

WALL MOUNTED TYPE
ROOM AIR CONDITIONER
FOR EXTRA LOW TEMP. DISTRICT

SERVICE MANUAL

Indoor unit	Outdoor unit
ASU30RLE	AOU30RLXEH



CONTENTS

SPECIFICATIONS	1
DIMENSIONS	2
REFRIGERANT SYSTEM DIAGRAM	4
CIRCUIT DIAGRAM	5
PCB CIRCUIT DIAGRAM	6
ERROR DERECTION	8
PARTS (INDOOR UNIT)	10
PARTS (OUTDOOR UNIT)	18
ACCESSORIES	21

SPECIFICATIONS

ELECTRICAL DATA

TYPE	Cool & heat inverter	
INDOOR UNIT	ASU30RLE	
OUTDOOR UNIT	AOU30RLXEH	
POWER SOURCE	Single phase 208V / 230V 60Hz	
Cooling	CAPACITY	30,000 Btu/h 8.79 kW
	POWER CONSUMPTION	2.40 kW
	EER	12.5 Btu/kW 3.66 kW/kW
	OPERATING CURRENT	10.6 A
	MOISTURE REMOVAL	9.7 Pt/h 4.6 L/h
Heating	CAPACITY	32,000 Btu/h 9.37 kW
	POWER CONSUMPTION	2.74 kW
	COP	11.7 Btu/kW 3.42 kW/kW
	OPERATING CURRENT	12.0 A
	MAXIMUM OPERATING CURRENT	20.5 A

DIMENSIONS

INDOOR UNIT	H x W x D	13-3/8 x 45-1/4 x 11 inch 340 x 1,150 x 280 mm
OUTDOOR UNIT	H x W x D	50-3/4 x 35-1/2 x 13 inch 1,290 x 900 x 330 mm

WEIGHT

INDOOR UNIT	Net / Shipping	40 lbs / 53 lbs	18 kg / 24 kg
OUTDOOR UNIT	Net / Shipping	205 lbs / 225 lbs	93 kg / 102 kg

REFRIGERANT

PRECHARGED REFRIGERANT	6 lb 12 oz 3,050 g		
REFRIGERANT TYPE	R410A		
FULL CHARGE	Pipe length	66 ft 20 m	6 lb 12 oz 3,050 g
		246 ft 75 m	11 lb 9 oz 5,250 g
ADDITIONAL CHARGE	0.43 oz/ft 40 g/m		
MAXIMUM PIPING HEIGHT DIFFERENCE	98 ft 30 m		

FAN MOTOR DISCRIMINATION

INDOOR UNIT	MFD-Z80XB3N
OUTDOOR UNIT	MFE-45VVVT

FAN MOTOR REVOLUTION

INDOOR UNIT Cooling / heating	High	1,240 rpm
	Medium	1,050 rpm
	Low	880 rpm / 910 rpm
	Quiet	680 rpm / 710 rpm
OUTDOOR UNIT	Upper	780 rpm
	Lower	750 rpm

AIR CIRCULATION

INDOOR UNIT	High	812 cfm 1,380 m3/h
	Medium	665 cfm 1,130 m3/h
	Low	534 cfm 910 m3/h
	Quiet	418 cfm 710 m3/h
OUTDOOR UNIT		4,031 cfm 6,850 m3/h

NOISE LEVEL

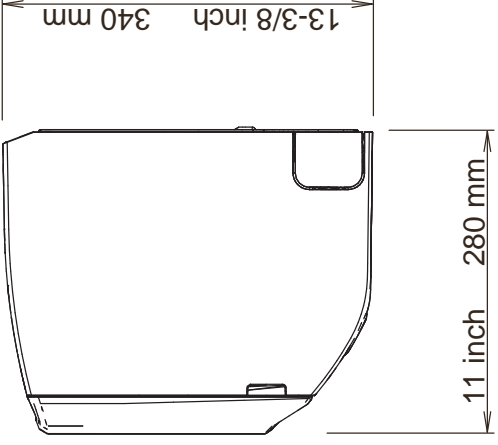
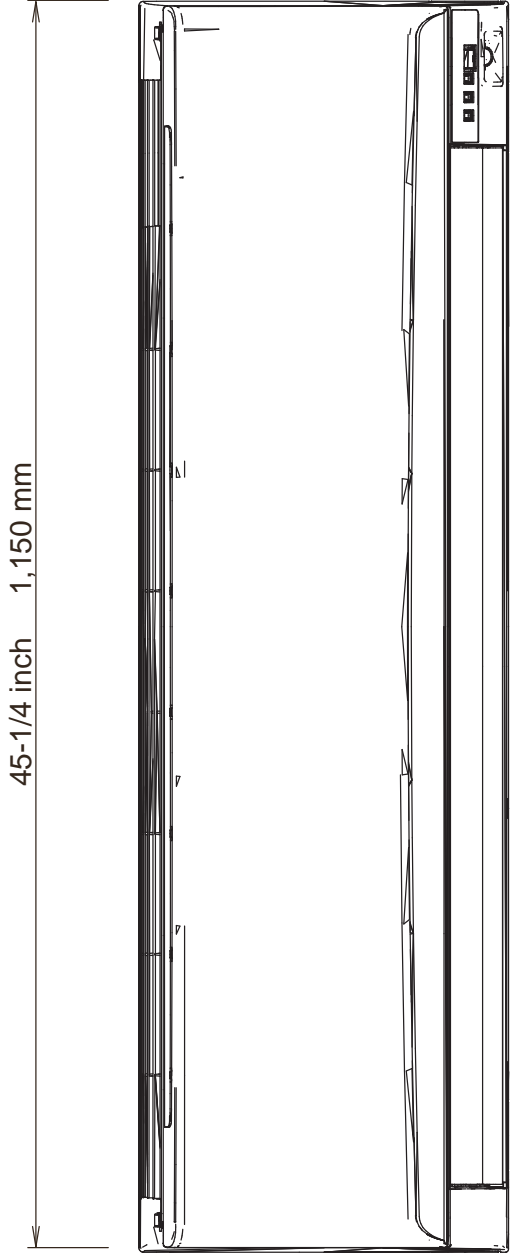
INDOOR UNIT Cooling / heating	High	50 dB / 49 dB
	Medium	45 dB / 44 dB
	Low	38 dB
	Quiet	32 dB
OUTDOOR UNIT	Cooling / heating	53 dB / 54 dB

COMPRESSOR AND REFRIGERANT

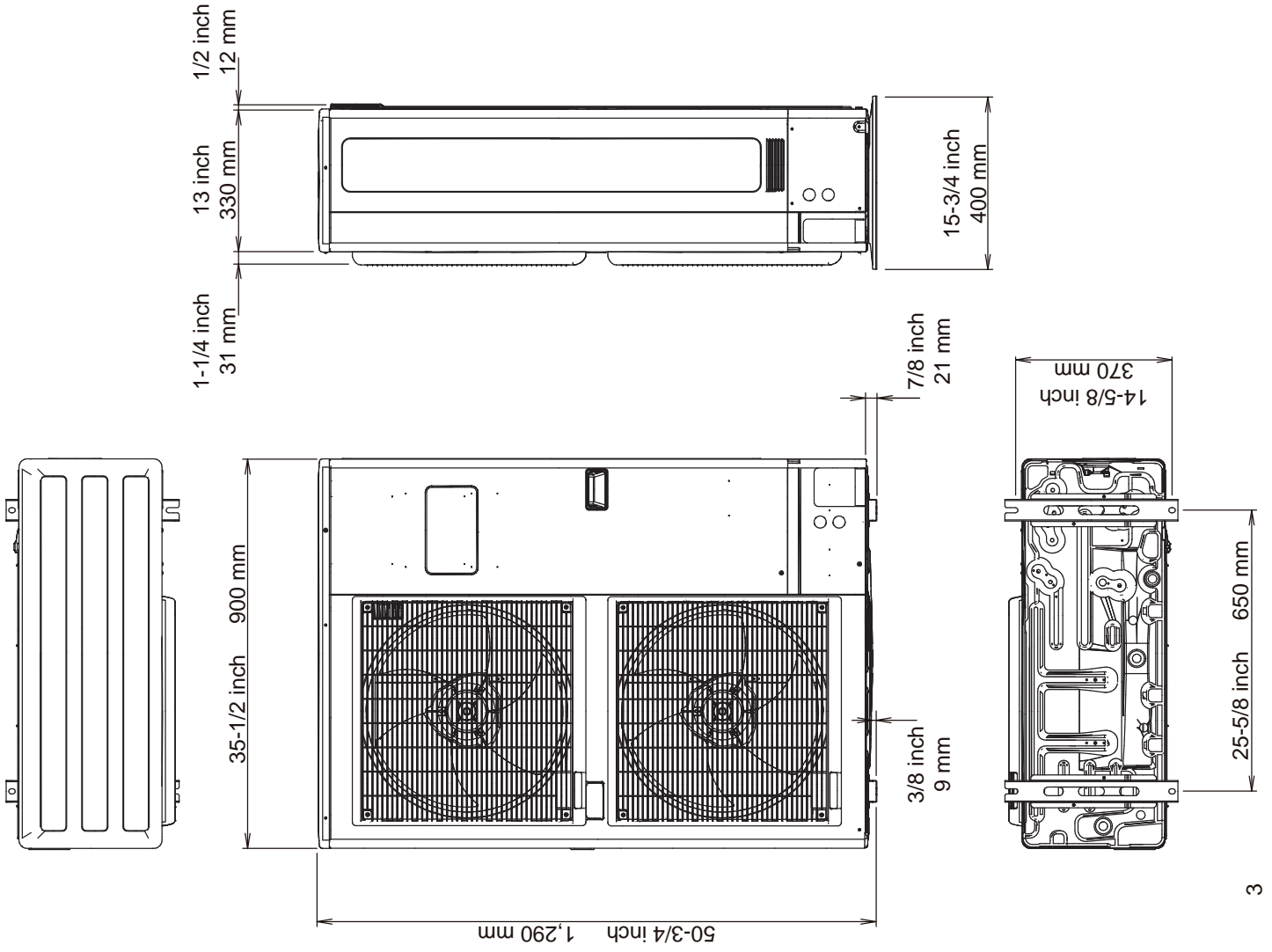
TYPE	Hermetic type rotary, 2 cylinders, 4 poles, DC brushless motor
DISCRIMINATION	DA422A3F-28ZAD
WEIGHT WITH OIL	50 lb 11 oz 23.0 kg

DIMENSIONS

INDOOR UNIT
ASU30RLE

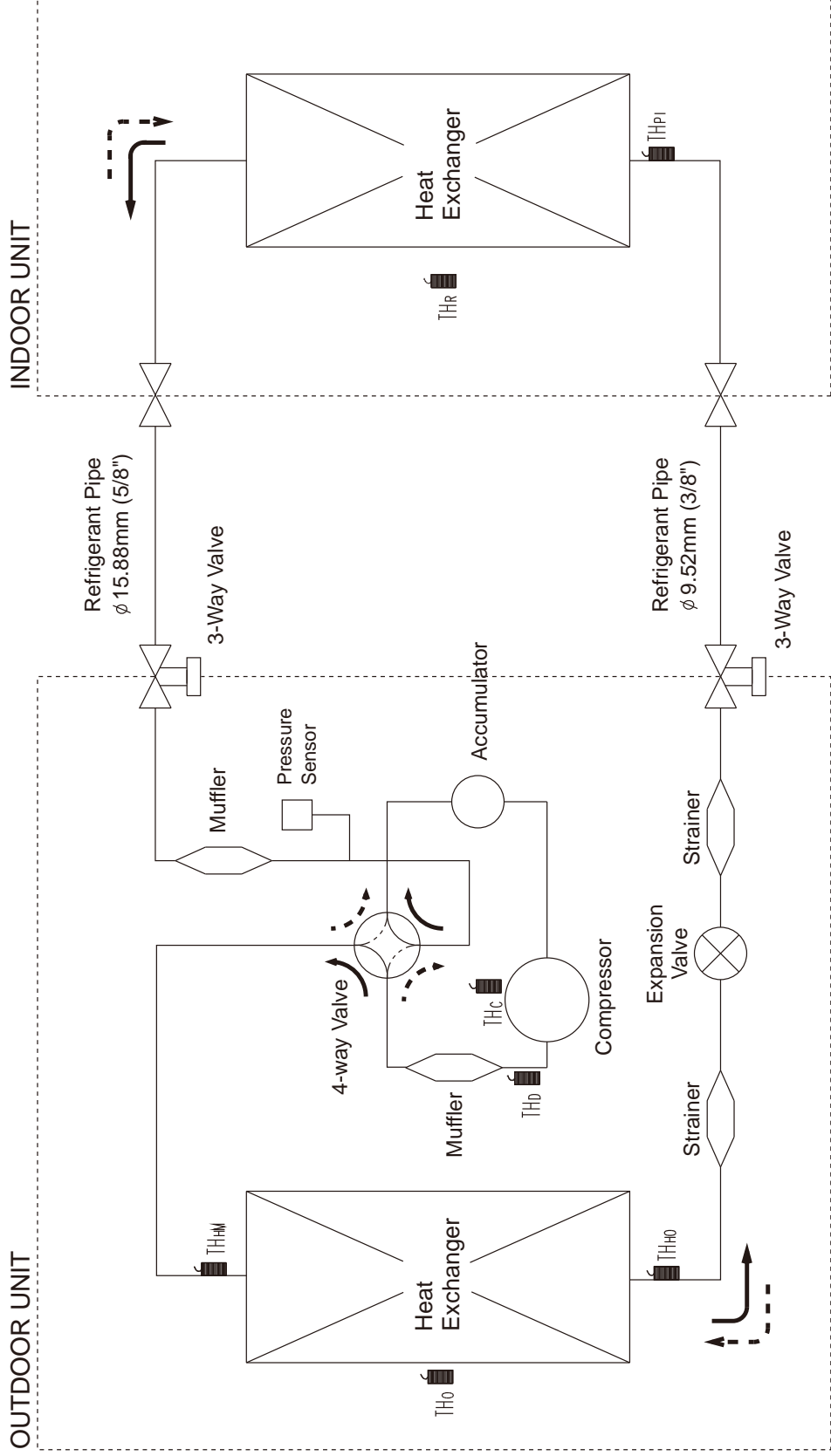


OUTDOOR UNIT
AOU30RLXEH



REFRIGERANT SYSTEM DIAGRAM

Refrigerant direction
 ——— : Cool
 - - - : Heat



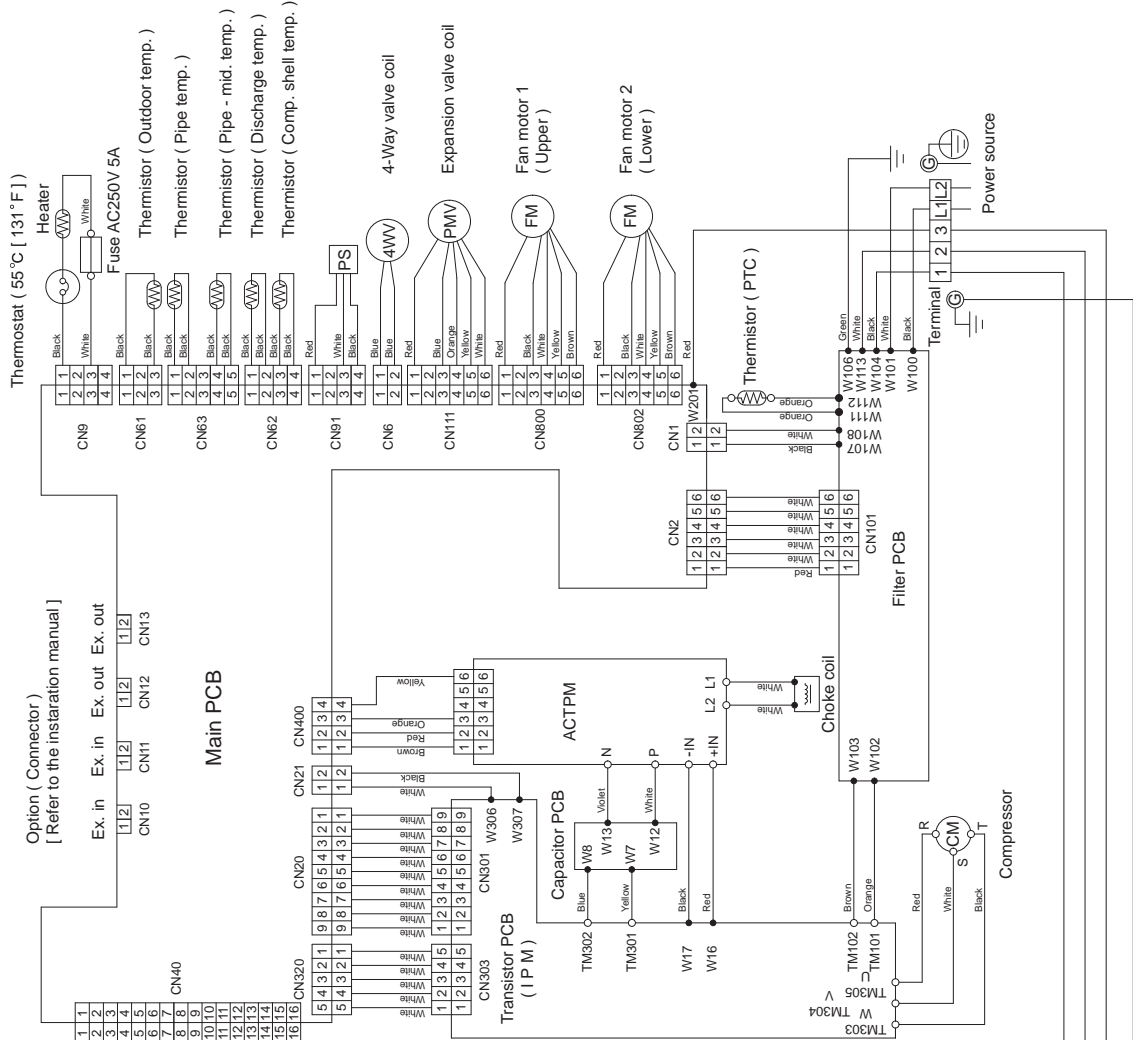
T_{Hr} : Thermistor (Room)
 T_{Hpi} : Thermistor (Pipe)

T_{Hc} : Thermistor (Compressor)
 T_{Hb} : Thermistor (Discharge)
 T_{Hm} : Thermistor (Heat Exchanger Med)
 T_{Hh0} : Thermistor (Heat Exchanger Out)
 T_{Ho} : Thermistor (Outdoor)

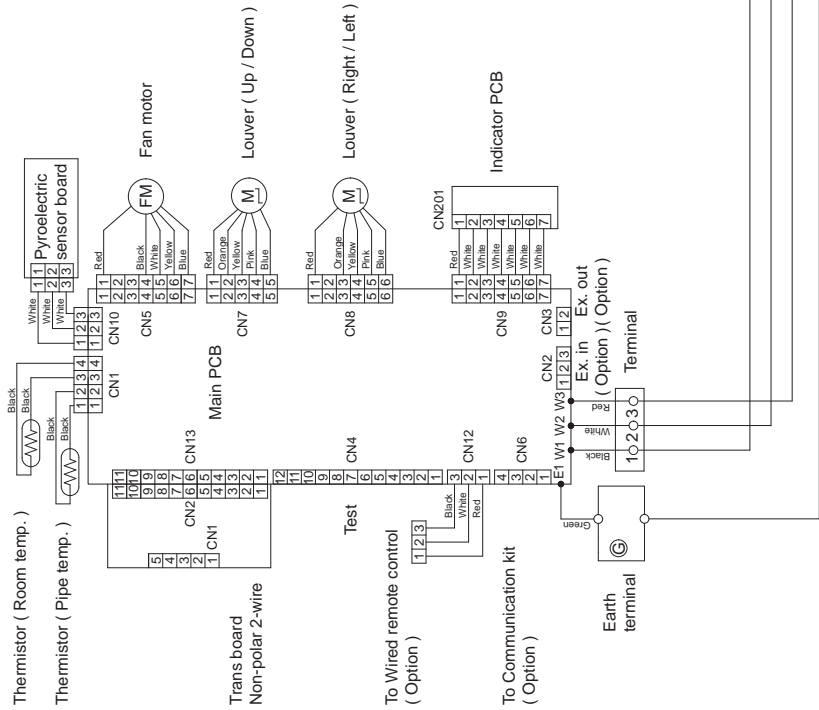
CIRCUIT DIAGRAM

Models : ASU30RLF / AOU30RLXEH

OUTDOOR UNIT



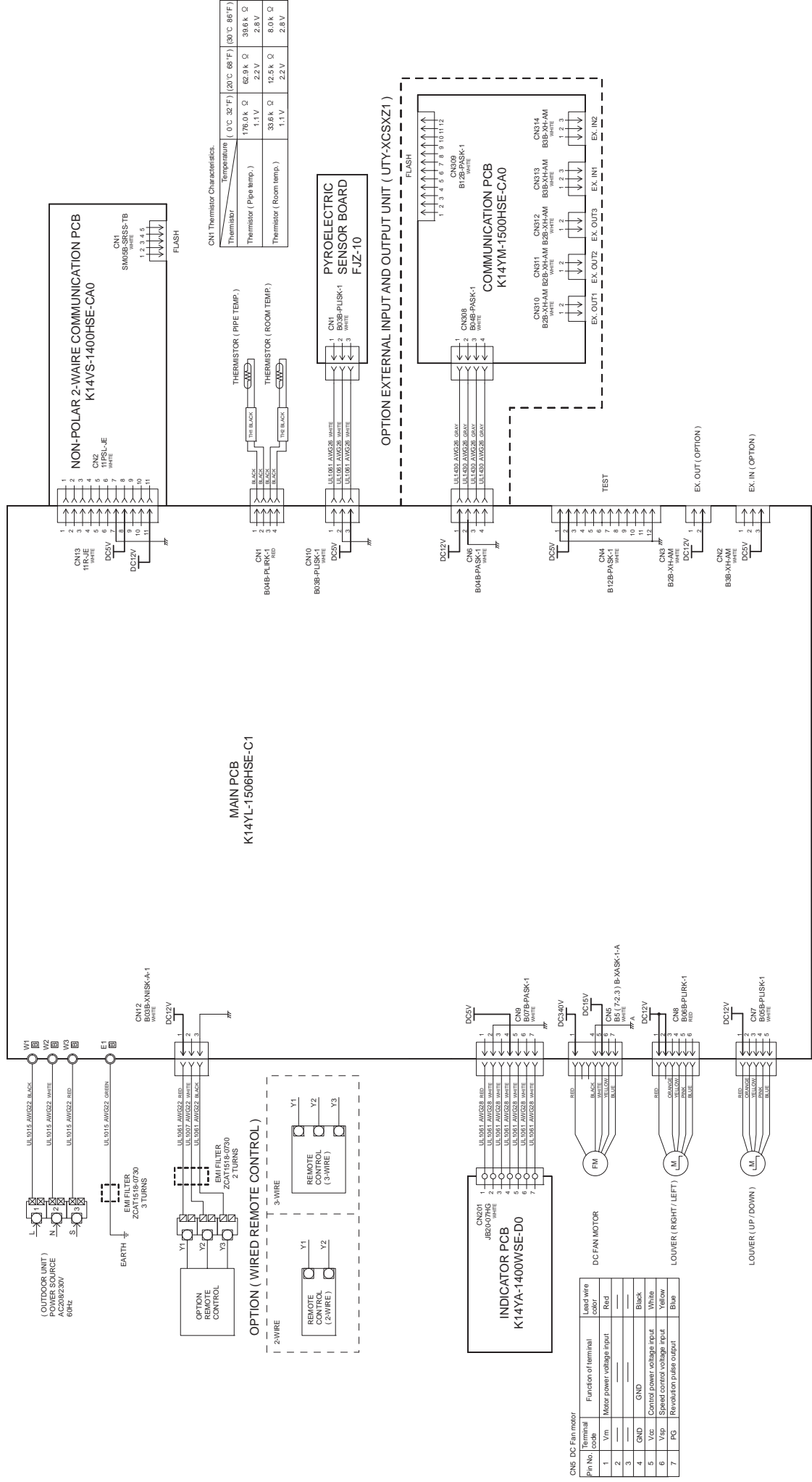
INDOOR UNIT



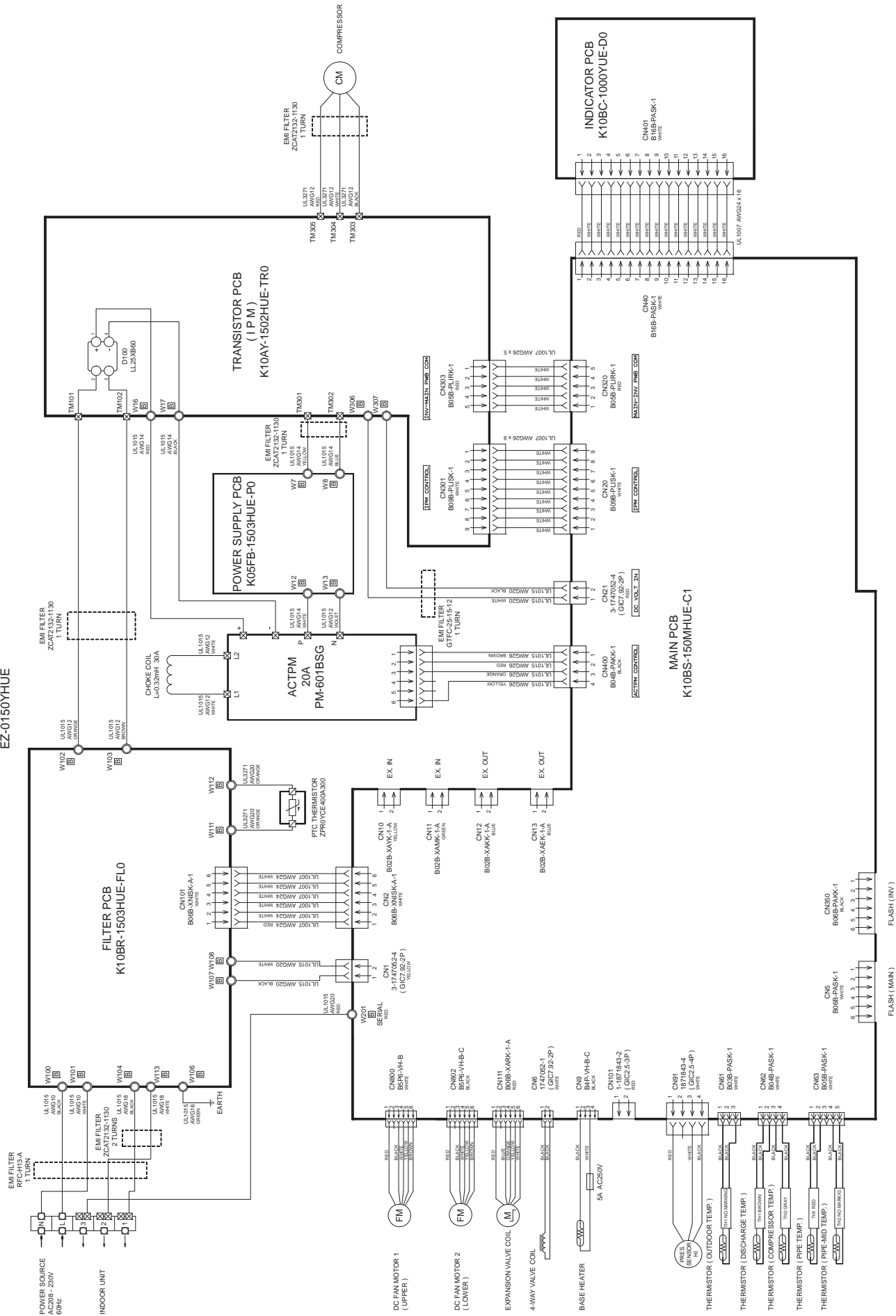
PCB CIRCUIT DIAGRAM

Model : ASU30RLE

CONTROL UNIT
EZ-0151KHSE



INVERTER ASSEMBLY
EZ-0150YHUE



ERROR DETECTION

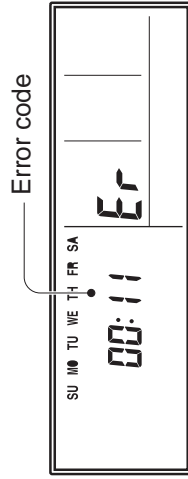
REMOTE CONTROL

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.

Troubleshooting with 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

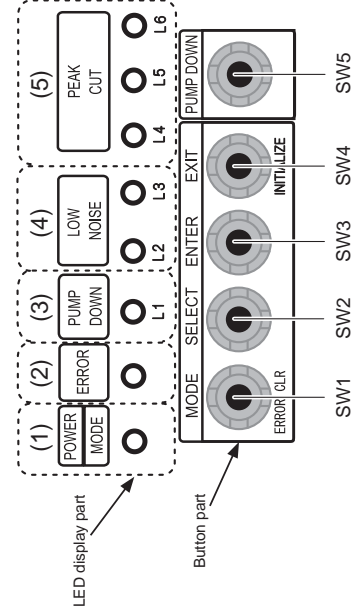
- : 0.5s on / 0.5s off
- ◇ : 0.1s on / 0.1s off
- () : Number of flashing

Error display			Wired remote control Error code	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
●(1)	●(6)	◇	16	Peripheral unit transmission PCB connection error
●(1)	●(8)	◇	18	External communication error
●(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)	●(6)	◇	26	Indoor unit address setting error
●(2)	●(7)	◇	27	Primary unit, secondary unit setup error [Simultaneous Multi]
●(2)	●(9)	◇	29	Connection unit number error in wired remote controller system
●(3)	●(1)	◇	31	Power supply interruption error
●(3)	●(2)	◇	32	Indoor unit PCB model information error
●(3)	●(5)	◇	35	Manual auto switch error
●(3)	●(10)	◇	3A	Indoor unit communication circuit (wired remote controller) error
●(4)	●(1)	◇	41	Room temp. sensor error
●(4)	●(2)	◇	42	Indoor unit Heat Ex. Middle temp. sensor error
●(4)	●(4)	◇	44	Human 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 grille error
●(5)	●(15)	◇	5U	Indoor unit error
●(6)	●(1)	◇	61	Outdoor unit reverse/missing phase and wiring error
●(6)	●(2)	◇	62	Outdoor unit main PCB model information error or communication error

Error display			Wired remote control Error code	Description
OPERATION lamp (green)	TIMER lamp (orange)	ECONOMY lamp (green)		
●(6)	●(3)	◇	63	Inverter error
●(6)	●(4)	◇	64	Active filter error, PFC circuit error
●(6)	●(5)	◇	65	Trip terminal L error
●(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 1 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)	◇	J2	Branch boxes error [Flexible Multi]

OUTDOOR UNIT ERROR CODE DISPLAY

You can determine the operating status by the lighting up and blinking of the LED lamp.



Display when an error occurs

POWER MODE	ERROR	LOW NOISE			PEAK CUT		
		PUMP DOWN (L1)	(L2)	(L3)	(L4)	(L5)	(L6)
●	Blink (HI speed)	○	○	○	○	○	○

Sign: ○: Lights off, ●: Lights on
 (1) Check that the "ERROR" LED blinks, then press the [Enter] button once.
 (2) For details, refer to the following table.

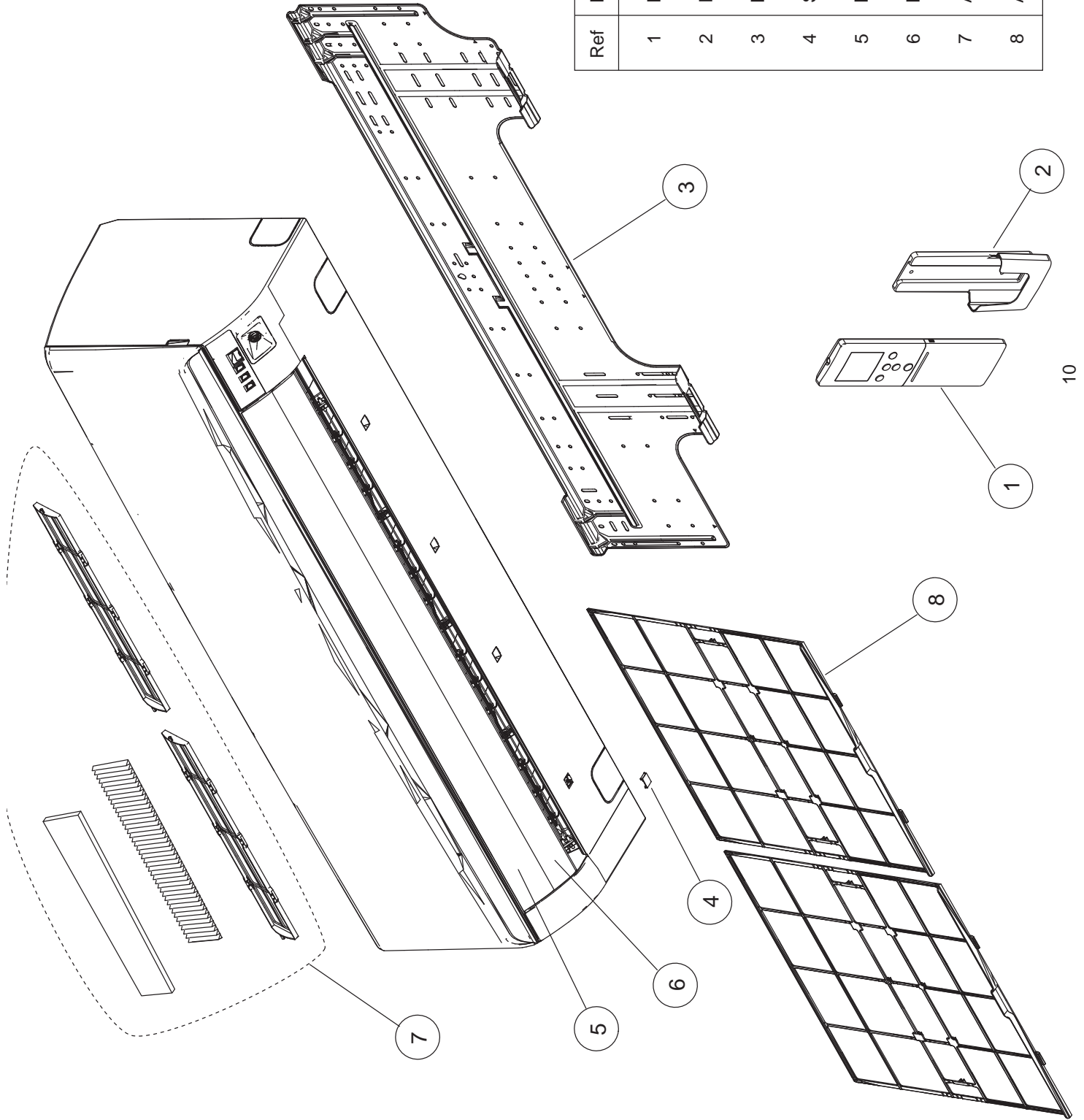
Display mode ● : ON
 ○ : OFF
 ◆ : Blink (0.5s ON / 0.5s OFF)
 () : Number of flashing

Error code check table

POWER MODE	ERROR	LED display						DESCRIPTION	REMARK
		PUMP DOWN (L1)	LOW NOISE			PEAK CUT			
			(L2)	(L3)	(L4)	(L5)	(L6)		
◆(2)	●	◆(1)	○	○	○	○	○	Serial forward transmission error immediately after operation	
◆(2)	●	◆(1)	○	○	○	○	○	Serial forward transmission error during operation	
◆(2)	●	◆(2)	○	○	○	○	○	Indoor unit capacity error	
◆(2)	●	◆(5)	○	○	○	○	○	Indoor unit error	
◆(2)	●	◆(6)	○	○	○	○	○	Outdoor unit main PCB error	
◆(2)	●	◆(6)	○	○	○	○	○	Inverter PCB error	
◆(2)	●	◆(6)	○	○	○	○	○	IPM error	
◆(2)	●	◆(7)	○	○	○	○	○	Discharge temp. sensor 1 error	
◆(2)	●	◆(7)	○	○	○	○	○	Compressor temp. sensor 1 error	
◆(2)	●	◆(7)	○	○	○	○	○	Heat Ex. middle temp. sensor error	
◆(2)	●	◆(7)	○	○	○	○	○	Outdoor unit Heat Ex. sensor error	
◆(2)	●	◆(7)	○	○	○	○	○	Outdoor temp. sensor error	
◆(2)	●	◆(7)	○	○	○	○	○	Heat sink temp. sensor error	
◆(2)	●	◆(8)	○	○	○	○	○	Current sensor error	
◆(2)	●	◆(8)	○	○	○	○	○	Pressure sensor error	
◆(2)	●	◆(8)	○	○	○	○	○	Trip detection	
◆(2)	●	◆(9)	○	○	○	○	○	Compressor motor control error	
◆(2)	●	◆(9)	○	○	○	○	○	Outdoor unit fan motor 1 error	
◆(2)	●	◆(9)	○	○	○	○	○	Outdoor unit fan motor 2 error	
◆(2)	●	◆(9)	○	○	○	○	○	4-way valve error	
◆(2)	●	◆(10)	○	○	○	○	○	Discharge temp. 1 error	
◆(2)	●	◆(10)	○	○	○	○	○	Compressor temp. error	
◆(2)	●	◆(10)	○	○	○	○	○	Pressure error 2	

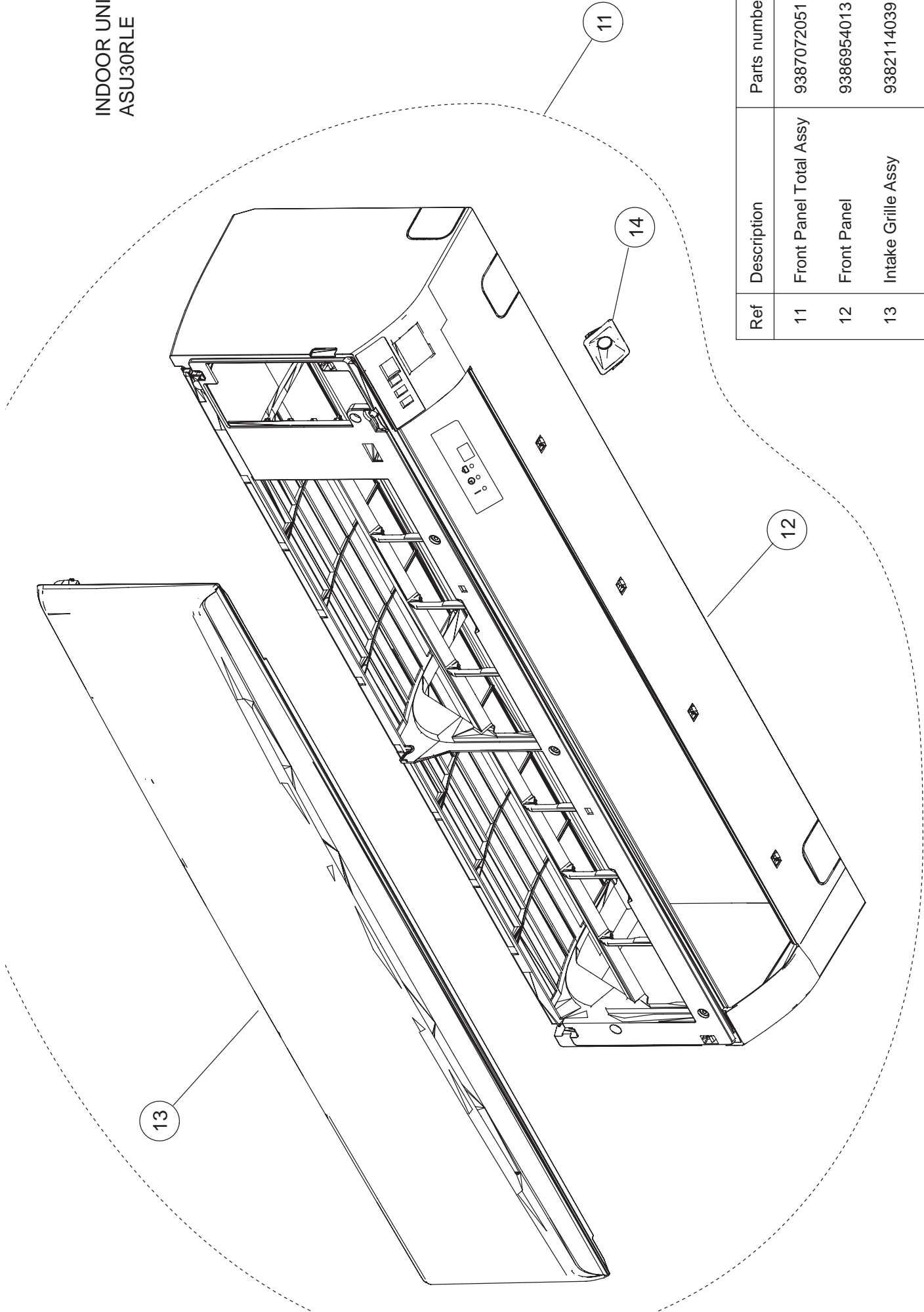
PARTS

INDOOR UNIT
ASU30RLE



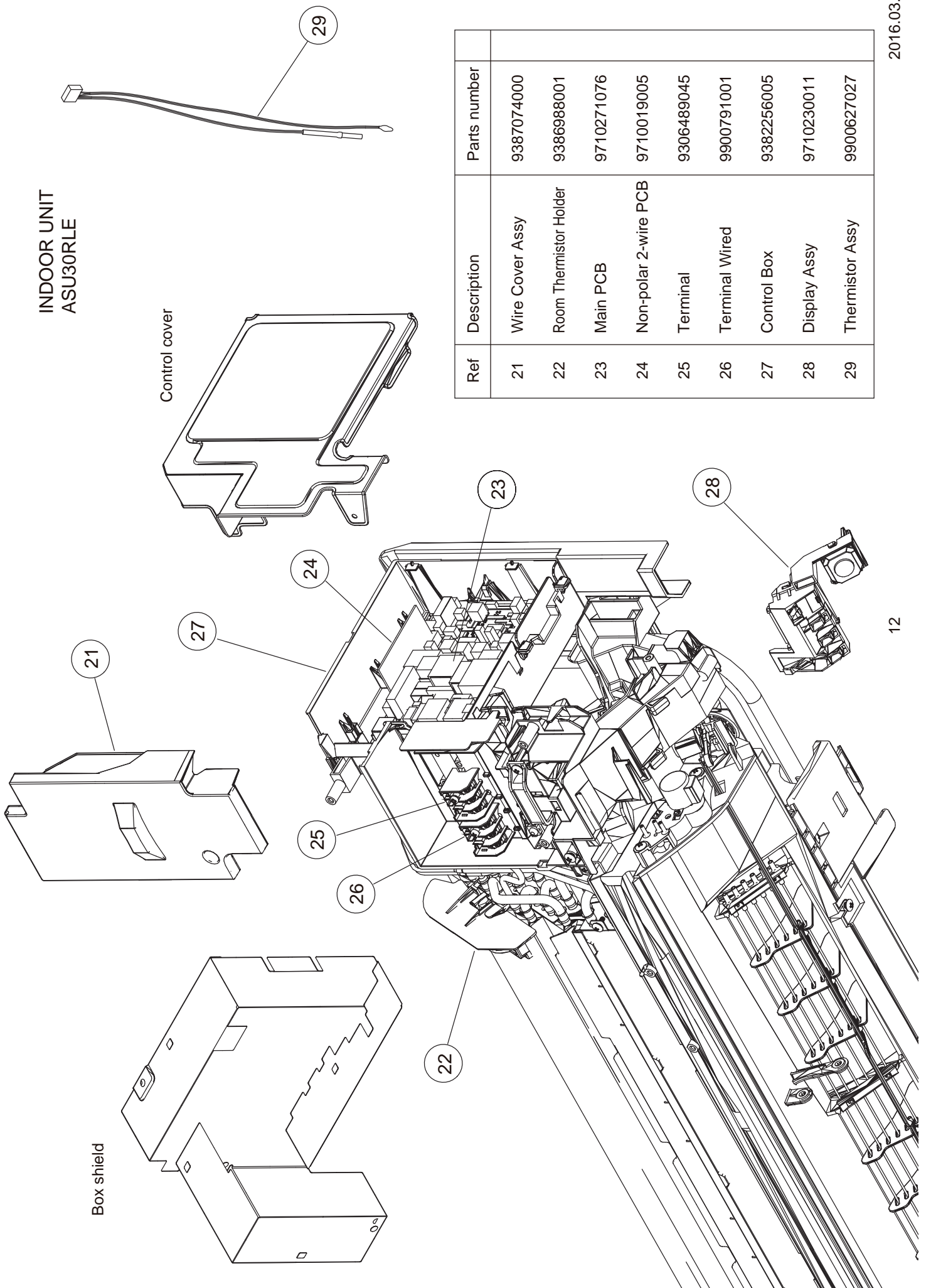
Ref	Description	Parts number
1	Remote Control (no brand)	9382108021
2	Remote Control Holder	9318912005
3	Bracket Panel	9386990004
4	Screw Cap	9386986007
5	Louver U (Upper)	9386958004
6	Louver Z (Lower)	9386959001
7	Air Clean Filter Assy	9315212016
8	Air Filter	9386960007

INDOOR UNIT
ASU30RLE



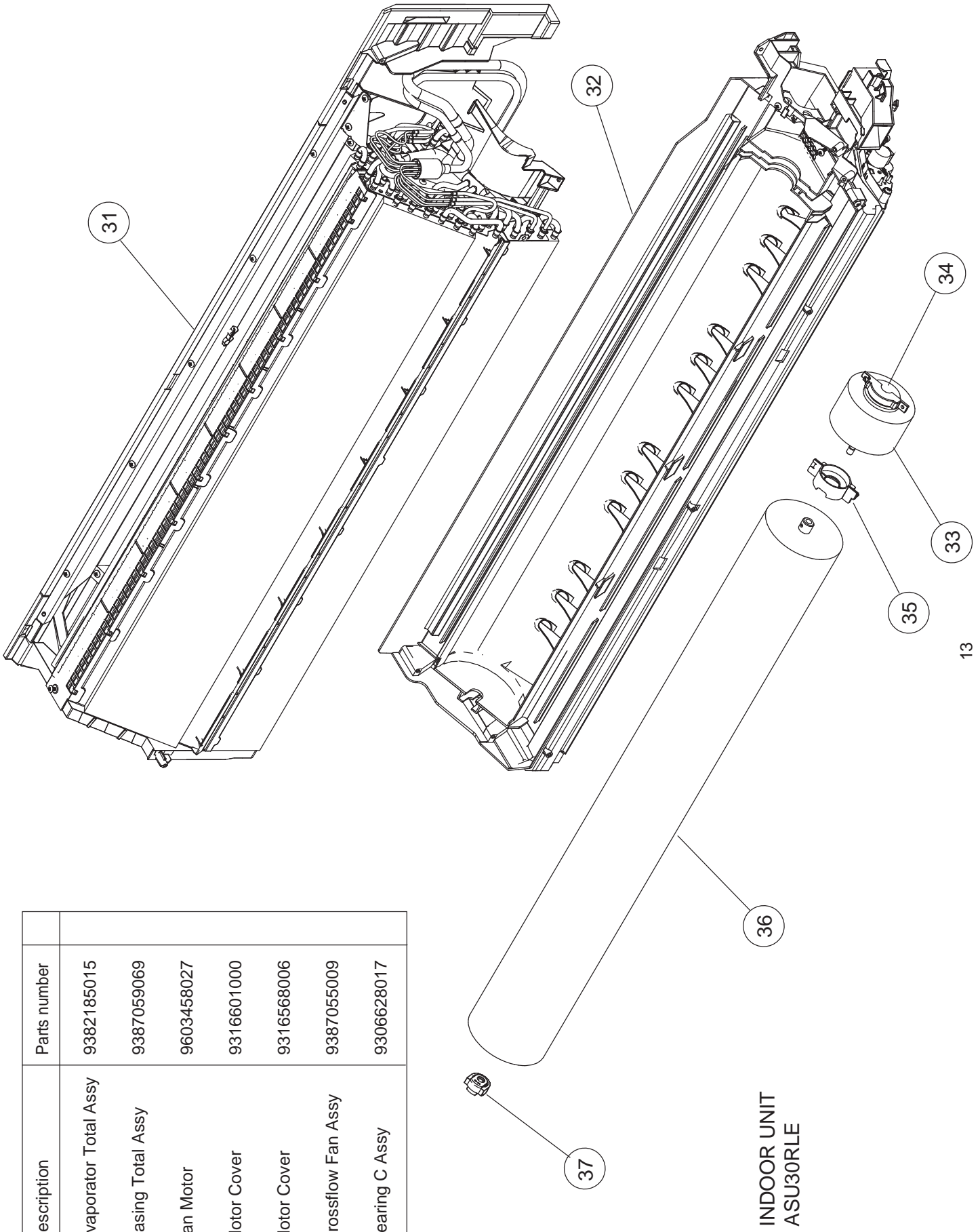
Ref	Description	Parts number
11	Front Panel Total Assy	9387072051
12	Front Panel	9386954013
13	Intake Grille Assy	9382114039
14	Front Panel Cover	9386999007

INDOOR UNIT
ASU30RLE



Ref	Description	Parts number
21	Wire Cover Assy	9387074000
22	Room Thermistor Holder	9386988001
23	Main PCB	9710271076
24	Non-polar 2-wire PCB	9710019005
25	Terminal	9306489045
26	Terminal Wired	9900791001
27	Control Box	9382256005
28	Display Assy	9710230011
29	Thermistor Assy	9900627027

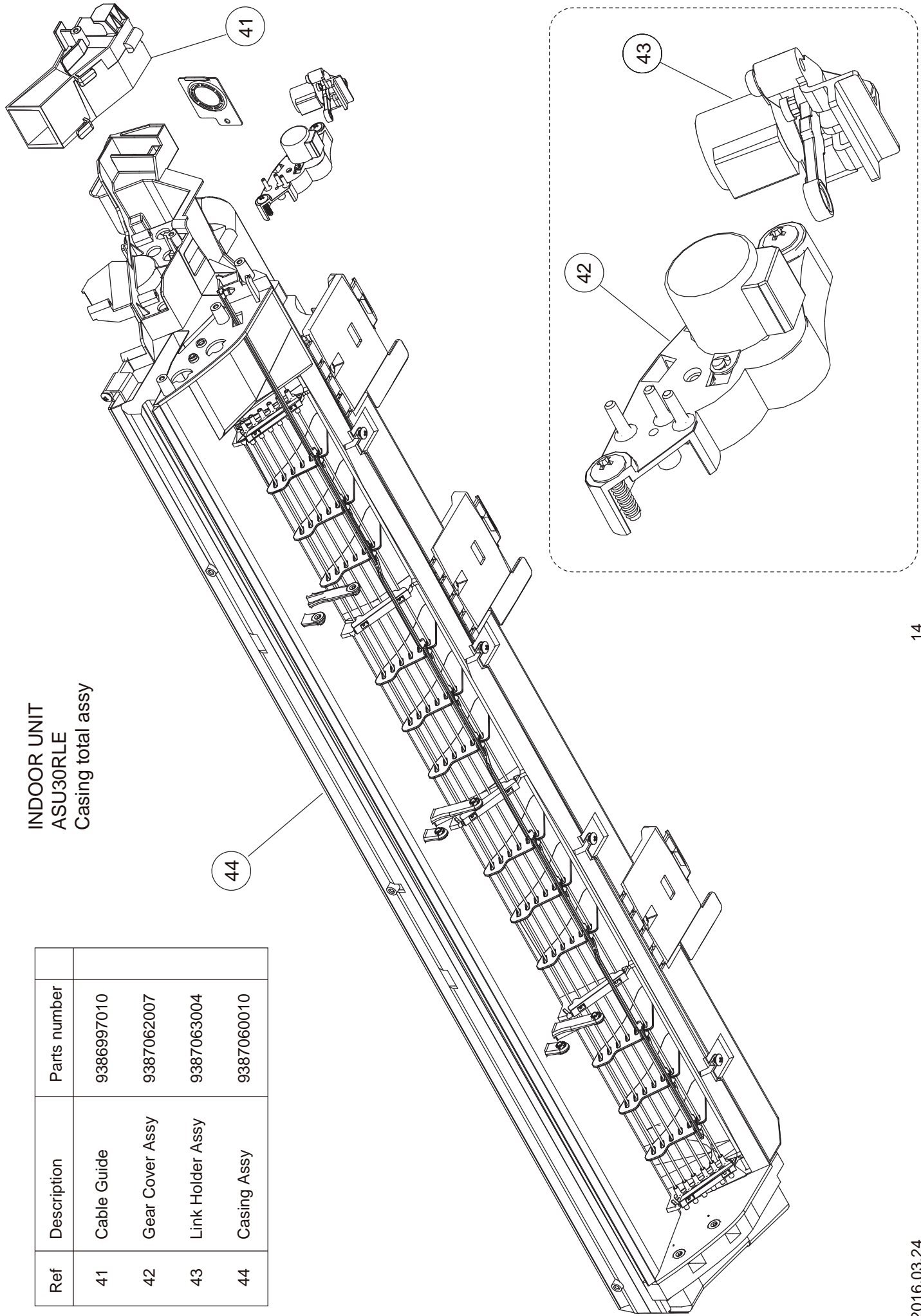
Ref	Description	Parts number
31	Evaporator Total Assy	9382185015
32	Casing Total Assy	9387059069
33	Fan Motor	9603458027
34	Motor Cover	9316601000
35	Motor Cover	9316568006
36	Crossflow Fan Assy	9387055009
37	Bearing C Assy	9306628017



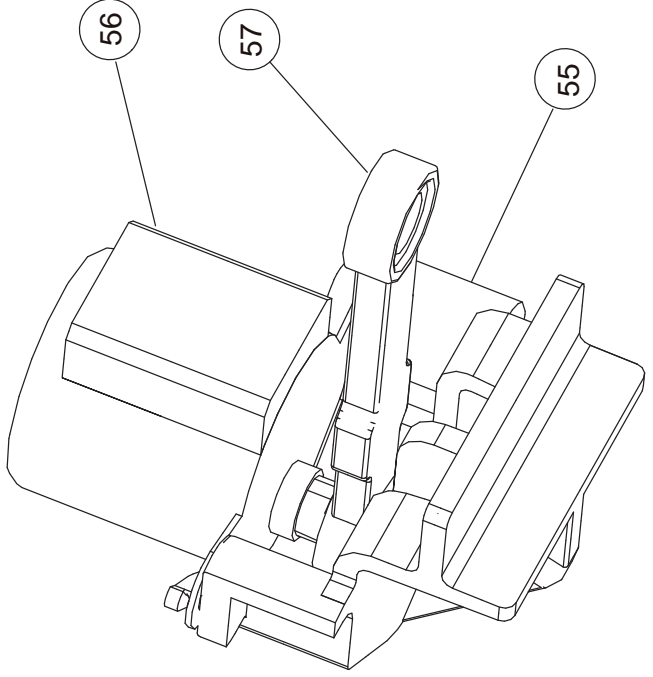
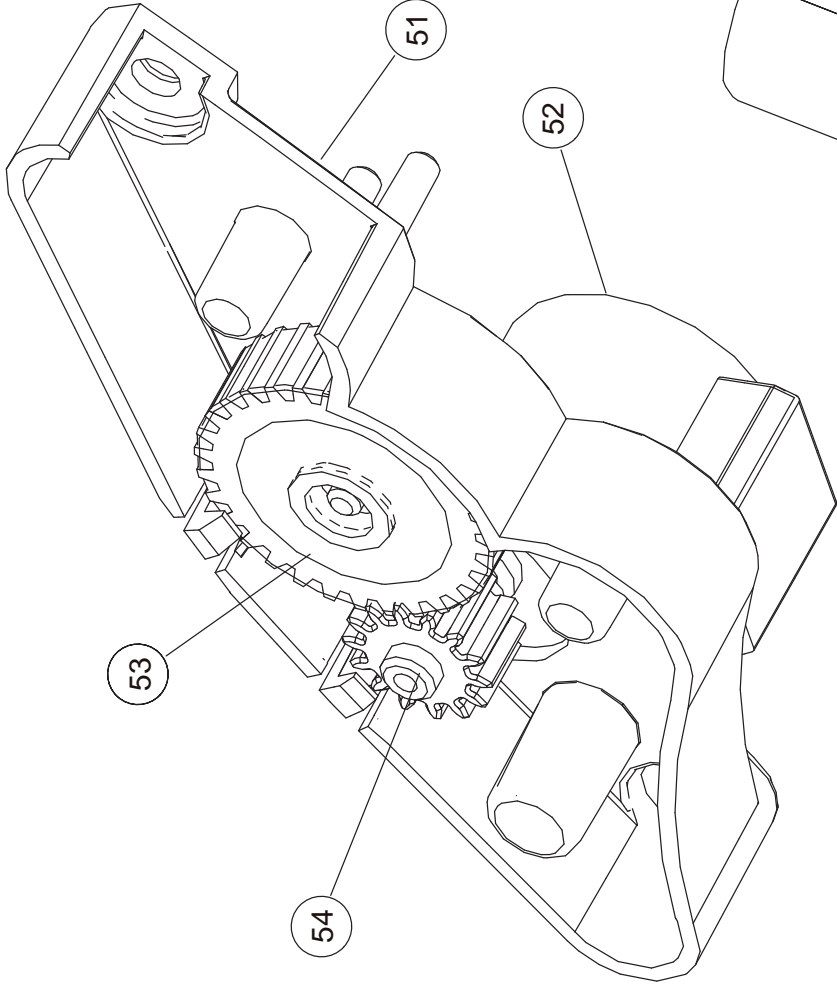
INDOOR UNIT
ASU30RLE

INDOOR UNIT
ASU30RLE
Casing total assy

Ref	Description	Parts number
41	Cable Guide	9386997010
42	Gear Cover Assy	9387062007
43	Link Holder Assy	9387063004
44	Casing Assy	9387060010

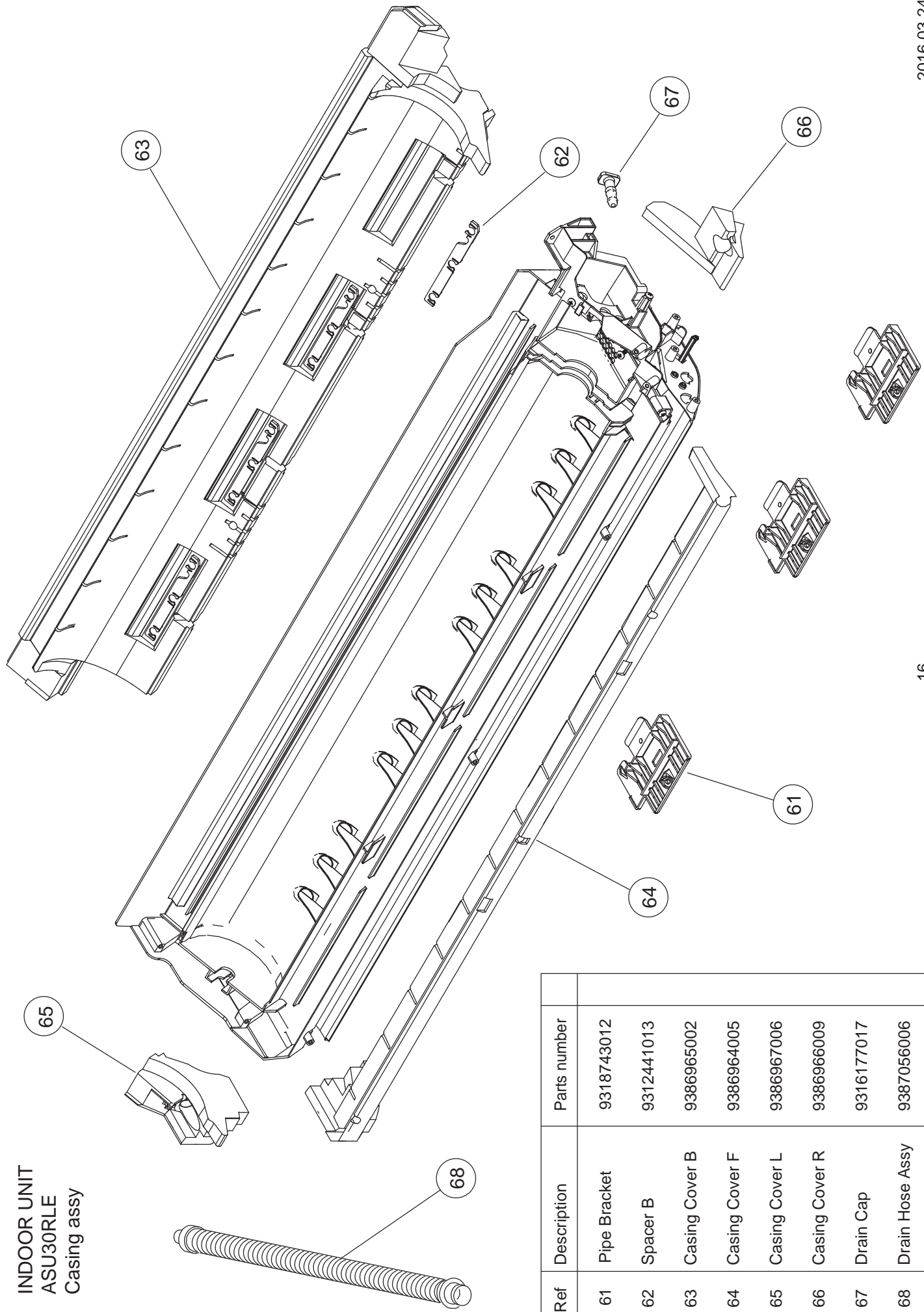


Ref	Description	Parts number
51	Gear Cover A	9386970006
52	Step Motor	9900384234
53	Louver Gear	9317648004
54	Gear A	9309994003
55	Link Holder	9315007018
56	Step Motor	9900139186
57	Link A	9386972000



INDOOR UNIT
ASU30RLE
Gear cover assy
Link holder assy

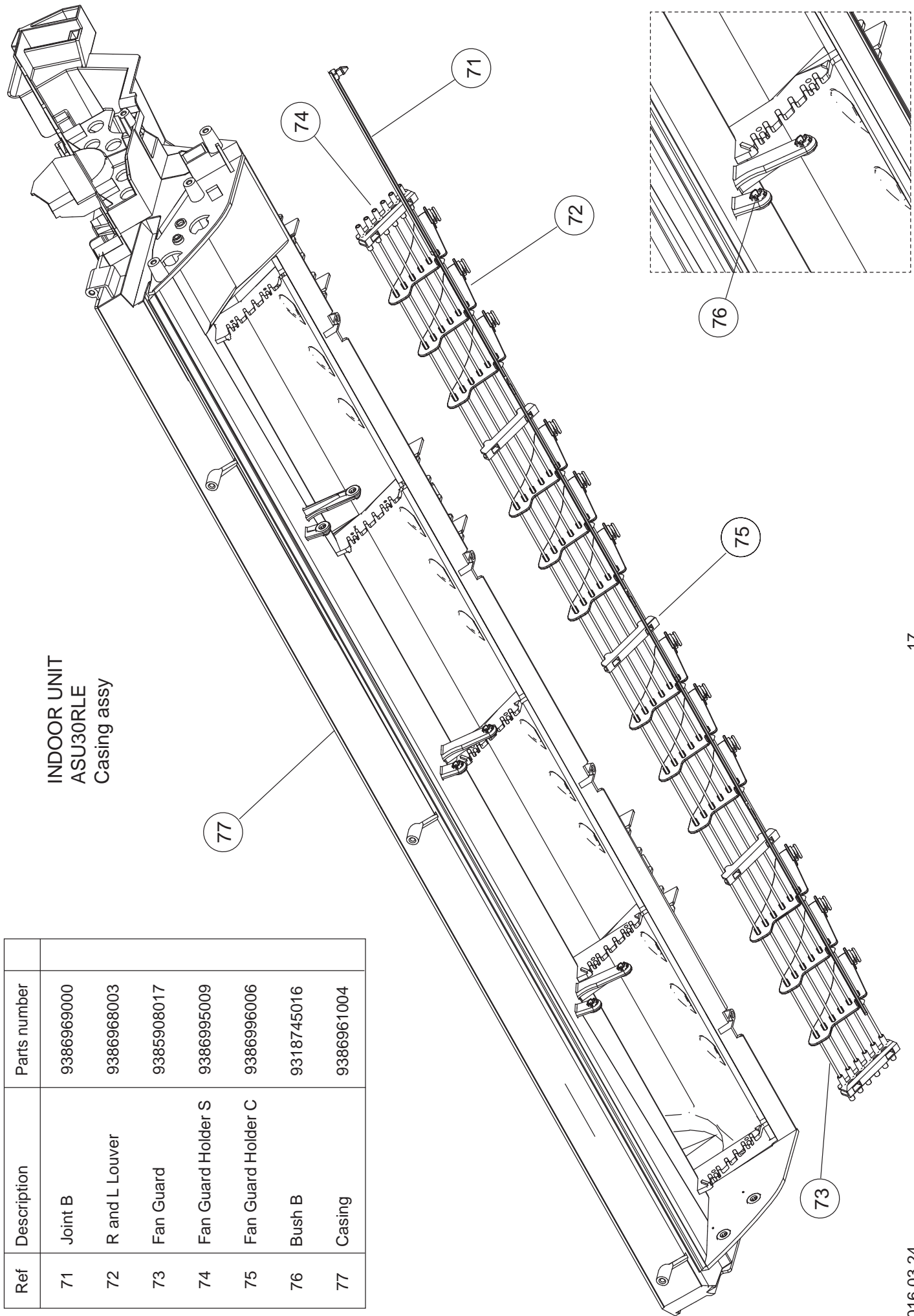
INDOOR UNIT
ASU30RLE
Casing assy



Ref	Description	Parts number
61	Pipe Bracket	9318743012
62	Spacer B	9312441013
63	Casing Cover B	9386965002
64	Casing Cover F	9386964005
65	Casing Cover L	9386967006
66	Casing Cover R	9386966009
67	Drain Cap	9316177017
68	Drain Hose Assy	9387056006

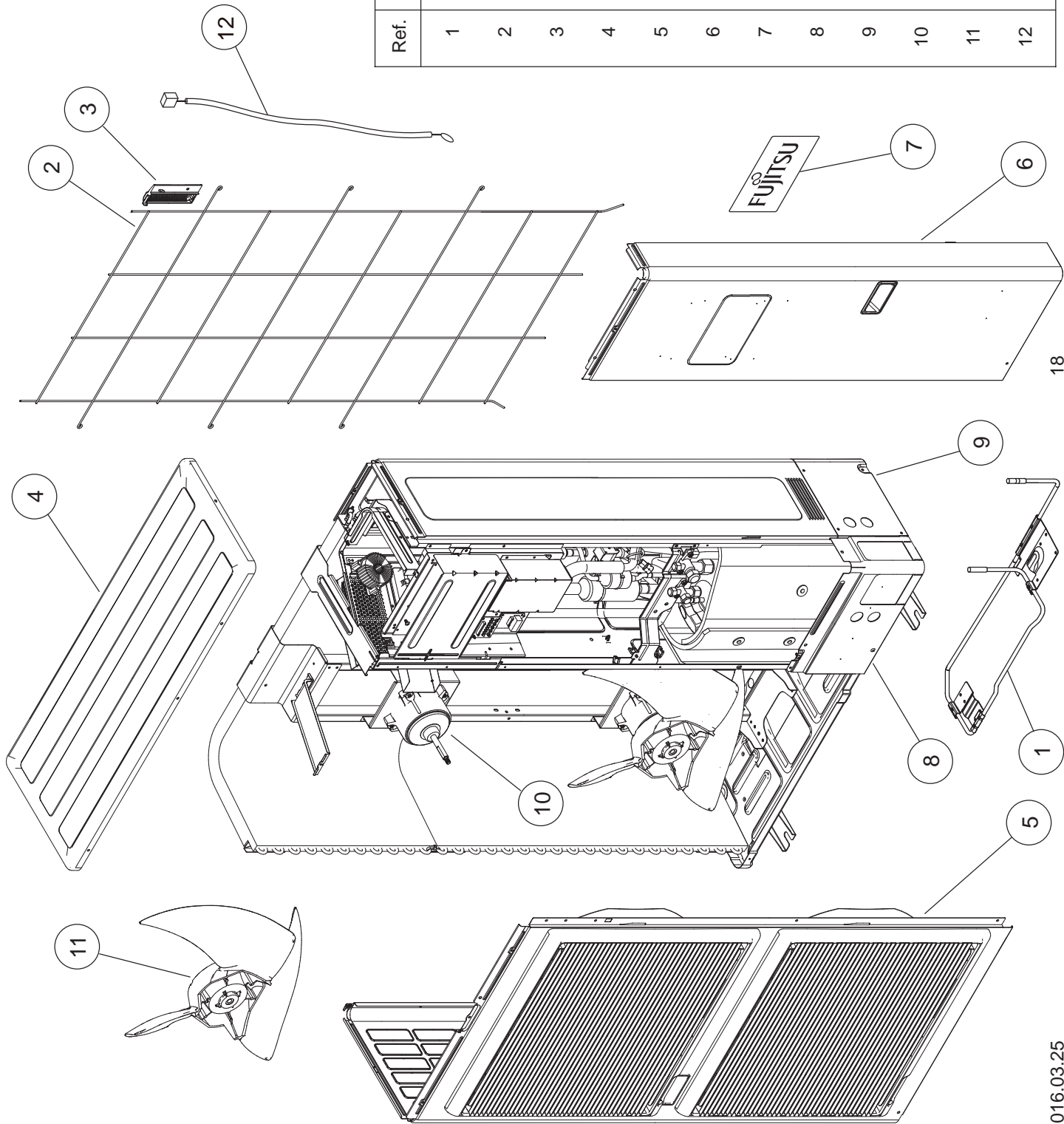
INDOOR UNIT
ASU30RLE
Casing assy

Ref	Description	Parts number
71	Joint B	9386999000
72	R and L Louver	93869968003
73	Fan Guard	9385908017
74	Fan Guard Holder S	9386995009
75	Fan Guard Holder C	9386996006
76	Bush B	9318745016
77	Casing	9386961004



PARTS

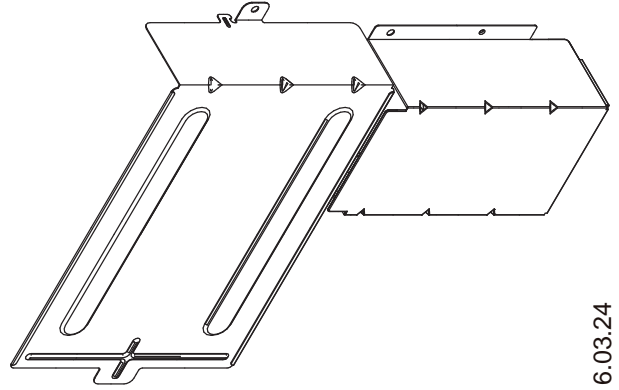
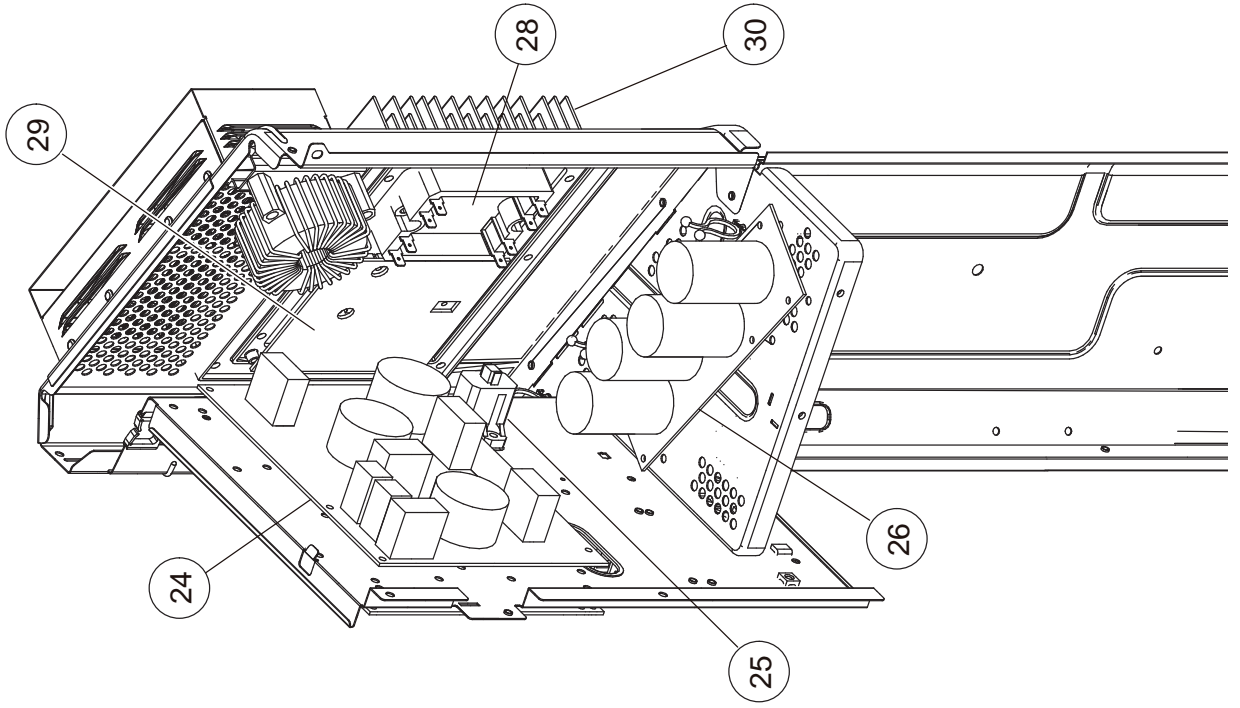
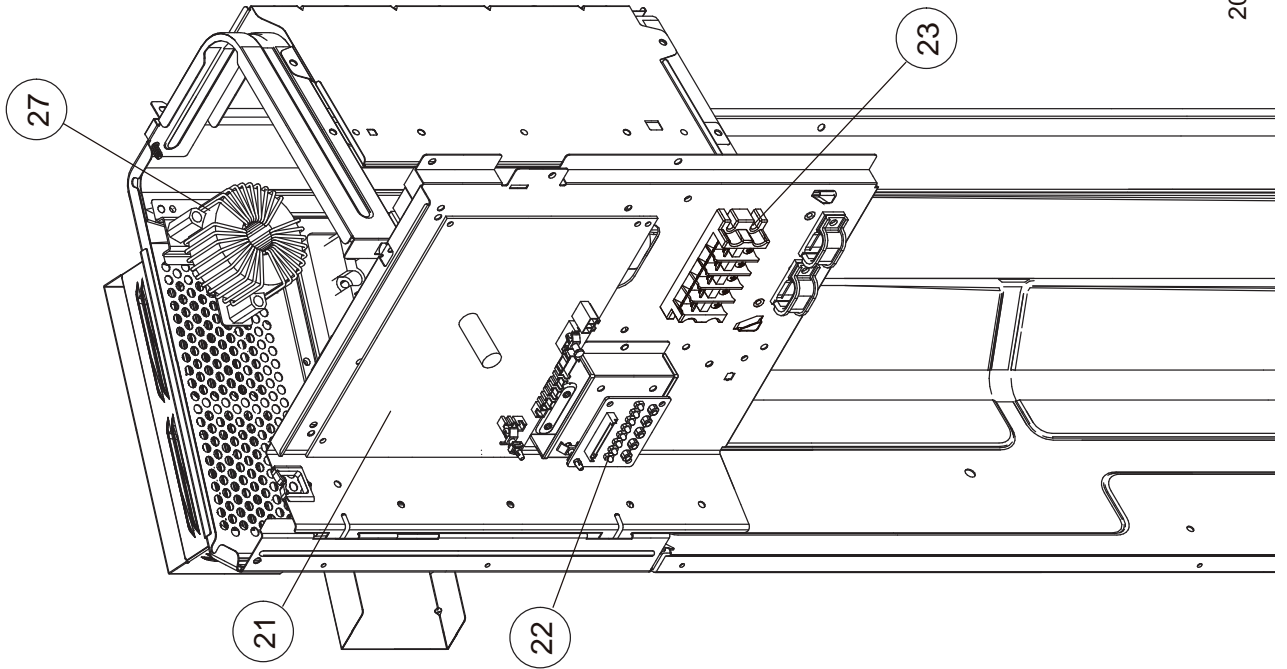
OUTDOOR UNIT
AOU30RLXEH



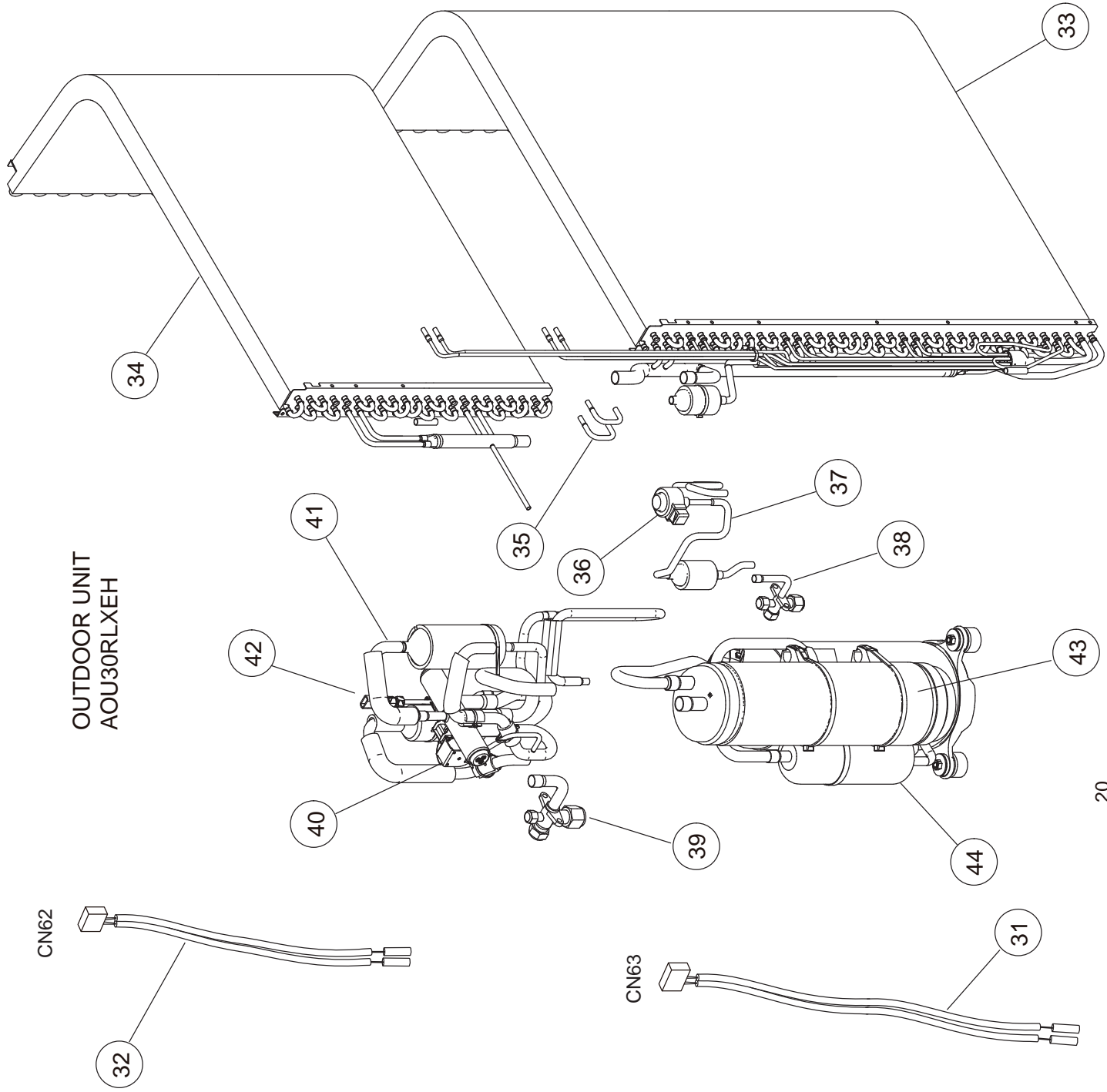
Ref.	Description	Parts number
1	Heater Unit Sub Assy	9900888022
2	Protective Net	9375381042
3	Thermo Holder	9375211011
4	Top Panel Sub Assy	9374417056
5	Front Panel Sub Assy	9374414154
6	Service Panel Sub Assy	9374415090
7	Emblem Rear	9351355005
8	Pipe Cover Front	9378861015
9	Right Panel Sub Assy	9374416264
10	Motor DC Brushless	9602843039
11	Propeller Fan Assy	9366378020
12	Outdoor Thermistor	9900210069

OUTDOOR UNIT
 AOU30RLXEH
 Control box

Ref.	Description	Parts number
21	Main PCB	9709904350
22	Indicator PCB	9708678016
23	Terminal	9900428020
24	Filter PCB	9709903063
25	Thermistor	9704265012
26	Capacitor PCB	9709894132
27	Choke Coil	9900624019
28	ACTPM	9707592016
29	Transistor PCB	9708646145
30	Heat Sink	9380358008



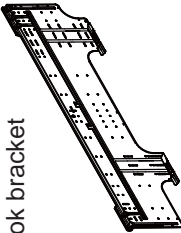
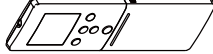



OUTDOOR UNIT
AOU30RLXEH



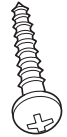


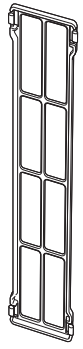

Ref.	Description	Parts number
31	Thermistor Assy (5 pins)	9900599027
32	Thermistor Assy (4 pins)	9900598013
33	Condenser A Sub Assy	9374420261
34	Condenser B Sub Assy	9374422081
35	Bypass Pipe A	9371324043
36	Expansion Valve Coil	9970098062
37	Expansion Valve Assy	9370947182
38	3-way Valve Assy	9379077002
39	3-way Valve Assy	9379079006
40	Solenoid	9970113055
41	4-way Valve Assy	9374425525
42	Sensor	9900505080
43	Accumulator Assy	9375250096
44	Compressor Sub Assy	9374423262

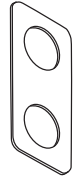
ACCESSORIES

INDOOR UNIT

Name and Shape	Part number
 Wall hook bracket	9386990004
 Remote control	9382108021
 Battery	0600185541
 Remote control holder	9318912005
 Cloth tape	9310519004

OUTDOOR UNIT

Name and Shape	Part number
 Tapping screw (Large)	0700076046
 Tapping screw (Small)	0700019036
 Air cleaning filter	Electric filter 9312153060 Ion deodorant 9311925071
 Filter holder	9368568009
 Insulation (drain hose) T	9361756007

Name and Shape	Part number
 Conduit plate To fix conduit tube	9379938006

1603G4504