FUJITSU

SPLIT TYPE
ROOM AIR CONDITIONER
WALL MOUNTED TYPE

SERVICE MANUAL

Refrigerant R410A

Indoor unit	Outdoor unit
ASU9RLS3Y	AOU9RLS3H
ASU12RLS3Y	AOU12RLS3H

CONTENTS

FUJITSU GENERAL LIMITED

SPECIFICATIONS

ELECTRICAL DATA

TYPE		Extra low temp. heating	
INDOOR UNIT		ASU9RLS3Y	ASU12RLS3Y
OUTDOOR UNIT		AOU9RLS3H	AOU12RLS3H
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/Wh	15.2 Btu/Wh
COP	Heating	18.2 Btu/Wh	15.8 Btu/Wh
MOISTURE REMOVAL		2.6 Pts/h 1.2 L/h	2.7 Pts/h 1.3 L/h
AIR CIRCULATION HIGH		489 CFM, 830 m^3/h	
MAXIMUM CURRENT	Cooling	9.4 A	
	Heating	11.9 A	

FAN MOTOR

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

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, Single 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
FULL CHARGE	Pipe length	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

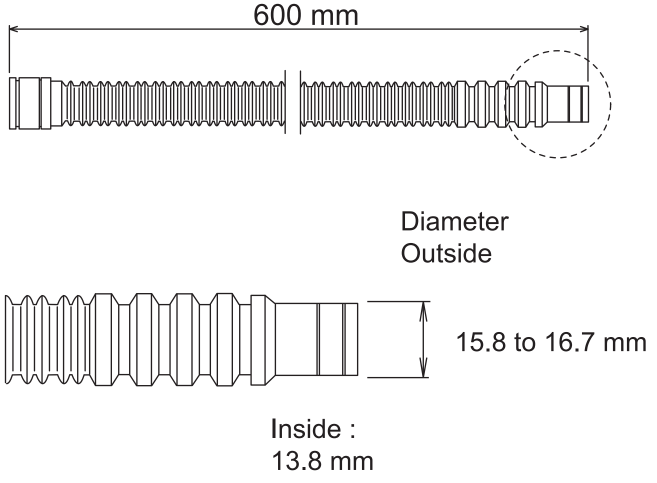
INDOOR UNIT	H x W x D	11-5/8 x 37 x 10-5/8 inch 295 x 940 x 270 mm
OUTDOOR UNIT	H x W x D	24-1/2 x 31-3/32 x 11-13/32 inch 620 x 790 x 290 mm

WEIGHT

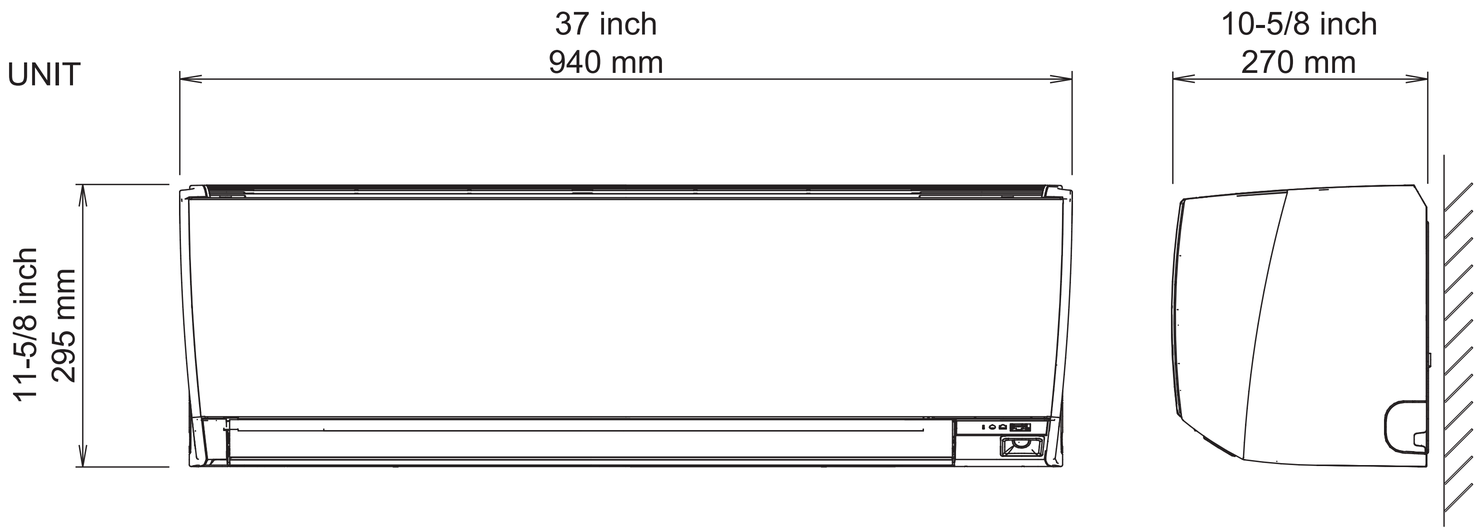
INDOOR UNIT Net / Shipping	31 lb. / 37 lb.	14 kg / 17 kg
OUTDOOR UNIT Net / Shipping	86 lb. / 95 lb.	39 kg / 43 kg

DIMENSIONS

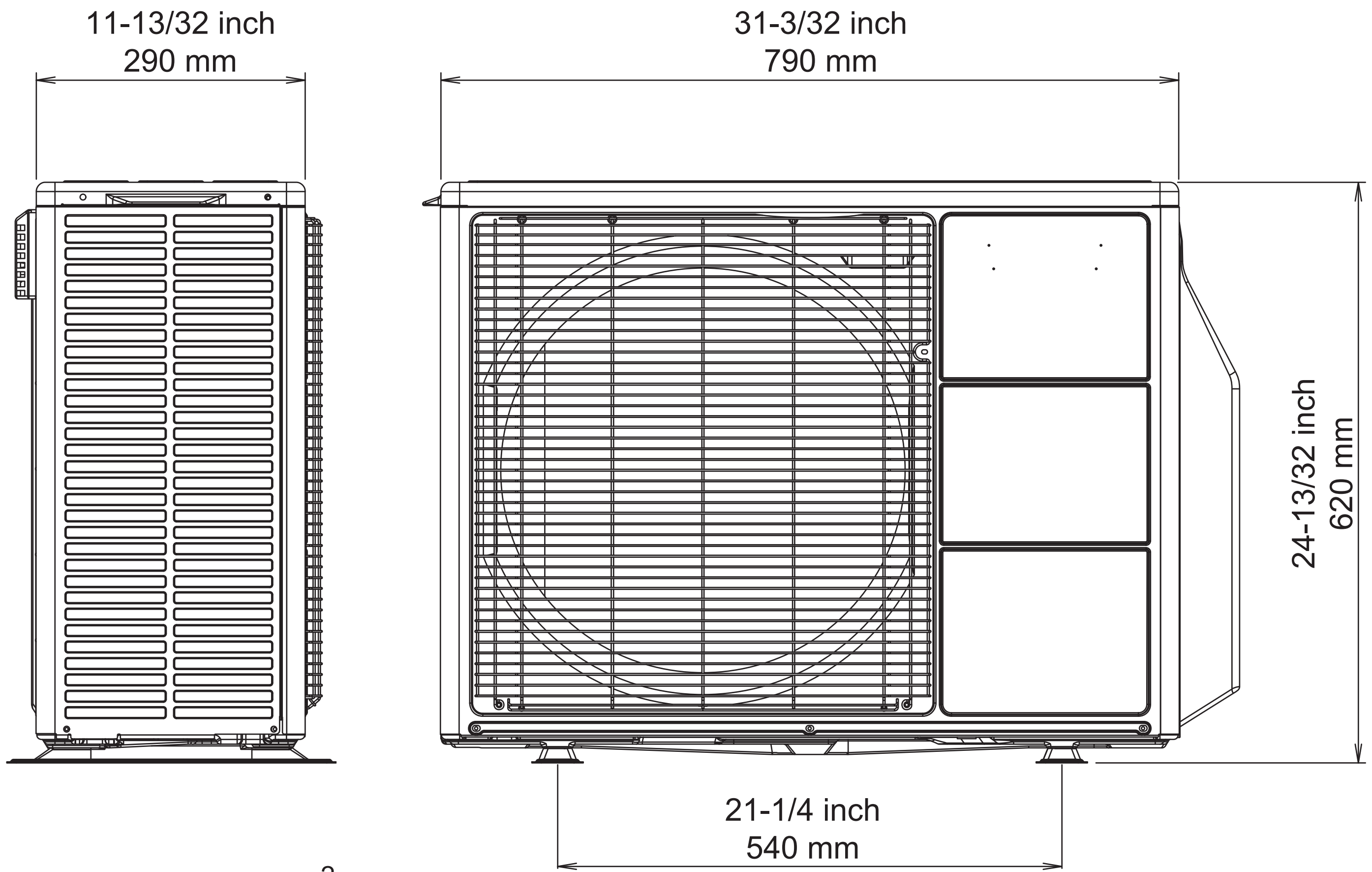
Drain hose



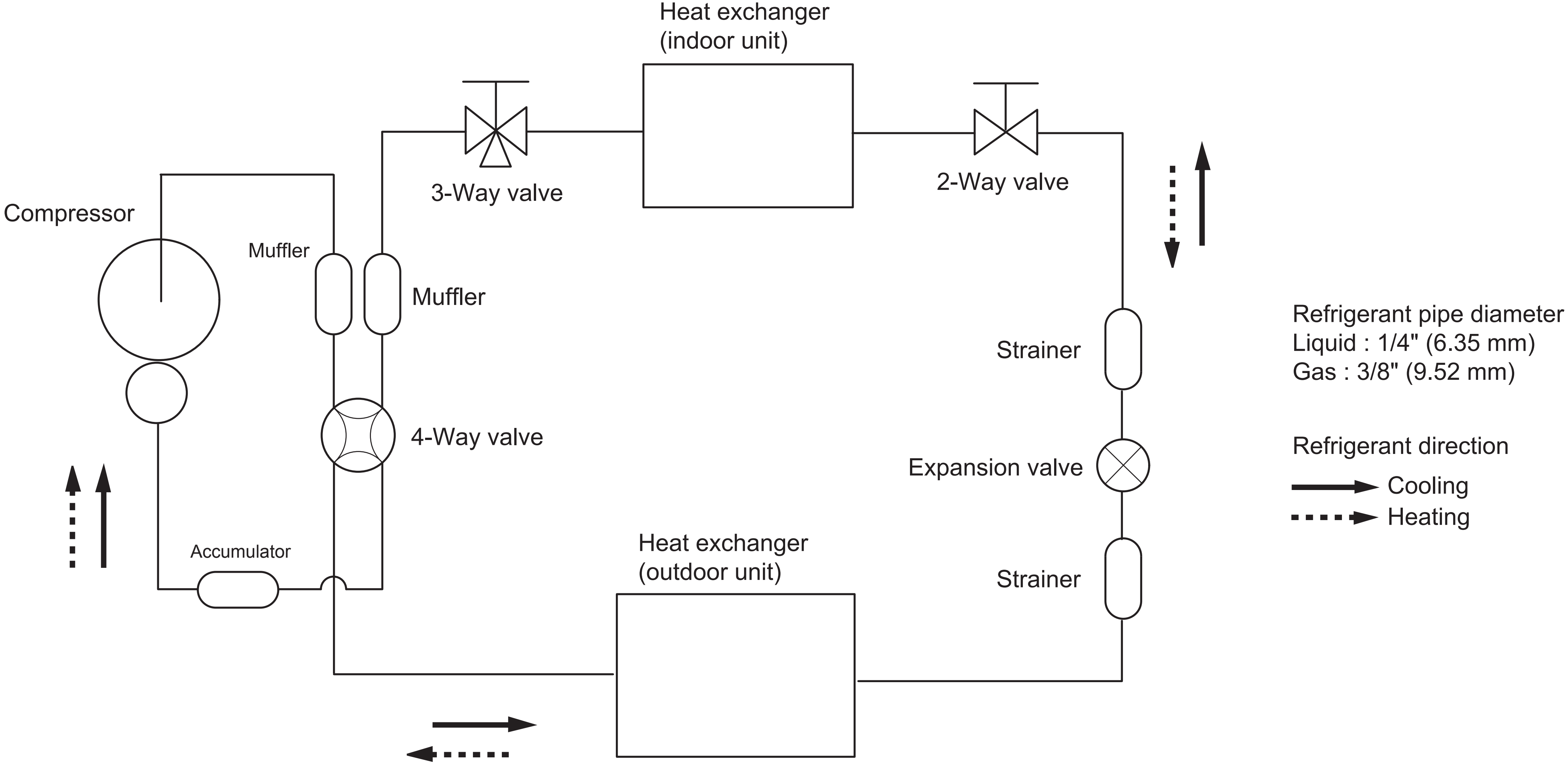
INDOOR UNIT



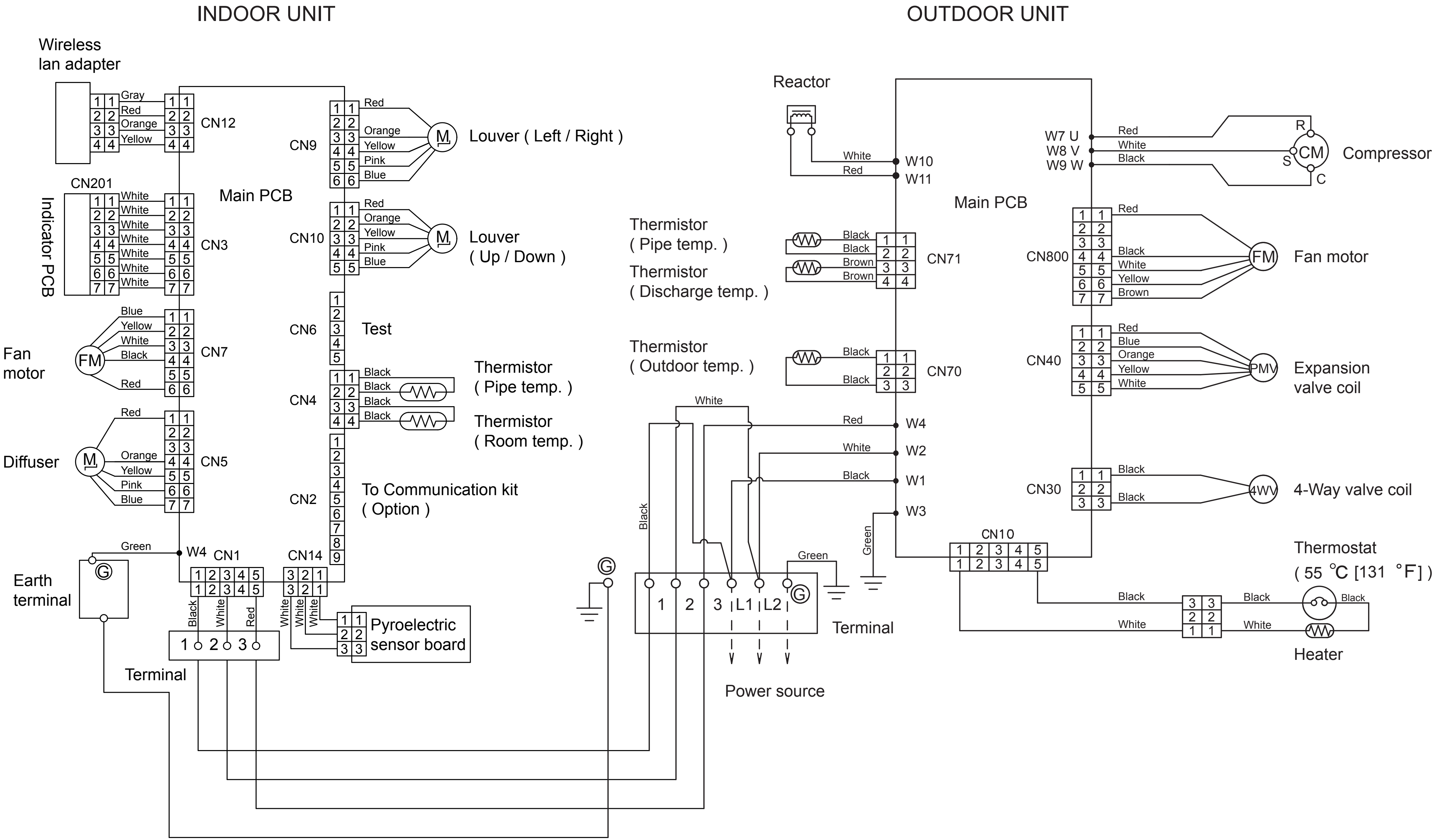
OUTDOOR UNIT



REFRIGERANT SYSTEM DIAGRAM

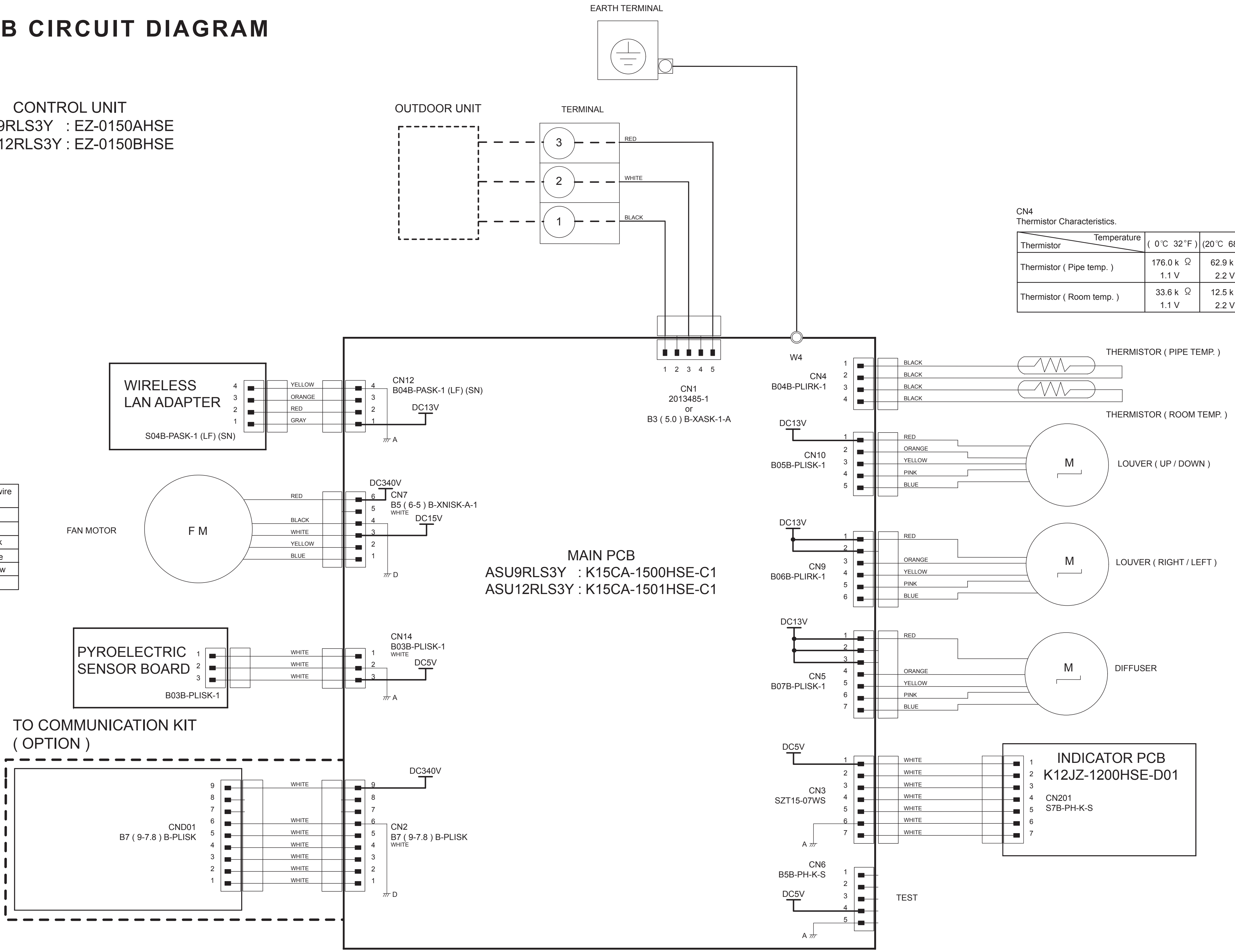


CIRCUIT DIAGRAM



PCB CIRCUIT DIAGRAM

CONTROL UNIT
ASU9RLS3Y : EZ-0150AHSE
ASU12RLS3Y : EZ-0150BHSE



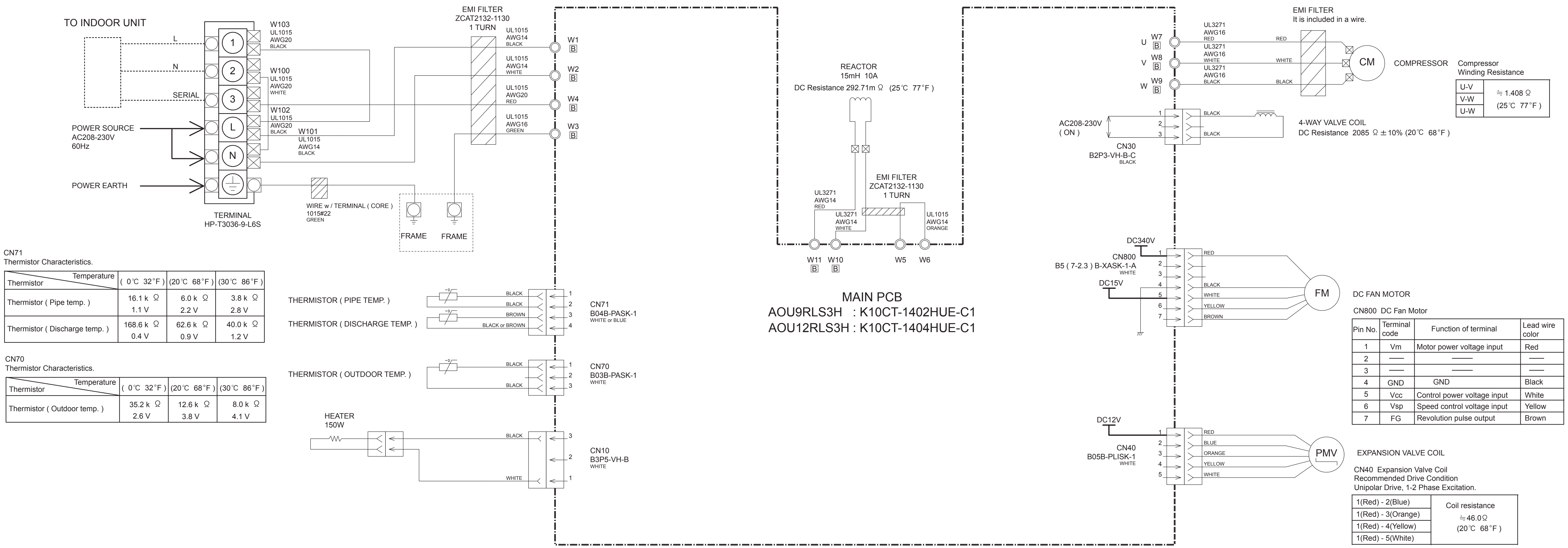
CN7 DC Fan motor

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	Vsp	Speed control voltage input	Yellow
1	PG	Revolution pulse output	Blue

CN4
Thermistor Characteristics.

Thermistor \ Temperature	(0℃ 32°F)	(20℃ 68°F)	(30℃ 86°F)
Thermistor (Pipe temp.)	176.0 k Ω 1.1 V	62.9 k Ω 2.2 V	39.6 k Ω 2.8 V
Thermistor (Room temp.)	33.6 k Ω 1.1 V	12.5 k Ω 2.2 V	8.0 k Ω 2.8 V

INVERTER ASSEMBLY
AOU9RLS3H : EZ-014RHUE
AOU12RLS3H : EZ-014THUE



CN71
Thermistor Characteristics.

Thermistor \ Temperature	(0℃ 32°F)	(20℃ 68°F)	(30℃ 86°F)
Thermistor (Pipe temp.)	16.1 kΩ 1.1 V	6.0 kΩ 2.2 V	3.8 kΩ 2.8 V
Thermistor (Discharge temp.)	168.6 kΩ 0.4 V	62.6 kΩ 0.9 V	40.0 kΩ 1.2 V

CN70
Thermistor Characteristics.

Thermistor \ Temperature	(0℃ 32°F)	(20℃ 68°F)	(30℃ 86°F)
Thermistor (Outdoor temp.)	35.2 kΩ 2.6 V	12.6 kΩ 3.8 V	8.0 kΩ 4.1 V

Compressor Winding Resistance

U-V	≒ 1.408 Ω (25℃ 77°F)
V-W	
U-W	

CN800 DC Fan Motor

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

CN40 Expansion Valve Coil
Recommended Drive Condition
Unipolar Drive, 1-2 Phase Excitation.

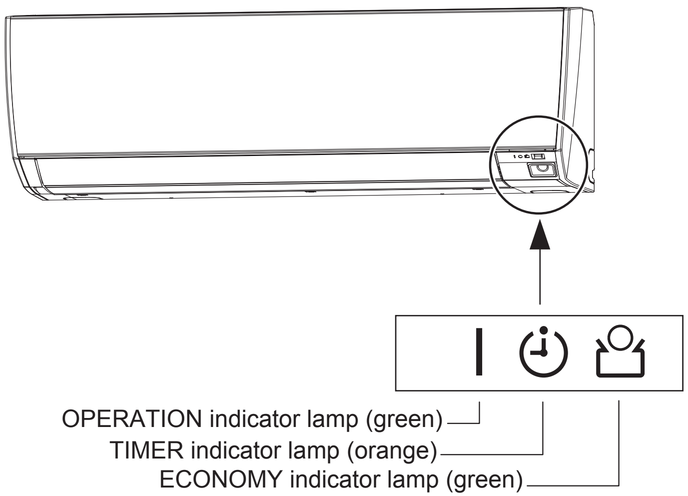
1(Red) - 2(Blue)	Coil resistance ≒46.0Ω (20℃ 68°F)
1(Red) - 3(Orange)	
1(Red) - 4(Yellow)	
1(Red) - 5(White)	

ERROR DETECTION

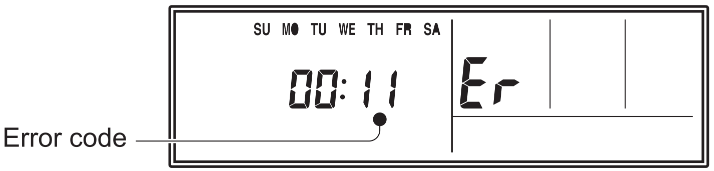
● : 0.5s ON / 0.5s OFF
◇ : 0.1s ON / 0.1s OFF
( ) : Number of flashing

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.



Wired remote control display (Option)
If an error occurs, the following display will be shown.
(“Er” will appear in the set room temperature display.)



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 secondary 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

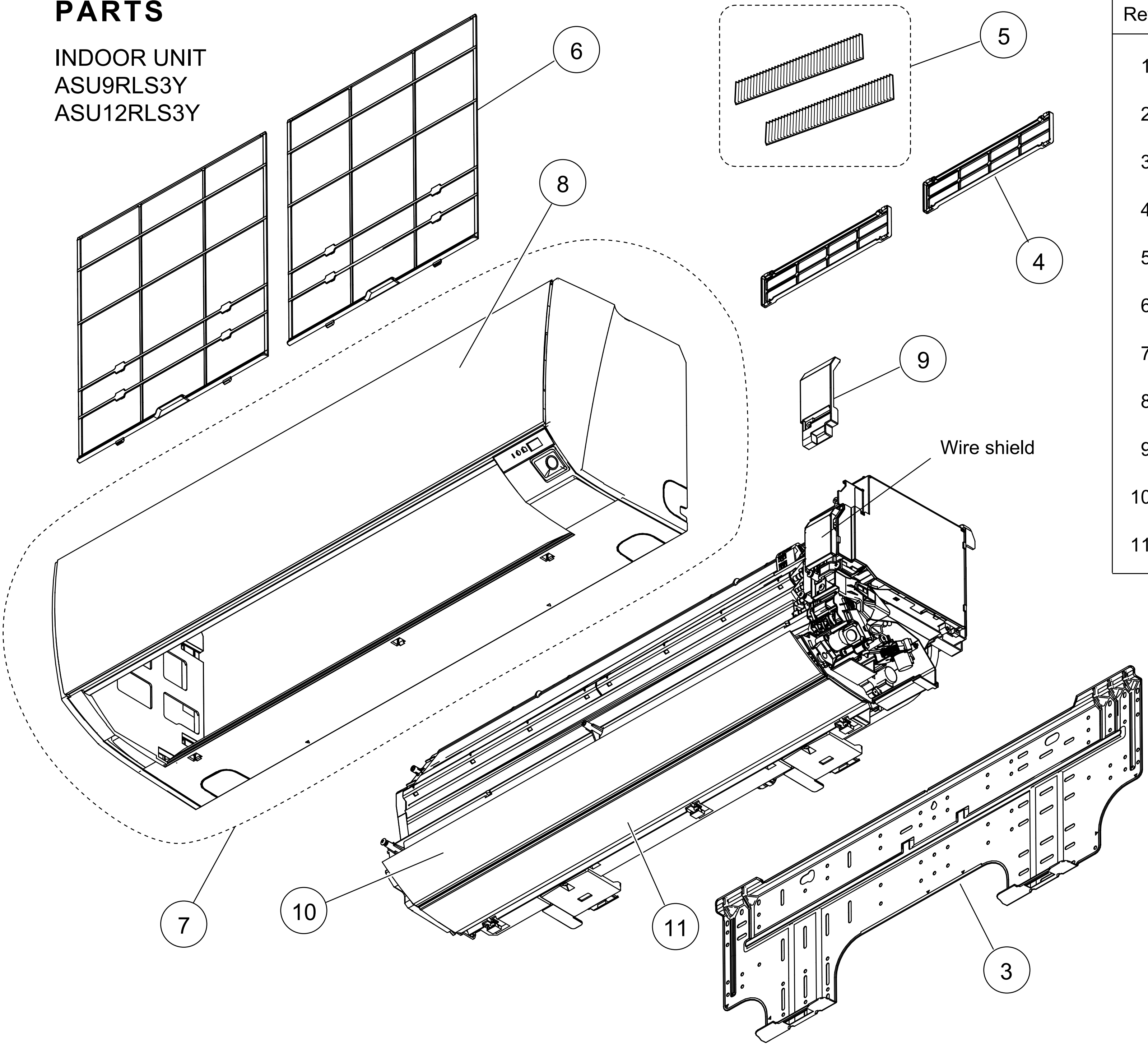
Indoor unit lamps			Wired remote control	Description
OPERATION (green)	TIMER (orange)	ECONOMY (green)		
● (6)	● (10)	◇	6A	Display PCB microcomputers communication error
● (7)	● (1)	◇	71	Discharge temp. sensor error
● (7)	● (2)	◇	72	Compressor temp. sensor error
● (7)	● (3)	◇	73	Outdoor unit Heat Ex. 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
● (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 [flexible multi]

OUTDOOR UNIT

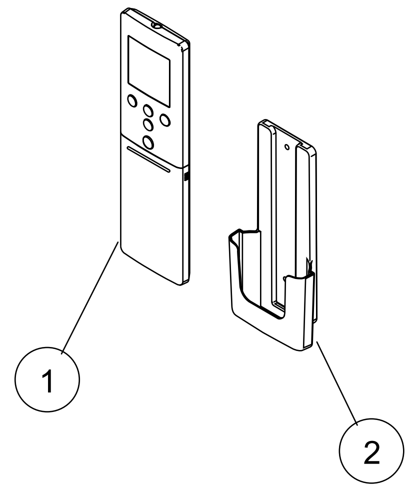
LED	ERROR
on	Discharge temperature abnormal
0.5 second on / 0.5 second off	IPM overcurrent protection
0.1 second on / 0.1 second off	Thermistor abnormal
2.0 second on / 2.0 second off	CT abnormal
0.1 second on / 2.0 second off	Compressor location abnormal
5.0 second on / 5.0 second off	Fan abnormal

PARTS

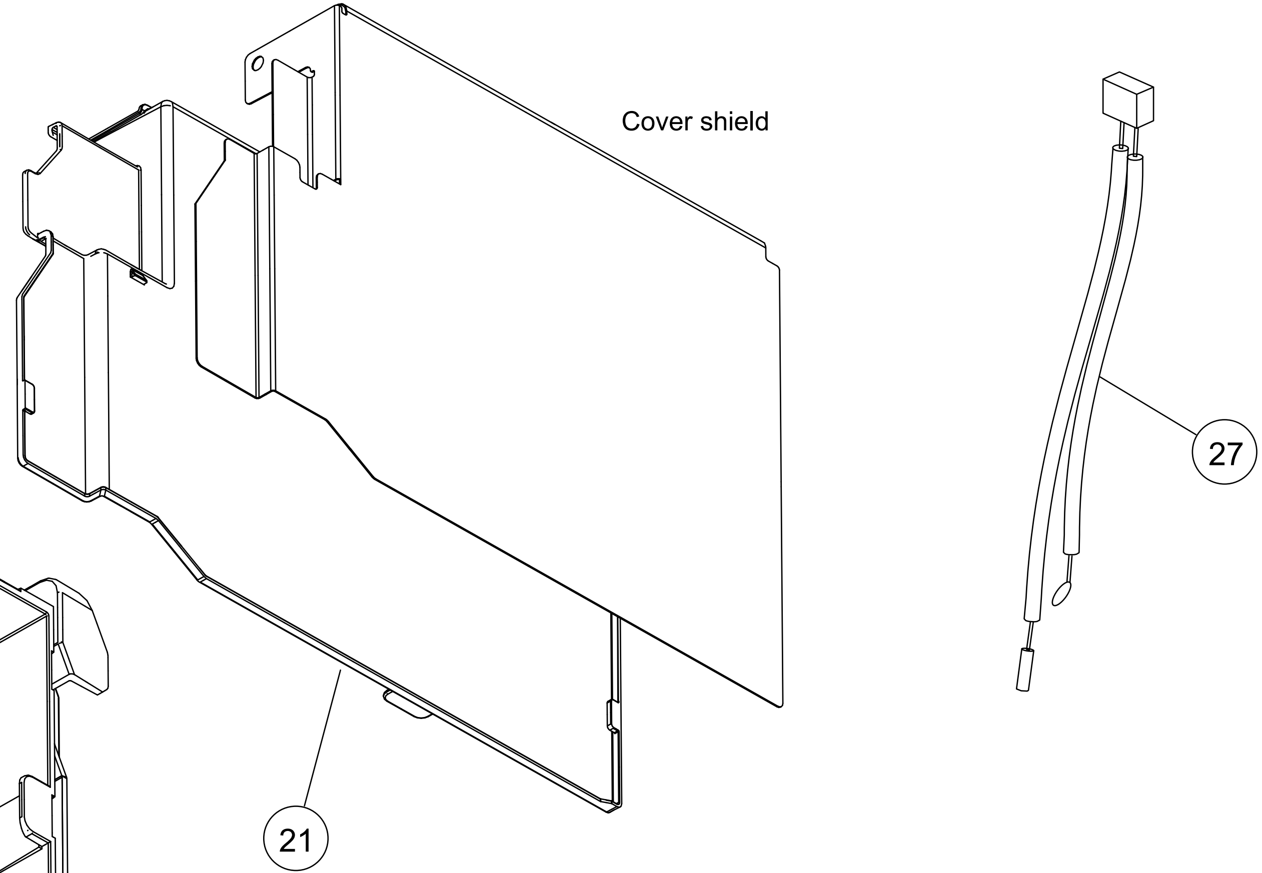
INDOOR UNIT
ASU9RLS3Y
ASU12RLS3Y

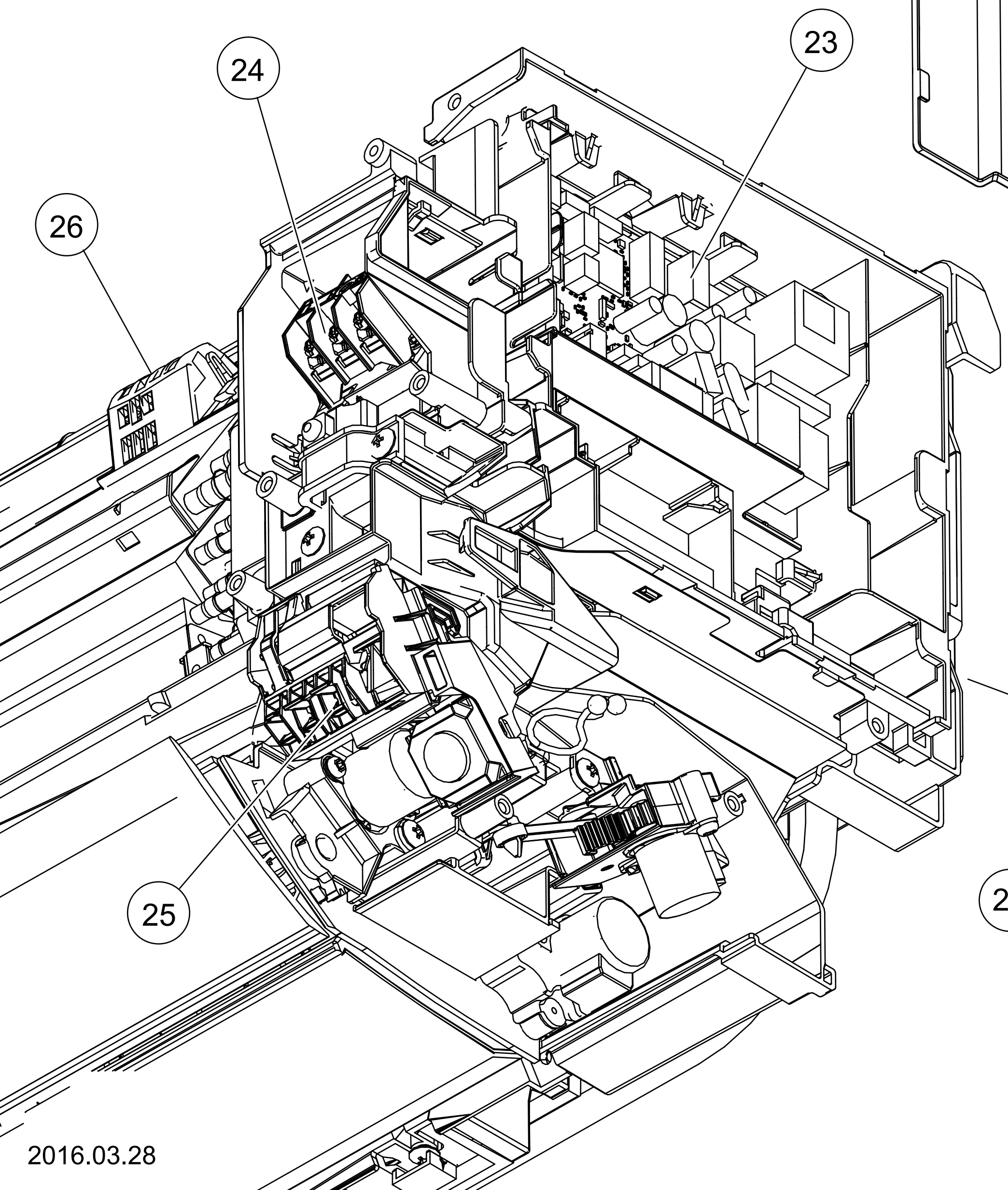


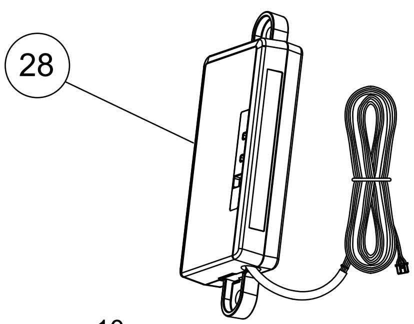
Ref.	Description	Part number	
1	Remote Control	9382108021	
2	Remote Control Holder	9318912005	
3	Bracket Panel	9318861013	
4	Electric Filter Holder	9332911008	
5	Air Clean Filter Assy	9317250009	
6	Air Filter	9380997009	
7	Front Panel Sub Assy	9320459017	
8	Intake Grille with logotype	9333052083	
9	Wire Cover	9318786026	
10	Louver	9318849028	
11	Diffuser Assy	9319232096	



INDOOR UNIT
ASU9RLS3Y
ASU12RLS3Y
Control box

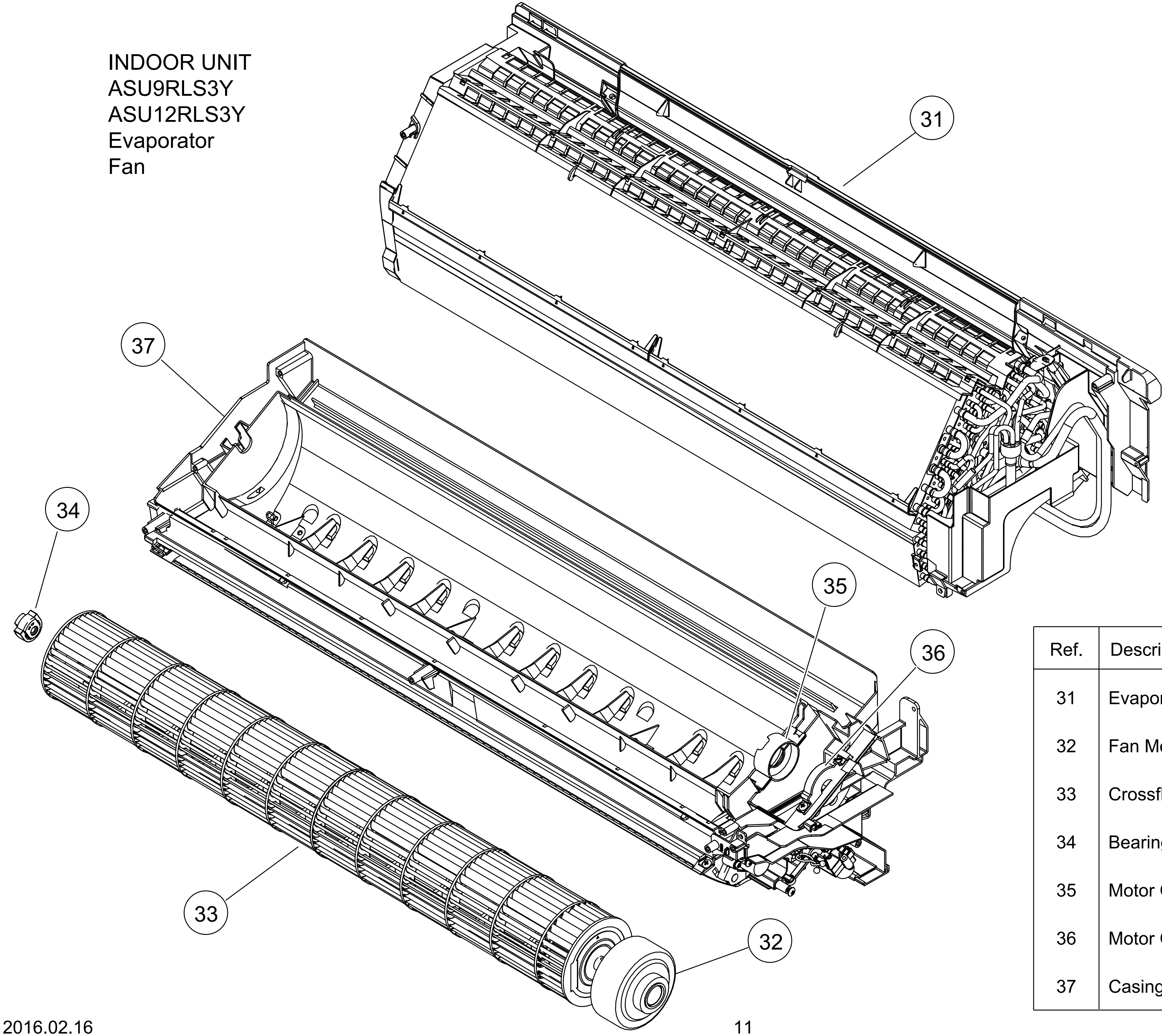






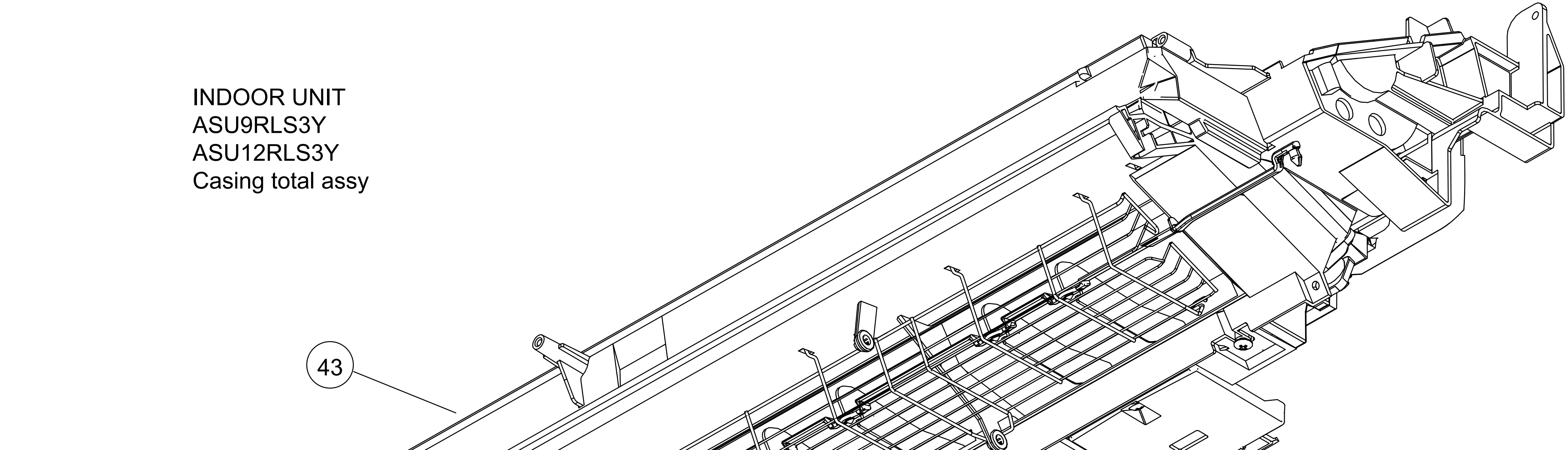
Ref.	Description	Part number	
21	Control Cover	9318757033	
22	Control Box	9380996026	
23	Main PCB (ASU9RLS3Y)	9710368011	
23	Main PCB (ASU12RLS3Y)	9710368028	
24	Terminal	9900720025	
25	Display Assy	9709642023	
26	Room Thermistor Holder	9379930000	
27	Thermistor Assy	9900627003	
28	Wireless LAN Adapter	9382167004	

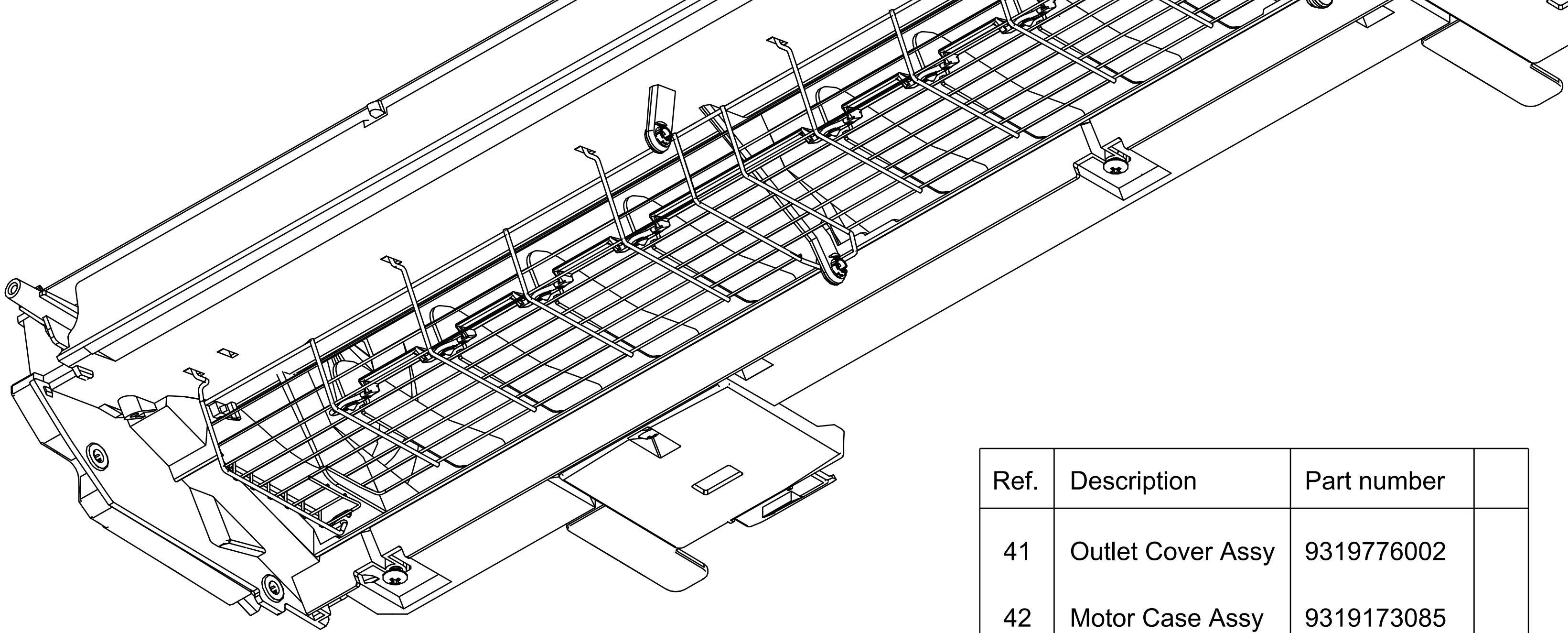
INDOOR UNIT
ASU9RLS3Y
ASU12RLS3Y
Evaporator
Fan

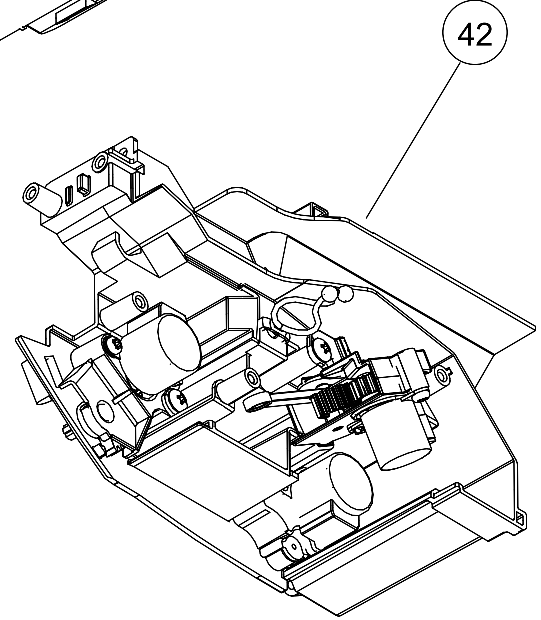


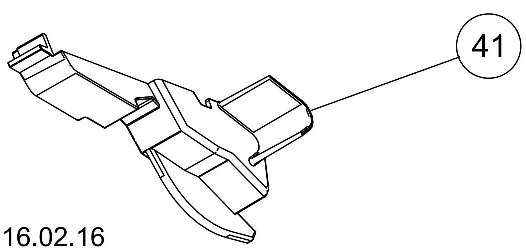
Ref.	Description	Part number	
31	Evaporator Total Assy	9319254593	
32	Fan Motor	9603253028	
33	Crossflow Fan Assy	9315024060	
34	Bearing C Assy	9306628017	
35	Motor Cover	9316568006	
36	Motor Cover	9316601000	
37	Casing Total Assy	9319171319	

INDOOR UNIT
ASU9RLS3Y
ASU12RLS3Y
Casing total assy

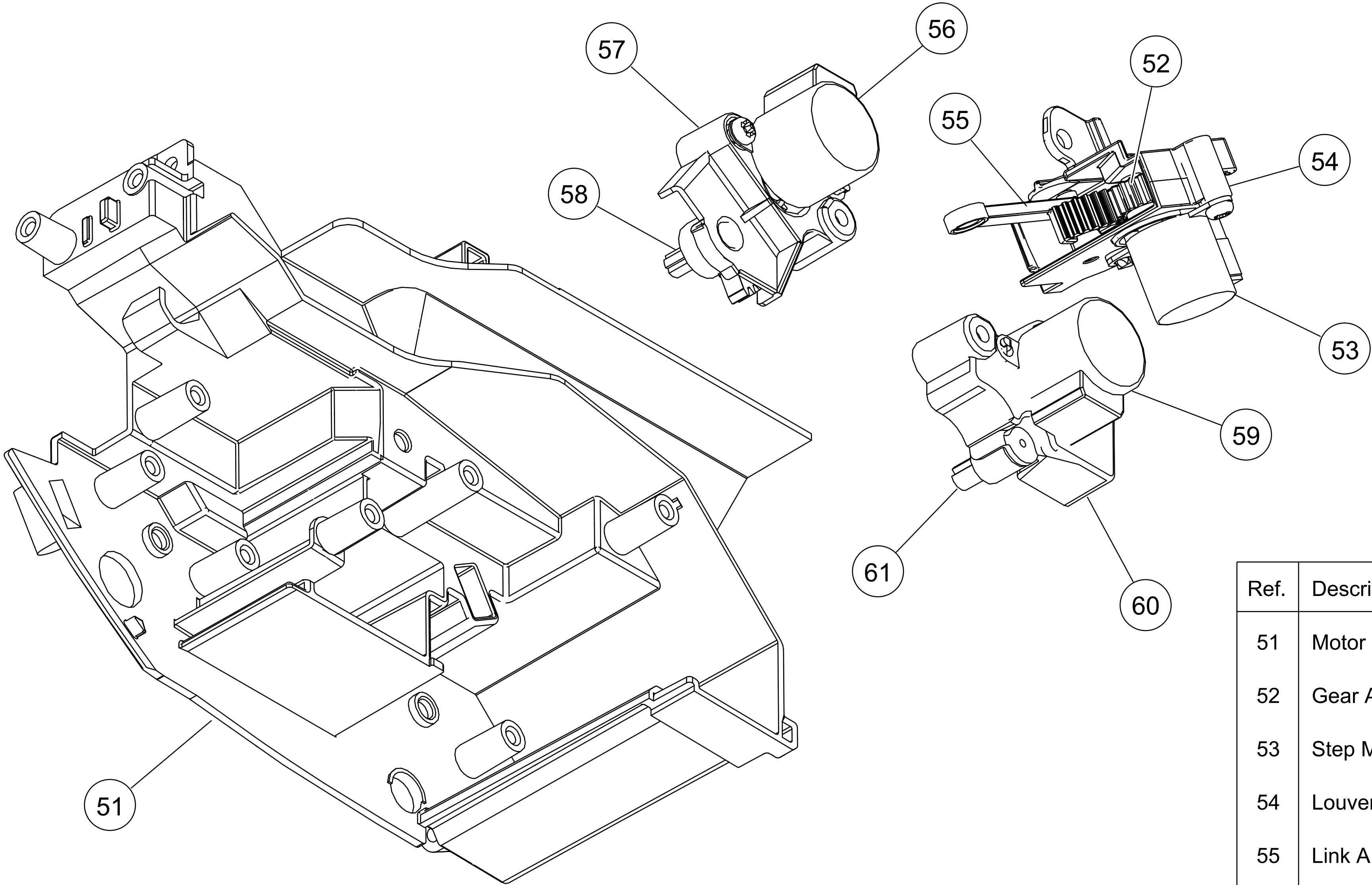




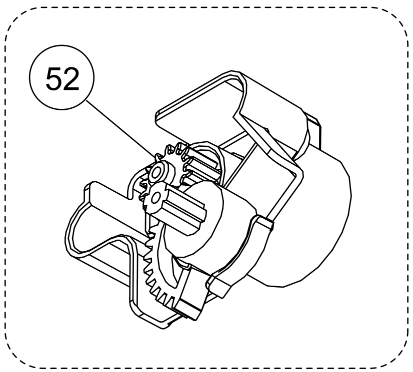


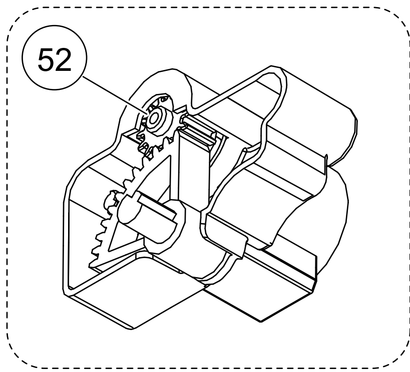


Ref.	Description	Part number	
41	Outlet Cover Assy	9319776002	
42	Motor Case Assy	9319173085	
43	Casing Assy	9319172217	
-	Cable Guide	9321517006	



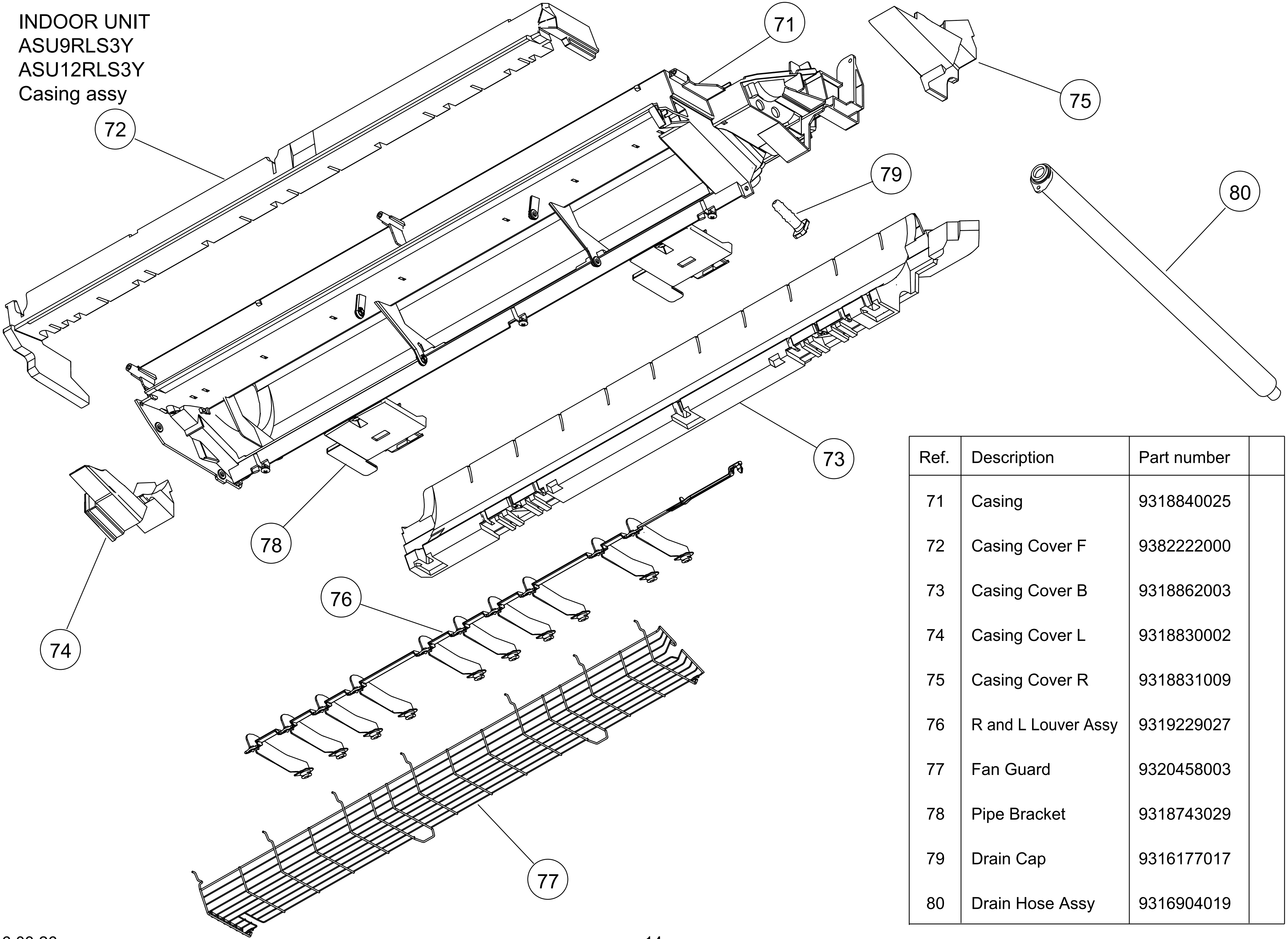
INDOOR UNIT
ASU9RLS3Y
ASU12RLS3Y
Motor case assy





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	

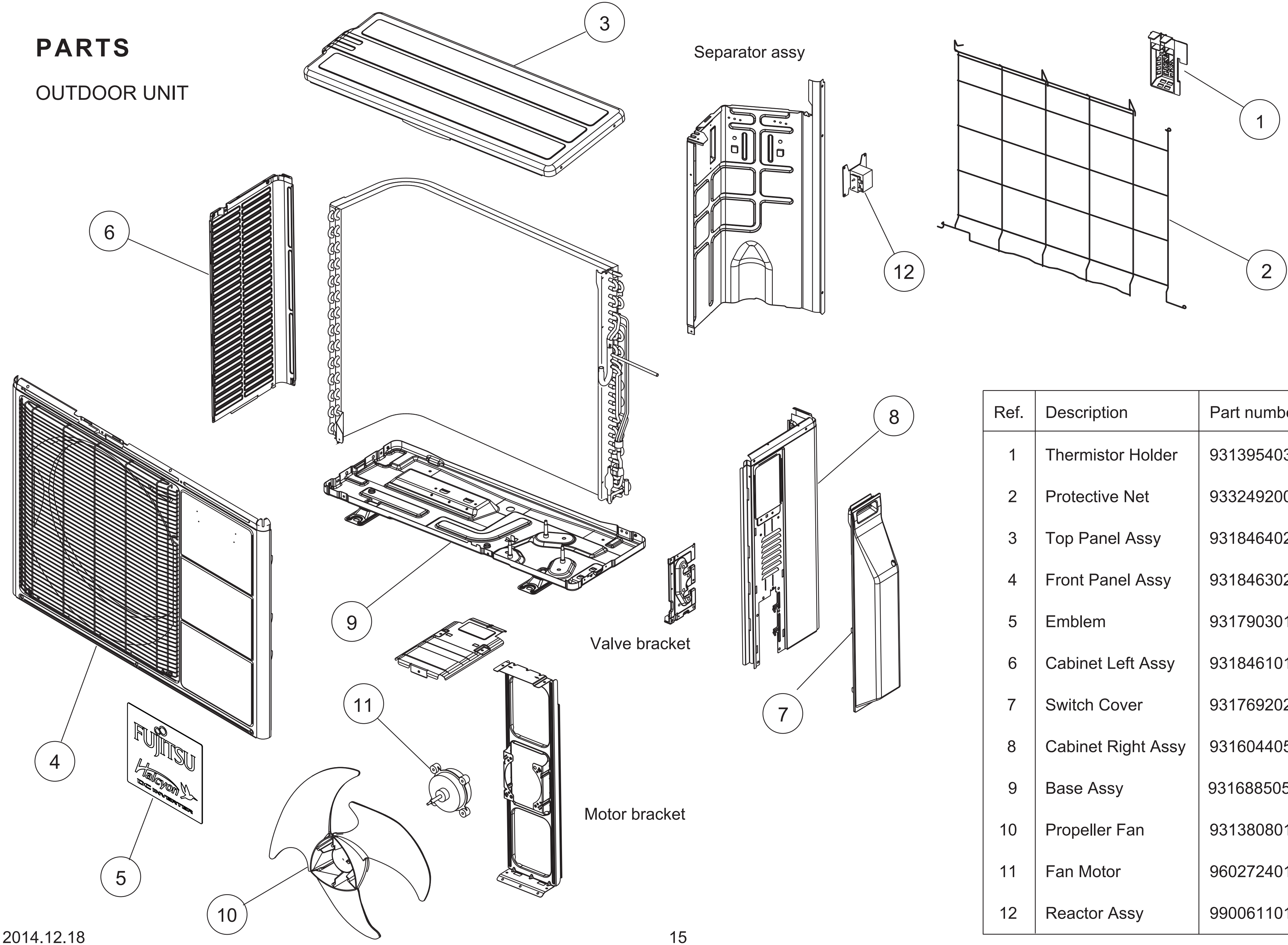
INDOOR UNIT
ASU9RLS3Y
ASU12RLS3Y
Casing assy



Ref.	Description	Part number	
71	Casing	9318840025	
72	Casing Cover F	9382222000	
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	9318743029	
79	Drain Cap	9316177017	
80	Drain Hose Assy	9316904019	

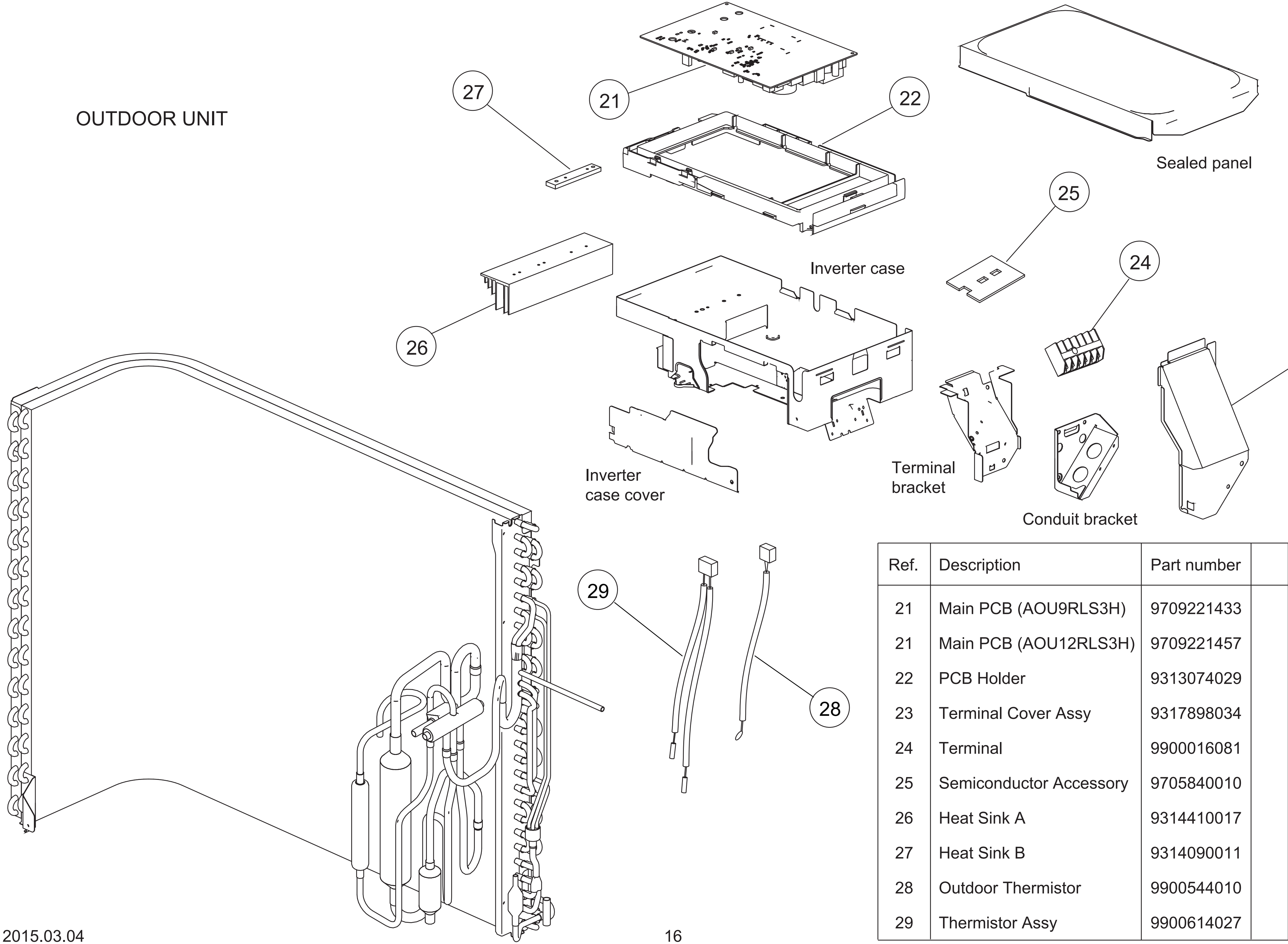
PARTS

OUTDOOR UNIT



Ref.	Description	Part number	
1	Thermistor Holder	9313954031	
2	Protective Net	9332492002	
3	Top Panel Assy	9318464023	
4	Front Panel Assy	9318463026	
5	Emblem	9317903011	
6	Cabinet Left Assy	9318461015	
7	Switch Cover	9317692021	
8	Cabinet Right Assy	9316044050	
9	Base Assy	9316885059	
10	Propeller Fan	9313808013	
11	Fan Motor	9602724017	
12	Reactor Assy	9900611019	

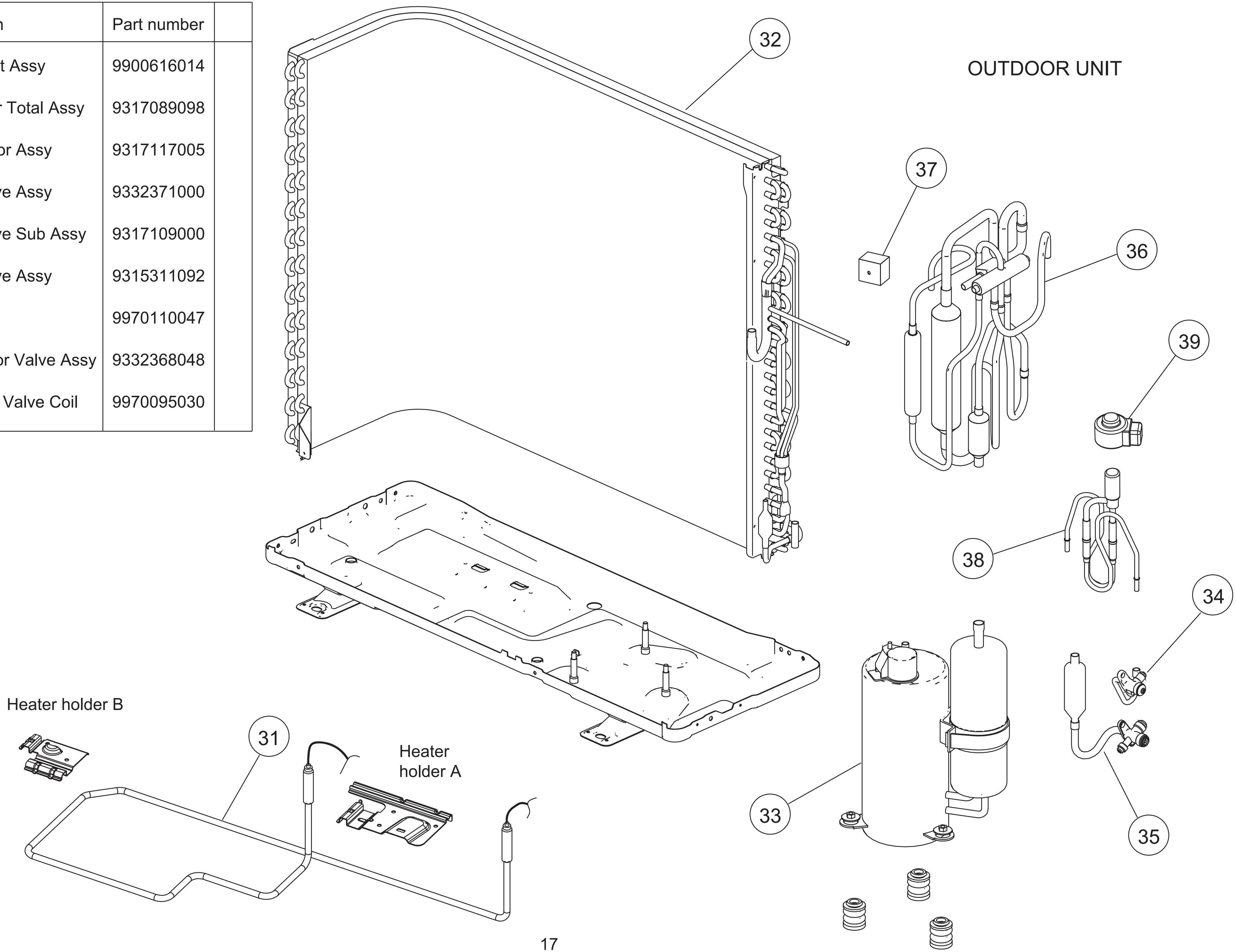
OUTDOOR UNIT



Ref.	Description	Part number	
21	Main PCB (AOU9RLS3H)	9709221433	
21	Main PCB (AOU12RLS3H)	9709221457	
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	

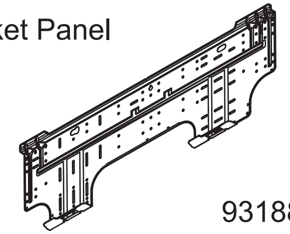
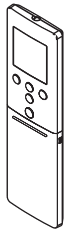
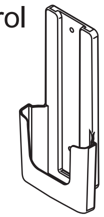
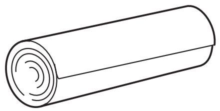
Ref.	Description	Part number	
31	Heater Unit Assy	9900616014	
32	Condenser Total Assy	9317089098	
33	Compressor Assy	9317117005	
34	2-way Valve Assy	9332371000	
35	3-way Valve Sub Assy	9317109000	
36	4-way Valve Assy	9315311092	
37	Solenoid	9970110047	
38	Pulse Motor Valve Assy	9332368048	
39	Expansion Valve Coil	9970095030	

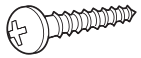
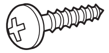
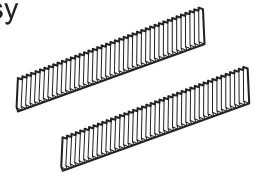
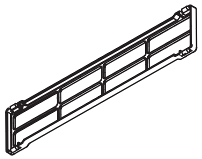
OUTDOOR UNIT



ACCESSORIES

INDOOR UNIT

Name and Shape	Part number
Bracket Panel 	9318861013
Remote Control 	9382108021
Battery (penlight) 	0600185541
Remote Control Holder 	9318912005
Cloth tape 	9310519004

Name and Shape	Part number
Tapping screw (M4 x 25 mm) 	0700076046
Tapping screw (M3 x 12 mm) 	0700019036
Air cleaning filter assy 	9317250009
Filter holder 	9332911008

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