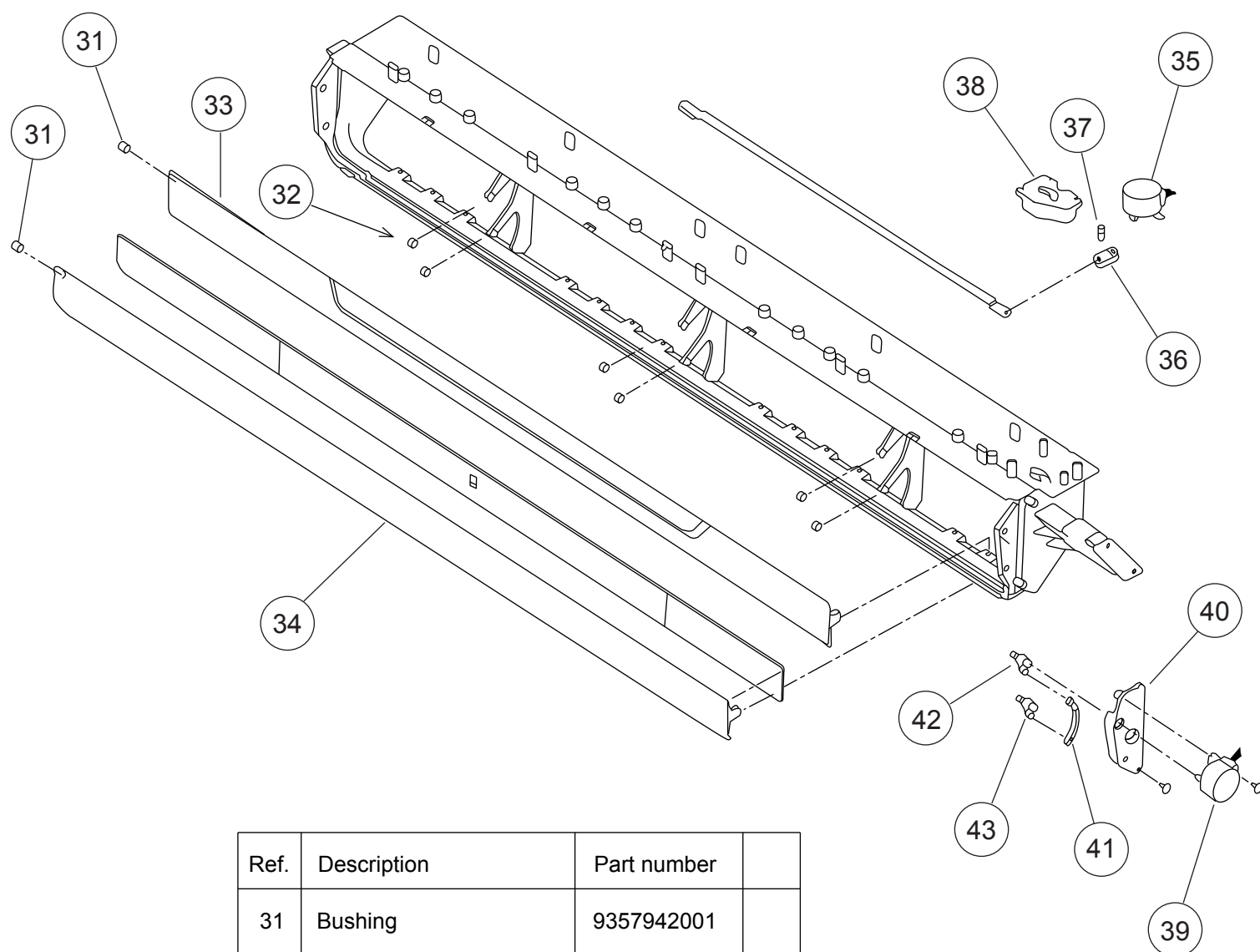
Ref.	Description	Part number	
11	Base Assy	9359061014	
12	Cap	9358563007	
13	Base Bracket	9358586006	
14	Control Box	9358600054	
15	Control Box Cover Assy	9359097006	
16	Main PCB	9709245101	
17	Power Supply PCB	9707398274	
18	Terminal 3P	9306489045	
19	Terminal 3P	9703345012	
--	Room Thermistor	9703299087	



Ref.	Description	Part number	
21	Panel	9358531273	
22	Side Cover R Assy	9359069119	
23	Indicator PCB	9705798090	
24	Air Filter	9358567029	
25	Grill G	9358533024	
26	Arm Bracket	9359281009	
27	Grille Support	9358602003	
28	Filter Bracket	9358607008	

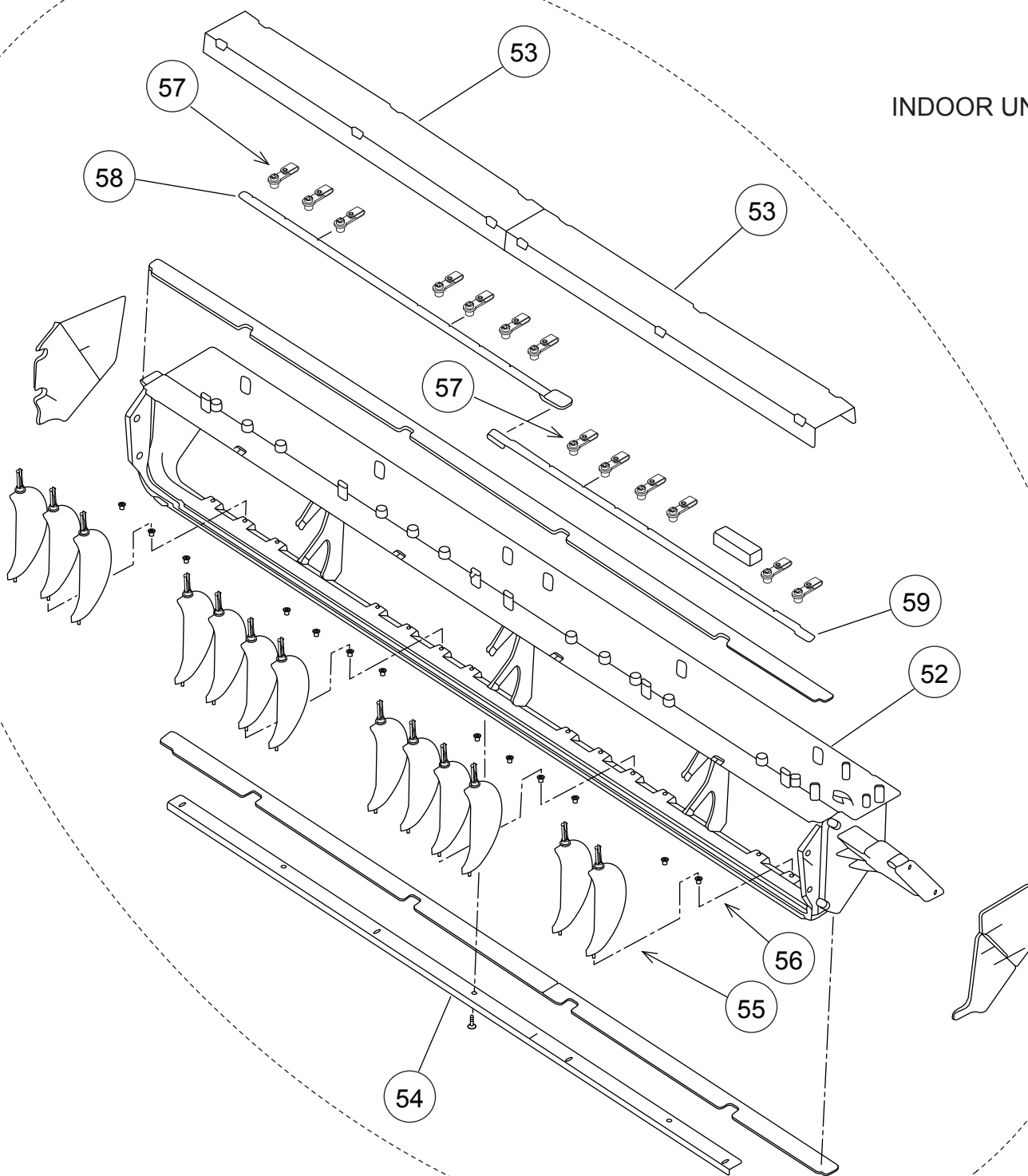


INDOOR UNIT

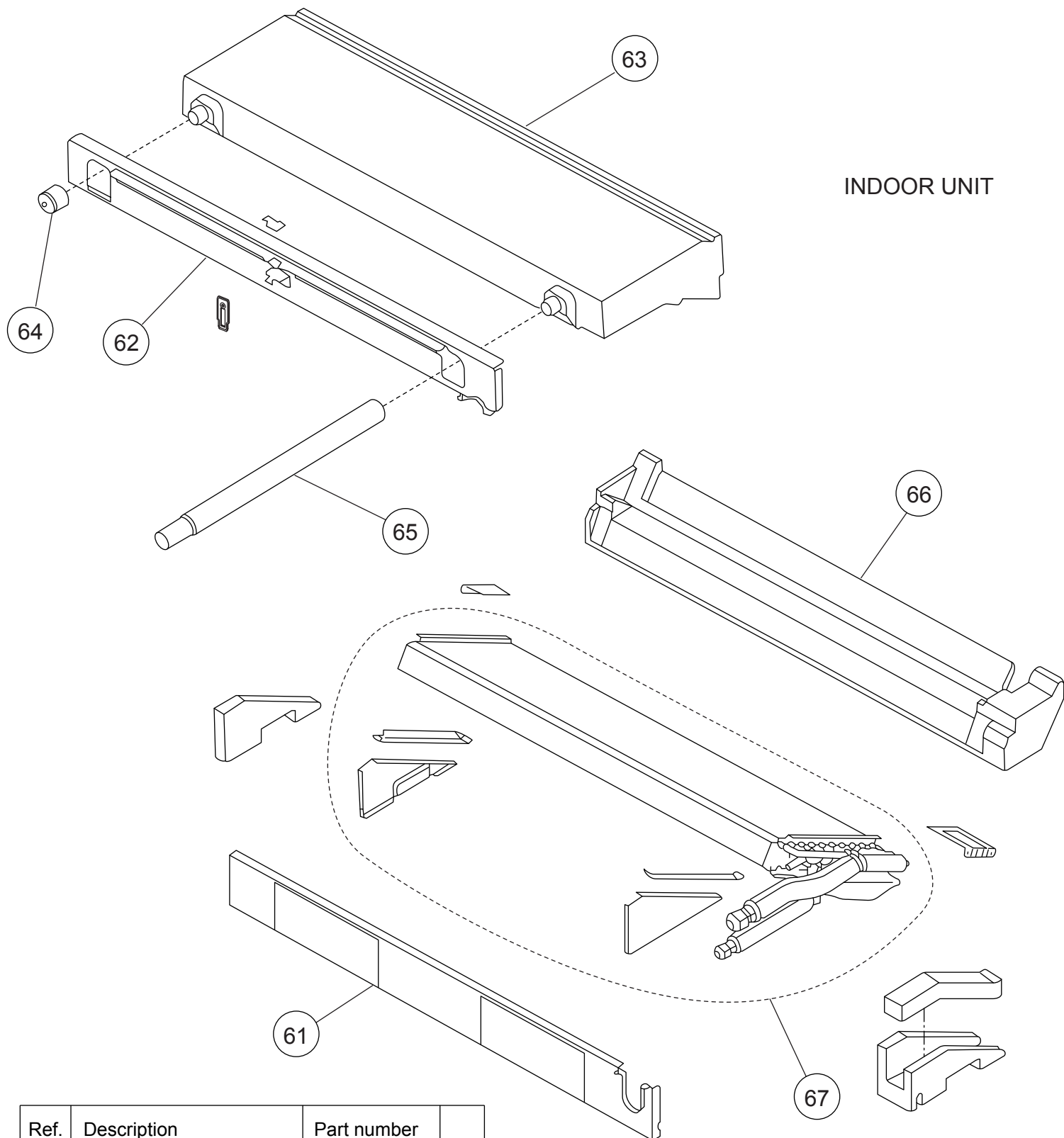


Ref.	Description	Part number	
31	Bushing	9357942001	
32	Bushing C	9358553008	
33	Flap (Upper) O	9358540015	
34	Kit (Flap Lower)	9372671023	
35	Step Motor H	9900297015	
36	Louver Link	9358556009	
37	Louver Shaft	9358557006	
38	Louver Link Cover	9358558010	
39	Step Motor-V	9900362010	
40	Motor Base	9358562017	
41	Motor Rod-A (Step V)	9358550007	
42	Flap Link-Upper (Step V)	9358551004	
43	Flap Link-Lower (Step V)	9358552001	

INDOOR UNIT

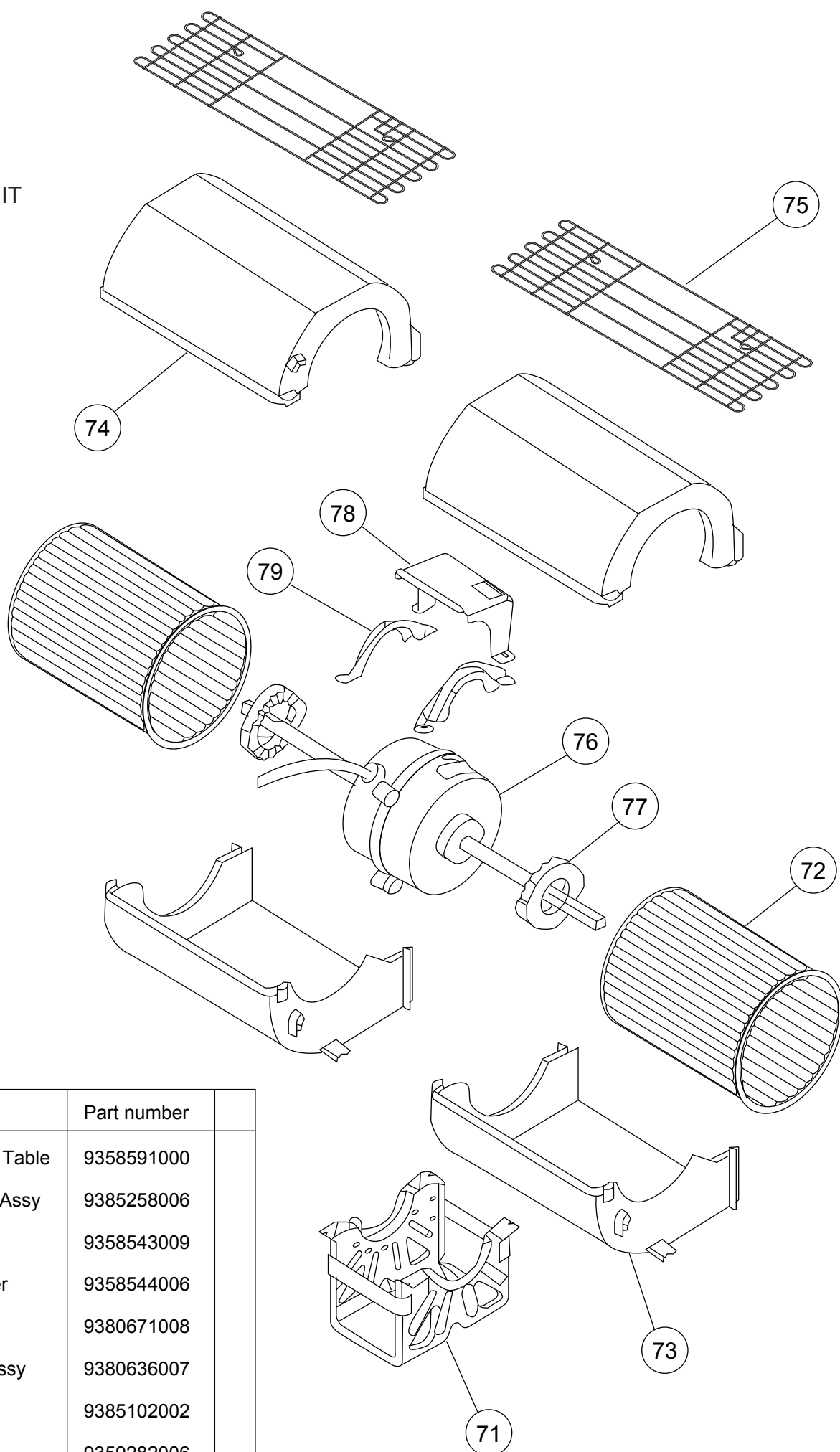


Ref.	Description	Part number	
51	Kit (Flap Base)	9372670040	
52	Flap Base	9358537022	
53	Protect Cover	9358564011	
54	Support Stay	9358599006	
55	Louver	9358561027	
56	Bushing B	9358554005	
57	Louver Stopper	9358555002	
58	Louver Rod	9358559017	
59	Motor Rod	9358560013	



Ref.	Description	Part number	
61	Kit (Separate Wall A)	9372666012	
62	Kit (Separate Wall B)	9373448013	
63	Kit (Drain Pan Assy)	9372669013	
64	Drain Cap	9358746004	
65	Drain Hose Assy	9377785060	
66	Kit (Insulation Flap Base)	9372672013	
67	Evaporator Sub Assy	9359051268	
--	Pipe Thermistor	9900022020	

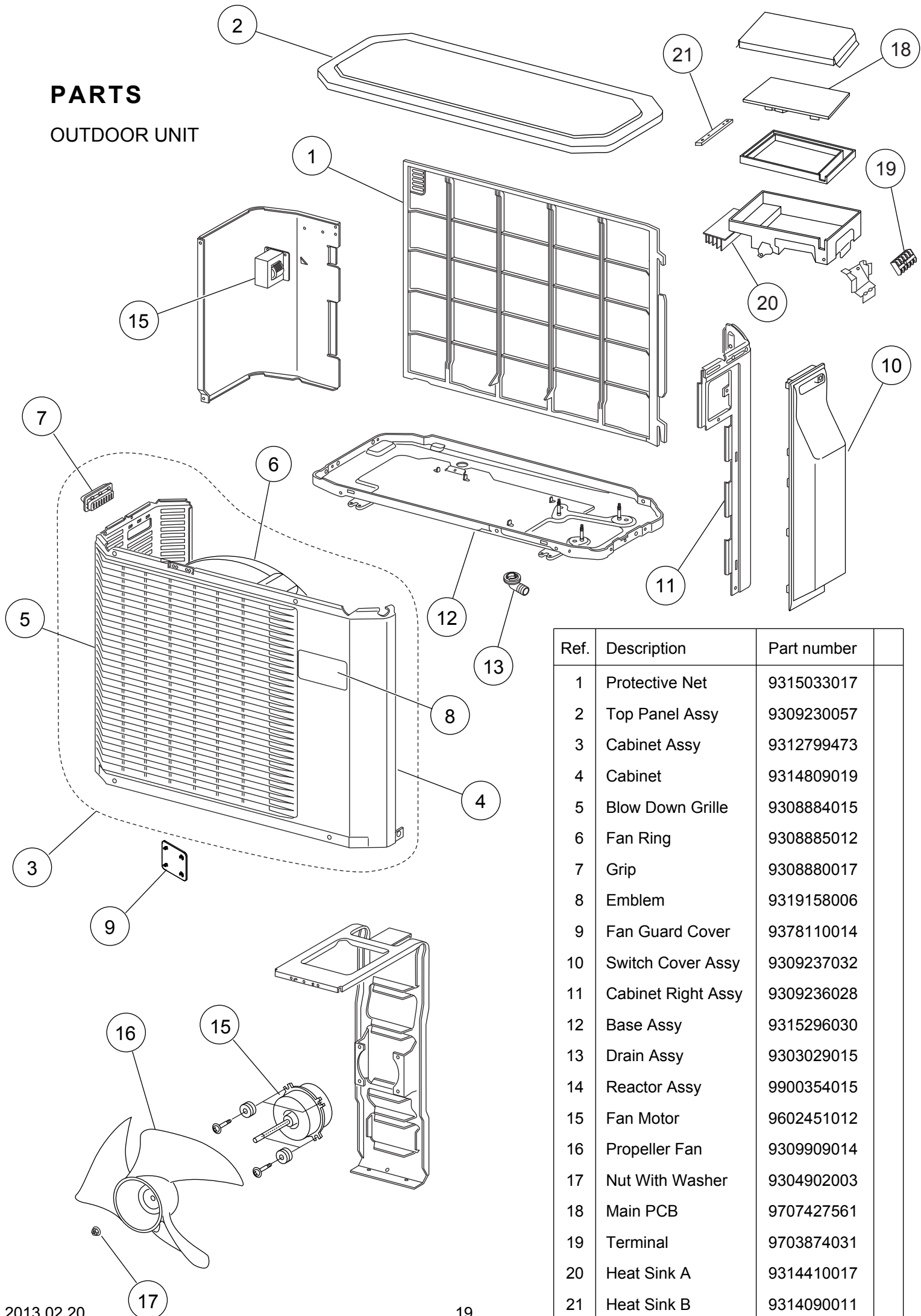
INDOOR UNIT



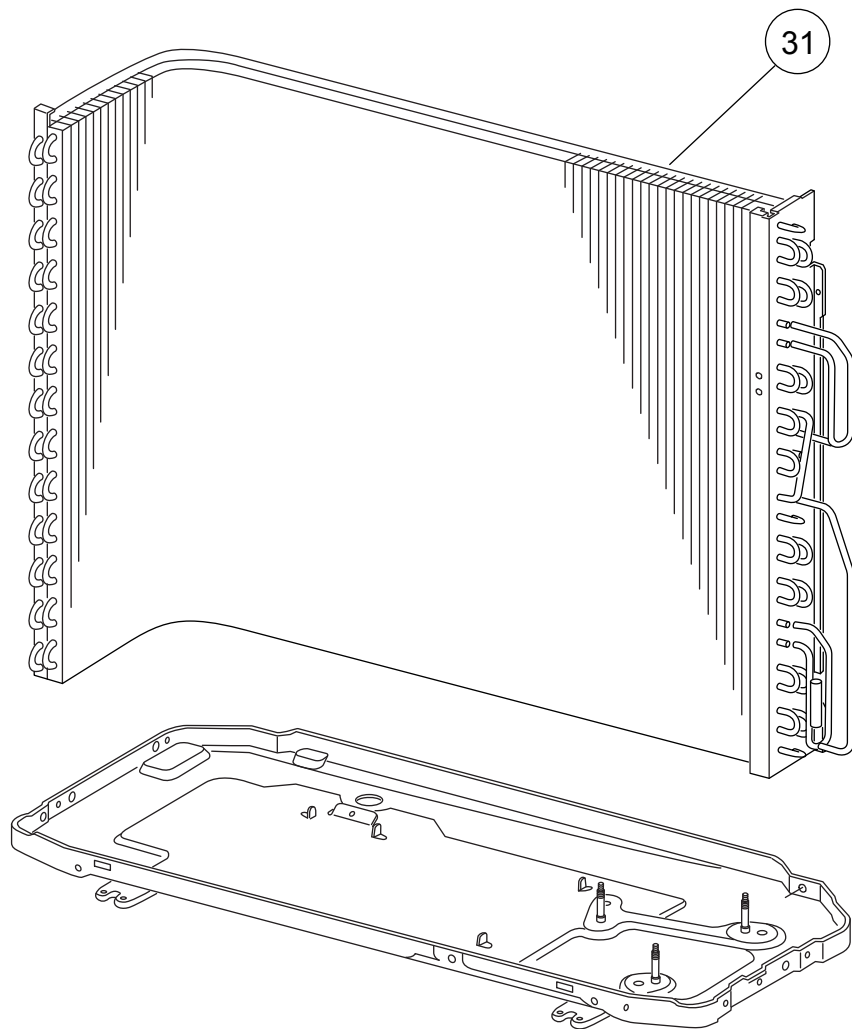
Ref.	Description	Part number
71	Motor Fixing Table	9358591000
72	Sirocco Fan Assy	9385258006
73	Casing	9358543009
74	Casing Cover	9358544006
75	Barrier	9380671008
76	Fan Motor Assy	9380636007
77	Rubber	9385102002
78	Protector	9359282006
79	Motor Fixture	9358594001

PARTS

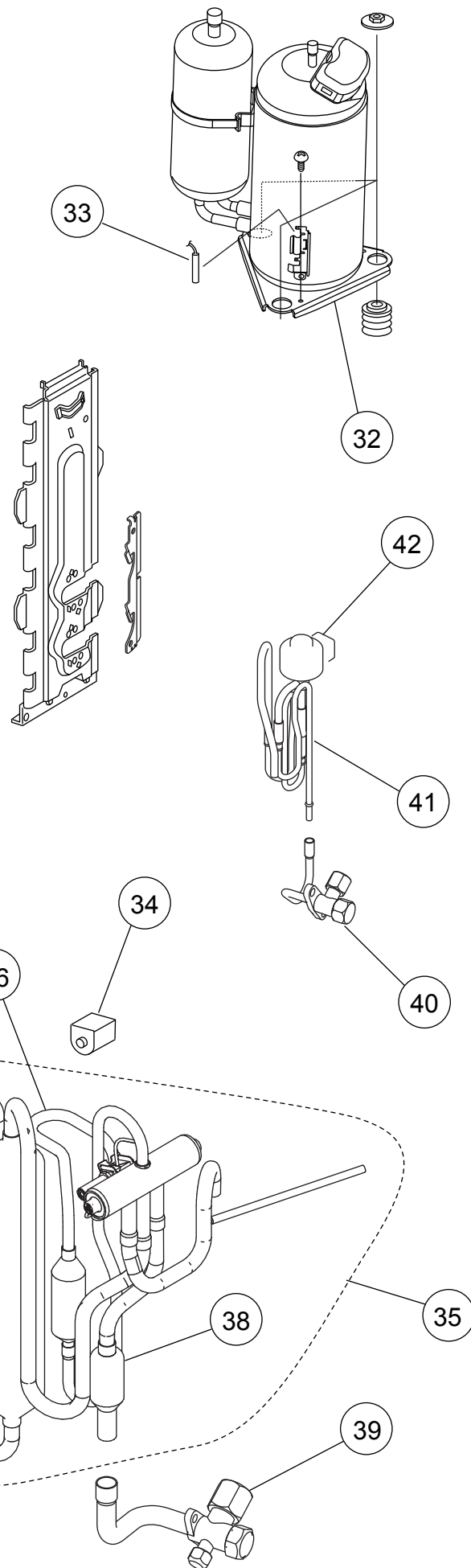
OUTDOOR UNIT



Ref.	Description	Part number	
1	Protective Net	9315033017	
2	Top Panel Assy	9309230057	
3	Cabinet Assy	9312799473	
4	Cabinet	9314809019	
5	Blow Down Grille	9308884015	
6	Fan Ring	9308885012	
7	Grip	9308880017	
8	Emblem	9319158006	
9	Fan Guard Cover	9378110014	
10	Switch Cover Assy	9309237032	
11	Cabinet Right Assy	9309236028	
12	Base Assy	9315296030	
13	Drain Assy	9303029015	
14	Reactor Assy	9900354015	
15	Fan Motor	9602451012	
16	Propeller Fan	9309909014	
17	Nut With Washer	9304902003	
18	Main PCB	9707427561	
19	Terminal	9703874031	
20	Heat Sink A	9314410017	
21	Heat Sink B	9314090011	



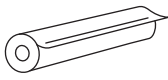
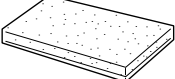
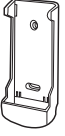
OUTDOOR UNIT

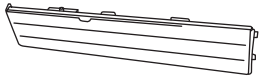
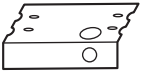
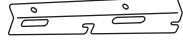
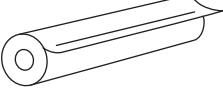
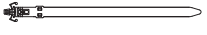


Ref.	Description	Part number	
31	Condenser Total Assy	9312322091	
32	Compressor Assy	9315297037	
33	Compressor Thermistor	9900156046	
34	Solenoid Coil	9970055010	
35	4-way Valve Assy	9315311023	
36	Discharge Pipe Assy	9315312020	
37	Suction Pipe Assy	9315313027	
38	3WV Joint Pipe Assy	9315308023	
39	3-way Valve Assy	9315414014	
40	2-way Valve Assy	9313062019	
41	Pulse Motor Valve Assy	9315310019	
42	Expansion Valve Coil	9900057039	
--	Thermistor Assy	9900148027	
--	Heat Exchanger Thermistor	9900403010	
--	Outdoor Thermistor	9900210045	

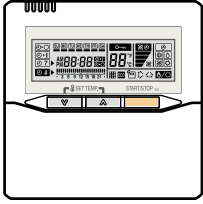
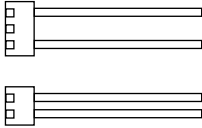
ACCESSORIES

INDOOR UNIT

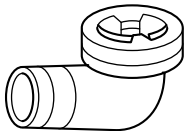
Name and Shape	Q'ty
Cover plate (Left) 	1
Screw (M4 × 10mm) 	2
Bracket (Left)  For suspending the indoor unit from ceiling	1
Special nut  For suspending the indoor unit from ceiling	4
Screw (M4 × 20mm)  For fixing the wall bracket	6
Coupler heat insulator (Small)  For indoor side pipe joint (Small pipe)	1
Cable tie (Small)  For electrical wiring	2
Drain hose 	1
Insulation (Drain hose)  Adhesive type 100 x 220(mm)	1
Remote control 	1
Remote control holder 	1

Name and Shape	Q'ty
Cover plate (Right) 	1
Installation template Positioning for under ceiling type 	1
Bracket (Right)  For suspending the indoor unit from ceiling	1
Wall bracket  For suspending the indoor unit on the wall	2
Coupler heat insulator (Large)  For indoor side pipe joint(Large pipe)	1
Cable tie (Large)  For fixing drain hose	1
Wire clasper  For electrical wiring	1
Hose band  For installing drain hose	1
VT wire  For fixing drain hose L 280mm	1
Battery  For remote control	2
Screw (M3 × 12mm)  For remote control holder installation	2

INDOOR UNIT OPTIONAL PARTS

Name and Shape	Model name	Use
Wired remote control 	UTY-RNNYM	Unit control is performed by wired remote control
Simple remote control 	UTY-RSNYM	Unit control is performed by simple remote control
External connect kit 	UTY-XWZX	Use to connect with various peripheral devices and air conditioner PCB.

OUTDOOR UNIT

Name and Shape	Q'ty	Use	Part number
Drain pipe 	1	For outdoor unit drain piping work.	9303029015

1302G4191