

SPLIT TYPE  
ROOM AIR CONDITIONER  
WALL MOUNTED TYPE

# SERVICE MANUAL



| Indoor unit | Outdoor unit |
|-------------|--------------|
| ASYG09LECB  | AOYG09LECAN  |
| ASYG12LECB  | AOYG12LECAN  |

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# SPECIFICATIONS

## ELECTRICAL DATA

| TYPE             |         | Cool & heat inverter  |                       |
|------------------|---------|-----------------------|-----------------------|
| INDOOR UNIT      |         | ASYG09LECB            | ASYG12LECB            |
| OUTDOOR UNIT     |         | AOYG09LECAN           | AOYG12LECAN           |
| COOLING CAPACITY |         | 2.50 kW               | 3.40 kW               |
| HEATING CAPACITY |         | 3.20 kW               | 4.00 kW               |
| POWER SOURCE     |         | 230 V                 | 230 V                 |
| FREQUENCY        |         | 50 Hz                 | 50 Hz                 |
| RUNNING CURRENT  | Cooling | 3.2 A                 | 4.3 A                 |
|                  | Heating | 3.7 A                 | 4.6 A                 |
| INPUT WATTS      | Cooling | 0.630 kW              | 0.895 kW              |
|                  | Heating | 0.750 kW              | 0.970 kW              |
| E.E.R.           | Cooling | 3.97 kW/kW            | 3.80 kW/kW            |
| COP              | Heating | 4.27 kW/kW            | 4.12 kW/kW            |
| MOISTURE REMOVAL |         | 1.3 L/h               | 1.8 L/h               |
| AIR CIRCULATION  |         | 735 m <sup>3</sup> /h | 735 m <sup>3</sup> /h |
| MAXIMUM CURRENT  | Cooling | 6.0 A                 | 7.0 A                 |
|                  | Heating | 9.5 A                 | 11.0 A                |

## FAN MOTOR

| POWER SOURCE         |        | 230 V        | 230 V        |
|----------------------|--------|--------------|--------------|
| INDOOR UNIT Cooling  | High   | 1,440 r.p.m. | 1,440 r.p.m. |
|                      | Medium | 1,200 r.p.m. | 1,200 r.p.m. |
|                      | Low    | 920 r.p.m.   | 920 r.p.m.   |
|                      | Quiet  | 680 r.p.m.   | 680 r.p.m.   |
| INDOOR UNIT Heating  | High   | 1,440 r.p.m. | 1,440 r.p.m. |
|                      | Medium | 1,200 r.p.m. | 1,200 r.p.m. |
|                      | Low    | 980 r.p.m.   | 980 r.p.m.   |
|                      | Quiet  | 700 r.p.m.   | 700 r.p.m.   |
| OUTDOOR UNIT Cooling |        | 850 r.p.m.   | 850 r.p.m.   |
| OUTDOOR UNIT Heating |        | 750 r.p.m.   | 750 r.p.m.   |

## NOISE LEVEL

|                      |        |       |       |
|----------------------|--------|-------|-------|
| INDOOR UNIT Cooling  | High   | 43 dB | 43 dB |
|                      | Medium | 38 dB | 38 dB |
|                      | Low    | 33 dB | 33 dB |
|                      | Quiet  | 21 dB | 21 dB |
| INDOOR UNIT Heating  | High   | 43 dB | 43 dB |
|                      | Medium | 38 dB | 38 dB |
|                      | Low    | 33 dB | 33 dB |
|                      | Quiet  | 21 dB | 21 dB |
| OUTDOOR UNIT Cooling |        | 48 dB | 49 dB |
| OUTDOOR UNIT Heating |        | 47 dB | 48 dB |

## COMPRESSOR AND REFRIGERANT

|                        |                  |                                                  |         |
|------------------------|------------------|--------------------------------------------------|---------|
| COMPRESSOR TYPE        |                  | Hermetic type, 4 pole, DC inverter motor, Rotary |         |
| DISCRIMINATION         |                  | DA89X1C-20FZ2                                    |         |
| WEIGHT (with oil)      |                  | 9.2 kg                                           |         |
| PRECHARGED REFRIGERANT |                  | 950 g                                            | 1,000 g |
| REFRIGERANT TYPE       |                  | R410A                                            | R410A   |
| FULL CHARGE            | Pipe length 15 m | 950 g                                            | 1,000 g |
|                        | 20 m             | 1,050 g                                          | 1,100 g |
| ADDITIONAL CHARGE      |                  | 20 g/m                                           |         |
| MAXIMUM PIPING HEIGHT  |                  | 15m                                              |         |

## DIMENSIONS

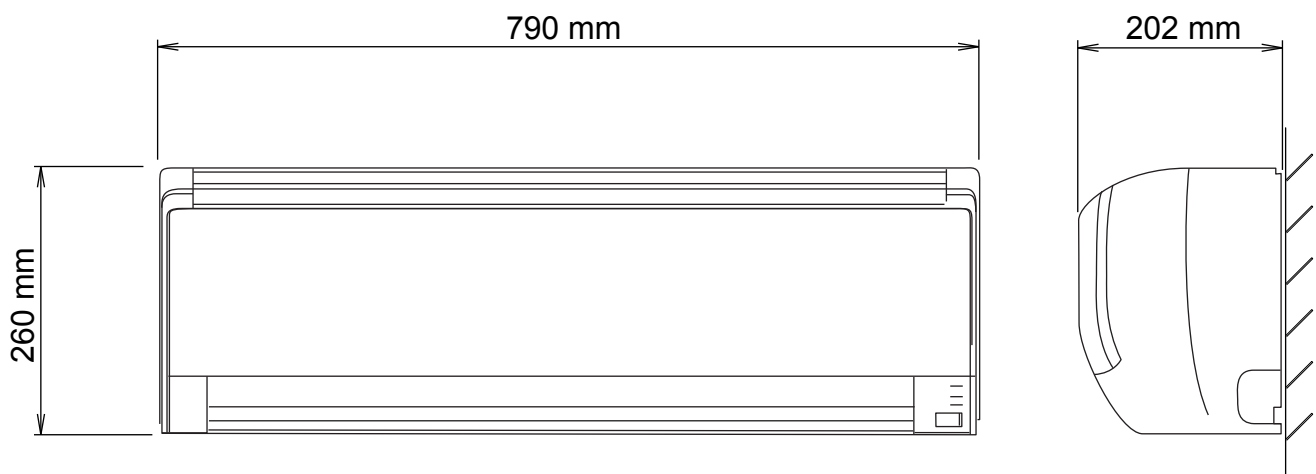
|              |           |                    |
|--------------|-----------|--------------------|
| INDOOR UNIT  | H x W x D | 260 x 790 x 202 mm |
| OUTDOOR UNIT | H x W x D | 540 x 790 x 290 mm |

## WEIGHT

|              |                |                                |
|--------------|----------------|--------------------------------|
| INDOOR UNIT  | Shipping / Net | 9.5 kg / 7.5 kg                |
| OUTDOOR UNIT | Shipping / Net | 40 kg / 36 kg    43 kg / 39 kg |

## DIMENSIONS

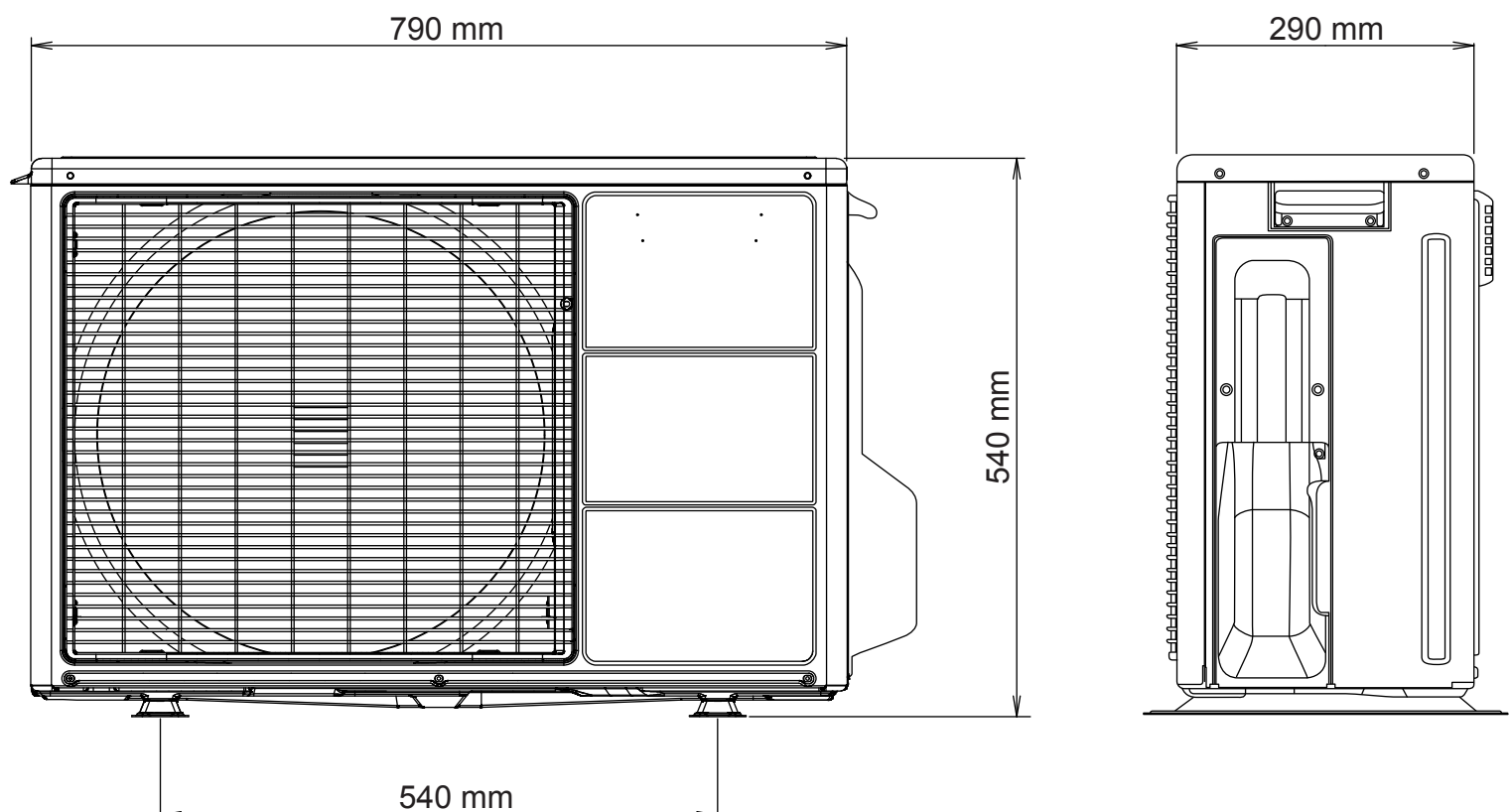
### INDOOR UNIT



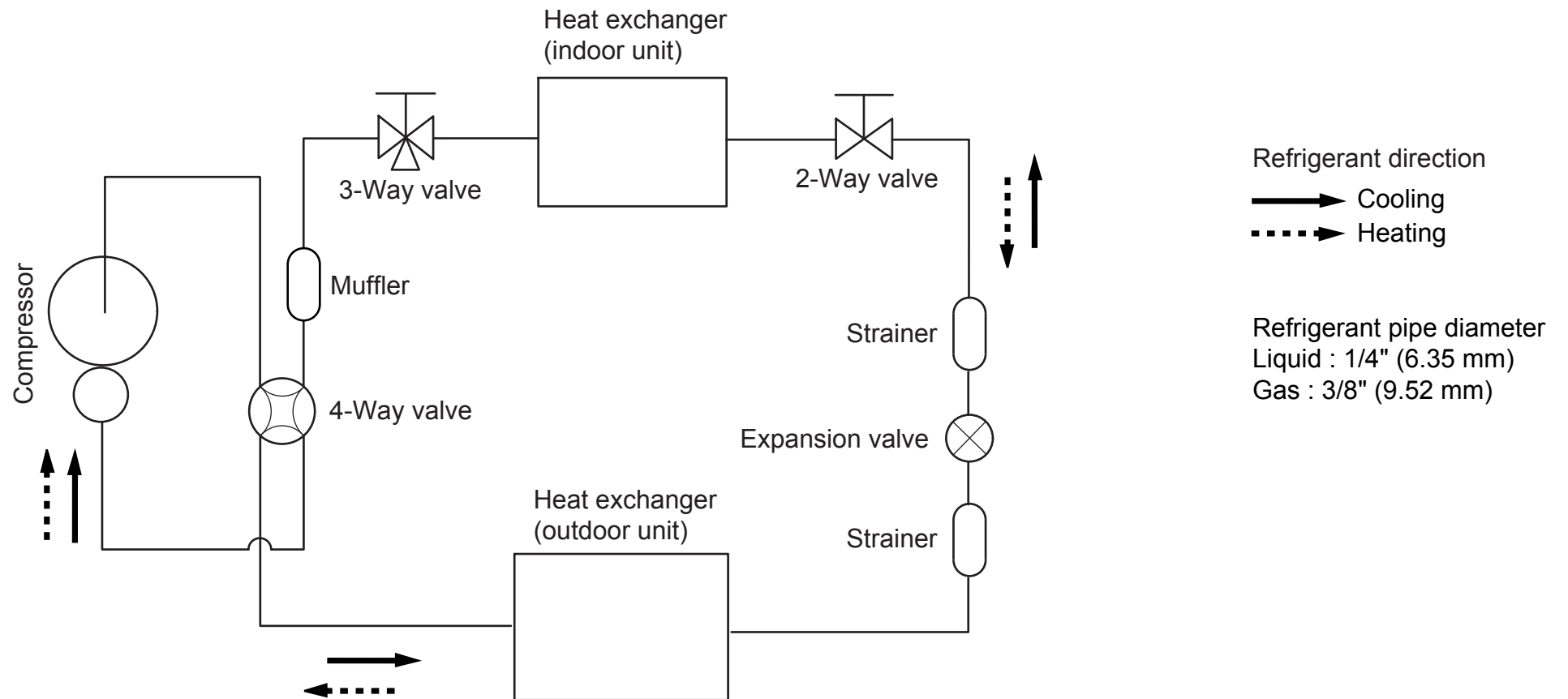
Drain pipe diameter  
O.D 15.8 to 16.7 mm

Liquid pipe diameter : 6.35 mm  
Gas pipe diameter : 9.52 mm

### OUTDOOR UNIT



# REFRIGERANT SYSTEM DIAGRAM



**CIRCUIT DIAGRAM**

**INDOOR UNIT**

**MAIN PCB**

**INDICATOR PCB**

**OUTDOOR UNIT**

**MAIN PCB**

**COMPRESSOR**

**FAN MOTOR**

**EXPANSION VALVE**

**4-WAY VALVE**

**HEATER**

**REACTOR**

**THERMISTOR ASSY**

**THERMISTOR (PIPE TEMP.)**

**THERMISTOR (DISCHARGE PIPE)**

**THERMISTOR (OUTDOOR TEMP.)**

**THERMISTOR (PIPE TEMP.)**

**THERMISTOR (ROOM TEMP.)**

**TEST**

**W4**

**W10**

**W11**

**W7**

**W8**

**W9**

**W1**

**W2**

**W3**

**W4**

**W5**

**W6**

**W7**

**W8**

**W9**

**W10**

**W11**

**W12**

**W13**

**W14**

**W15**

**W16**

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**W261**

**W262**

**W263**

**W264**

**W265**

**W266**

**W267**

**W268**

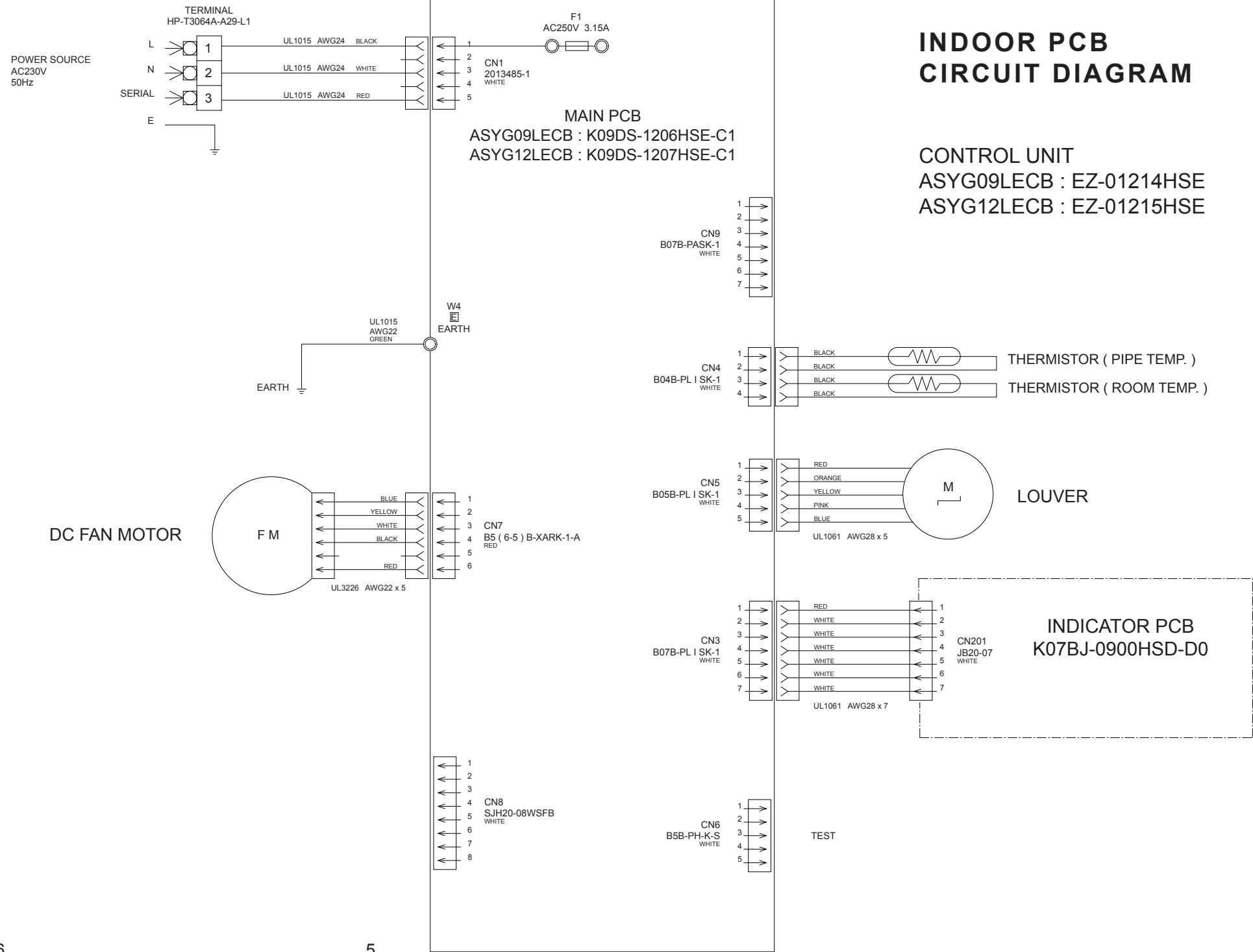
**W269**

**W270**

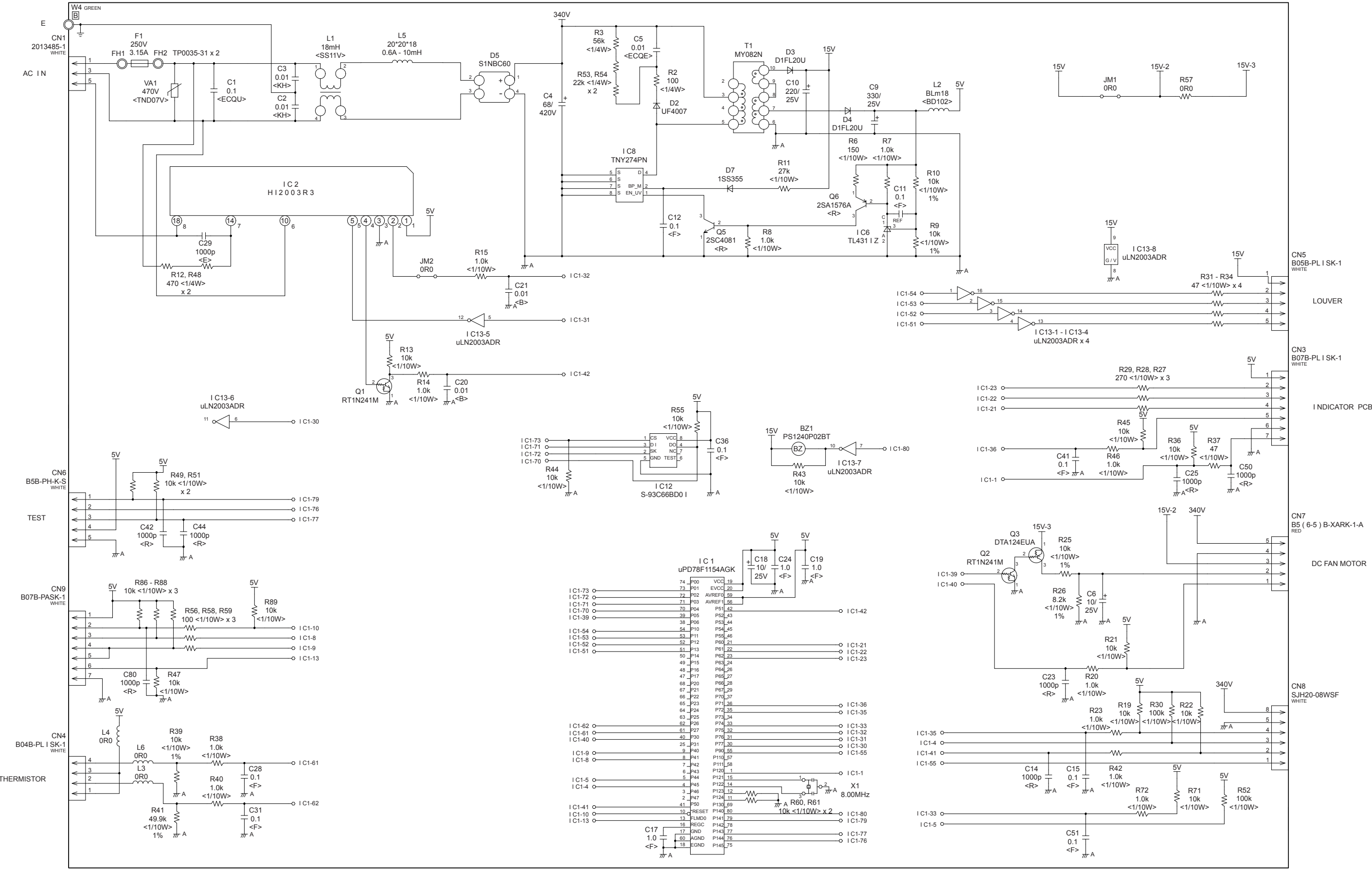
**W271**

**W272**

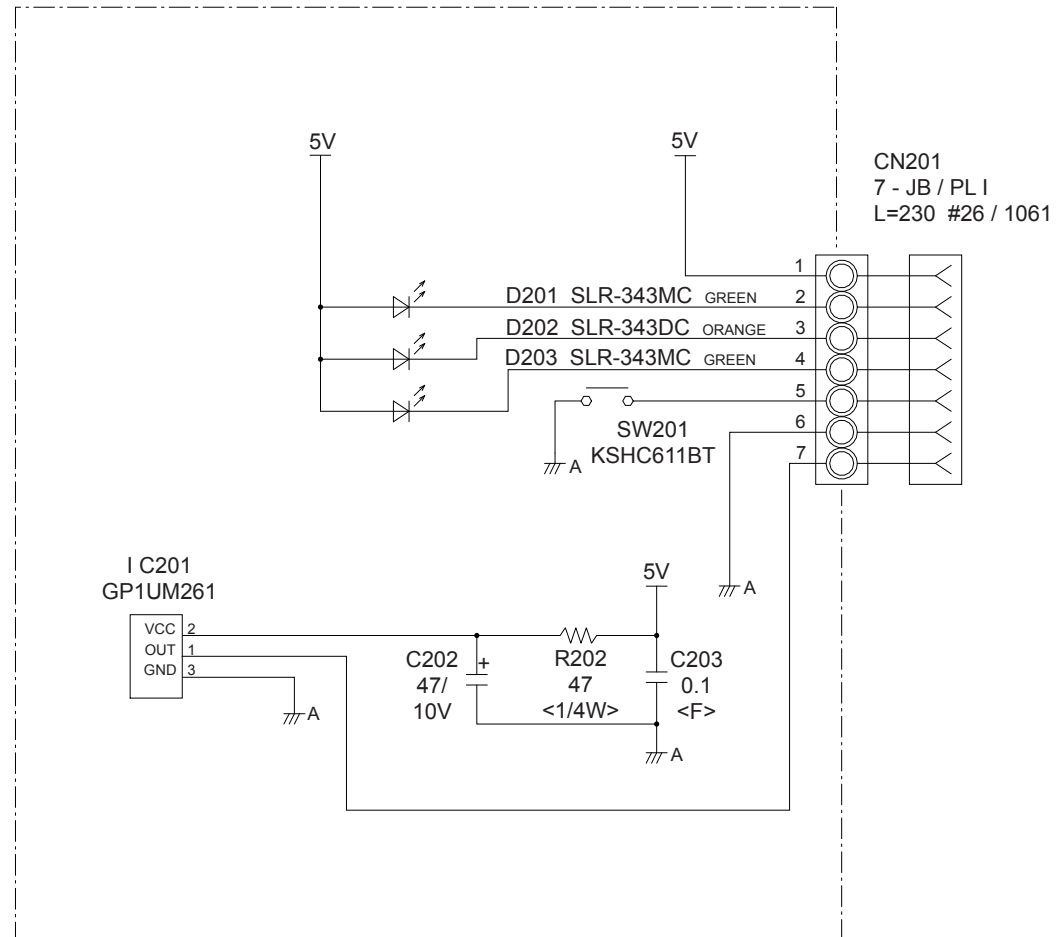
**W2**



INDOOR UNIT  
MAIN PCB  
ASYG09LECB : K09DS-1206HSE-C1  
ASYG12LECB : K09DS-1207HSE-C1



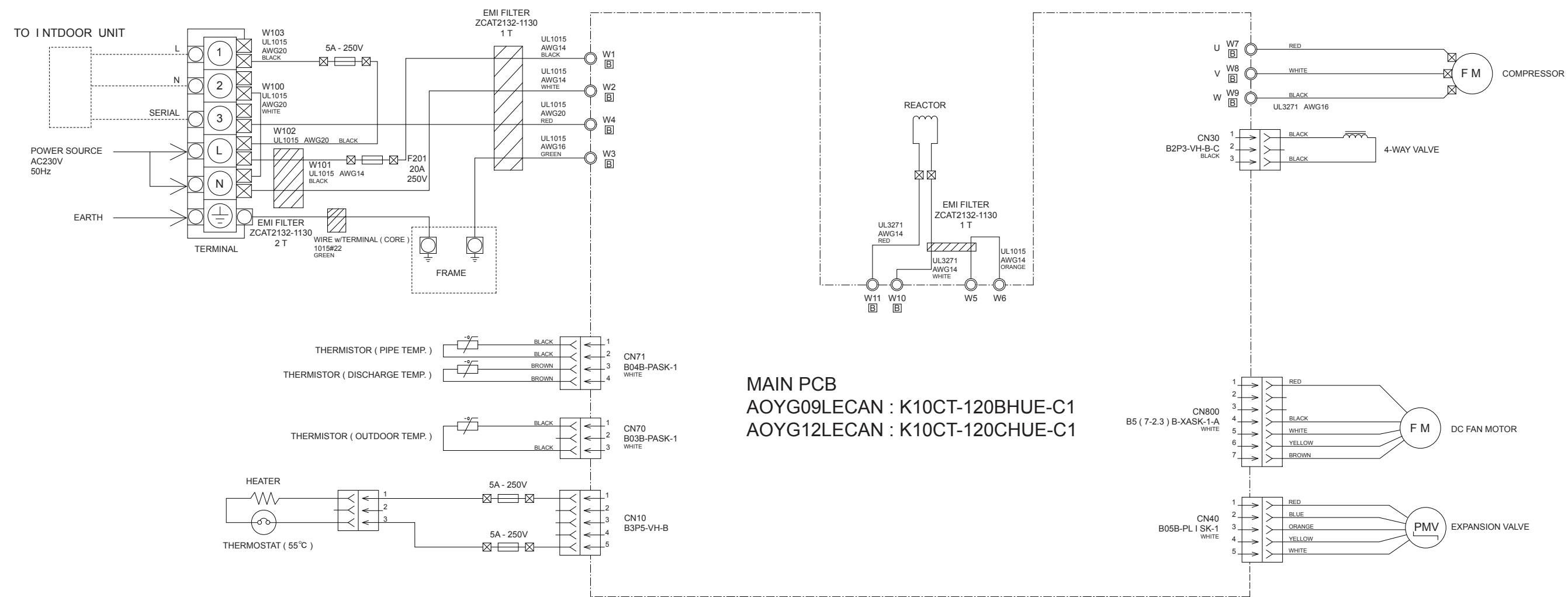
INDOOR UNIT  
INDICATOR PCB  
K07BJ-0900HSD-D0





OUTDOOR PCB  
CIRCUIT DIAGRAM

INVERTER ASSEMBLY  
AOYG09LECAN : EZ-01219HUE  
AOYG12LECAN : EZ-0121AHUE



## AOYG12LECAN : K10CT-120CHUE-C1



# ERROR DETECTION

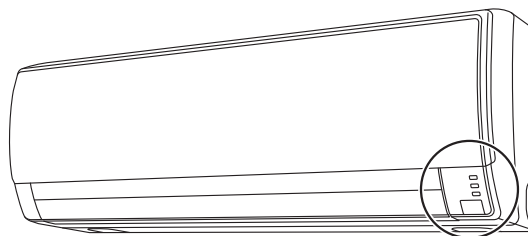
## INDOOR UNIT REMOTE CONTROL

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.

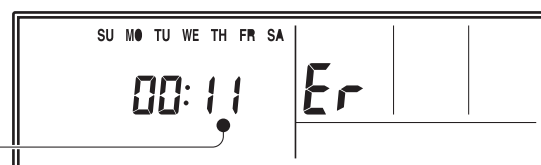
An error display is displayed only during operation.



**OPERATION** OPERATION lamp (green)  
**TIMER** TIMER lamp (orange)  
**ECONOMY** ECONOMY 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]<br>•Connection unit number error (indoor unit or branch unit) [Flexible Multi] |
| ● (2)             | ● (7)          | ◇               | 27                   | Master unit, slave 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                                                                                                                           |

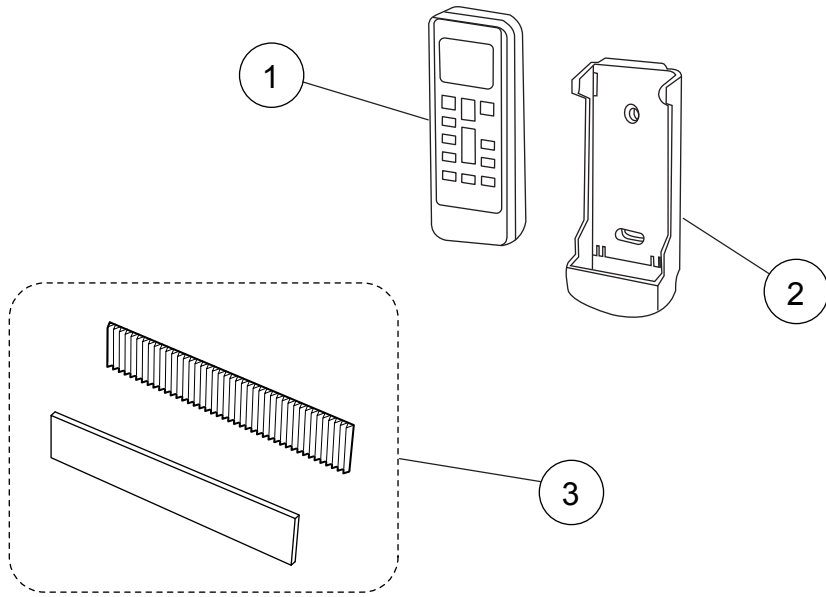
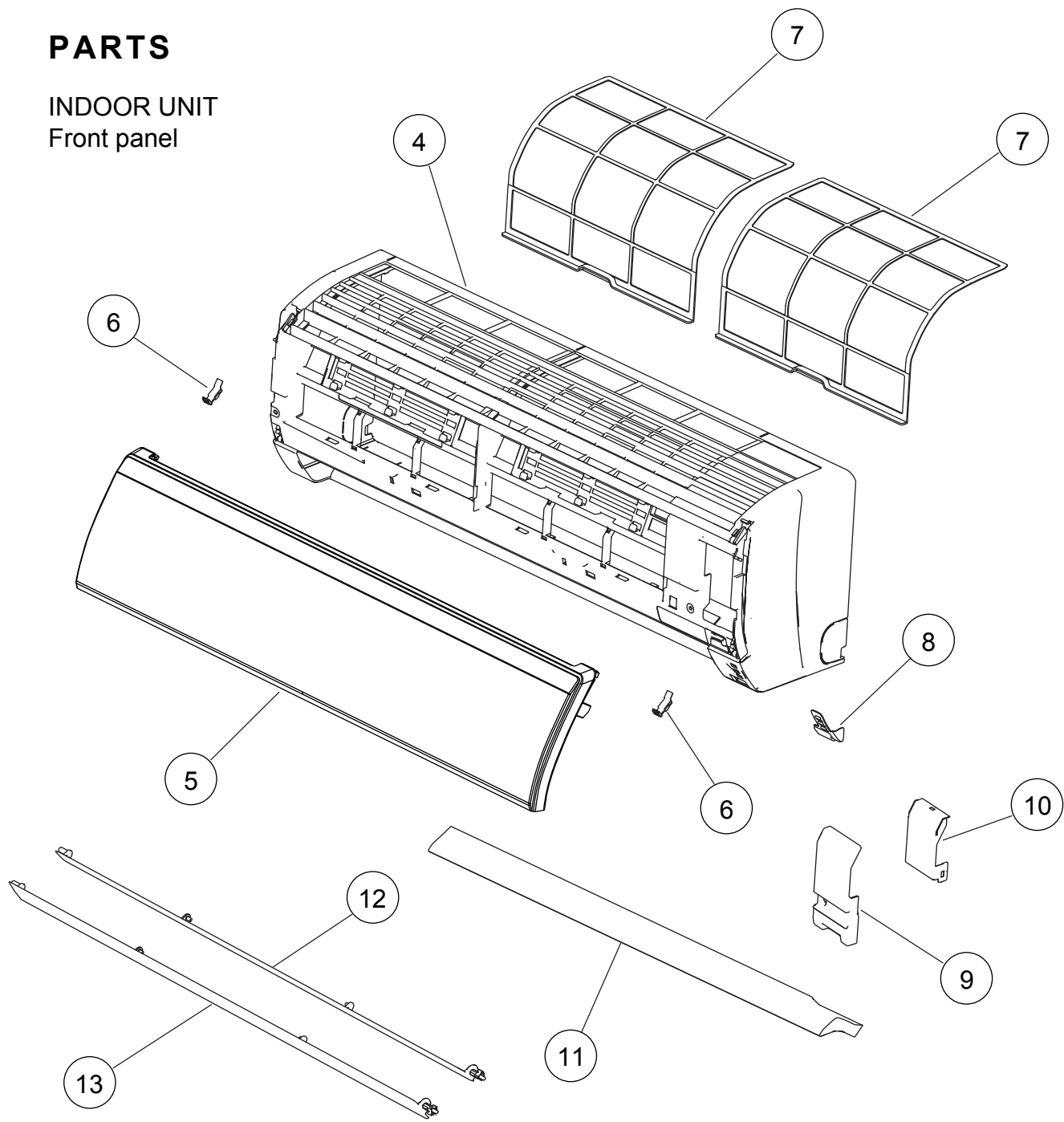
| Indoor unit lamps |                |                 | Wired remote control | Description                                                                                           |
|-------------------|----------------|-----------------|----------------------|-------------------------------------------------------------------------------------------------------|
| 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<br>• 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<br>• 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<br>• Suction pressure sensor error<br>• 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

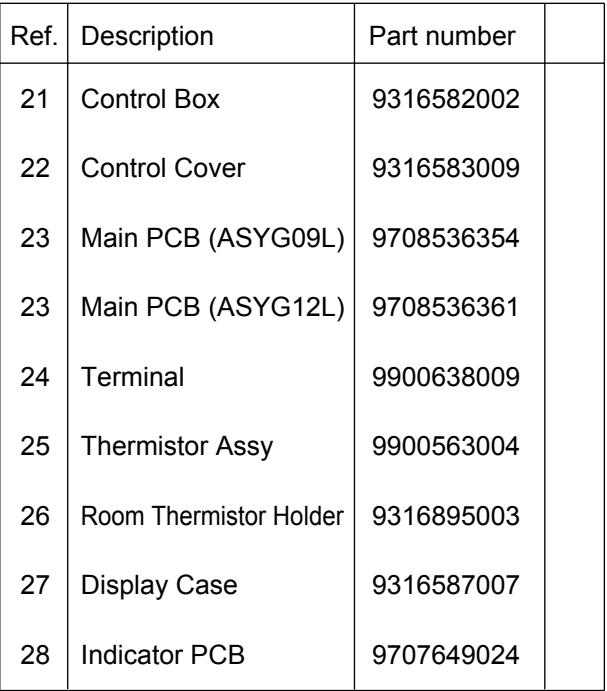
| LED                            | ERROR                          |
|--------------------------------|--------------------------------|
| on                             | Discharge temperature abnormal |
| 0.5 second on / 0.5 second off | IPM overcurrent protection     |
| 0.1 second on / 0.1 second 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  
Front panel

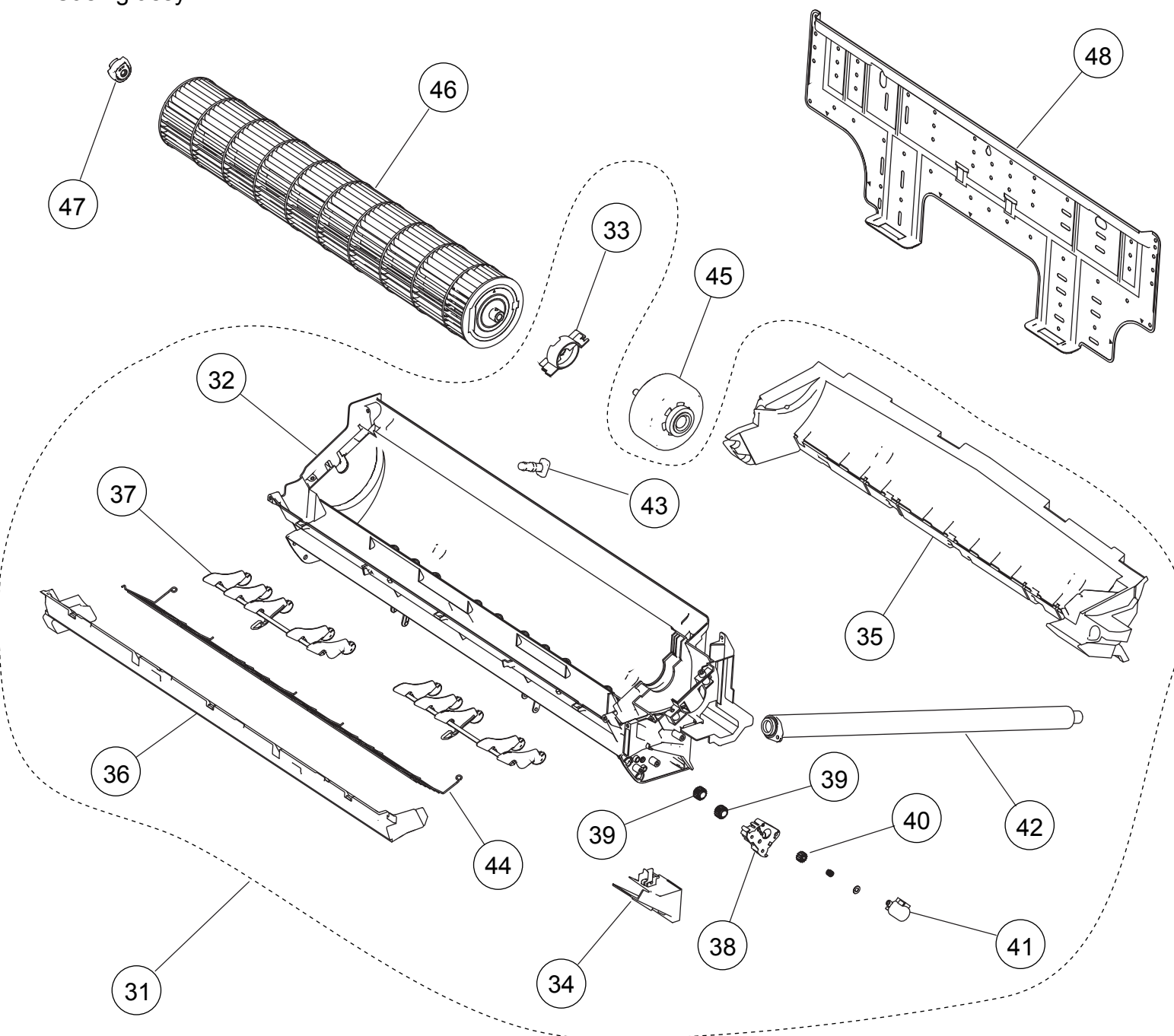


| Ref. | Description           | Part number |  |
|------|-----------------------|-------------|--|
| 1    | Remote Control        | 9379219006  |  |
| 2    | Remote Control Holder | 9305642045  |  |
| 3    | Air Clean Filter Assy | 9317250009  |  |
| 4    | Front Panel           | 9316558045  |  |
| 5    | Intake Grille Assy    | 9332272024  |  |
| 6    | Grille Clamper        | 9316906006  |  |
| 7    | Air Filter            | 9316562004  |  |
| 8    | Receiver Window       | 9316588011  |  |
| 9    | Wire Cover            | 9316559004  |  |
| 10   | Wire Shield           | 9316584006  |  |
| 11   | Panel Cover           | 9316561014  |  |
| 12   | Louver Z (Lower)      | 9316573000  |  |
| 13   | Louver U (Upper)      | 9316572003  |  |

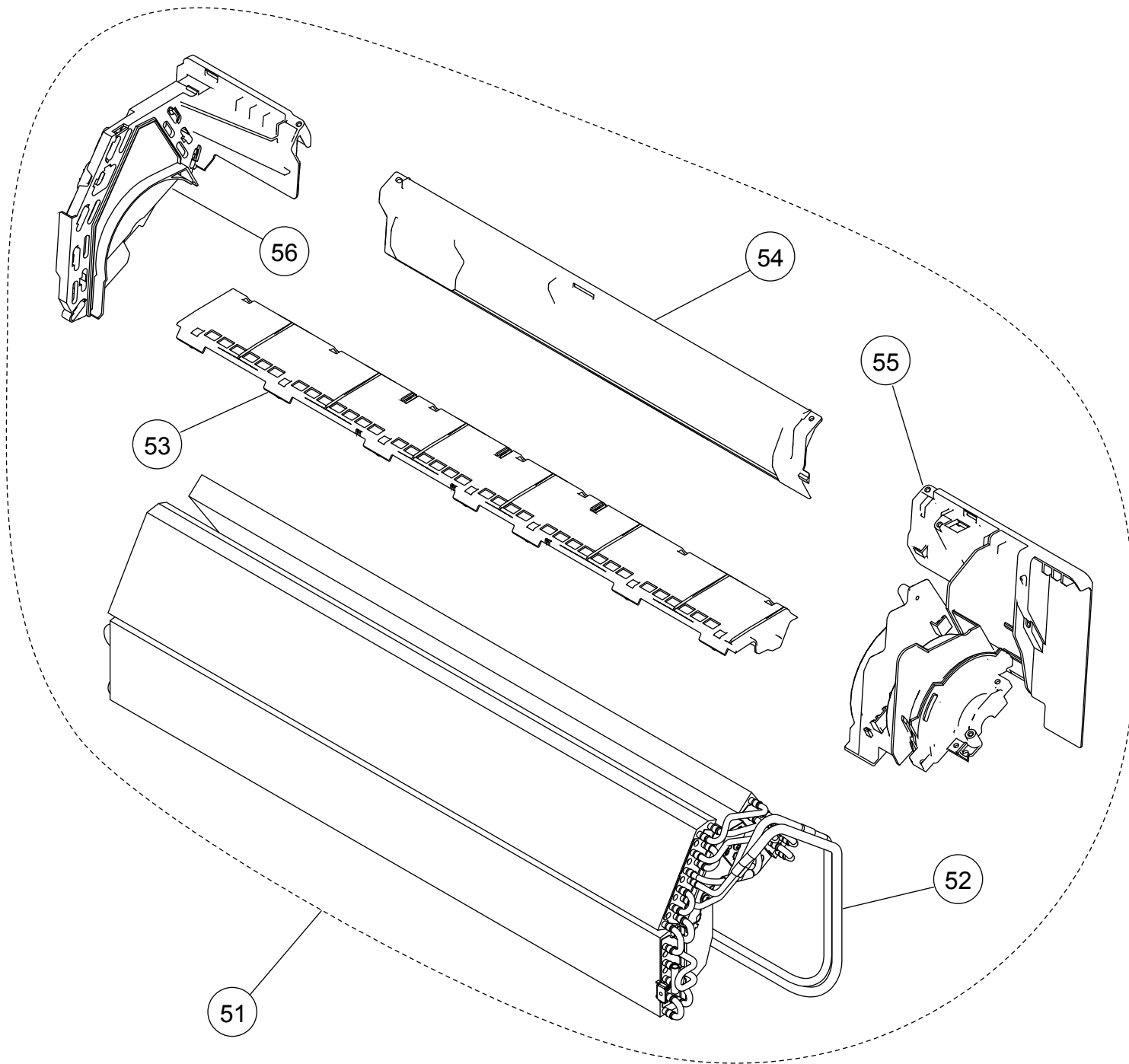




# INDOOR UNIT Casing assy



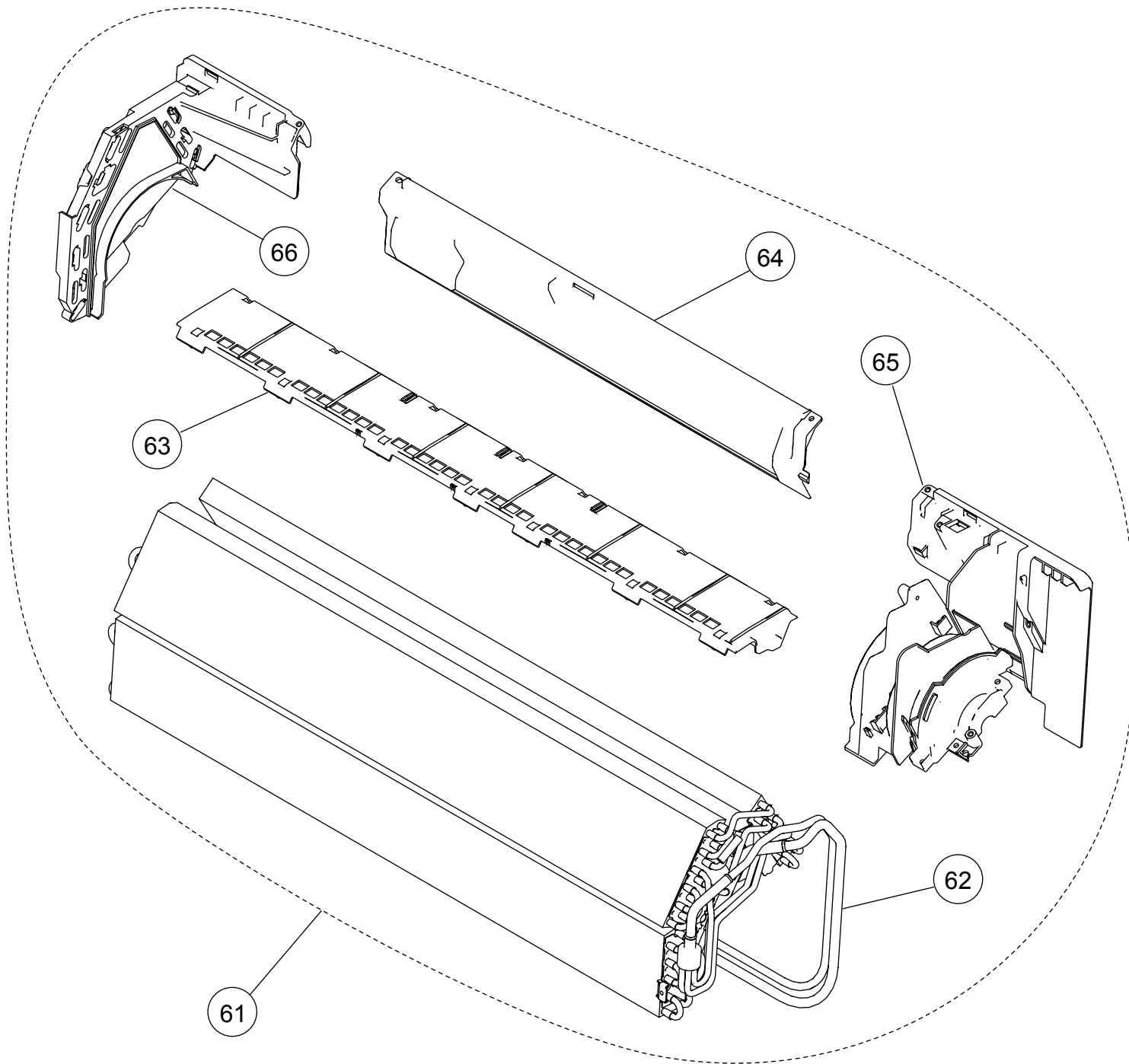
| Ref. | Description        | Part number |
|------|--------------------|-------------|
| 31   | Casing Assy        | 9316892095  |
| 32   | Casing             | 9316563001  |
| 33   | Motor Cover        | 9316568006  |
| 34   | Cable Guide        | 9316567009  |
| 35   | Casing Cover B     | 9316569003  |
| 36   | Casing Cover F     | 9316570009  |
| 37   | R and L Louver B   | 9316961005  |
| 38   | Louver Gear Holder | 9316575004  |
| 39   | Louver Gear        | 9316574007  |
| 40   | Gear A             | 9309994003  |
| 41   | Motor Step         | 9900139193  |
| 42   | Drain Hose Assy    | 9316904002  |
| 43   | Drain Cap          | 9316177017  |
| 44   | Fan Guard          | 9317182003  |
| 45   | Fan Motor          | 9602704002  |
| 46   | Crossflow Fan Assy | 9316830004  |
| 47   | Shaft Holder C     | 9306628017  |
| 48   | Bracket Panel      | 9316590007  |



INDOOR UNIT  
ASYG09LECB  
Evaporator

| Ref. | Description           | Part number |  |
|------|-----------------------|-------------|--|
| 51   | Evaporator Total Assy | 9316893122  |  |
| 52   | Joint Pipe Assy       | 9316923010  |  |
| 53   | Filter Guide          | 9316578005  |  |
| 54   | Rear Bracket          | 9316566019  |  |
| 55   | Evaporator Holder R   | 9316565012  |  |
| 56   | Evaporator Holder L   | 9316564015  |  |



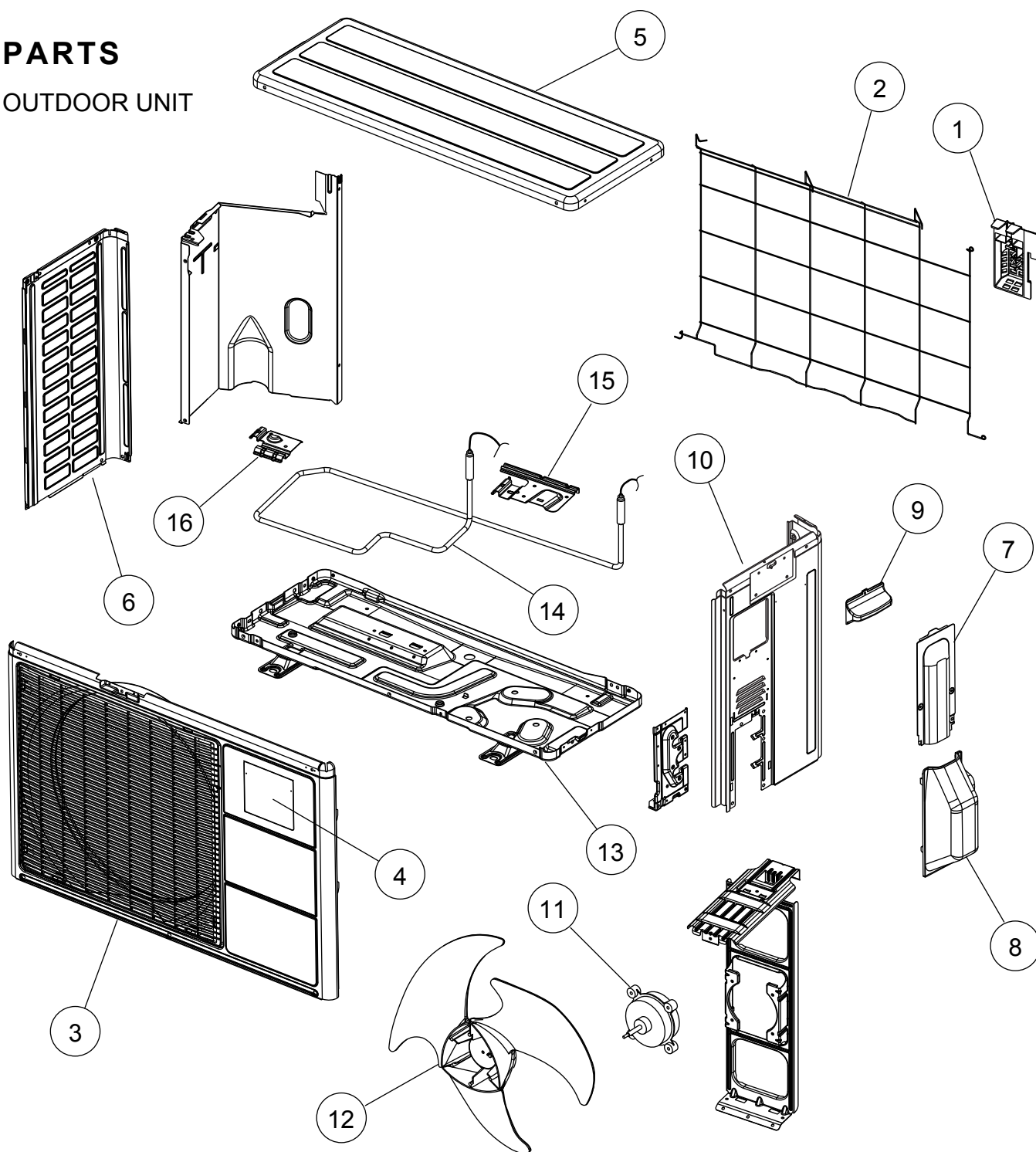


INDOOR UNIT  
ASYG12LECB  
Evaporator

| Ref. | Description           | Part number |  |
|------|-----------------------|-------------|--|
| 61   | Evaporator Total Assy | 9316893139  |  |
| 62   | Joint Pipe Assy       | 9317190015  |  |
| 63   | Filter Guide          | 9316578005  |  |
| 64   | Rear Bracket          | 9316566019  |  |
| 65   | Evaporator Holder R   | 9316565012  |  |
| 66   | Evaporator Holder L   | 9316564015  |  |

# PARTS

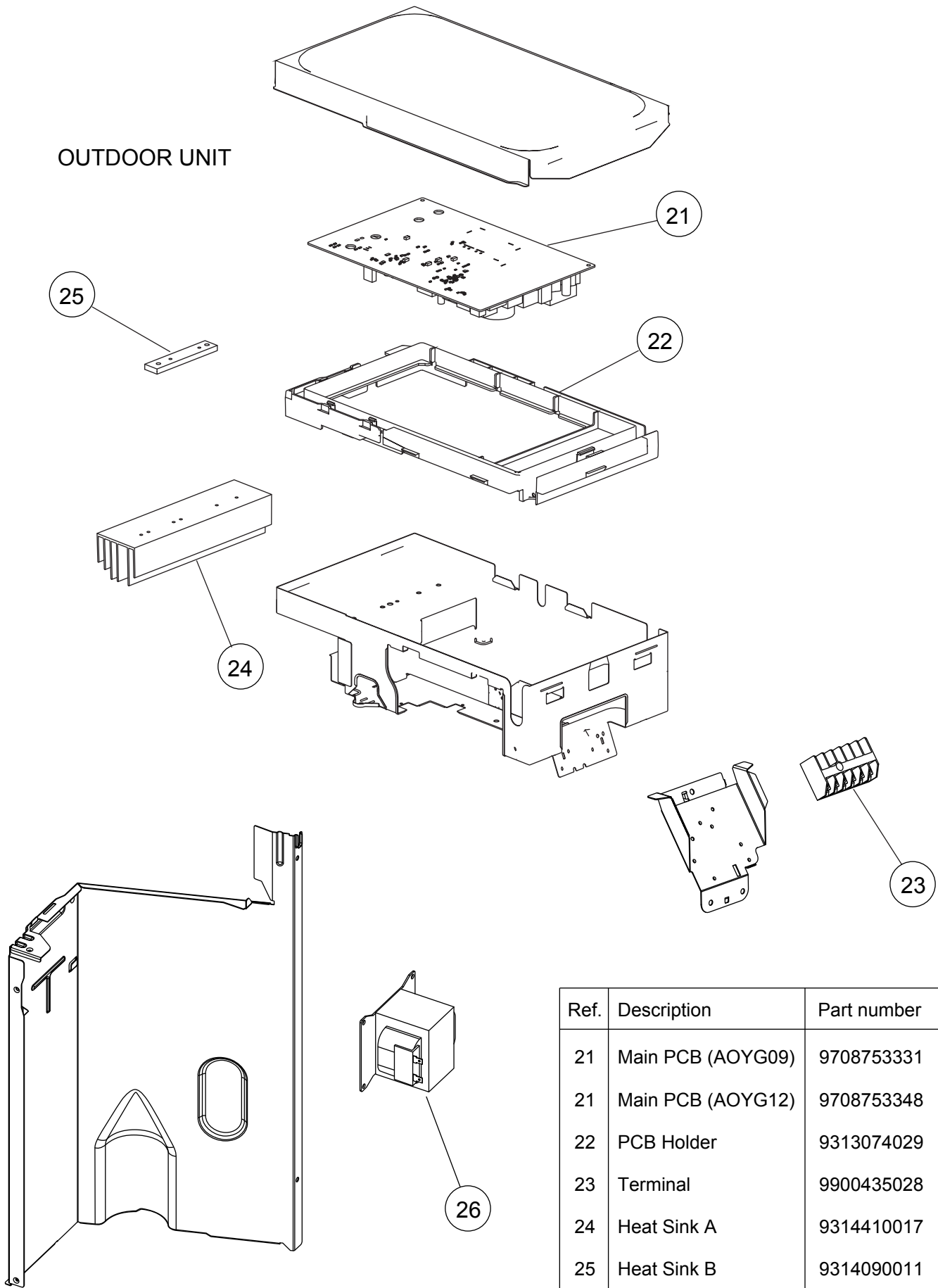
## OUTDOOR UNIT



| Ref. | Description            | Part number |
|------|------------------------|-------------|
| 1    | Thermistor Holder (09) | 9313954048  |
| 1    | Thermistor Holder (12) | 9313954031  |
| 2    | Protective Net         | 9318635003  |
| 3    | Front Panel Assy       | 9317760041  |
| 4    | Emblem                 | 9319151007  |
| 5    | Top Panel Assy         | 9317761017  |
| 6    | Cabinet Left Assy      | 9318247008  |
| 7    | Switch Cover A Assy    | 9317795005  |
| 8    | Switch Cover B         | 9317582001  |

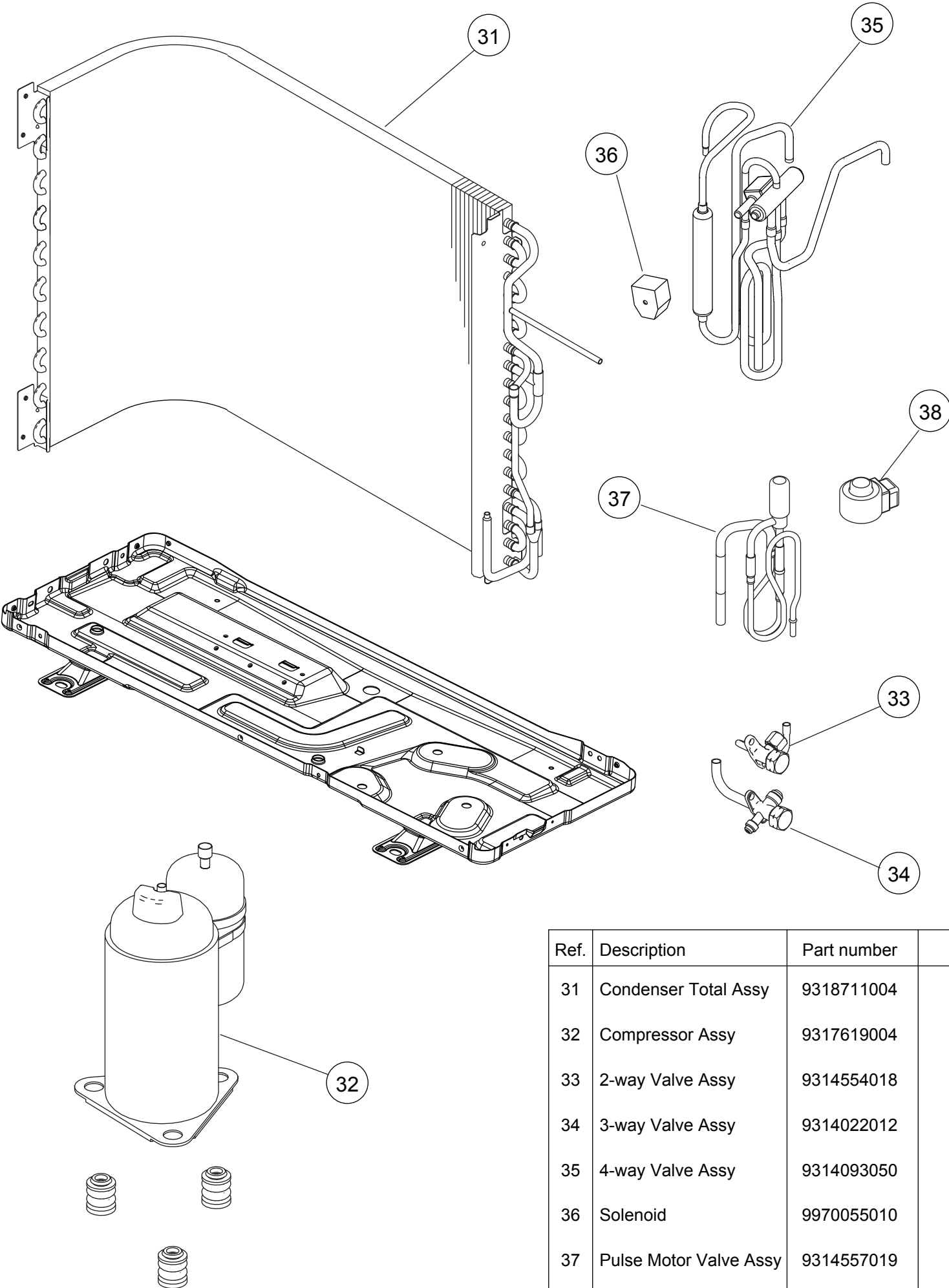
| Ref. | Description        | Part number |
|------|--------------------|-------------|
| 9    | Grip               | 9317588003  |
| 10   | Cabinet Right Assy | 9317759007  |
| 11   | Fan Motor          | 9602864003  |
| 12   | Propeller Fan      | 9313808013  |
| 13   | Base Assy          | 9316885059  |
| 14   | Heater Unit Assy   | 9900616007  |
| 15   | Heater Holder A    | 9318631005  |
| 16   | Heater Holder B    | 9318651003  |

OUTDOOR UNIT

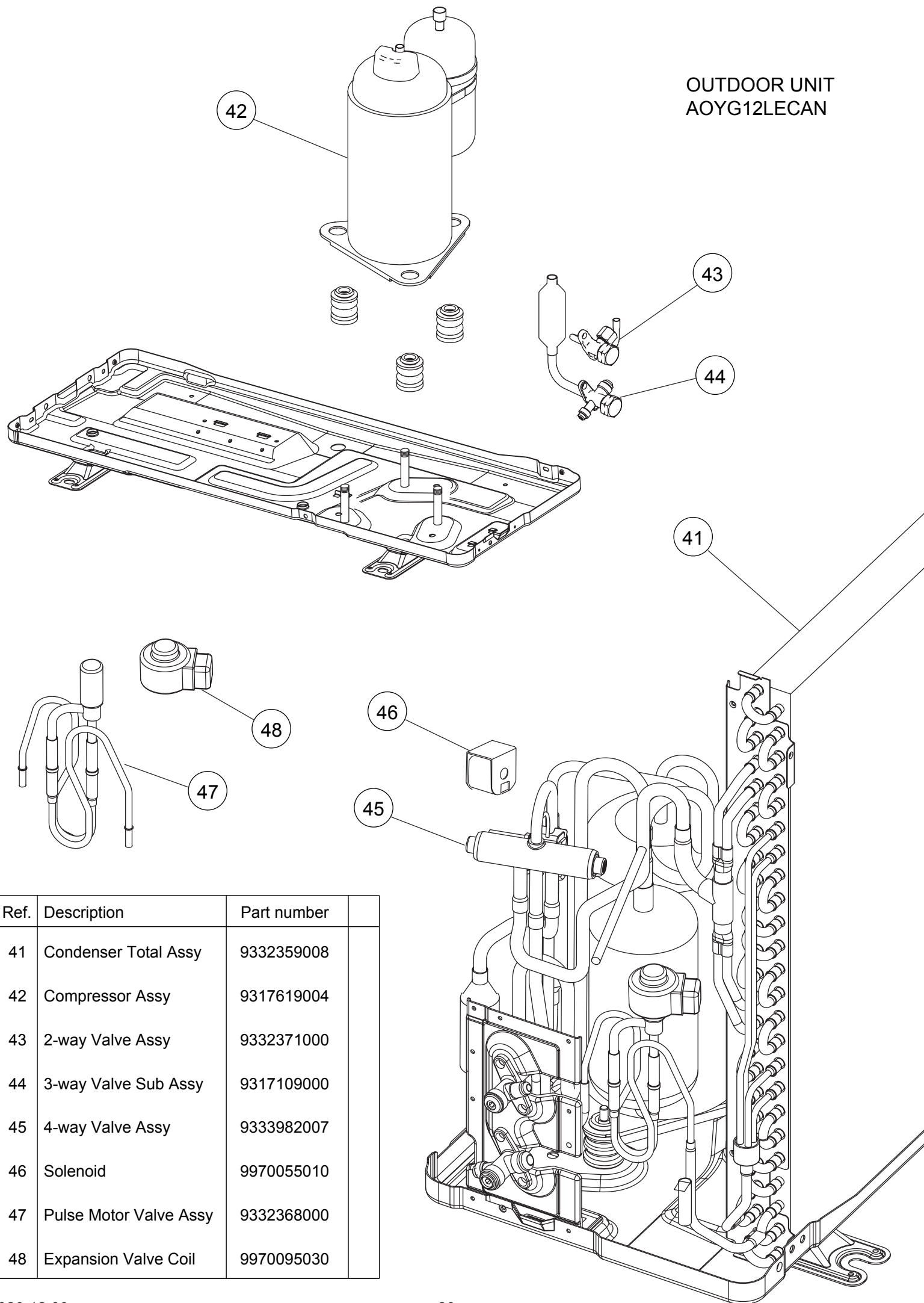


| Ref. | Description        | Part number |  |
|------|--------------------|-------------|--|
| 21   | Main PCB (AOYG09)  | 9708753331  |  |
| 21   | Main PCB (AOYG12)  | 9708753348  |  |
| 22   | PCB Holder         | 9313074029  |  |
| 23   | Terminal           | 9900435028  |  |
| 24   | Heat Sink A        | 9314410017  |  |
| 25   | Heat Sink B        | 9314090011  |  |
| 26   | Reactor Assy       | 9900611019  |  |
| --   | Outdoor Thermistor | 9900544010  |  |
| --   | Thermistor Assy    | 9900614003  |  |

OUTDOOR UNIT  
AOYG09LECAN



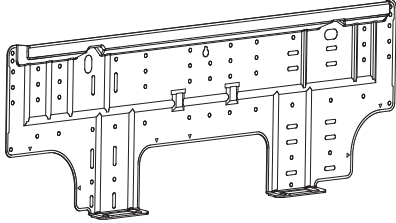
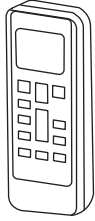
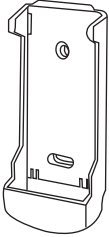
# OUTDOOR UNIT AOYG12LECAN

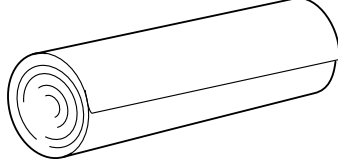
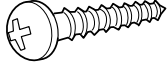
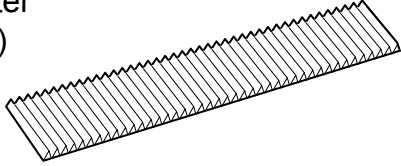
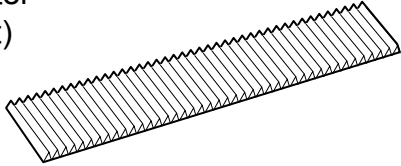


| Ref. | Description            | Part number |
|------|------------------------|-------------|
| 41   | Condenser Total Assy   | 9332359008  |
| 42   | Compressor Assy        | 9317619004  |
| 43   | 2-way Valve Assy       | 9332371000  |
| 44   | 3-way Valve Sub Assy   | 9317109000  |
| 45   | 4-way Valve Assy       | 9333982007  |
| 46   | Solenoid               | 9970055010  |
| 47   | Pulse Motor Valve Assy | 9332368000  |
| 48   | Expansion Valve Coil   | 9970095030  |

# ACCESSORIES

## INDOOR UNIT

| Name and Shape                                                                                              | Part number |
|-------------------------------------------------------------------------------------------------------------|-------------|
| Wall hook bracket<br>      | 9316590007  |
| Remote control<br>         | 9379219006  |
| Remote control holder<br> | 9305642045  |
| Battery (penlight)<br>   | 0600185541  |

| Name and Shape                                                                                                                  | Part number |
|---------------------------------------------------------------------------------------------------------------------------------|-------------|
| Cloth tape<br>                               | 9310519004  |
| Tapping screw (big)<br>(φ 4 x 25)<br>        | 0700076046  |
| Tapping screw (small)<br>(φ 3 x 12)<br>      | 0700019036  |
| Air cleaning filter<br>(Apple katekin)<br> | 9312153077  |
| Air cleaning filter<br>(Ion deodorant)<br> | 9311925088  |

