

SPLIT TYPE
ROOM AIR CONDITIONER
WALL MOUNTED TYPE

SERVICE MANUAL



Indoor unit	Outdoor unit
ASU9RLS3	AOU9RLS3
ASU12RLS3	AOU12RLS3

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SPECIFICATIONS

ELECTRICAL DATA

TYPE	Cooling and heating inverter			
INDOOR UNIT	ASU9RLS3	ASU12RLS3		
OUTDOOR UNIT	AOU9RLS3	AOU12RLS3		
COOLING CAPACITY	9,000 Btu/h	2.64 kW	12,000 Btu/h	3.52 kW
HEATING CAPACITY	12,000 Btu/h	3.52 kW	16,000 Btu/h	4.69 kW
POWER SOURCE	208/230 V			
FREQUENCY	60 Hz			
RUNNING CURRENT	Cooling	2.5 A	3.8 A	
	Heating	3.3 A	4.7 A	
INPUT WATTS	Cooling	0.50 kW	0.79 kW	
	Heating	0.66 kW	1.01 kW	
EER	Cooling	18.0 Btu/W/h	15.2 Btu/W/h	
COP	Heating	18.2 Btu/W/h	15.8 Btu/W/h	
MOISTURE REMOVAL	2.6 Pts/h	1.2 L/h	2.7 Pts/h	1.3 L/h
AIR CIRCULATION HIGH	489 CFM 830 m³/h			
MAXIMUM CURRENT	Cooling	9.4 A		
	Heating	10.9 A		

FAN MOTOR

POWER SOURCE		208/230 V
INDOOR UNIT Cooling	High	1,100 r.p.m.
	Medium	940 r.p.m.
	Low	820 r.p.m.
	Quiet	600 r.p.m.
INDOOR UNIT Heating	High	1,100 r.p.m.
	Medium	940 r.p.m.
	Low	820 r.p.m.
	Quiet	600 r.p.m.
OUTDOOR UNIT Cooling		720 r.p.m.
OUTDOOR UNIT Heating		780 r.p.m.

NOISE LEVEL

INDOOR UNIT Cooling	High	42 dB
	Medium	37 dB
	Low	32 dB
	Quiet	23 dB
INDOOR UNIT Heating	High	41 dB
	Medium	35 dB
	Low	31 dB
	Quiet	23 dB
OUTDOOR UNIT Cooling	42 dB	43 dB
OUTDOOR UNIT Heating	47 dB	47 dB

COMPRESSOR AND REFRIGERANT

COMPRESSOR TYPE	Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary		
DISCRIMINATION	808-884-80		
WEIGHT (with oil)	20 lb. 8 oz. 9.3 kg		
PRECHARGED REFRIGERANT	2 lb. 14 oz. 1,300 g		
REFRIGERANT TYPE	R410A		
Pipe length FULL CHARGE	49 ft. 15m	2 lb. 14 oz. 1,300 g	
	66 ft. 20m	3 lb. 1 oz. 1,400 g	
ADDITIONAL CHARGE	0.22 oz/ft 20 g/m		
MAXIMUM PIPING HEIGHT	49 ft. 15m		

DIMENSIONS

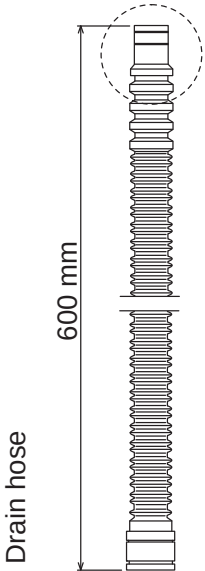
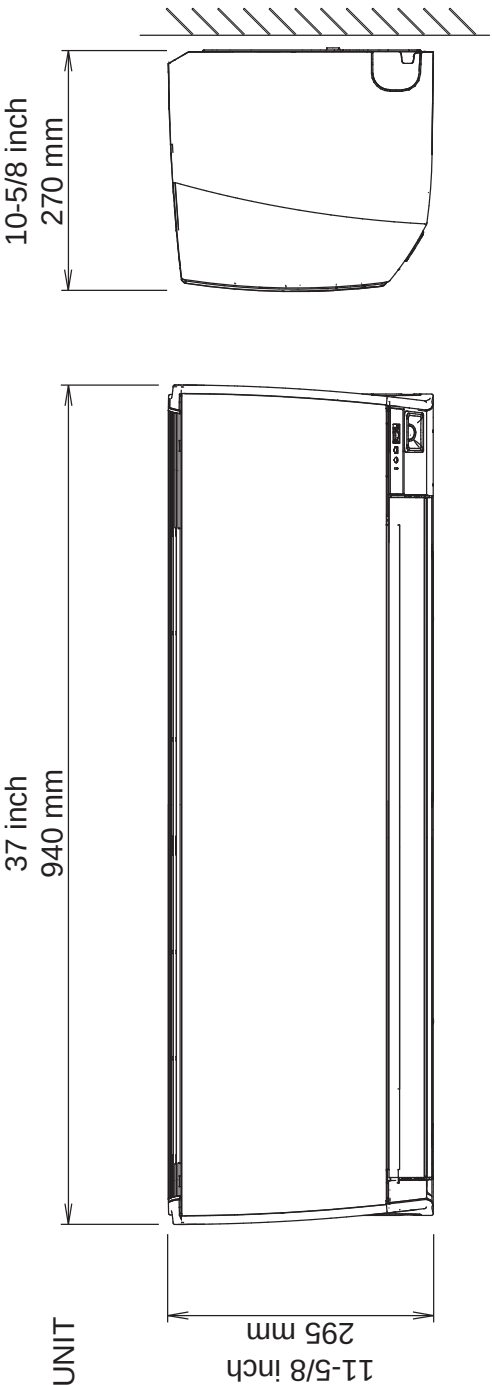
INDOOR UNIT	H x W x D	11-5/8 x 37 x 10-5/8 inch 295 x 940 x 270 mm
OUTDOOR UNIT	H x W x D	24-1/2 x 31-3/32 x 11-13/32 inch 620 x 790 x 290 mm

WEIGHT

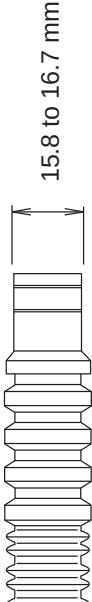
INDOOR UNIT	Net / Shipping	31 lb. / 37 lb.	14 kg / 17 kg
OUTDOOR UNIT	Net / Shipping	84 lb. / 93 lb.	38 kg / 42 kg

DIMENSIONS

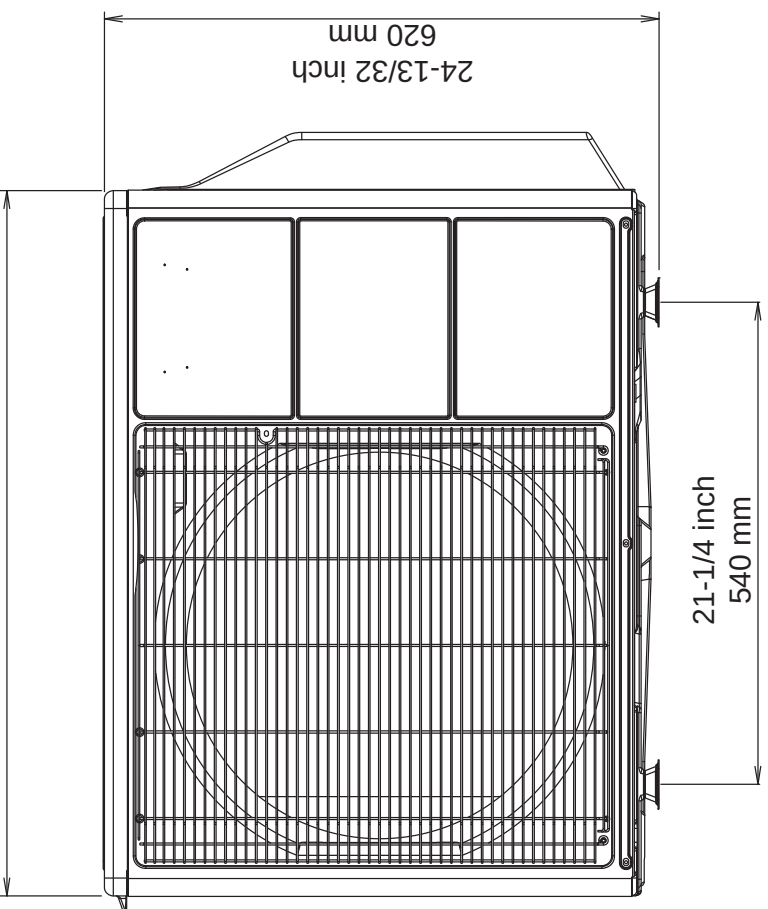
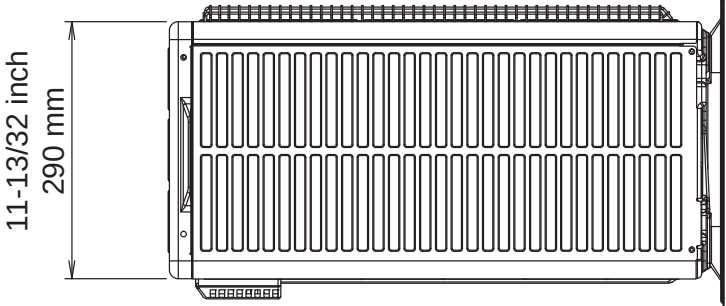
INDOOR UNIT



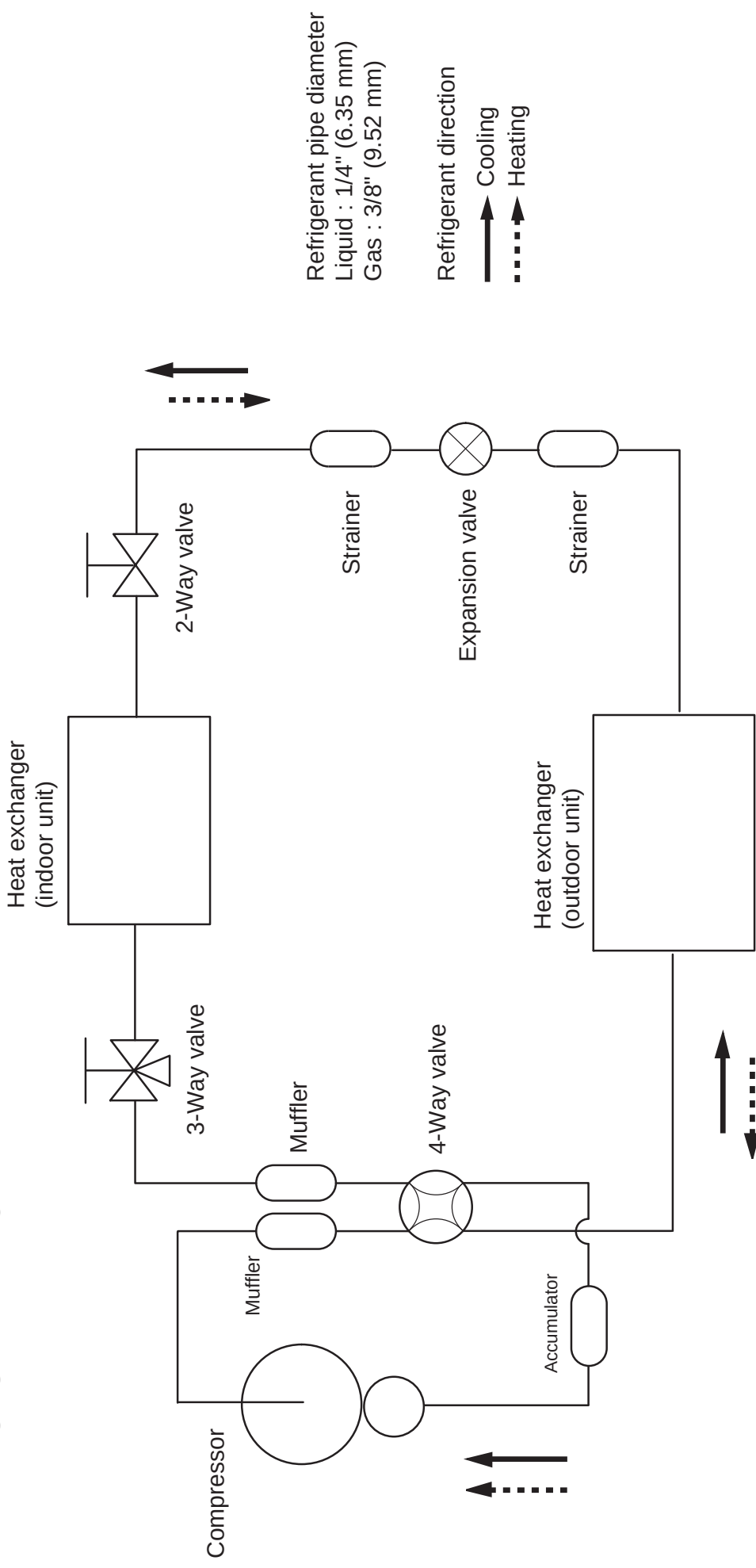
Diameter
Outside



OUTDOOR UNIT

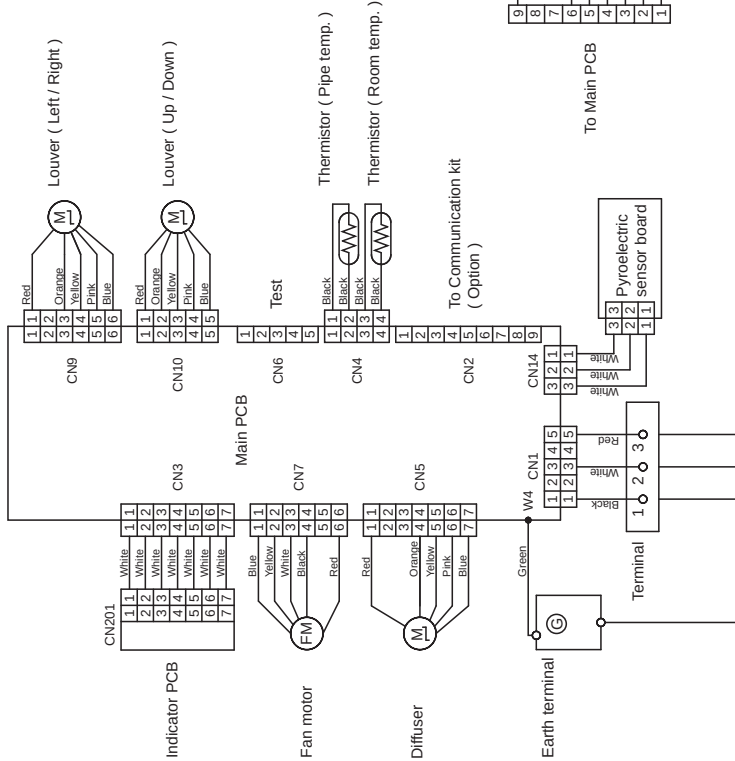


REFRIGERANT SYSTEM DIAGRAM

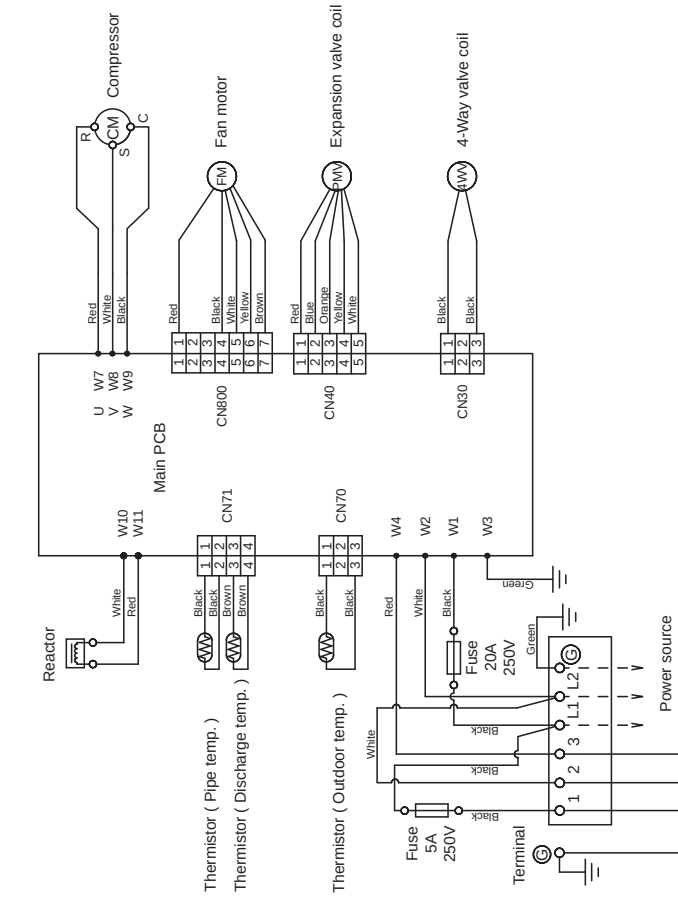


CIRCUIT DIAGRAM

INDOOR UNIT

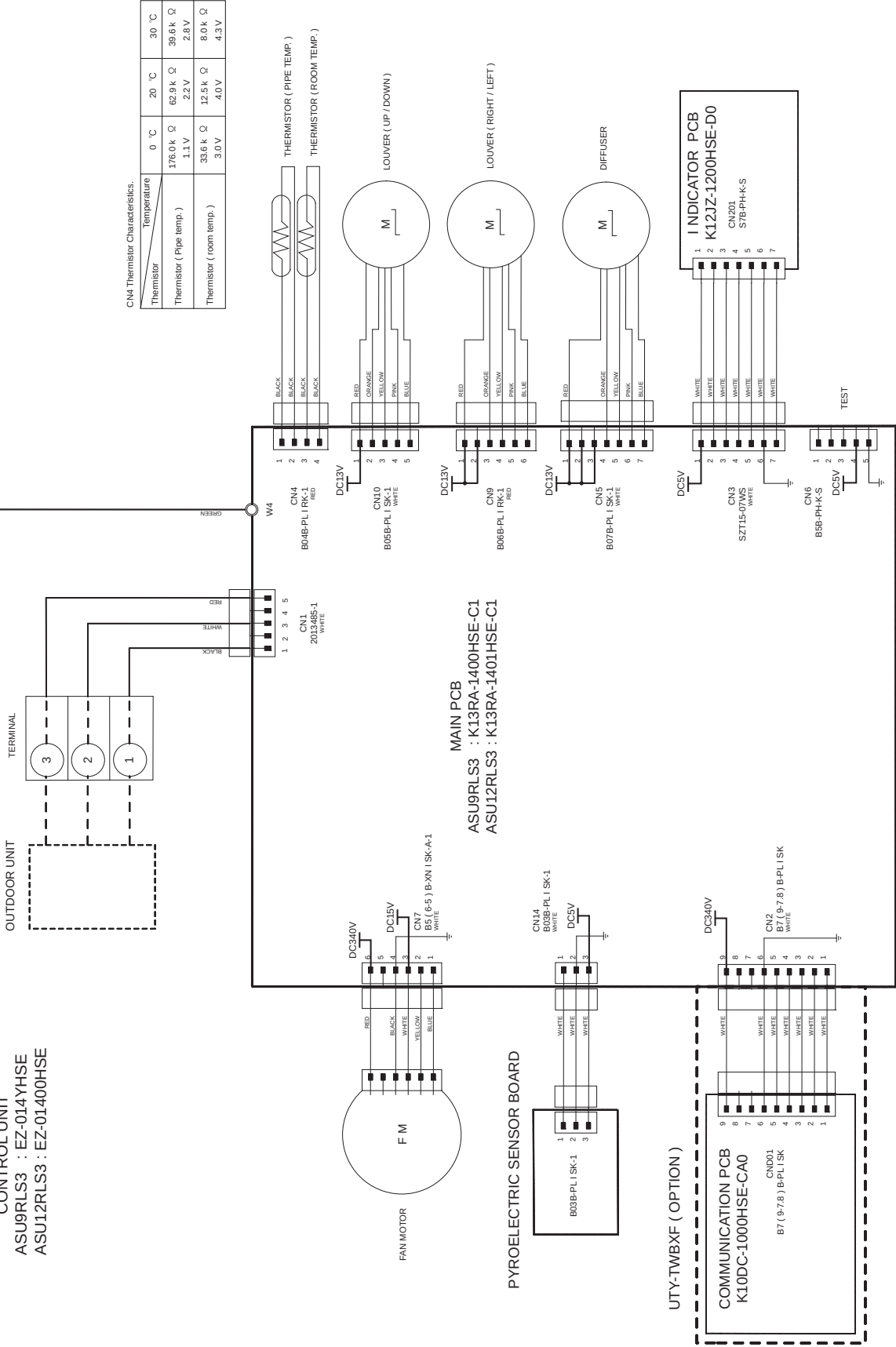


OUTDOOR UNIT



INDOOR PCB CIRCUIT DIAGRAM

CONTROL UNIT
ASU9RLS3 : EZ-014YHSE
ASU12RLS3 : EZ-01400HSE



CN4 Thermistor Characteristics.

Thermistor	0 °C	20 °C	30 °C
Thermistor (Pipe temp.)	176.0 k Ω	62.9 k Ω	39.6 k Ω
Thermistor (room temp.)	1.1 V	2.2 V	2.8 V
Thermistor (room temp.)	33.6 k Ω	12.5 k Ω	8.0 k Ω
Thermistor (room temp.)	3.0 V	4.0 V	4.3 V

CN7 DC Fan motor

Pin No.	Terminal code	Function of terminal	Lead wire color
6	Vm	Motor power voltage input	Red
5	—	—	—
4	GND	GND	Black
3	Vcc	Control power voltage input	White
2	Vcp	Speed control voltage input	Yellow
1	PG	Revolution pulse output	Blue

I NVERTER ASSEMBLY
AOU9RLS3 : EZ-014PHUE
AOU12RLS3 : EZ-014SHUE



ERROR DETECTION

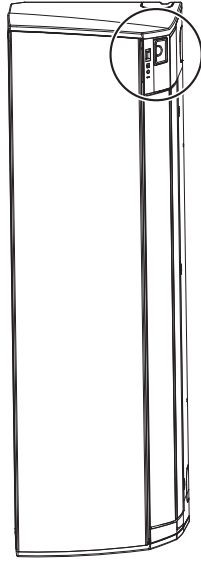
INDOOR UNIT REMOTE CONTROL

If you use a wireless remote control, the lamp on the photo detector unit will output error codes by way of blinking patterns.

If you use a wired remote control, error codes will appear on the remote control display.

See the lamp blinking patterns and error codes in the table.

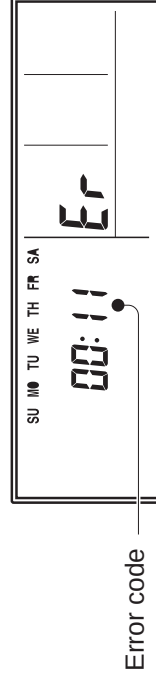
An error display is displayed only during operation.



OPERATION indicator lamp (green) —
TIMER indicator lamp (orange)
ECONOMY indicator lamp (green)

Wired remote control display (Option)

If an error occurs, the following display will be shown.
("Er" will appear in the set room temperature display.)



Error code

- : 0.5s ON / 0.5s OFF
- ◇ : 0.1s ON / 0.1s OFF
- () : Number of flashing

Indoor unit lamps			Wired remote control	Description
OPERATION (green)	TIMER (orange)	ECONOMY (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 unit) [Simultaneous Multi] • Connection unit number error (Indoor unit or branch unit) [Flexible Multi]
● (2)	● (7)	◇	27	Primary unit, secondary unit set-up error [Simultaneous Multi]
● (3)	● (2)	◇	32	Indoor unit PCB model information error
● (3)	● (5)	◇	35	Manual auto switch error
● (4)	● (1)	◇	41	Room 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)	● (8)	◇	58	Intake grill 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 L error

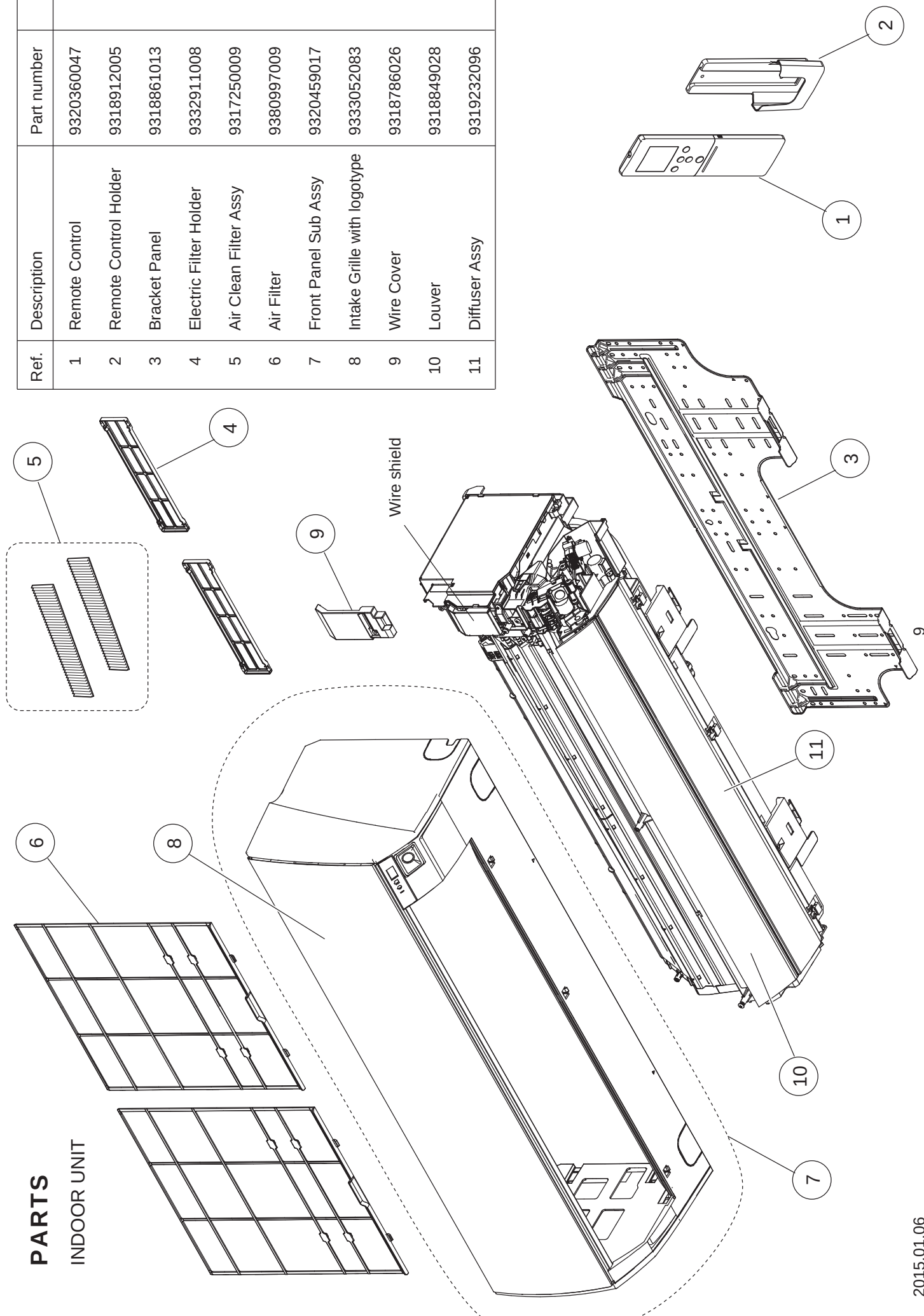
Indoor unit lamps			Wired remote control	Description
OPERATION (green)	TIMER (orange)	ECONOMY (green)		
● (6)	● (10)	◇	6A	Display PCB microcomputers communication error
● (7)	● (1)	◇	71	Discharge temp. sensor error
● (7)	● (2)	◇	72	Compressor temp. sensor error
● (7)	● (3)	◇	73	Outdoor unit Heat Ex. 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)	● (9)	◇	99	4-way 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)	◇	J2	Branch boxes error

OUTDOOR UNIT

LED	ERROR
on	Discharge temperature abnormal
0.5 second on / 0.5 second off	IPM overcurrent protection
0.1 second on / 0.1 second off	Thermistor abnormal
2.0 second on / 2.0 second off	CT abnormal
0.1 second on / 2.0 second off	Compressor location abnormal
5.0 second on / 5.0 second off	Fan abnormal

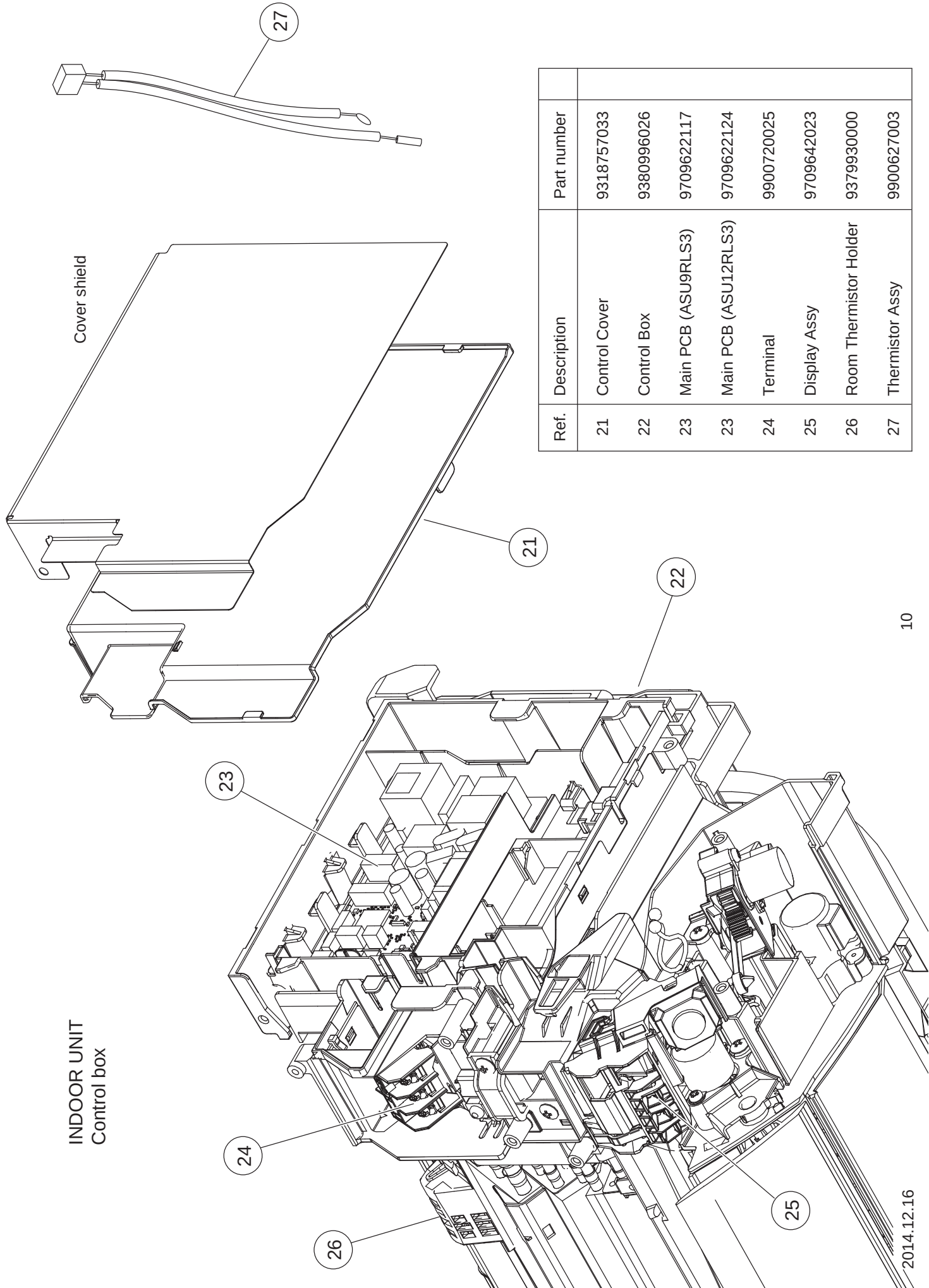
PARTS

INDOOR UNIT

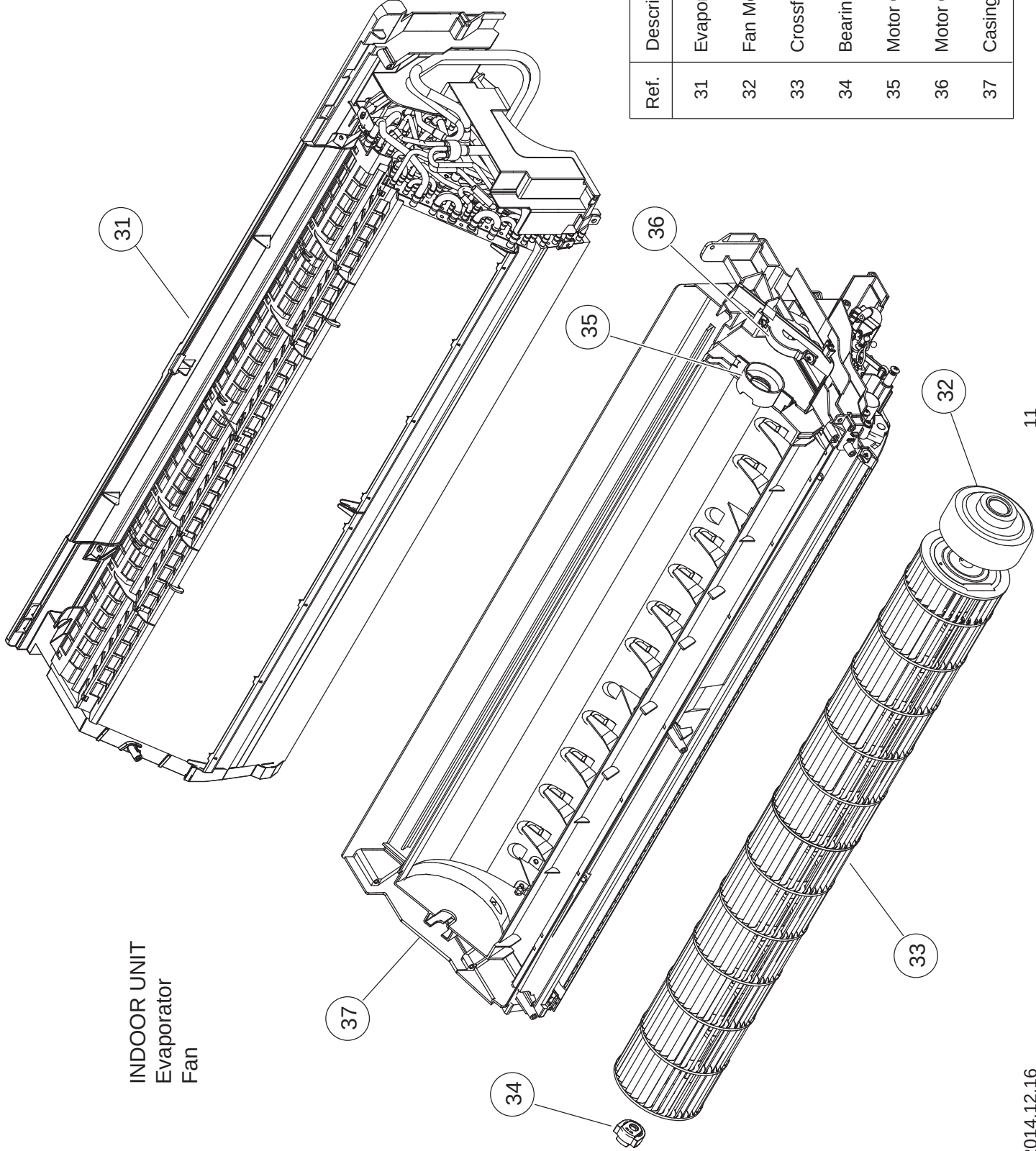


Ref.	Description	Part number
1	Remote Control	9320360047
2	Remote Control Holder	9318912005
3	Bracket Panel	9318861013
4	Electric Filter Holder	9332911008
5	Air Clean Filter Assy	9317250009
6	Air Filter	9380997009
7	Front Panel Sub Assy	9320459017
8	Intake Grille with logotype	9333052083
9	Wire Cover	9318786026
10	Louver	9318849028
11	Diffuser Assy	9319232096

INDOOR UNIT Control box



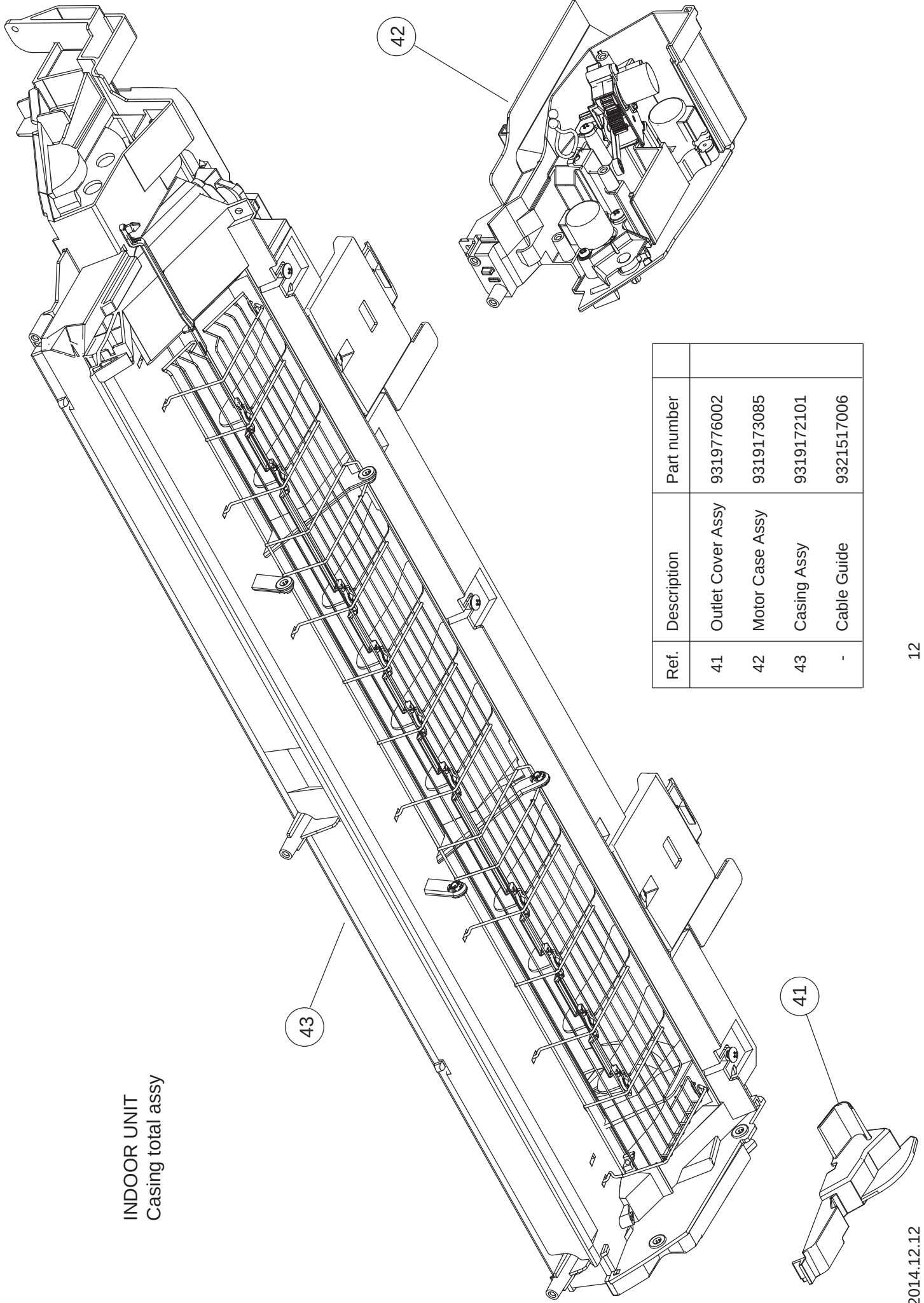
Ref.	Description	Part number
21	Control Cover	9318757033
22	Control Box	9380996026
23	Main PCB (ASU9RLS3)	9709622117
23	Main PCB (ASU12RLS3)	9709622124
24	Terminal	9900720025
25	Display Assy	9709642023
26	Room Thermistor Holder	9379930000
27	Thermistor Assy	9900627003



INDOOR UNIT
Evaporator
Fan

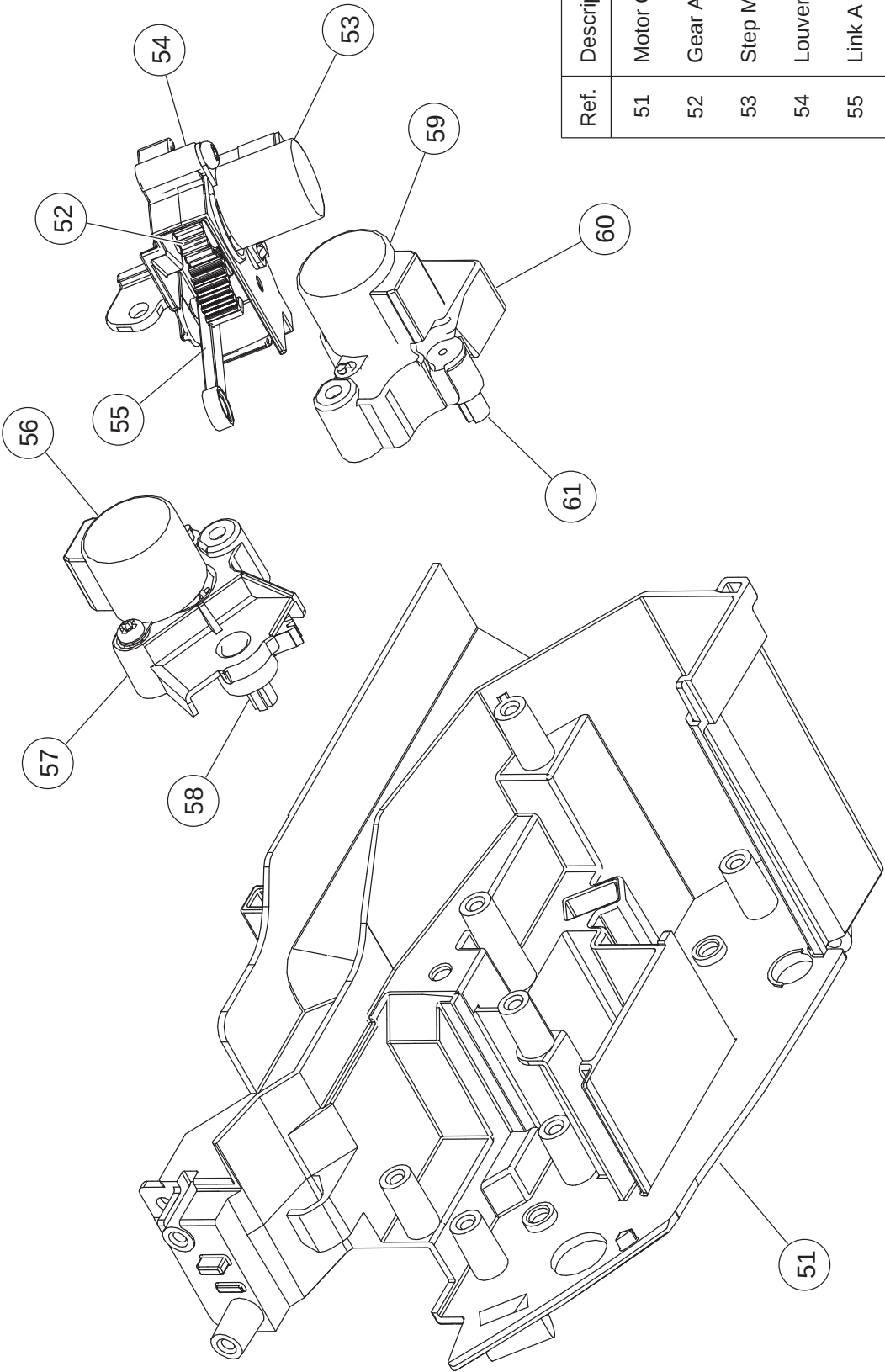
Ref.	Description	Part number
31	Evaporator Total Assy	9319254180
32	Fan Motor	9603253028
33	Crossflow Fan Assy	9315024060
34	Bearing C Assy	9306628017
35	Motor Cover	9316568006
36	Motor Cover	9316601000
37	Casing Total Assy	9319171272

INDOOR UNIT
Casing total assy

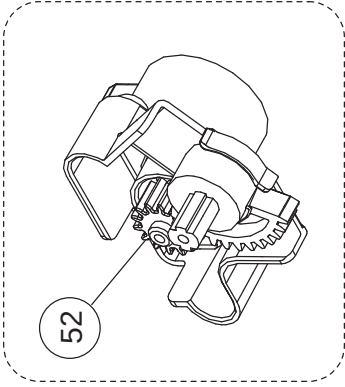
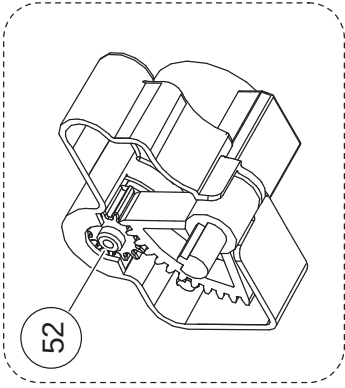


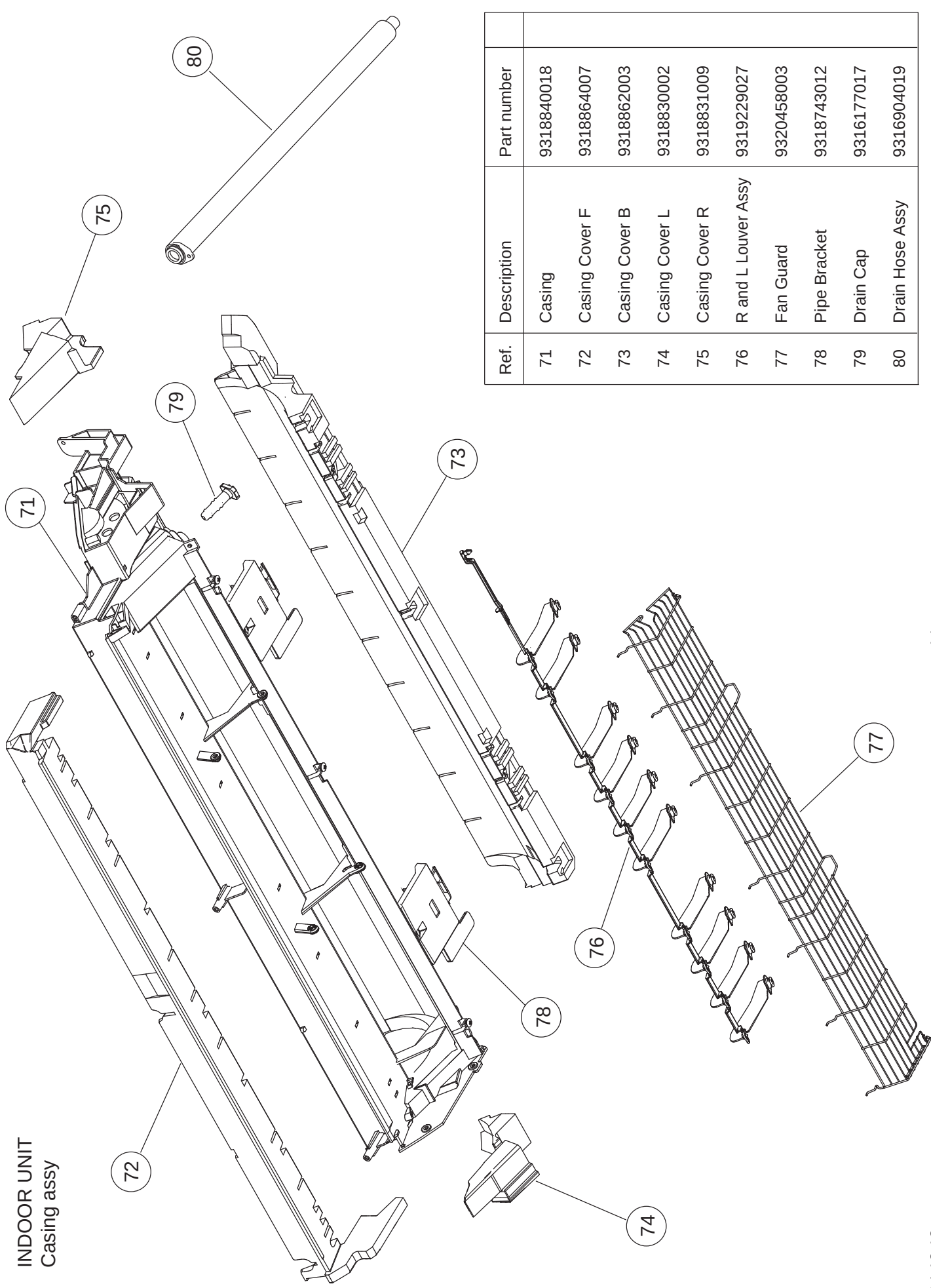
Ref.	Description	Part number
41	Outlet Cover Assy	9319776002
42	Motor Case Assy	9319173085
43	Casing Assy	9319172101
-	Cable Guide	9321517006

INDOOR UNIT
Motor case assy



Ref.	Description	Part number
51	Motor Case	9318746020
52	Gear A	9309994003
53	Step Motor (R&L)	9900139230
54	Louver Link Holder	9319150000
55	Link A	9317507004
56	Step Motor (Louver)	9900384135
57	Gear Cover A	9318748000
58	Louver Gear A	9318749007
59	Step Motor (Diffuser)	9900384142
60	Gear Cover B	9318750003
61	Louver Gear B	9316616004



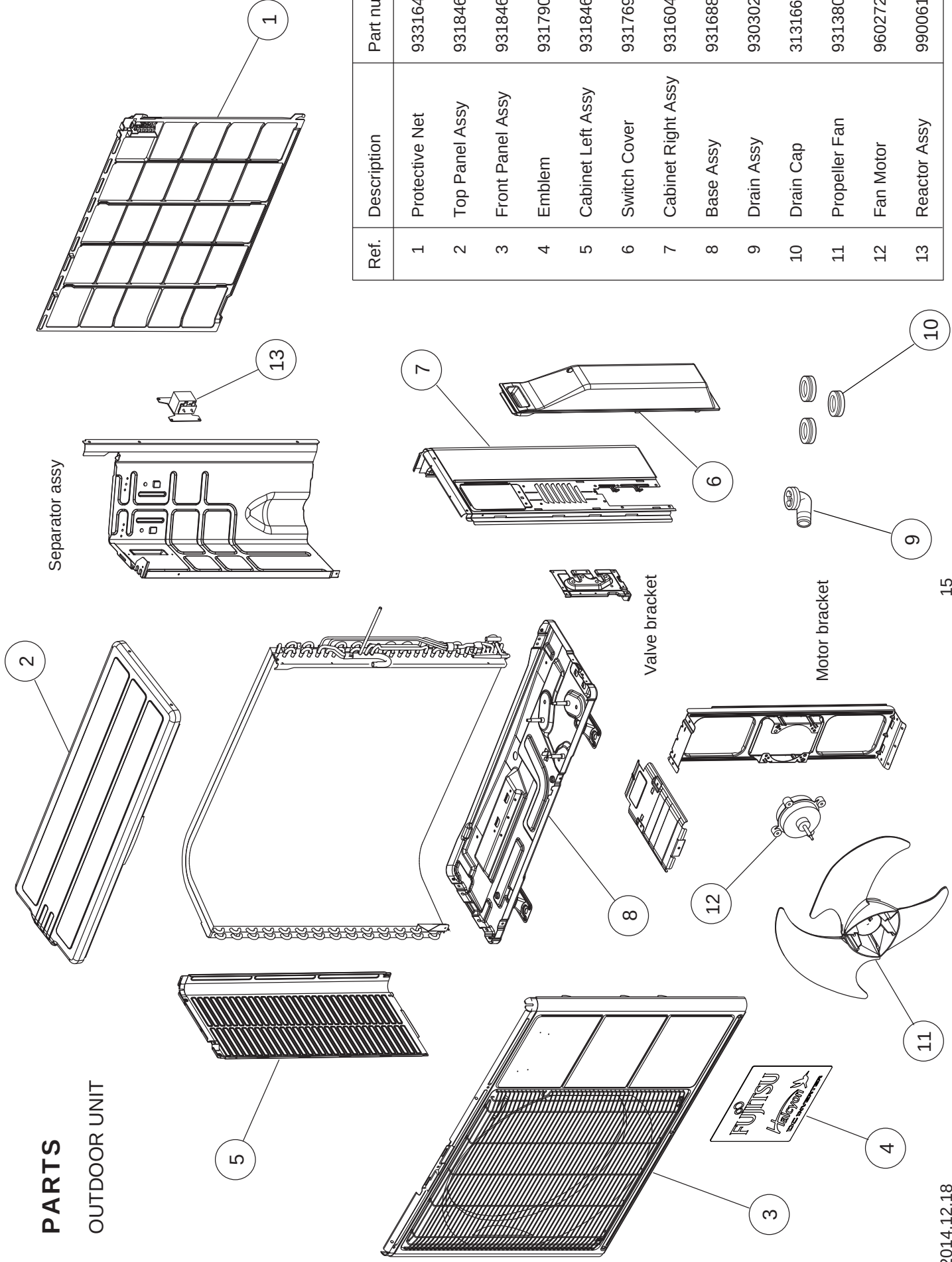


INDOOR UNIT
Casing assy

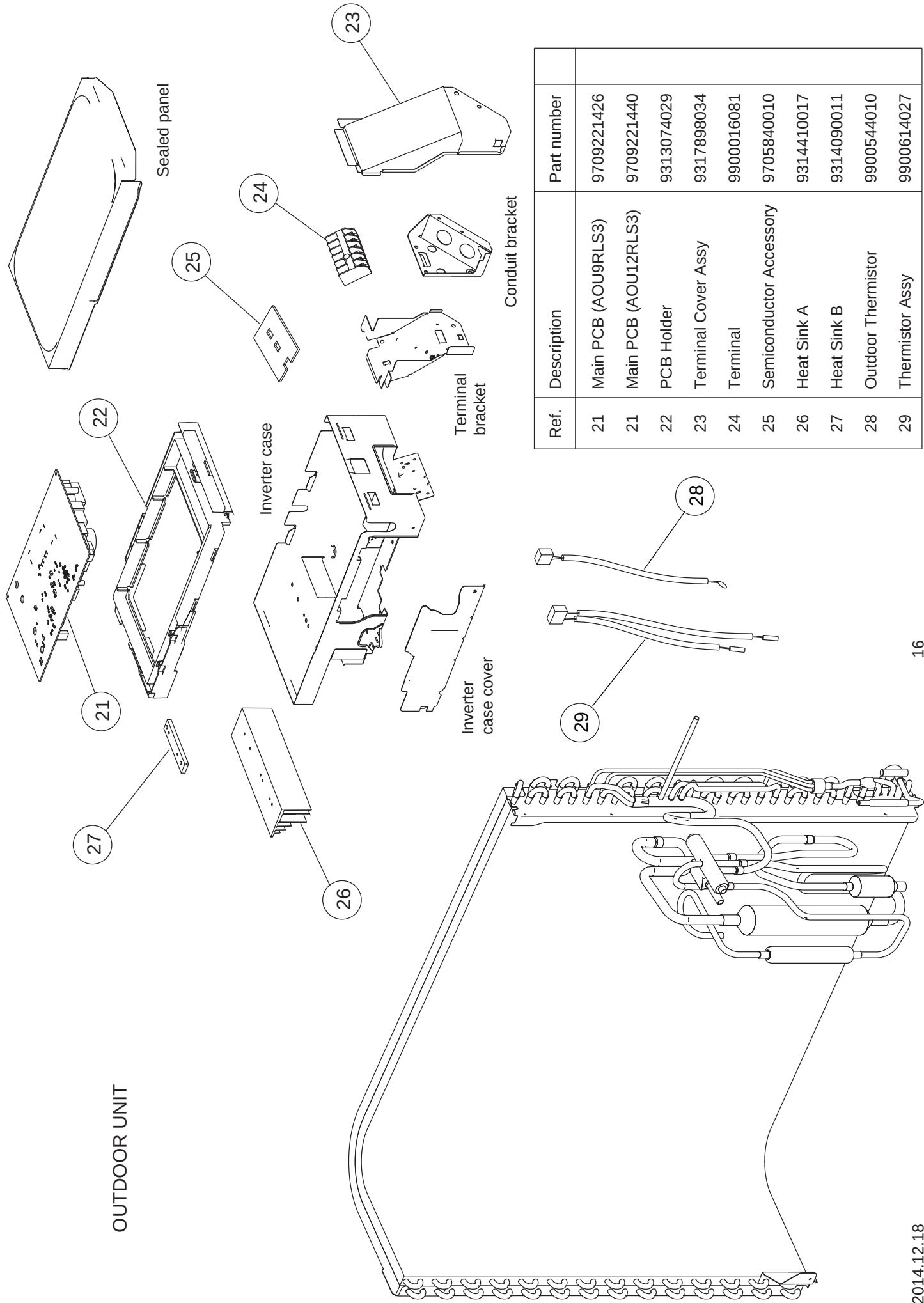
Ref.	Description	Part number
71	Casing	9318840018
72	Casing Cover F	9318864007
73	Casing Cover B	9318862003
74	Casing Cover L	9318830002
75	Casing Cover R	9318831009
76	R and L Louver Assy	9319229027
77	Fan Guard	9320458003
78	Pipe Bracket	9318743012
79	Drain Cap	9316177017
80	Drain Hose Assy	9316904019

PARTS

OUTDOOR UNIT

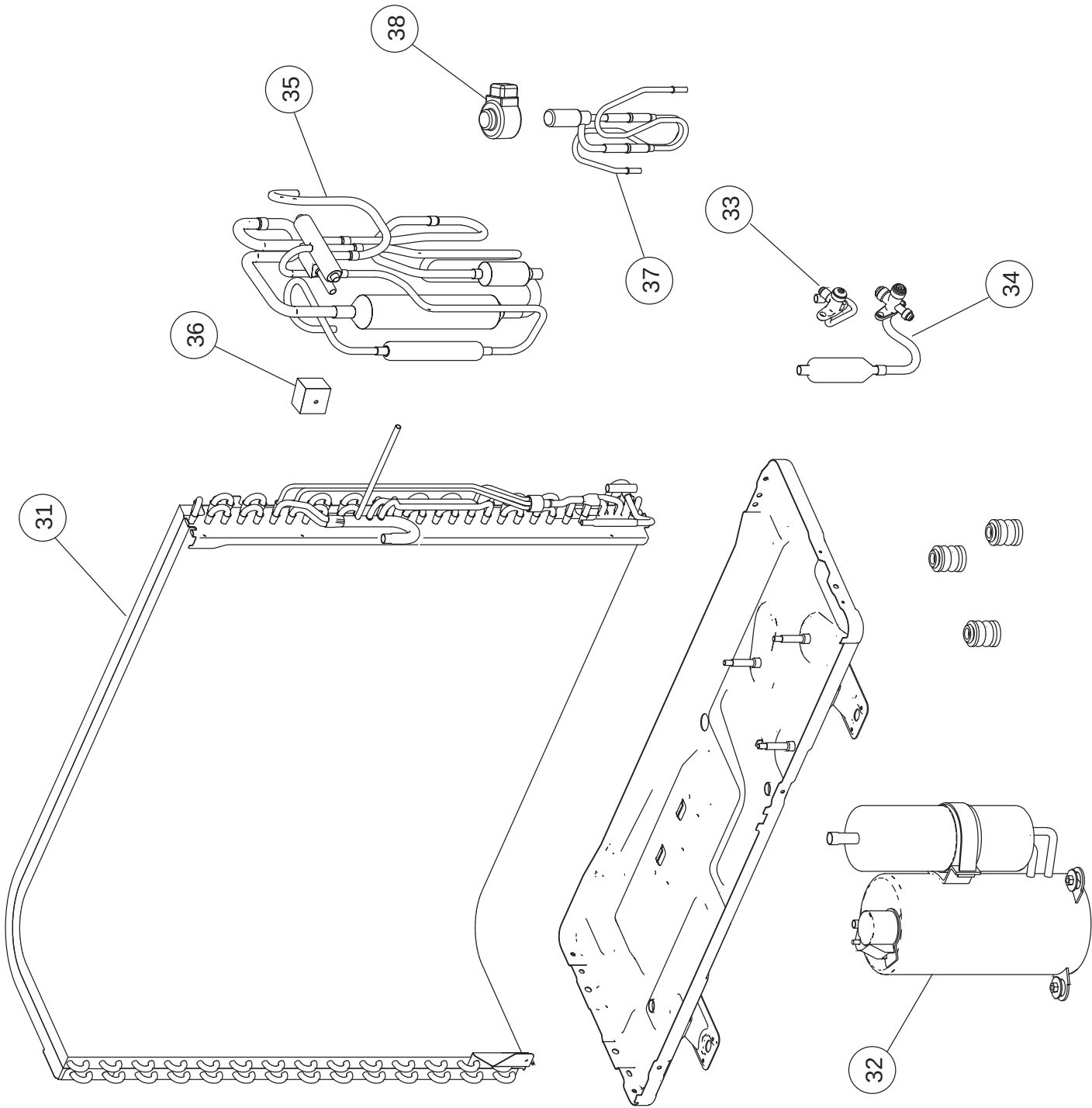


Ref.	Description	Part number
1	Protective Net	9331640008
2	Top Panel Assy	9318464023
3	Front Panel Assy	9318463026
4	Emblem	9317903011
5	Cabinet Left Assy	9318461015
6	Switch Cover	9317692021
7	Cabinet Right Assy	9316044050
8	Base Assy	9316885066
9	Drain Assy	9303029022
10	Drain Cap	31316624302
11	Propeller Fan	9313808013
12	Fan Motor	9602724017
13	Reactor Assy	9900611019



Ref.	Description	Part number
21	Main PCB (AOU9RLS3)	9709221426
21	Main PCB (AOU12RLS3)	9709221440
22	PCB Holder	9313074029
23	Terminal Cover Assy	9317898034
24	Terminal	9900016081
25	Semiconductor Accessory	9705840010
26	Heat Sink A	9314410017
27	Heat Sink B	9314090011
28	Outdoor Thermistor	9900544010
29	Thermistor Assy	9900614027

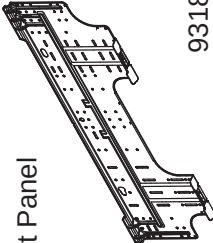
OUTDOOR UNIT



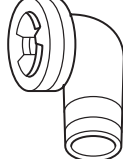
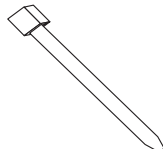
Ref.	Description	Part number
31	Condenser Total Assy	9317089135
32	Compressor Assy	9317117005
33	2-way Valve Assy	9332371000
34	3-way Valve Sub Assy	9317109000
35	4-way Valve Assy	9315311092
36	Solenoid	9970110047
37	Pulse Motor Valve Assy	9332368048
38	Expansion Valve Coil	9970095030

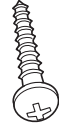
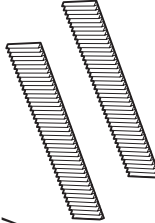
ACCESSORIES

INDOOR UNIT

Name and Shape	Part number
 9318861013	
 9320360047	
 0600185541	
 9318912005	
 9310519004	

OUTDOOR UNIT

Name and Shape	Part number
 9303029022	
 313166024302	
 313035356905	

Name and Shape	Part number
 0700076046	
 0700019036	
 9317250009	
 9332911008	

1410G4391