

**SPLIT TYPE
ROOM AIR CONDITIONER
WALL MOUNTED type**

**SERVICE
MANUAL**



Models

Indoor unit

Outdoor unit

ASYB09LDC

AOYS09LDC

ASYB12LDC

AOYS12LDC

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SPECIFICATIONS

| | | |
|------------------|----------------------|-----------|
| TYPE | COOL & HEAT INVERTER | |
| INDOOR UNIT | ASYB09LDC | ASYB12LDC |
| OUTDOOR UNIT | AOYS09LDC | AOYS12LDC |
| COOLING CAPACITY | 2.60 kW | 3.50 kW |
| HEATING CAPACITY | 3.60 kW | 4.80 kW |

ELECTRICAL DATA

| | | | |
|--------------------------|---------|------------|------------|
| POWER SOURCE | | 230 V | 230 V |
| FREQUENCY | | 50 Hz | 50 Hz |
| RUNNING CURRENT | COOLING | 2.9 A | 4.3 A |
| | HEATING | 3.9 A | 5.5 A |
| INPUT WATTS | COOLING | 0.61 kW | 0.91 kW |
| | HEATING | 0.81 kW | 1.22 kW |
| E.E.R. | COOLING | 4.26 kW/kW | 3.85 kW/kW |
| COP | HEATING | 4.44 kW/kW | 3.93 kW/kW |
| MOISTURE REMOVAL | | 1.3 L/hr | 1.8 L/hr |
| AIR CIRCULATION -High | COOLING | 560 m3/hr | 595 m3/hr |
| | HEATING | 605 m3/hr | 630 m3/hr |

COMPRESSOR

| | | | |
|----------------|---|-------|---------|
| TYPE | Hermetic type, 4 pole, 3 phase, DC inverter motor, Rotary | | |
| DISCRIMINATION | DA89X1C - 20FZ | | |
| REFRIGERANT | R410A | 950 g | 1,050 g |

FAN MOTOR

| | | | |
|-------------------------------|------------|----------------------|----------------------|
| POWER SOURCE | | 230 V | 230 V |
| INDOOR UNIT (cool / heat) | HIGH2 | 1,340 / 1,430 r.p.m. | 1,400 / 1,470 r.p.m. |
| | HIGH-SPEED | 1,300 / 1,390 r.p.m. | 1,370 / 1,440 r.p.m. |
| | MED-SPEED | 1,120 / 1,200 r.p.m. | 1,150 / 1,200 r.p.m. |
| | LOW-SPEED | 950 / 1,000 r.p.m. | 950 / 1,000 r.p.m. |
| | QUIET | 700 / 760 r.p.m. | 700 / 760 r.p.m. |
| OUTDOOR UNIT (cool / heat) | HIGH2 | 820 / 760 r.p.m. | 820 / 820 r.p.m. |
| | HIGH-SPEED | 760 / 680 r.p.m. | 760 / 680 r.p.m. |

" HIGH2 " means when ability measurement.

DIMENSIONS

| | | |
|--------------|-----------|--------------------|
| INDOOR UNIT | H x W x D | 283 x 790 x 230 mm |
| OUTDOOR UNIT | H x W x D | 540 x 790 x 290 mm |

WEIGHT

| | | | |
|--------------|-------------|-------------|-------------|
| INDOOR UNIT | Gross / Net | 12 / 9.5 kg | 12 / 9.5 kg |
| OUTDOOR UNIT | Gross / Net | 38 / 34 kg | 40 / 36 kg |

NOISE LEVEL

| | | | |
|-------------------------------|--------|---------------|---------------|
| INDOOR UNIT (Cool / Heat) | High 2 | 40 dB / 41 dB | 42 dB / 42 dB |
| | High 1 | 39 dB / 40 dB | 41 dB / 41 dB |
| | Med | 34 dB / 35 dB | 35 dB / 35 dB |
| | Low | 29 dB / 28 dB | 29 dB / 28 dB |
| | Quiet | 20 dB / 21 dB | 20 dB / 21 dB |
| OUTDOOR UNIT (Cool / Heat) | High 2 | 48 dB / 50 dB | 49 dB / 51 dB |
| | High 1 | 47 dB / 48 dB | 47 dB / 49 dB |

REFRIGERANT (R410A)

| | | | |
|------------------------|------------------|----------|----------|
| FULL CHARGE AMOUNT | Pipe Length 15 m | 950 g | 1,050 g |
| | 20 m | 1,050 g | 1,150 g |
| ADDITIONAL REFRIGERANT | | 20 g / m | 20 g / m |
| MAXIMUM PIPING HEIGHT | | 15m | 15m |

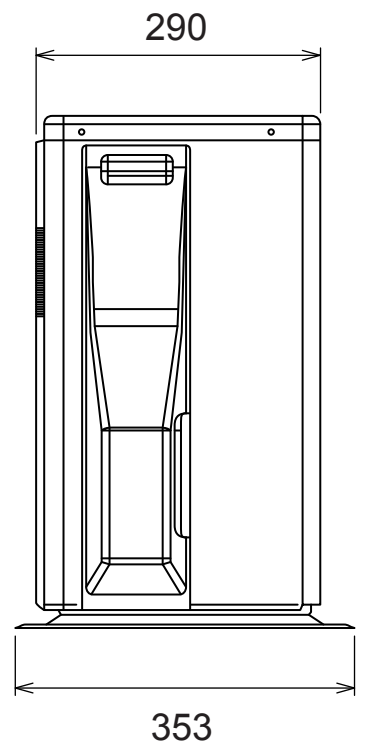
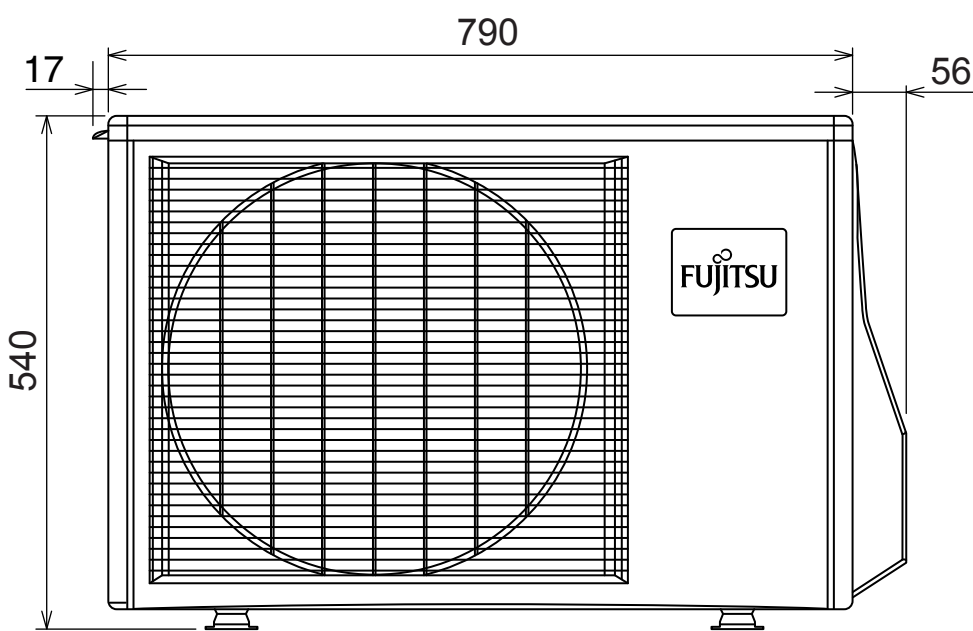
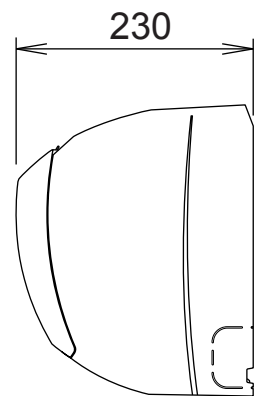
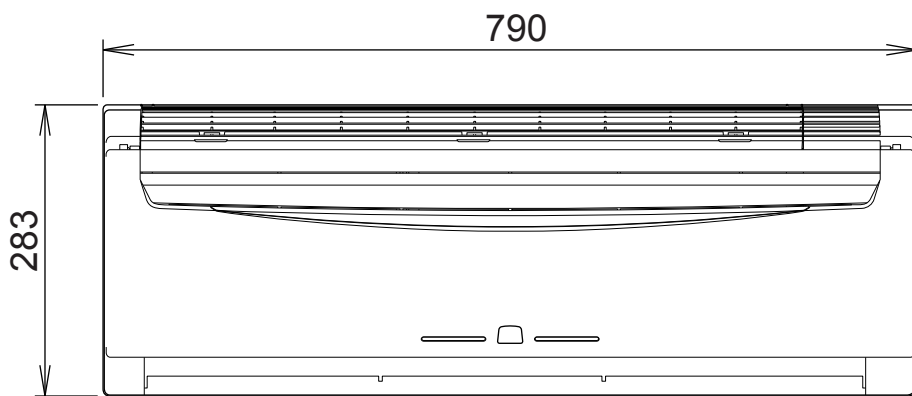
DIMENSIONS

Models :

ASYB09LDC / AOYS09LDC

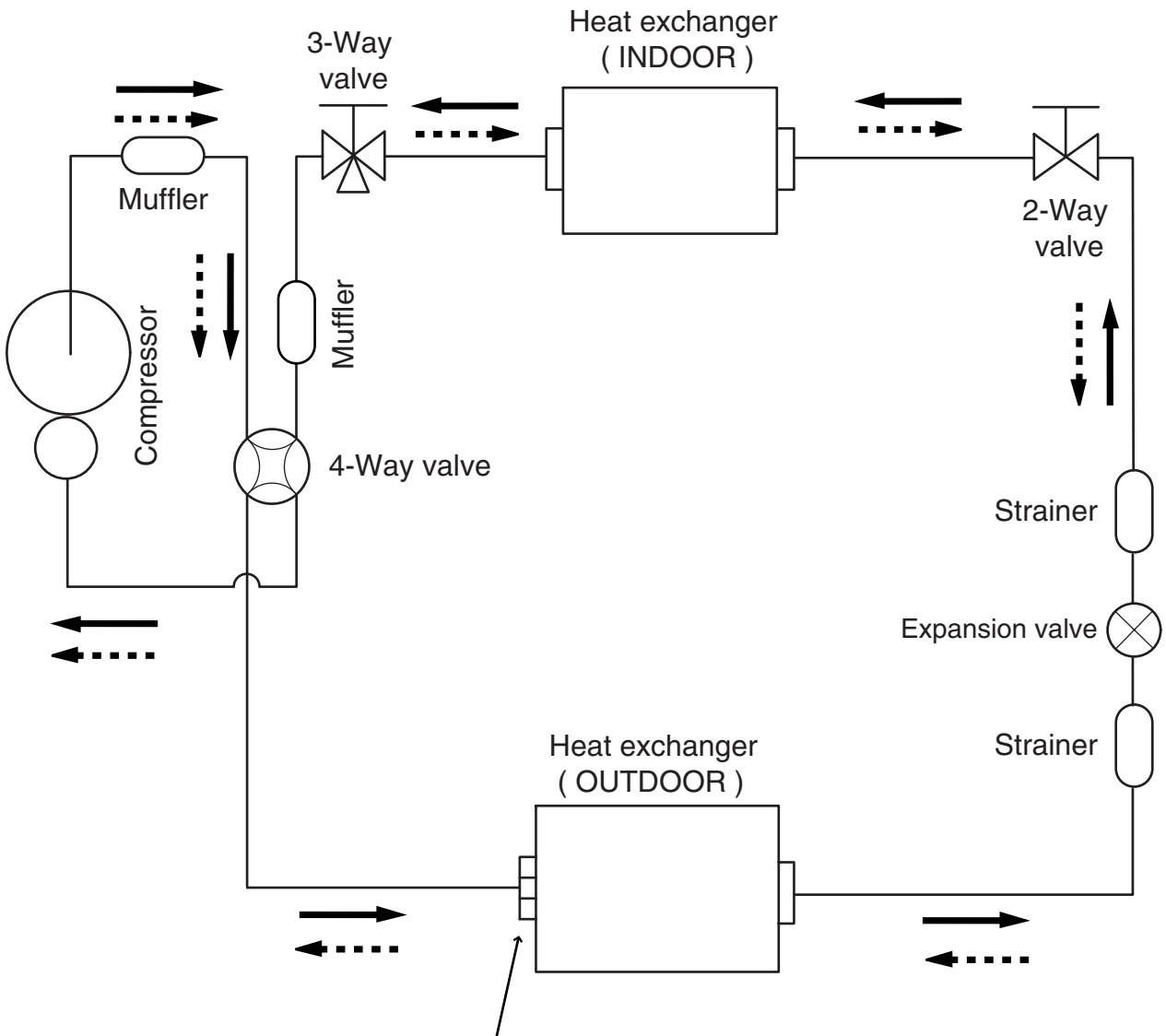
ASYB12LDC / AOYS12LDC

(unit : mm)



REFRIGERANT SYSTEM DIAGRAM

Models :
 ASYB09LDC / AOYS09LDC
 ASYB12LDC / AOYS12LDC



AOYS09LDC : 2 pass
 AOYS12LDC : 4 pass

—————> Cooling
 - - - - -> Heating

Refrigerant pipe diameter
 Liquid : 1/4" (6.35 mm)
 Gas : 3/8" (9.52 mm)

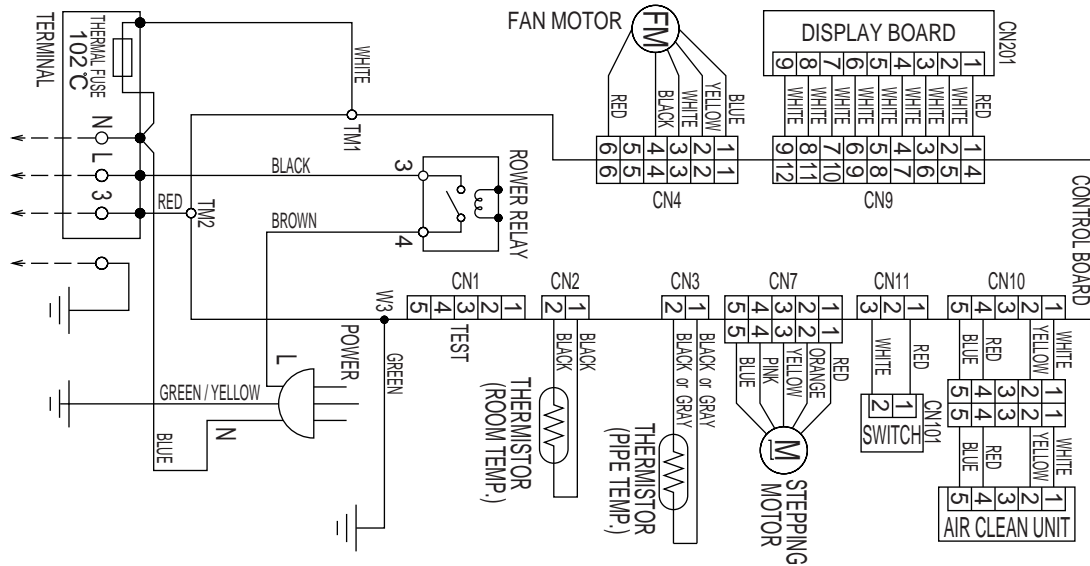
CIRCUIT DIAGRAM

Models :

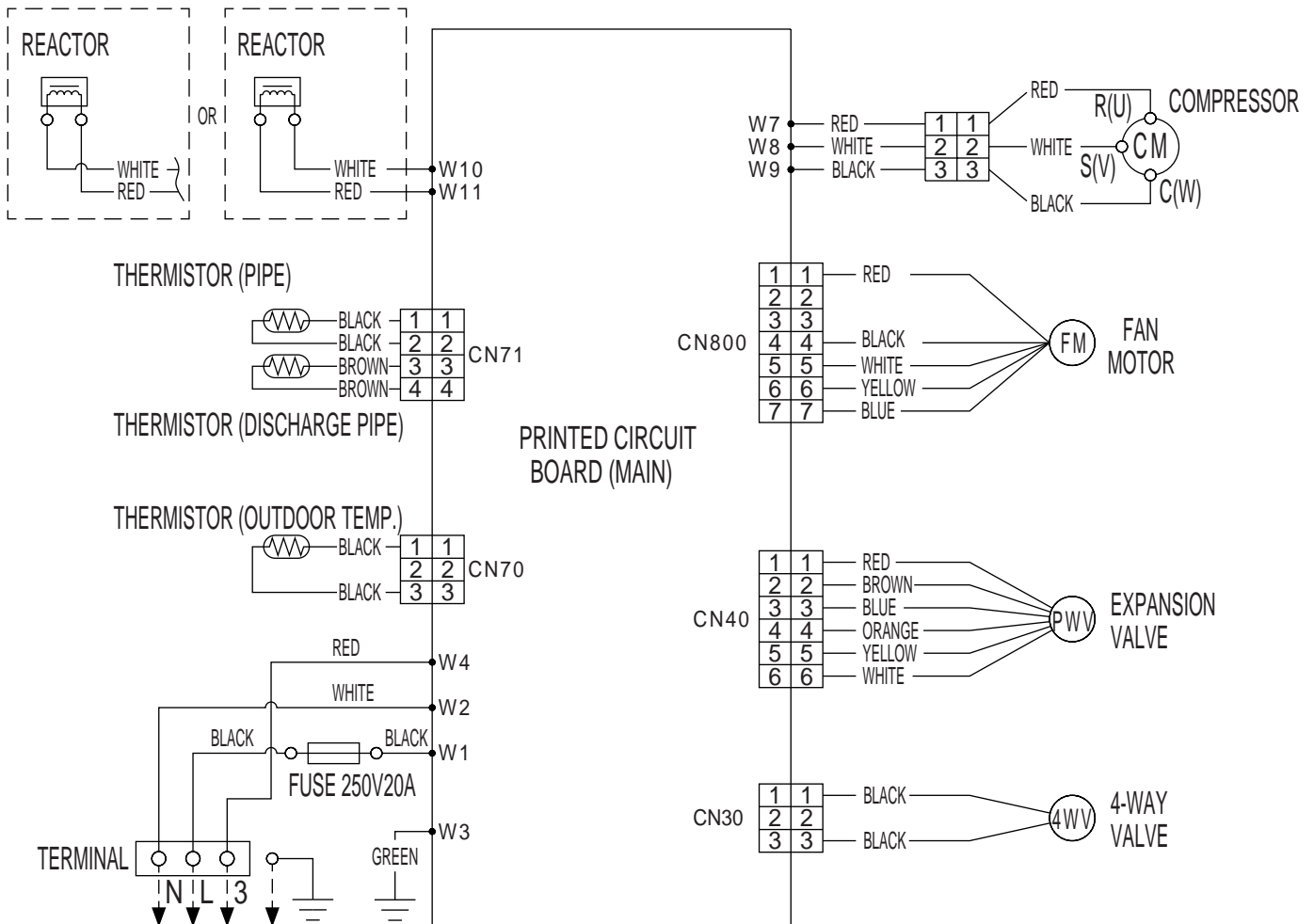
ASYB09LDC / AOYS09LDC

ASYB12LDC / AOYS12LDC

INDOOR UNIT



OUTDOOR UNIT



PCB Circuit Diagrams

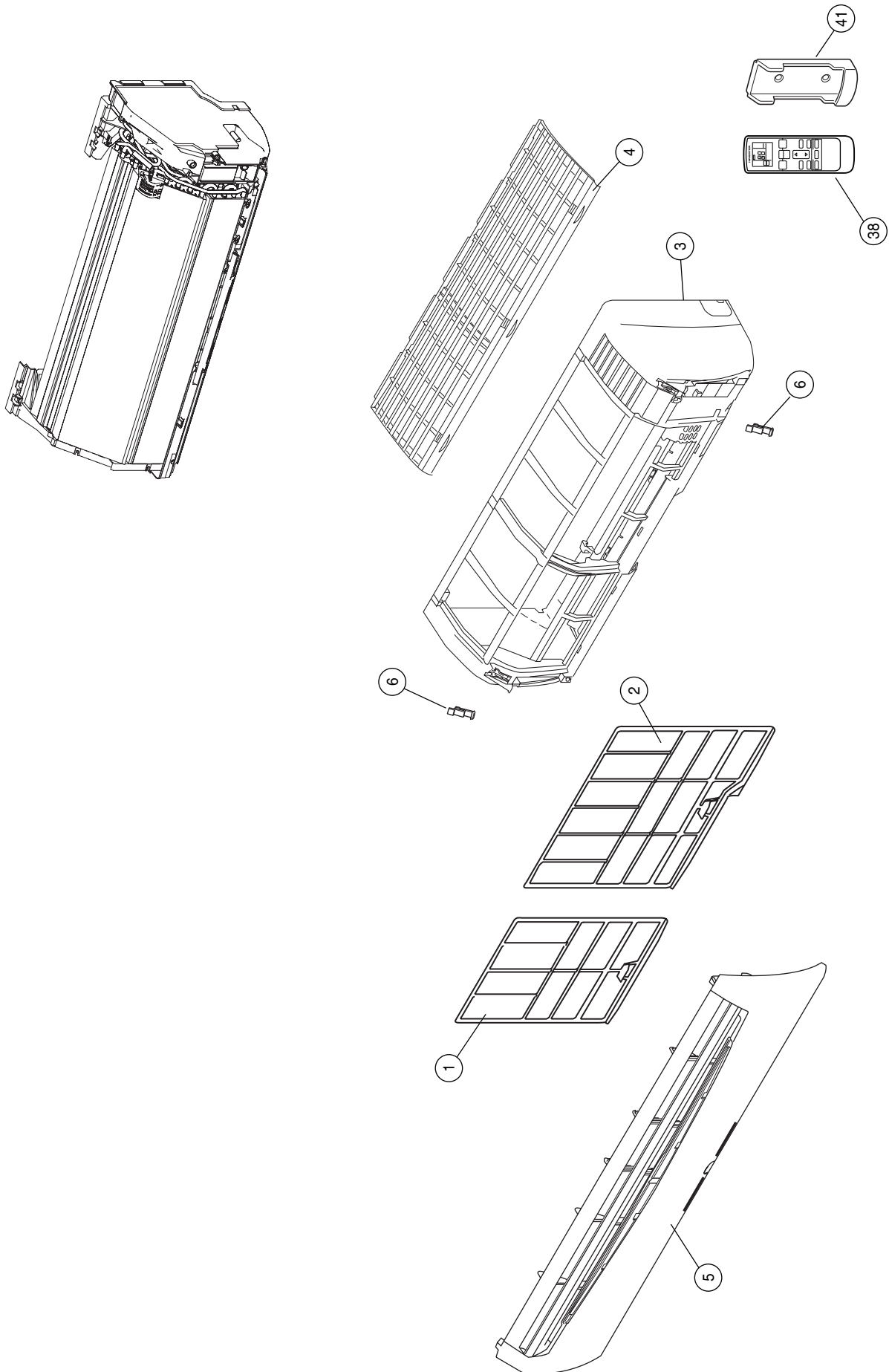
not available at time of publication

ERROR CONTENTS

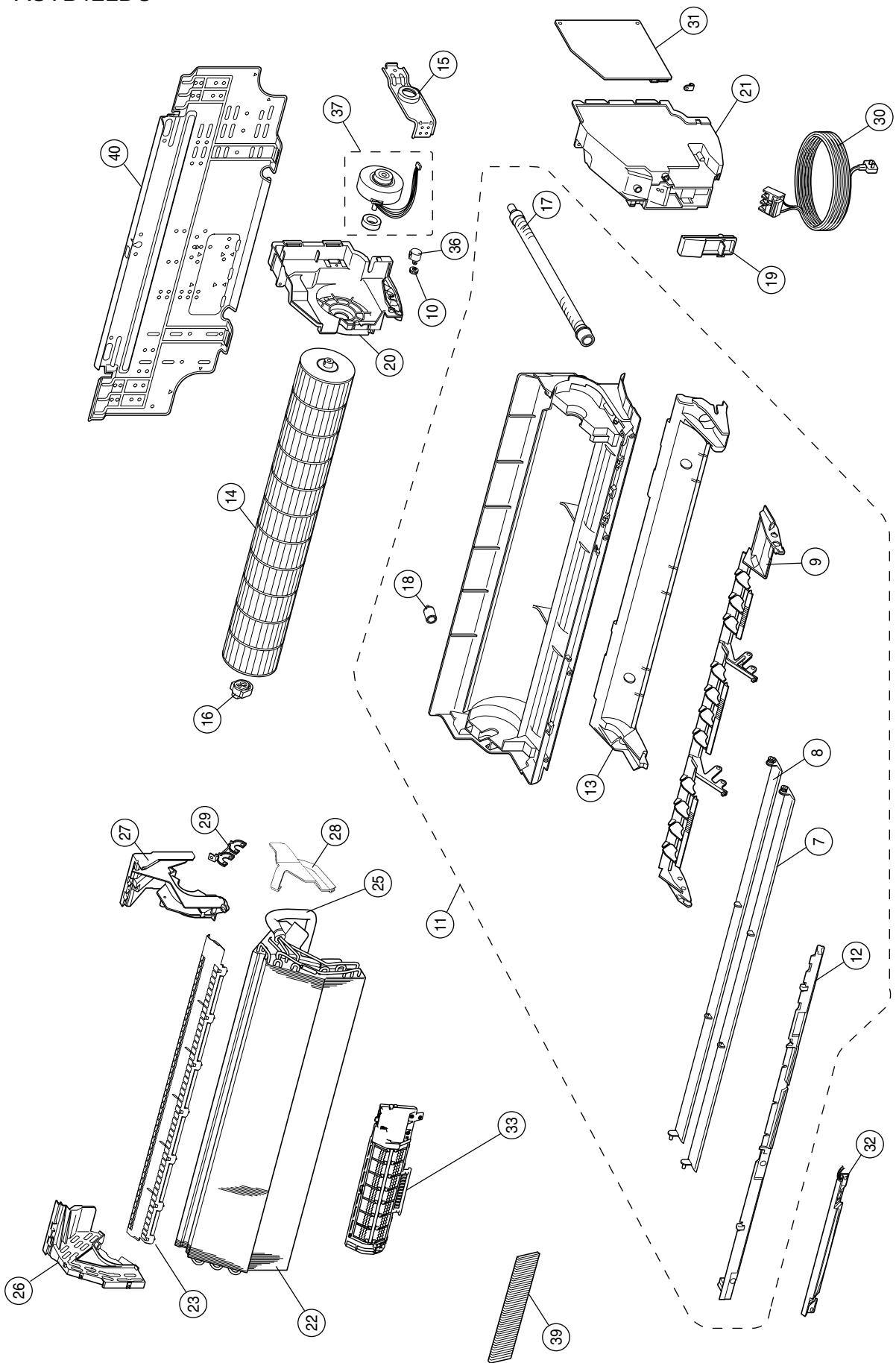
| Error | Display | | Error |
|-------------------------------|---------------|-----------|--|
| | Operation LED | Timer LED | |
| Serial signal error | Off | 2 flash | Serial signal (reverse) error, at operation start up |
| | | 3 flash | Serial signal (reverse) error, during operation |
| | | 4 flash | Serial signal (forward) error, at operation start up |
| | | 5 flash | Serial signal (forward) error, during operation |
| Indoor unit thermistor error | 2 flash | 2 flash | Indoor temperature thermistor open / short |
| | | 3 flash | Heat exchanger middle thermistor open / short |
| Outdoor unit thermistor error | 3 flash | 2 flash | Discharge thermistor open / short |
| | | 3 flash | Heat exchanger thermistor open |
| | | 4 flash | Outdoor temperature thermistor open / short |
| Indoor unit control error | 4 flash | 2 flash | Forced automatic SW welded |
| | | 3 flash | Main relay welded |
| | | 4 flash | Power interruption error |
| | | 7 flash | VDD permanent stop protection |
| | | 8 flash | reverse VDD permanent stop protection |
| Outdoor unit control error | 5 flash | 2 flash | Current trip error |
| | | 3 flash | CT abnormal |
| | | 5 flash | Compressor location detection error |
| | | 6 flash | Outdoor unit fan drive system abnormal |
| Indoor fan motor error | 6 flash | 2 flash | Abnormal lock |
| | | 3 flash | Abnormal rotation |
| Refrigerant cycle error | 7 flash | 2 flash | Discharge Temperature abnormal |
| | | 3 flash | Cooling high pressure abnormal rise |
| Optional function error | 8 flash | 4 flash | PFC circuit error |
| Model error | Blinking | Blinking | Model error |

DISASSEMBLY ILLUSTRATION

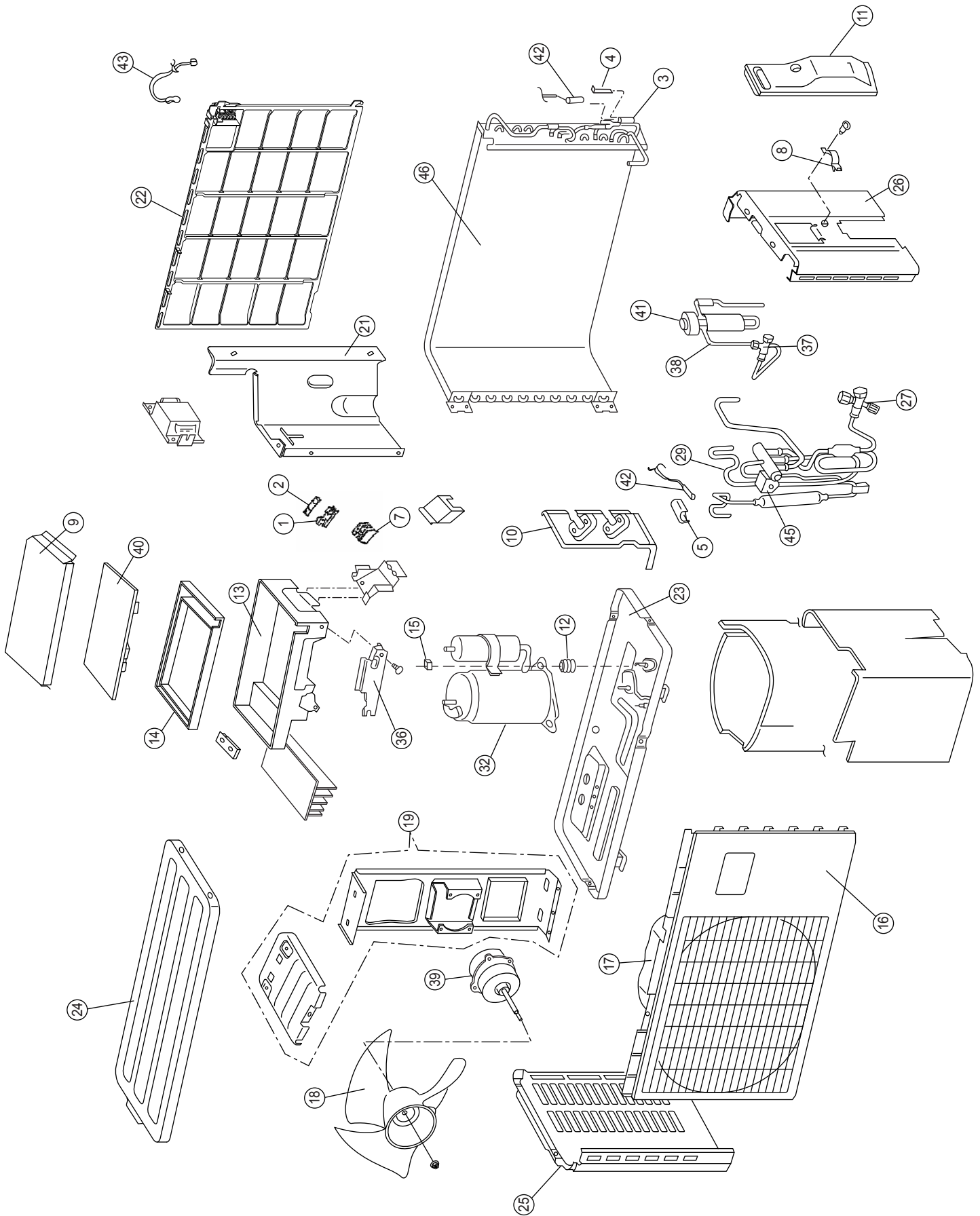
Models :
ASYB09LDC
ASYB12LDC



Models :
ASYB09LDC
ASYB12LDC



Models :
AOYS09LDC
AOYS12LDC



PARTS LIST

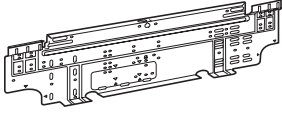



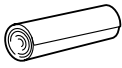
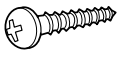

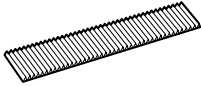
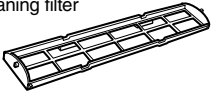
INDOOR UNIT

| Ref. No. | Description | Part No. | | Ord. Q'ty |
|----------|-----------------------------|------------|------------|-----------|
| | | ASYB09LDC | ASYB12LDC | |
| 1 | Air Filter-L | 9312920013 | 9312920013 | |
| 2 | Air Filter-R | 9312921010 | 9312921010 | |
| 3 | Front Panel | 9312914029 | 9312914029 | |
| 4 | Top Grill | 9313948016 | 9313948016 | |
| 5 | Intake Grille Assy | 9313157074 | 9313157074 | |
| 6 | Clamper (Grille) | 9306755010 | 9306755010 | |
| 7 | Louver-U | 9309991033 | 9309991033 | |
| 8 | Louver-Z | 9309992030 | 9309992030 | |
| 9 | Holder (Louver) Assy | 9309993013 | 9309993013 | |
| 10 | Gear-A | 9309994003 | 9309994003 | |
| 11 | Casing Assy | 9311354079 | 9311354079 | |
| 12 | Cover (Casing)-F | 9309987005 | 9309987005 | |
| 13 | Cover (Casing)-B | 9314160011 | 9314160011 | |
| 14 | Crossflow Fan Assy | 9307836015 | 9307836015 | |
| 15 | Clamper (Motor) | 9310102008 | 9310102008 | |
| 16 | Bearing-C Assy | 9306628017 | 9306628017 | |
| 17 | Hose (Drain) Assy | 9314147012 | 9314147012 | |
| 18 | Cap (Drain) Assy | 9314493010 | 9314493010 | |
| 19 | Wire Clamper | 9311946014 | 9311946014 | |
| 20 | Box Switch | 9312908011 | 9312908011 | |
| 21 | Cover (Switch) | 9312909018 | 9312909018 | |
| 22 | Evaporator Total Assy | 9313099015 | 9313099015 | |
| 23 | Filter Guide | 9313920012 | 9313920012 | |
| 25 | H-Ins. (Pipe)-E | 9304607007 | 9304607007 | |
| 26 | Evaporator Holder-L Assy | 9313174019 | 9313174019 | |
| 27 | Evaporator Holder-R | 9309983014 | 9309983014 | |
| 28 | Water Seal | 9312912018 | 9312912018 | |
| 29 | Bracket (Eva.) | 9310464007 | 9310464007 | |
| 30 | Power Cord Assy | 9900339036 | 9900339012 | |
| 31 | Controllor PCB Assy | 9707116014 | 9707116021 | |
| 32 | Indicator PCB Assy | 9705375024 | 9705375024 | |
| 33 | Air Cleaner Assy | 9313148041 | 9313148041 | |
| 36 | Motor, Step | 9900139025 | 9900139025 | |
| 37 | Motor, Brushless DC | 9602109012 | 9602109012 | |
| 38 | Remote Control Unit Assy | 9315027047 | 9315027047 | |
| 39 | Air Clean Filter | 9313275013 | 9313275013 | |
| 40 | Bracket Panel Assy | 9310001004 | 9310001004 | |
| 41 | Remote Control Unit Holder | 9305642045 | 9305642045 | |
| ---- | Room Temperature Thermistor | 9700801108 | 9700801108 | |
| ---- | Pipe Temperature Thermistor | 9702039042 | 9702039042 | |
| ---- | Transformer, Switch T1 | 9705054011 | 9705054011 | |
| ---- | Varister VA1 | 0000785020 | 0000785020 | |
| ---- | Fuse FSL 250 3.15(EM) | 0600376062 | 0600376062 | |
| ---- | Fuse Holder FH1-FH2 | 0500158072 | 0500158072 | |
| ---- | Relay DW12D1 K1 | 9704185013 | 9704185013 | |
| ---- | Manual Auto Switch SW1 | 9703476013 | 9703476013 | |
| ---- | Cover (Display) | 9312917013 | 9312917013 | |
| ---- | Display Cover | 9312918010 | 9312918010 | |
| ---- | Receiver Window | 9312919017 | 9312919017 | |
| ---- | Holder (Outdoor Thermistor) | 9307178023 | 9307178023 | |

OUTDOOR UNIT

| Ref. No. | Description | Part No. | | Ord. Q'ty |
|----------|---------------------------|--------------|--------------|-----------|
| | | AOYS09LDC | AOYS12LDC | |
| 1 | Fuse Holder | 0501454012 | 0501454012 | |
| 2 | Fuse | 0600382018 | 0600382018 | |
| 3 | Thermister Holder Pipe | 313714262805 | 313714262805 | |
| 4 | Thermistor Spring-A | 313728262708 | 313728262708 | |
| 5 | Thermistor Spring | 9300089012 | 9300089012 | |
| 7 | Terminal | 9306489038 | 9306489038 | |
| 8 | Cord Clamp | 9307271014 | 9307271014 | |
| 9 | Cover (Case) | 9309913011 | 9309913011 | |
| 10 | Bracket Valve | 9310229026 | 9310229026 | |
| 11 | Cover (Switch) | 9310979013 | 9310979013 | |
| 12 | Rubber Cushion | 9312680016 | 9312680016 | |
| 13 | Inverter Case Assy | 9312972029 | 9312972029 | |
| 15 | Nut Special Assy | 9313452018 | 9313452018 | |
| 16 | Front Panel | 9313806026 | 9313806026 | |
| 17 | Fan Ring | 9313807016 | 9313807016 | |
| 18 | Propeller Fan | 9313808013 | 9313808013 | |
| 19 | Bracket (Motor) Assy | 9313990015 | 9313990015 | |
| 21 | Separator-B | 9313815011 | 9313815011 | |
| 22 | Protective Net | 9313941024 | 9313941024 | |
| 23 | Base Assy (Painted) | 9313987015 | 9313987015 | |
| 24 | Top Panel (Painted) | 9313989026 | 9313989026 | |
| 25 | Cabinet Left (Painted) | 9313992019 | 9313992019 | |
| 26 | Cabinet Right (Painted) | 9313995034 | 9313995034 | |
| 27 | 3-Way Valve Assy | 9314022012 | 9314022012 | |
| 29 | 4-Way Valve Assy | 9314093012 | 9314093012 | |
| 32 | Compressor Assy | 9315206015 | 9315206015 | |
| 36 | Cover (Inverter Case) | 9314507014 | 9314507014 | |
| 37 | 2-Way Valve Assy | 9314554018 | 9314554018 | |
| 38 | Pulse Motor Valve Assy | 9314557019 | 9314557019 | |
| 39 | Fan Motor | 9602111015 | 9602111015 | |
| 40 | Inverter PCB Assy | 9707039047 | 9707039054 | |
| 41 | Expansion Valve Coil | 9900057039 | 9900057039 | |
| 42 | Thermistor Assy | 9900148027 | 9900148027 | |
| 43 | Thermistor (Outdoor Temp) | 9900210038 | 9900210038 | |
| 45 | Solenoid | 9970033018 | 9970033018 | |
| 46 | Condenser Assy | 9314033018 | 9314106019 | |
| --- | Emblem Rear | 9315210012 | 9315210012 | |

STANDARD ACCESSORIES

| Name and Shape | Part No. |
|--|------------|
| Wall hook bracket  | 9310001004 |
| Remote control unit  | 9315027047 |
| Remote control unit holder  | 9305642045 |
| Battery (penlight)  | 0600185527 |
| Cloth tape  | 9310519004 |
| Tapping screw (big) (φ 4 x 25)  | 0700076046 |
| Tapping screw (small) (φ 3 x 12)  | 0700019036 |
| Air cleaning filter  | 9312153015 |
| | 9311925033 |
| Air cleaning filter frame  | 9306602017 |

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