

SPLIT TYPE AIR CONDITIONER (50Hz)

DUCT type

SERVICE MANUAL

| Models | Indoor unit | Outdoor unit |
|--------|-------------|--------------|
| | ARY30ELA | AOY30EPBL |



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SPECIFICATIONS

| | | |
|------------------|------|-------------|
| MODELS | | ARY30ELA |
| | | AOY30EPBL |
| COOLING CAPACITY | (kW) | 8.40 - 8.50 |

ELECTRICAL DATA

| | | |
|--------------------|---------------------------|-------------|
| POWER SOURCE | (V) | 220 - 240 |
| FREQUENCY | (Hz) | 50 |
| RUNNING CURRENT | (A) | 16.9 - 17.0 |
| INPUT WATTS | (kW) | 3.53 - 3.58 |
| EER | (kW/kW) | 2.38 - 2.37 |
| MOISTURE REMOVAL | (L/hr) | 4.0 |
| AIR CIRCULATION-Hi | (m^3/h) | 1,300 |

• The above list shows values at the external static pressure of 10mm Aq.(98Pa)

COMPRESSOR

| | | |
|-------------|--|-------|
| TYPE | Hermetic type, Permanent split condenser, 2 pole, Single phase, Induction motor | |
| CODE | ZR42K3E-PFJ | |
| REFRIGERANT | R407C (g) | 2,400 |

FAN MOTOR

| | | |
|--------------|--------------------|-----------|
| POWER SOURCE | (V) | 220 - 240 |
| INDOOR UNIT | TYPE | MFA-25CTT |
| | HI-SPEED (r.p.m.) | 920 |
| | MED-SPEED (r.p.m.) | 840 |
| | LO-SPEED (r.p.m.) | 765 |
| OUTDOOR UNIT | TYPE | MFB-30DFT |
| | HI-SPEED (r.p.m.) | 760 |
| | LO-SPEED (r.p.m.) | 470 |

DIMENSIONS

| | | |
|--------------|----------------|-------------------|
| INDOOR UNIT | H x W x D (mm) | 270 x 1,210 x 700 |
| OUTDOOR UNIT | | 900 x 900 x 350 |

WEIGHTS

| | | |
|--------------|------------------|---------|
| INDOOR UNIT | GROSS / NET (kg) | 58 / 43 |
| OUTDOOR UNIT | | 89 / 77 |

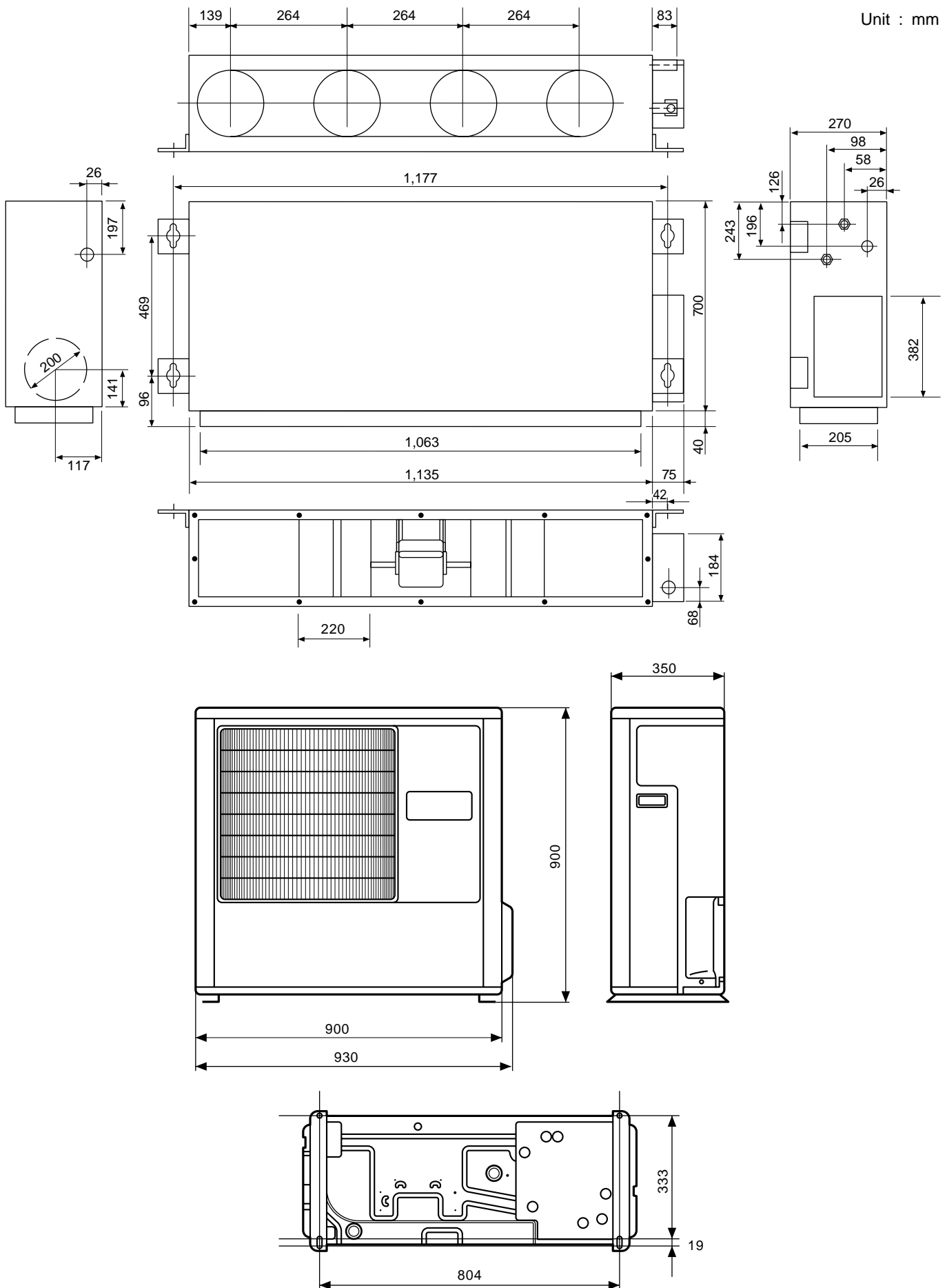
| | | | | |
|------------------------|-------------------------------|------------------------|--------------|---------|
| MODELS | | | ARY30ELA | |
| | | | AOY30EPBL | |
| REFRIGERANT CIRCUIT | DISCHARGE PRESSURE | kg / cm ² G | 22.0 | |
| | SUCTION PRESSURE | kg / cm ² G | 4.9 | |
| | DISCHARGE TEMP. | °C | 75 | |
| | REFRIG. PIPE LENGTH | m | 7.5 | |
| | DISCHARGE AIR TEMP. | °C | 13 | |
| CONDITION | INDOOR ENTERING AIR TEMP. | DB / WB °C | 27.0 / 19.0 | |
| | OUTDOOR ENTERING AIR TEMP. | DB / WB °C | 35.0 / 24.0 | |
| PIPING | PIPE DIA. SIZE | LIQUID | mm | 9.53 |
| | | GAS | mm | 15.88 |
| | CONNECTION METHOD | | | Flare |
| | BETWEEN | HEIGHT | m | 15 Max. |
| | | PIPE LENGTH | m | 30 Max. |
| STATIC PRESSURE | | Pa | 98 (176 MAX) | |
| REFRIGERANT TYPE | | | R407C | |

REFRIGERANT CHARGE

| MODEL | PIPE LENGTH | 5 m (16 ft.) | 10 m (33 ft.) | 15 m (49 ft.) | 20 m (66 ft.) | 25 m (82 ft.) | 30 m (99 ft.) | Additional refrigerant |
|-------|-------------|-------------------------------------|---------------|-----------------------|---------------|---------------|-----------------------|---------------------------|
| | | FULL CHARGE AMOUNT (R407C) | ARY30ELA | 2,400 g (84.7 oz.) | | | 2,485 g (87.7 oz.) | |

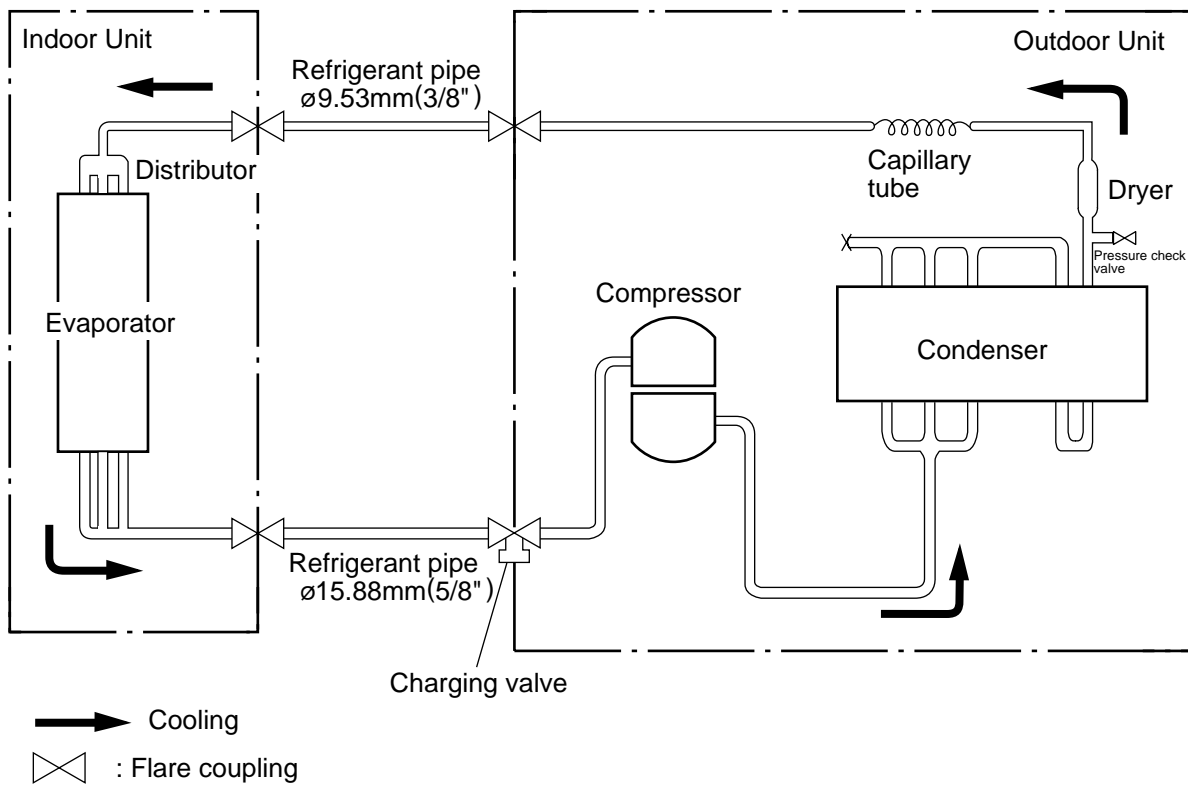
OUTLINE AND DIMENSIONS

Unit : mm



REFRIGERANT SYSTEM DIAGRAM

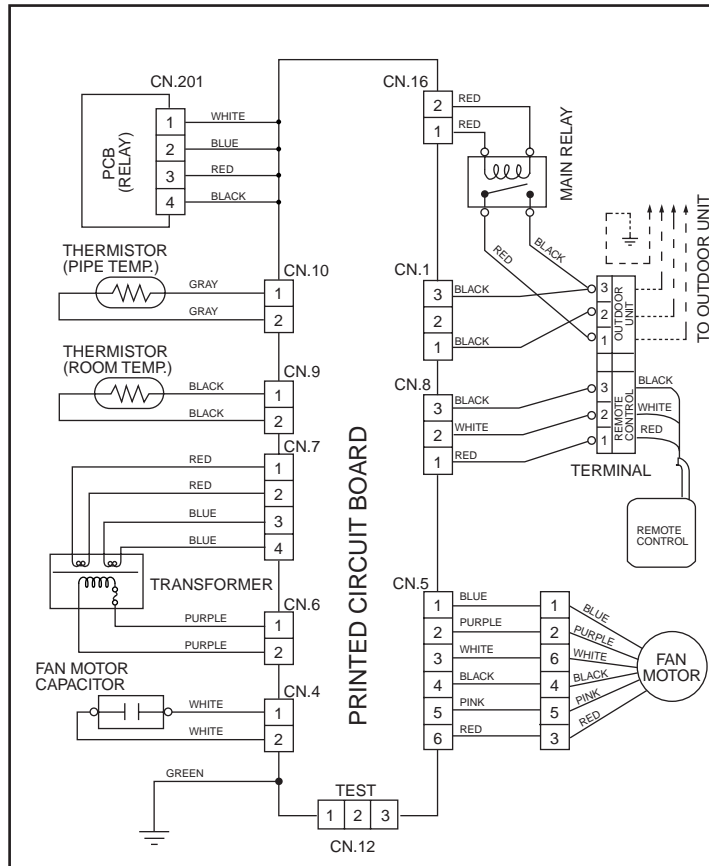
Models : ARY30ELA / AOY30EPBL



CIRCUIT DIAGRAM

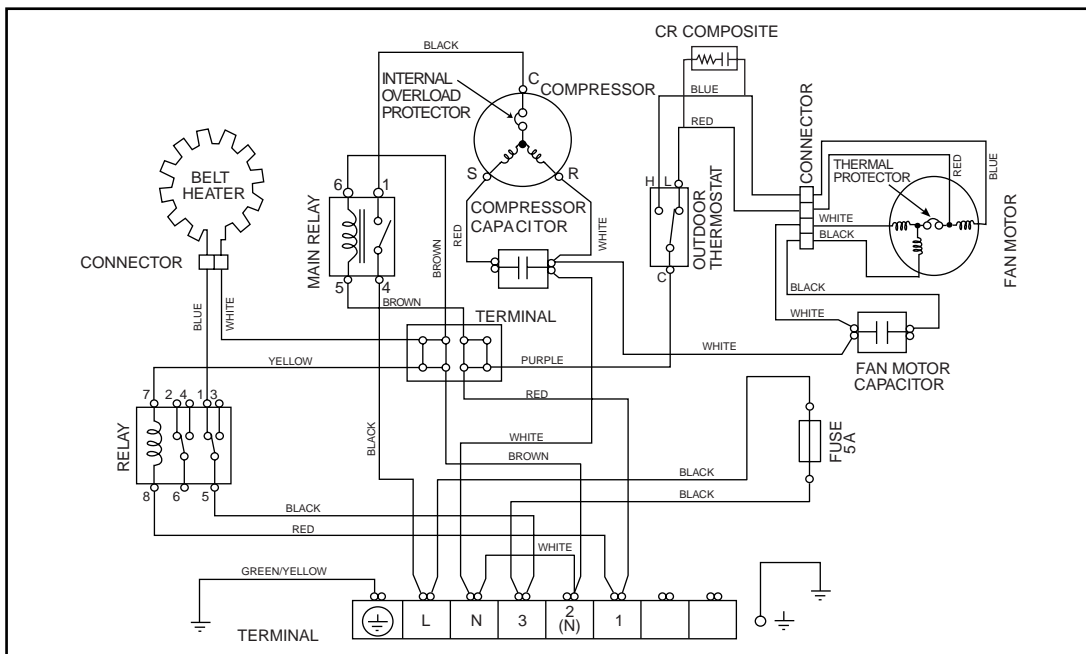
Models : ARY30ELA / AOY30EPBL

INDOOR UNIT



| | |
|---------------------|-----------|
| FAN MOTOR CAPACITOR | 6 μ F |
|---------------------|-----------|

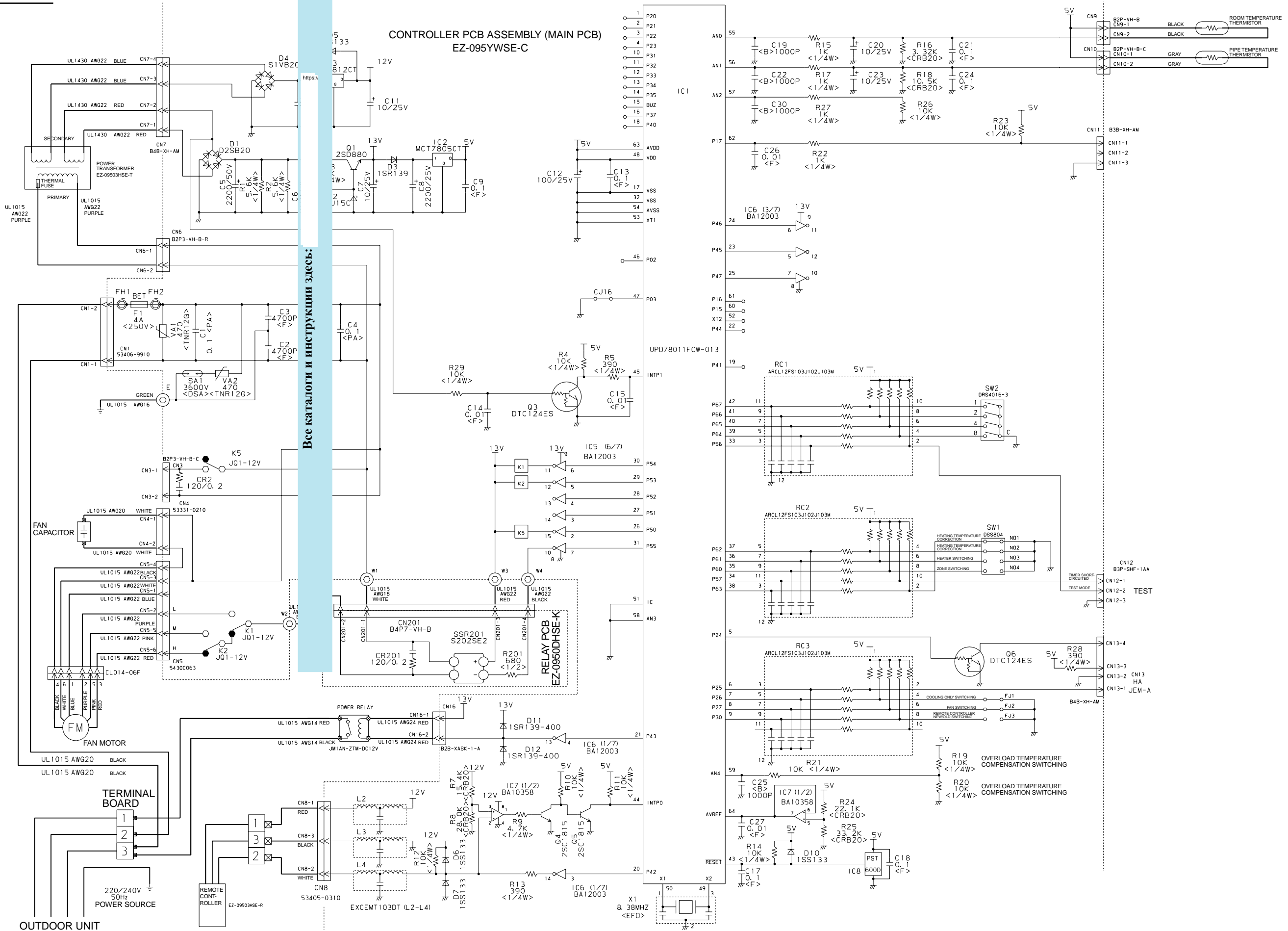
OUTDOOR UNIT



| | |
|----------------------|------------|
| FAN MOTOR CAPACITOR | 4 μ F |
| COMPRESSOR CAPACITOR | 60 μ F |

INDOOR PRINTED CIRCUIT BOARD CIRCUIT DIAGRAM

Model : ARY30ELA



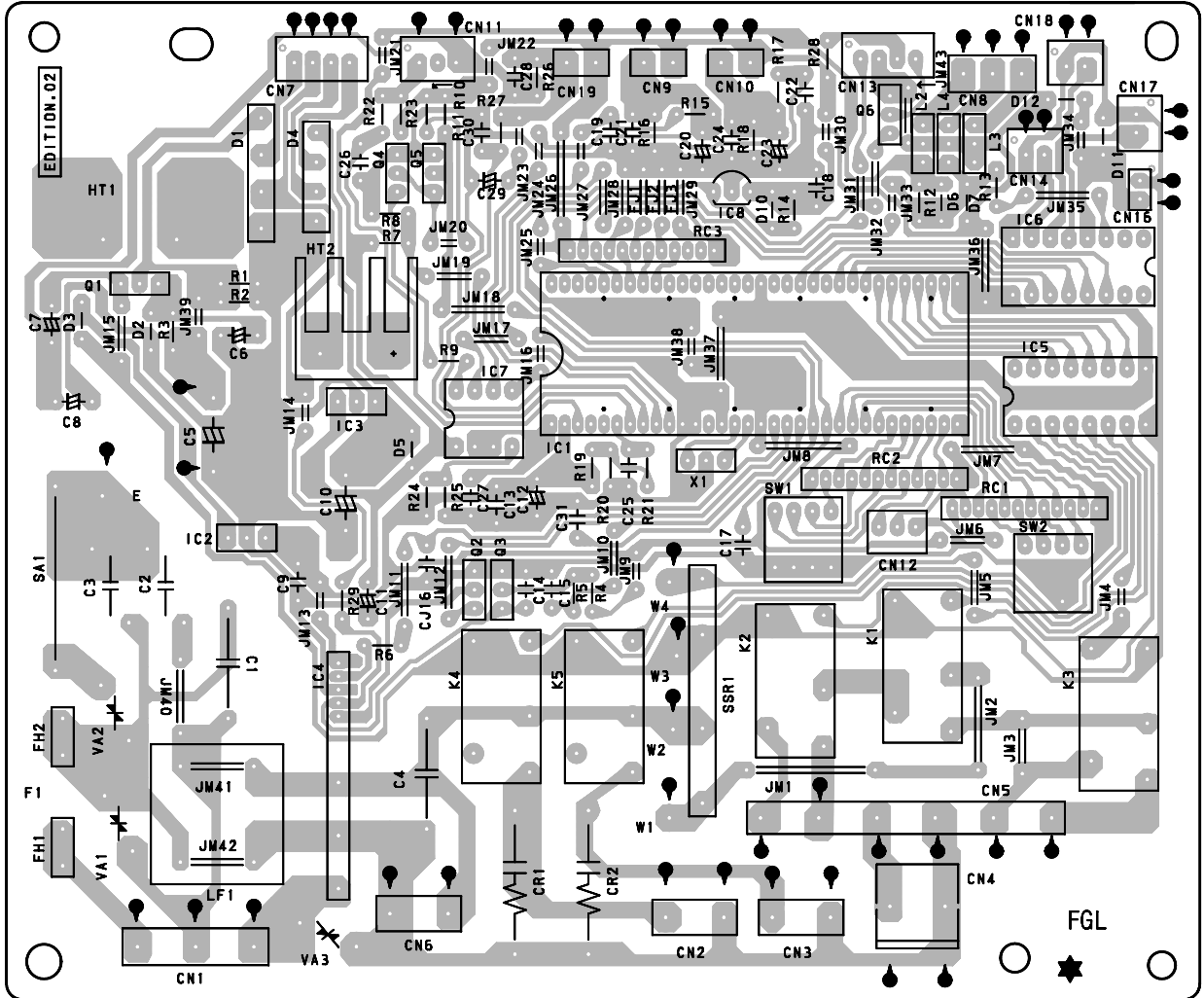
Все каталоги и инструкции здесь:

PRINTED CIRCUIT BOARD LAYOUTS

[INDOOR UNIT]

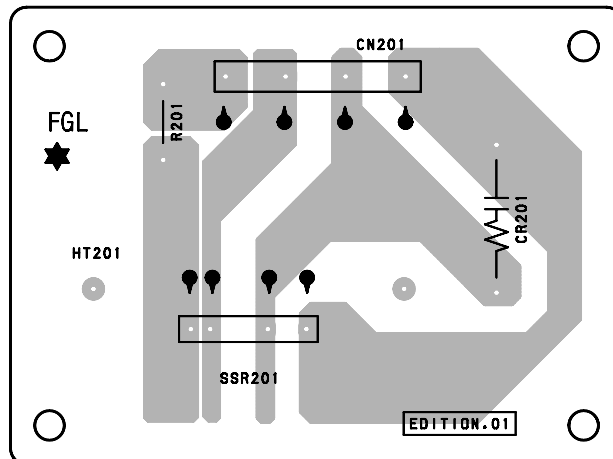
CONTROLLER PCB ASSEMBLY (MAIN PCB)

(Viewed from the solder side)



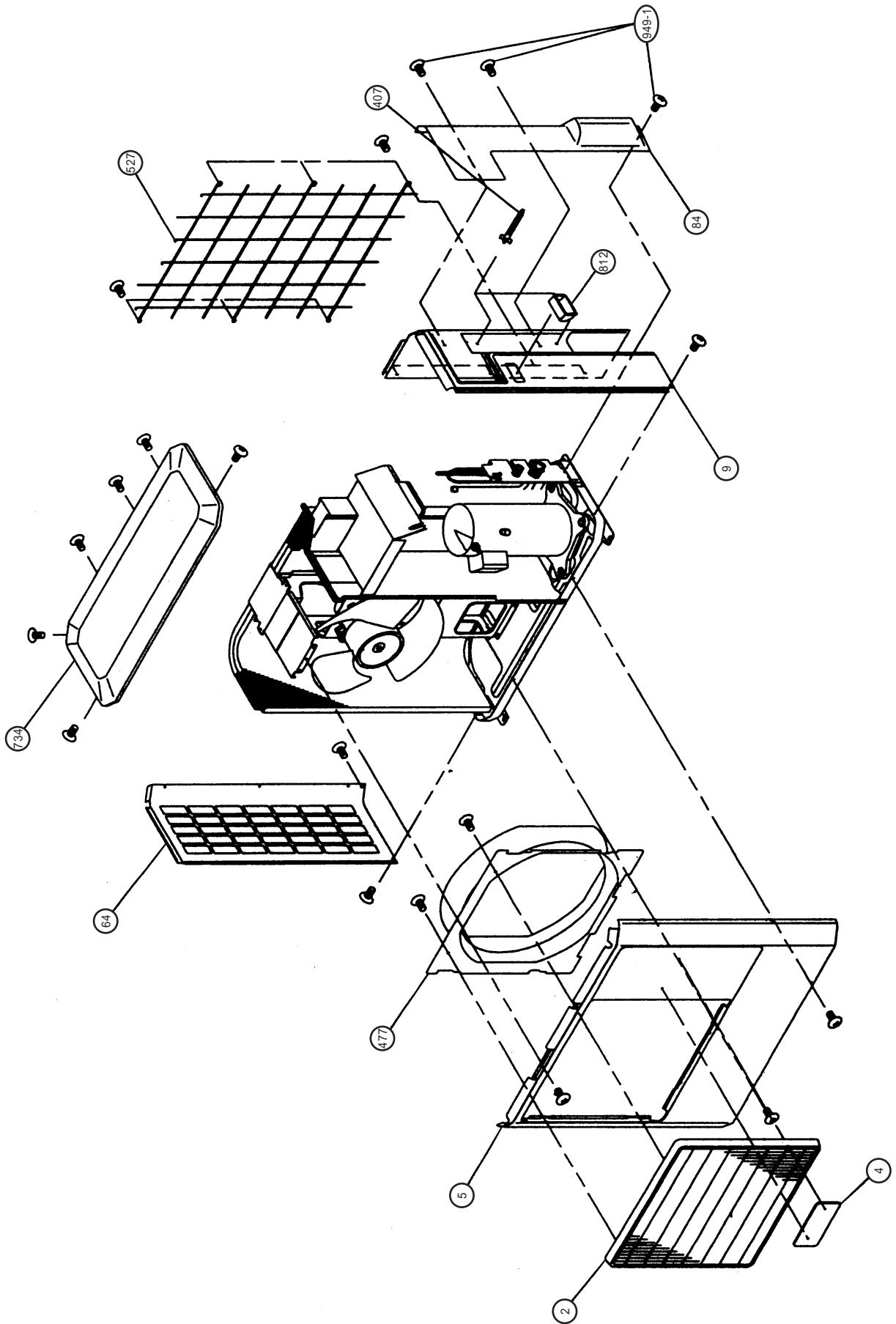
RELAY PCB ASSEMBLY

(Viewed from the solder side)

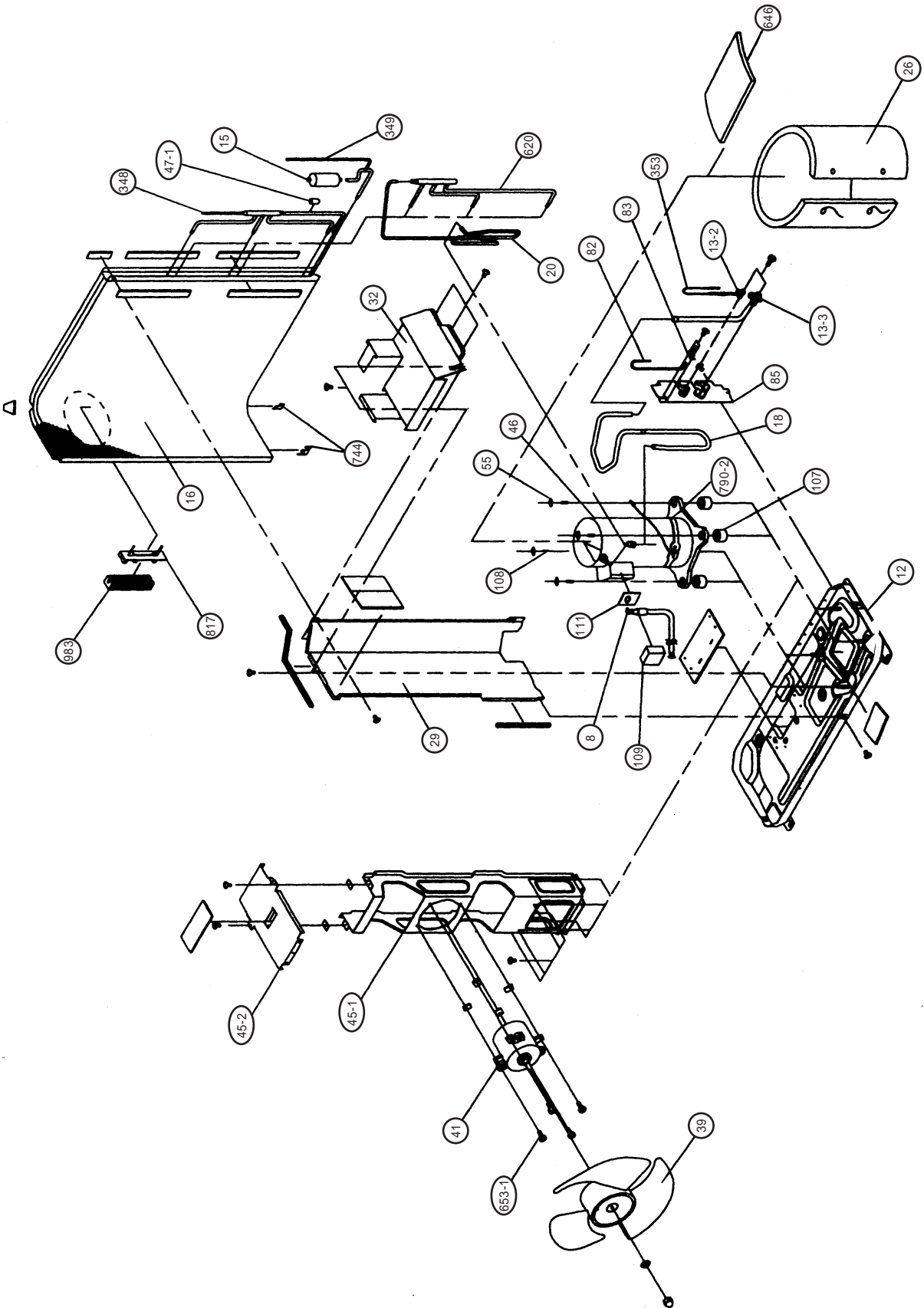


DISASSEMBLY ILLUSTRATION

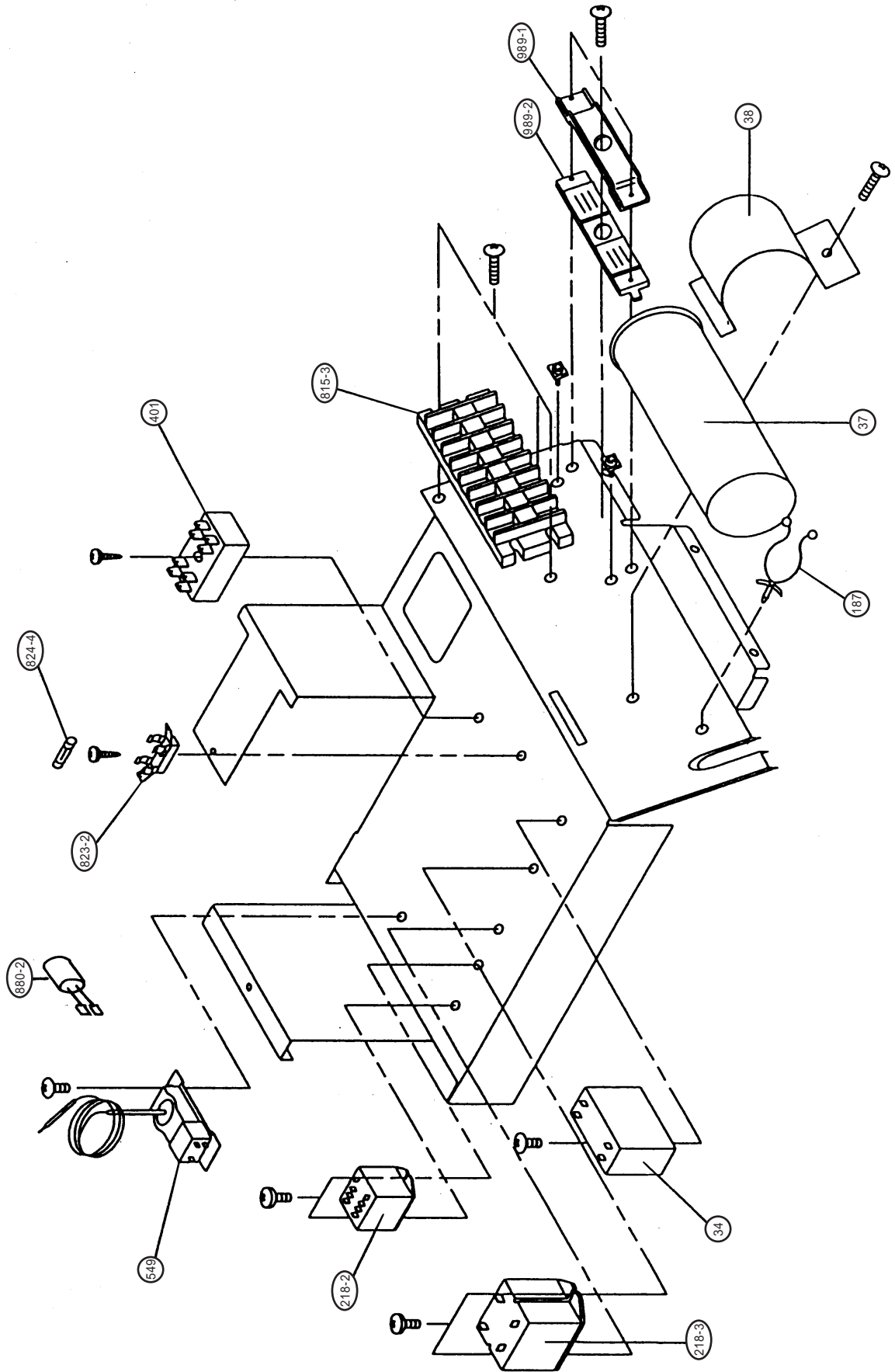
Model : AOY30EPBL



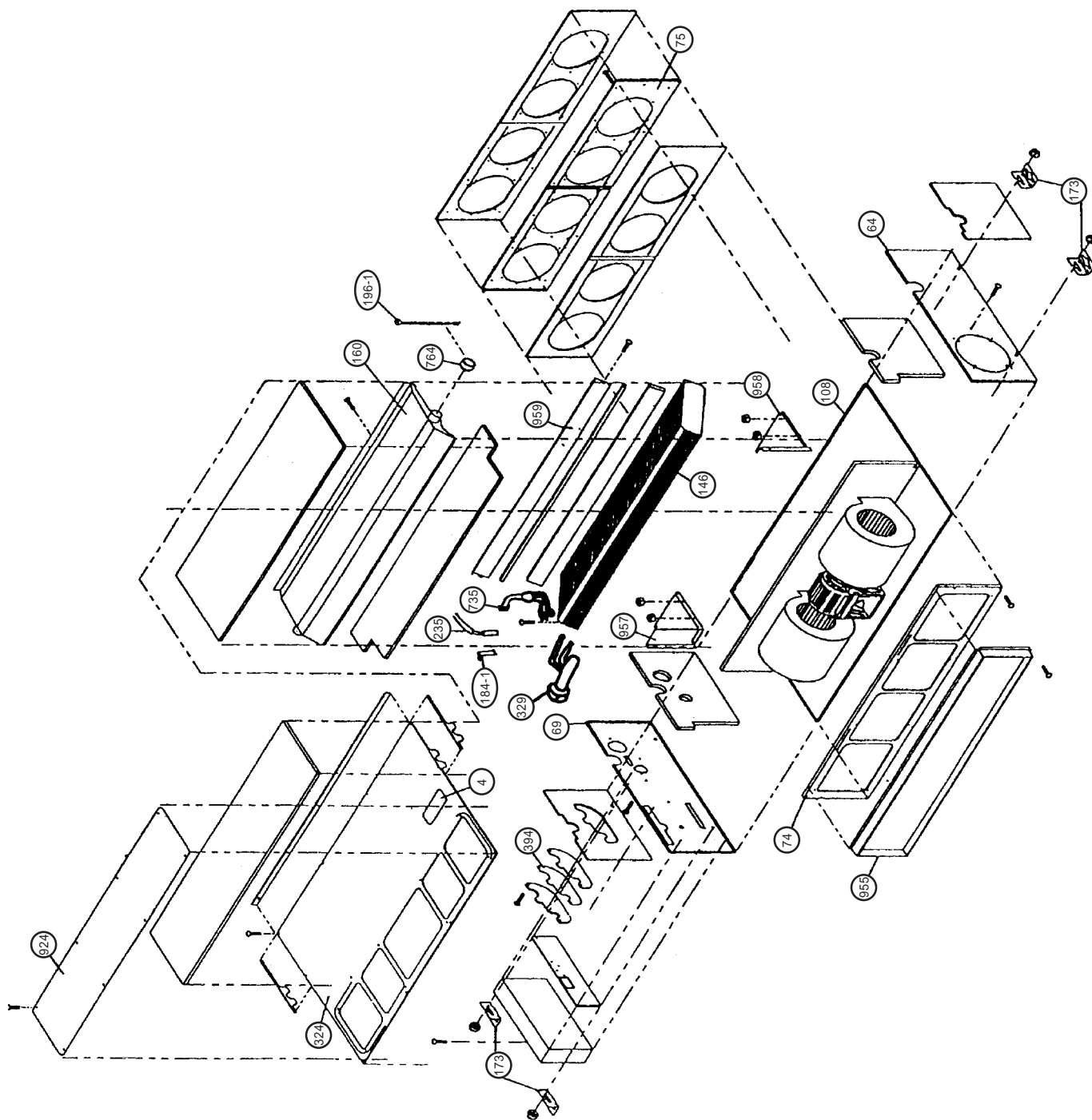
Model : AOY30EPBL



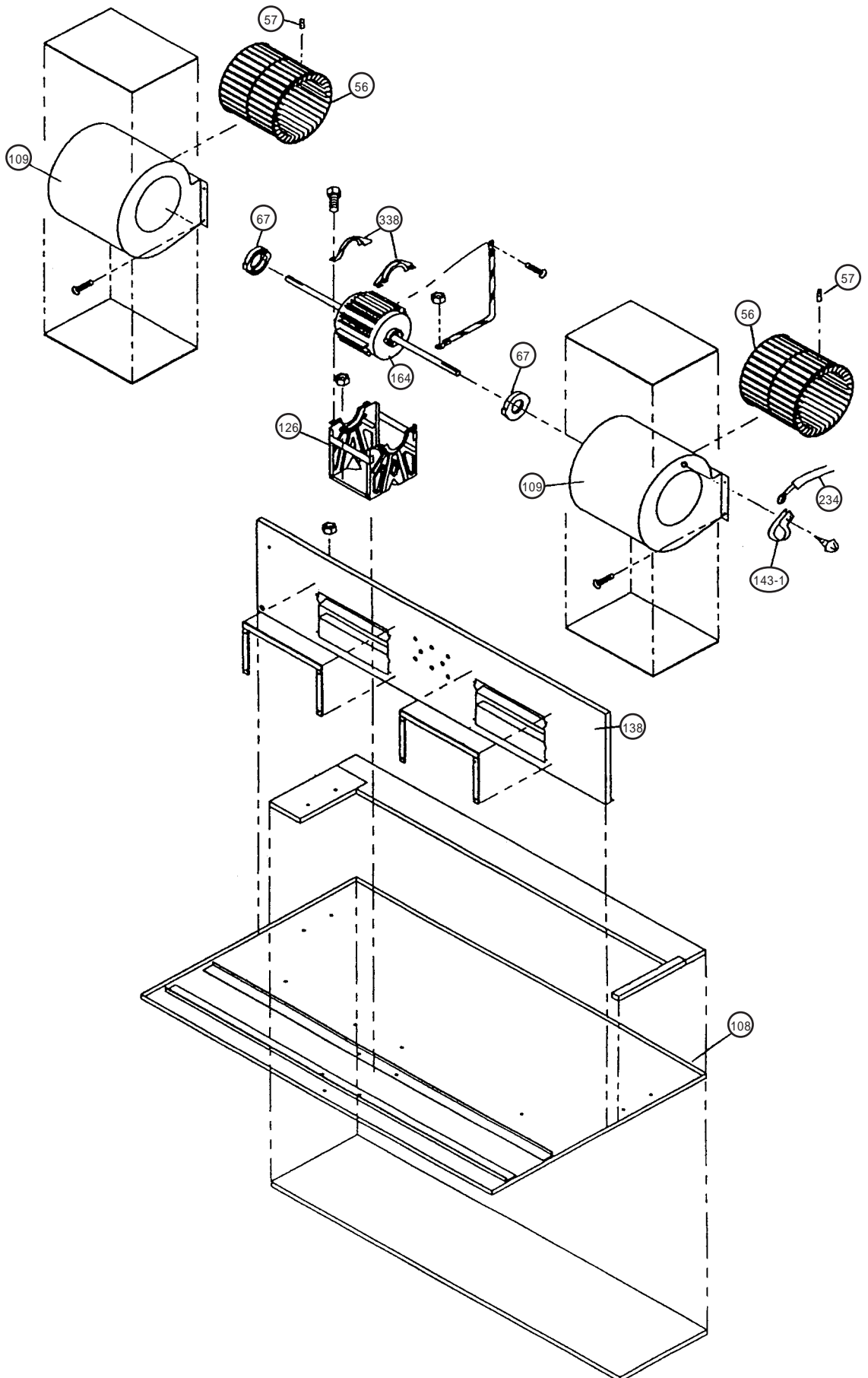
Model : AOY30EPBL



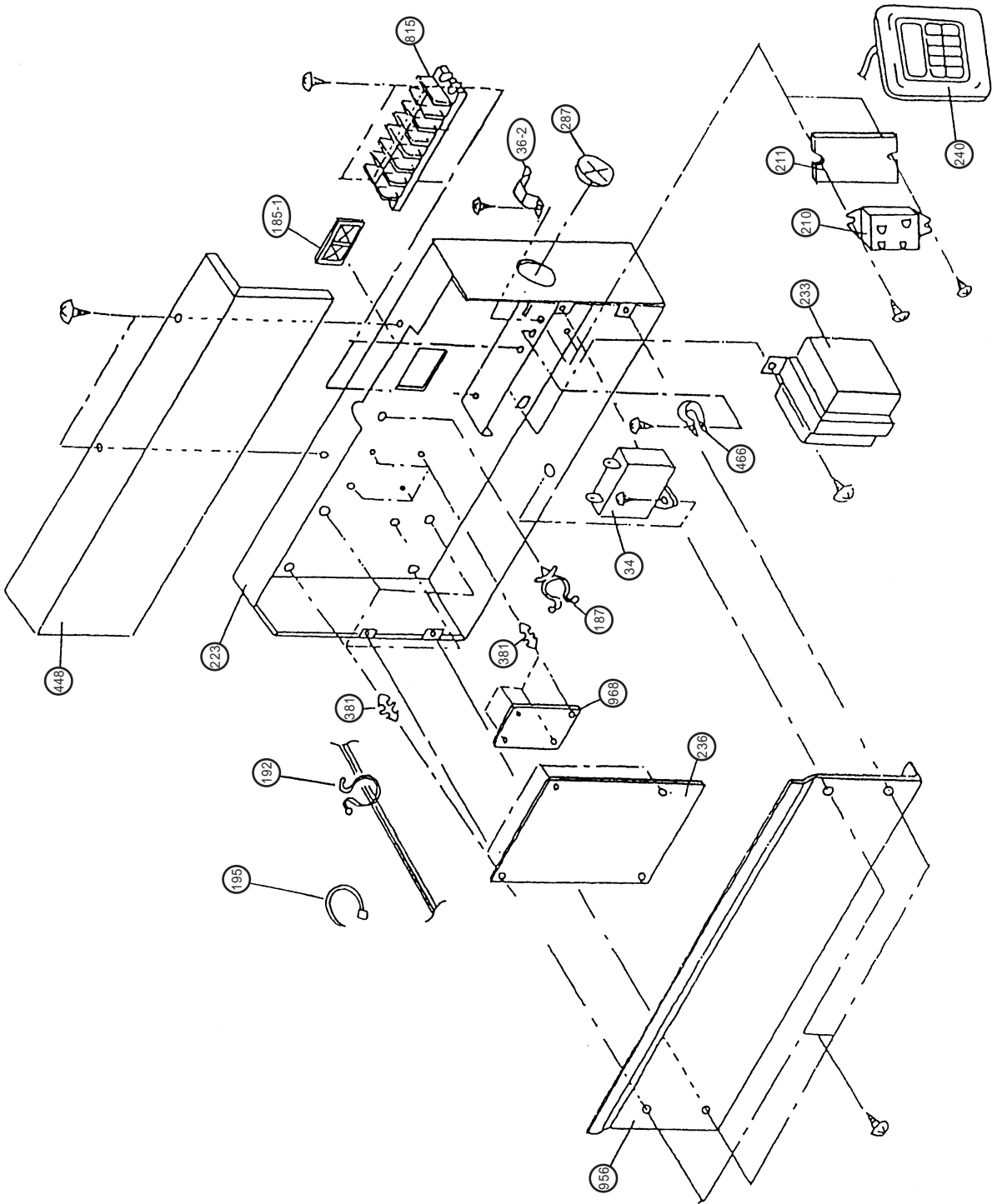
Model : ARY30ELA



Model : ARY30ELA



Model : ARY30ELA



PARTS LIST

When you order parts, please make a photocopy of this page and fill the number of the parts in the "Order" column.

INDOOR UNIT (ARY30ELA)

| Ref. No. | Description | Part No. | Ord. Q'ty | Ref. No. | Description | Part No. | Ord. Q'ty |
|----------|--------------------------|--------------|-----------|----------|------------------------|--------------|-----------|
| 4 | Emblem-Rear | 9351355005 | | 211 | Cushion Rubber | 313806328306 | |
| 34 | Capacitor (Fan Motor) | 9700467069 | | 223 | Control Box Metal Assy | 9356558005 | |
| 36-2 | Cord Holder Metal | 9356362008 | | 233 | Power Transformer | 9701678013 | |
| 56 | Sirocco Fan Assy | 9356531022 | | 234 | Thermistor Assy | 9302745008 | |
| 57 | Hex. Socket Screw | 313616213202 | | 235 | Thermistor Assy-Pipe | 9701329076 | |
| 64 | Cabinet-Left Metal | 9356551006 | | 236 | Controller PCB Assy | 9701705016 | |
| 67 | Rubber (Vibration-proof) | 313659068604 | | 240 | Remote Control Unit | 9701673032 | |
| 69 | Cabinet-Right Metal | 9356547009 | | 287 | Cap (Power) | 9352173011 | |
| 74 | Intake Panel | 9356537000 | | 324 | Top Plate | 9356546002 | |
| 75 | Outlet Panel Assy | 9356538007 | | 329 | Coupling Pipe Assy | 9366258001 | |
| 108 | Base Assy | 9356518009 | | 338 | Motor Fixture | 9356536003 | |
| 109 | Casing Assy | 9356527001 | | 381 | Locking Spacer | 313209391506 | |
| 126 | Motor Fixing Table Assy | 9356533002 | | 394 | Pipe Fixing Plate | 9356554007 | |
| 138 | Separate Wall | 9356523003 | | 448 | Control Box Metal-B | 9356560008 | |
| 143-1 | Clamp NK-3N | 313361274700 | | 466 | Clamp NK-4N | 313714328805 | |
| 146 | Evaporator Assy | 9366256007 | | 735 | Distributor Assy | 9366257004 | |
| 160 | Drain Pan Assy | 9356542028 | | 764 | Drain Cap | 9356541007 | |
| 164 | Fan Motor Assy | 9600830024 | | 815 | Terminal-7P | 9358660102 | |
| 173 | Hanger Bracket | 9356563009 | | 924 | Intake Seal Plate | 9356553000 | |
| 184-1 | Thermo. Spring-A | 313728262708 | | 955 | Square Flange Assy | 9356555004 | |
| 185-1 | Rubber Bushing | 9357376004 | | 956 | Control Box Metal-E | 9356900002 | |
| 187 | Clamp No. 1219 | 313361271706 | | 957 | Eva. Fixing Plate-R | 9356521009 | |
| 192 | Clamp No. 062 | 313361271402 | | 958 | Eva. Fixing Plate-L | 9356522006 | |
| 195 | Clamp SKB-100 | 313361275805 | | 959 | Eva. Seal Plate | 9356540000 | |
| 196-1 | Clamp SKB-3M | 312300787605 | | 968 | Relay PCB Assy | 9701594030 | |
| 210 | Main Relay | 9356781007 | | | | | |

OUTDOOR UNIT (AOY30EPBL)

| Ref. No. | Description | Part No. | Ord. Q'ty | Ref. No. | Description | Part No. | Ord. Q'ty |
|----------|----------------------------|--------------|-----------|----------|------------------------------|--------------|-----------|
| 2 | Fan Cover | 9359808015 | | 107 | Rubber Seat-A (For Comp.) | 9364084008 | |
| 4 | Emblem-Rear | 9359836018 | | 108 | Sleeve-A (For Comp.) | 9364085005 | |
| 5 | Cabinet-A, Painted | 9359797029 | | 109 | Terminal Cover (For Comp.) | 9364087009 | |
| 8 | Wire Assy (Shield)-D | 9366201007 | | 111 | Terminal Packing (For Comp.) | 9364086002 | |
| 9 | Cabinet-B, Painted | 9359798026 | | 187 | Clamp No. 1219 | 313361271706 | |
| 12 | Base Assy, Painted | 9359812029 | | 218-2 | Power Relay | 9351553012 | |
| 13-2 | 3-Way Valve (3/8) | 9362380003 | | 218-3 | Power Relay | 9353619006 | |
| 13-3 | Packed Valve (5/8) | 9366193005 | | 348 | Outlet Pipe (Cond.) Assy | 9366197003 | |
| 15 | Dryer | 9362498005 | | 349 | Outlet Pipe-E Assy | 9366198000 | |
| 16 | Condenser Assy | 9366202004 | | 353 | Valve-A Assy | 9366194002 | |
| 18 | Suction Pipe Assy | 9366190004 | | 401 | Terminal | 9701971015 | |
| 20 | Discharge Pipe Assy | 9366187004 | | 407 | Clip (Cable) No.1259 | 313739340109 | |
| 26 | Compressor Cover | 9365270004 | | 477 | Bellmouth | 9359809012 | |
| 29 | Separate Wall | 9359804017 | | 527 | Protection Net | 9359844013 | |
| 32 | Control Box Metal | 9359839019 | | 549 | Thermostat-Outer | 9352553004 | |
| 34 | Capacitor (Fan Motor) | 313806068209 | | 620 | Inlet Pipe (Cond.) Assy | 9366196006 | |
| 37 | Running Capacitor | 9703107023 | | 646 | Compressor Cover-B | 9365271001 | |
| 38 | Capacitor Clamp | 9360610010 | | 653-1 | Bolt (Fan Motor Fixing) | 0700156014 | |
| 39 | Propeller Fan Assy | 9359837015 | | 734 | Cabinet Top Plate | 9359799023 | |
| 41 | Fan Motor Assy-Out | 9600832011 | | 744 | Clamp (Condenser) | 313166374106 | |
| 45-1 | Motor Bracket Metal | 9359801016 | | 790-2 | Belt Heater | 9361140066 | |
| 45-2 | Motor Bracket Top Metal | 9359803010 | | 812 | Grip | 9352157004 | |
| 46 | Compressor Assy | 9366140009 | | 815-3 | Terminal-8P | 9358660119 | |
| 47-1 | Rubber (Discharge Pipe) | 313194159807 | | 817 | Thermostat Fixture | 9352164019 | |
| 55 | Special Nut M8 (For Comp.) | 313252257701 | | 823-2 | Fuse Holder | 0500063024 | |
| 64 | Cabinet-Left | 9359840022 | | 824-4 | Fuse | 0600222529 | |
| 82 | Check Joint Assy | 9366186007 | | 880-2 | Network | 9701020010 | |
| 83 | Check Joint Bracket | 9359807018 | | 949-1 | Screw, Painted White | 9305648009 | |
| 84 | Valve Cover | 9359817017 | | 983 | Thermostat Cover | 9358274002 | |
| 85 | Valve Fixing Plate | 9359806011 | | 989-1 | Cord Clamp-A | 9359822011 | |
| | | | | 989-2 | Cord Clamp-B | 9359823018 | |

[INDOOR UNIT]
CONTROLLER PCB ASSEMBLY (Ref. No.236)












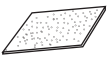
When you order parts, please make a photocopy of this page
and fill the number of the parts in the "Order" column.

| Ref. No. | Description | Parts No. | Ord. Qty | Ref. No. | Description | Parts No. | Ord. Qty |
|----------------------------|--------------------------|------------|----------|---|-----------------------------|------------|----------|
| IC1 | IC uPD78011FCW-013 | 9701722013 | | F1 | Fuse BET 4A-250V | 0600222543 | |
| IC2 | IC NJM7805FA | 0100462081 | | FH1,2 | Fuse Holder PFC5000-0502 | 0500158072 | |
| IC3 | IC NJM7812FA | 0100462104 | | VA1-2 | Varistor TNR12G471K | 0000038010 | |
| IC5,6 | IC BA12003 | 0101650012 | | SA1 | Arrester DSA-362MA-05 | 0600168032 | |
| IC7 | IC BA10358 | 0101854014 | | K1-2,5 | Relay JQ1-12V | 9701316014 | |
| IC8 | IC PST 600D-2-TP | 0101461113 | | CR2 | Network RPEL-121204 -C | 9701125012 | |
| Q1 | Xstr 2SD880 | 0000001014 | | SW1 | Switch, Slide DSS804 | 9701393015 | |
| Q3,6 | Xstr DTC124ES | 0000517010 | | SW2 | Switch, Rotary DRS4016-5 | 9701694013 | |
| Q4,5 | Xstr 2SC1815 | 0000002011 | | HT1 | Heat Sink PUG26-25 | 9701428014 | |
| D1 | Diode D2SB20 | 0000599023 | | HT2 | Heat Sink B.PUE-16 | 9701376018 | |
| D2 | Diode MTZJ15C | 0000852203 | | X1 | X'tal Resonator EF0EC8384T4 | 9701261017 | |
| D3,11,12 | Diode 1SR139-400 | 0000353137 | | L2-4 | EMI Filter EXCEMT103DT | 0400406396 | |
| D4 | Diode S1VB20 | 0000292054 | | RC1-3 | RC Module ARCL12FS | 0200301013 | |
| D5-7,10 | Diode 1SS133 | 0000572019 | | CN1 | Plug, PCB 53406-9910 | 0500951048 | |
| R1,2 | Res. Carbon 5.6kohm+-5% | 0200994192 | | CN3 | Plug, PCB B2P3-VH-B-C | 0500011773 | |
| R3,22,15,17,27 | Res. Carbon 1kohm+-5% | 0200994017 | | CN4 | Plug, PCB 53331-0210 | 0501033019 | |
| R4,10-12,14,19-21,23,26,29 | Res. Carbon 10kohm+-5% | 0200994253 | | CN5 | Plug, PCB 5430C063 | 0500957026 | |
| R5,13,28 | Res. Carbon 390ohm+-5% | 0200993874 | | CN6 | Plug, PCB B2P3-VH-B-R | 0500011766 | |
| R7 | Res. Metal 15.4kohm+-1% | 0201028759 | | CN7,13 | Plug, PCB B4B-XH-AM | 0500005314 | |
| R8 | Res. Metal 28.0kohm+-1% | 0201028742 | | CN8 | Plug, PCB 53405-0310 | 0500940035 | |
| R9 | Res. Carbon 4.7kohm+-5% | 0200994178 | | CN9 | Plug, PCB B2P-VH-B | 0500011224 | |
| R16 | Res. Metal 3.32kohm+-1% | 0201028568 | | CN10 | Plug, PCB B2P-VH-B-C | 0500011568 | |
| R18 | Res. Metal 10.5kohm+-1% | 0201028537 | | CN11 | Plug, PCB B3B-XH-AM | 0500005338 | |
| R24 | Res. Metal 22.1kohm+-1% | 0201028513 | | CN16 | Plug, PCB B2B-XASK-1-A | 0501045012 | |
| R25 | Res. Metal 33.2kohm+-1% | 0201028544 | | CN12 | Plug, PCB B3P-SHF-1AA | 0500006021 | |
| C1,4 | Cap. Plastic 250V 0.1mfd | 0300894835 | | E | Wire w/Terminal GRN L=300 | 9701755011 | |
| C2,3 | Cap. Ceramic 50V 4700pF | 0300727546 | | JM1 | Wire 0.6dia. L=17.5mm | 9701383016 | |
| C5 | Cap. Elec. 50V 2200mfd | 0301206026 | | JM2,8,26 | Wire 0.6dia. L=12.5mm | 9701752010 | |
| C6 | Cap. Elec. 50V 10mfd | 0300003145 | | JM3,5,6,10,15,17,19,28,29,31,32,43,FJ1,2 | Wire 0.6dia. L=7.5mm | 9701076017 | |
| C7,11,20,23 | Cap. Elec. 25V 10mfd | 0300004258 | | JM7,11,18,35-37,40-42 | Wire 0.6dia. L=10mm | 9700025016 | |
| C8 | Cap. Elec. 25V 2200mfd | 0300915417 | | JM9,13,14,16,20-25,27,30,33,34,38,39,CJ16 | Wire 0.6dia. L=5mm | 9701260010 | |
| C9,13,17,18,21,24 | Cap. Ceramic 0.1mfd | 0300988251 | | | | | |
| C10 | Cap. Elec. 35V 2200mfd | 0300915042 | | | | | |
| C12 | Cap. Elec. 25V 100mfd | 0300051375 | | | | | |
| C14,15,26,27 | Cap. Ceramic 50V 0.01mfd | 0300013113 | | | | | |
| C19,22,25,30 | Cap. Ceramic 50V 1000pF | 0300011096 | | | | | |

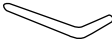


RELAY PCB ASSEMBLY (Ref. No.968)

| Ref. No. | Description | Parts No. | Ord. Qty | Ref. No. | Description | Parts No. | Ord. Qty |
|----------|----------------------------|------------|----------|----------|-----------------------------|------------|----------|
| HT201 | Heat Sink OSH-4730C-SP | 9701754014 | | CN201 | Plug, PCB B4P7-VH-B | 0500011742 | |
| SSR201 | Relay S202SE2 | 9701719013 | | R201 | Res. Carbon 1/2W 680ohm+-5% | 0200012681 | |
| CR201 | CR Absorber RPEL-121204 -C | 9701125012 | | | | | |

INDOOR UNIT ACCESSORIES

| Name and Shape | Q'ty | Application | ARY30ELA |
|---|------|--|--------------|
| Installation template  | 1 | For positioning the indoor unit | 9357036007 |
| Hanger  | 4 | For suspending the indoor unit from ceiling | 9356563009 |
| Special nut A (large flange)  | 4 | For suspending the indoor unit from ceiling | 313005446653 |
| Special nut B (small flange)  | 4 | | 313005446759 |
| Coupler heat insulation (large)  | 2 | For indoor side pipe joint (large pipe) | 9350716029 |
| Coupler heat insulation (small)  | 1 | For indoor side pipe joint (small pipe) | 9352766015 |
| Nylon fastener  | 1 | For fixing the drain hose | 312300787605 |
| Remote control unit  | 1 | | 9701673032 |
| Remote control unit cord clamp  | 10 | For installing the remote control unit cord | 313714181904 |
| Tapping screw (flush heads)  | 10 | For installing the remote control unit cord clamp | 301141153027 |
| Auxiliary pipe assembly  | 1 | For wiring conduit(gas side) connection | 9356995022 |
| Drain hose insulation  | 1 | Insulates the drain hose and vinyl hose connection | 313806217708 |

OUTDOOR UNIT ACCESSORIES

| Name and Shape | Q'ty | Application | AOY30EPBL |
|---|------|--|--------------|
| Hexagon wrench  | 1 | For opening the refrigerant valve on the outdoor unit. | 9351228019 |
| Cable clip  | 2 | For power cord binding. | 313739340109 |
| Tapping screw (painted)  | 1 | For fixing the valve cover. | 9305648009 |



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