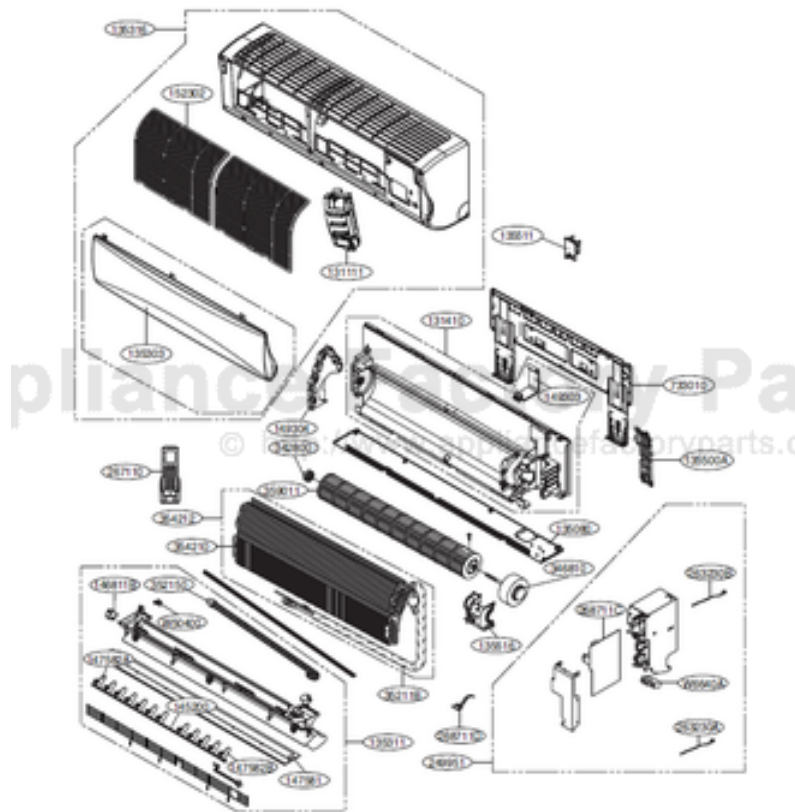


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# LG LS120HEV Owner's Manual

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Internal Use Only

<http://biz.lgservice.com>

# Room Air Conditioner

## **SVC MANUAL(Exploded View)**

**MODEL : AS-W093WSA7(LS090HEV)  
AS-W123BSA7(LS120HEV)**

### **CAUTION**

Before Servicing the unit, read the safety precautions in General SVC manual.  
Only for authorized service personnel.

# 1. Specification

| Model                         |   | Set               | LS090HEV                     | LS120HEV                     |       |
|-------------------------------|---|-------------------|------------------------------|------------------------------|-------|
|                               |   | Indoor Unit       | LSN090HEV                    | LSN120HEV                    |       |
|                               |   | Outdoor Unit      | LSU090HEV                    | LSU120HEV                    |       |
| Cooling Capacity              |   | kW                | 0.90~2.5~2.79                | 0.9~3.5~3.8                  |       |
|                               |   | Btu/h             | 3070~8500~9500               | 3070~12000~13000             |       |
| Heating Capacity              |   | kW                | 0.90~2.7~3.15                | 0.9~3.8~4.2                  |       |
|                               |   | Btu/h             | 3070~9000~10500              | 3070~12000~14300             |       |
| Power Input                   | Cooling/Heating                         | W                 | 780/780                      | 1,170/980                    |       |
| Running Current               | Cooling/Heating                         | A                 | 3.6/3.6                      | 5.2/4.4                      |       |
| Starting Current              | Cooling/Heating                         | A                 | 3.6/3.6                      | 5.2/4.4                      |       |
| EER/COP                       |   | W/W               | 3.19/3.38                    | 3.00/3.59                    |       |
|                               |   | Btu/h.W           | 10.90/11.54                  | 10.26/12.24                  |       |
| SEER                          |   |                   | 16.3                         | 16.3                         |       |
| HSPF                          |   |                   | 8.3                          | 8.5                          |       |
| Power Supply                  |   | Ø / V / Hz        | 1, 208~230, 60               | 1, 208~230, 60               |       |
| Power Factor                  |   | %                 | 97.1%                        | 98.3%                        |       |
| Air Flow Rate                 | Inddor, Max                             | m³/min(CFM)       | 8(283)                       | 10(353)                      |       |
|                               | Outdoor,Max                             | m³/min(CFM)       | 27(953)                      | 27(953)                      |       |
| Moisture Removal              |   | l/h (pts/hr)      | 0.83(1.76)                   | 1.01(2.14)                   |       |
| Sound Level                   | Indoor,H/M/L/S-Low                      | dB(A)+3           | 39/33/25/19                  | 39/33/25/19                  |       |
|                               | Outdoor,Max                             | dB(A)+3           | 47                           | 47                           |       |
| Refrigerant & Charge(at 7.5m) |   | g                 | R410A, 750                   | R410A, 750                   |       |
| Additional Refrigerant Charge |   | g/m(oz/ft)        | 20(0.22)                     | 20(0.22)                     |       |
| Compressor                    | Type                                    |                   | 1P Rotary                    | 1P Rotary                    |       |
|                               | Model                                   |                   | GA092MMA                     | GA092MAB                     |       |
|                               | Motor Type                              |                   | Brushless DC Motor           | Brushless DC Motor           |       |
|                               | Oil Type                                |                   | PVE(FVD68D)                  | PVE(FVD68D)                  |       |
|                               | Oil Charge                              | cc                | 310                          | 310                          |       |
| Fan(Indoor)                   | O.L.P Name                              |                   | -                            | -                            |       |
|                               | Type                                    |                   | Cross Flow Fan               | Cross Flow Fan               |       |
|                               | Motor Type                              |                   | BLDC                         | BLDC                         |       |
|                               | Motor Output                            | W                 | 20                           | 20                           |       |
|                               | Type                                    |                   | Propeller, Fan               | Propeller, Fan               |       |
| Fan(outdoor)                  | Motor Type                              |                   | AC                           | AC                           |       |
|                               | Motor Output                            | W                 | 75                           | 75                           |       |
|                               | Motor Output                            | A                 | 15                           | 15                           |       |
| Power Supply Cable            |   | No.*mm²           | 3*1.0                        | 3*1.0                        |       |
| Power and Transmission Cable  |   | No.*mm² + No.*mm² | 4*0.75                       | 4*0.75                       |       |
| Piping Connections            | Liquid Side                             | mm(in)            | 6.35(1/4)                    | 6.35(1/4)                    |       |
|                               | Gas Side                                | mm(in)            | 9.52(3/8)                    | 9.52(3/8)                    |       |
| Drain Hose (O.D/I.D)          |   | mm(in)            | 21.5,16.0(0.85,0.63)         | 21.5,16.0(0.85,0.63)         |       |
| Dimension                     | Indoor(W*H*D)                           | mm                | 756*265*184                  | 885*285*210                  |       |
|                               |   | inch              | 29.8*10.4*7.2                | 35.2*11.2*8.3                |       |
|                               | Outdoor(W*H*D)                          | mm                | 717*483*230                  | 717*483*230                  |       |
|                               |   | inch              | 28.2*19.0*9.1                | 28.2*19.0*9.1                |       |
| Net Weight                    | Indoor                                  | kg(lbs)           | 7.2(15.9)                    | 9(19.8)                      |       |
|                               | Outdoor                                 | kg(lbs)           | 23.2(51.1)                   | 22.0(48.5)                   |       |
| Gross Weight                  | Indoor                                  | kg(lbs)           | 8.6(19.0)                    | 11(24.2)                     |       |
|                               | Outdoor                                 | kg(lbs)           | 24.8(54.7)                   | 23.6(52.1)                   |       |
| Operation Range               | Cooling(Outdoor)                        | °C(°F)            | 18 ~ 48 (64.4 ~ 118.4)       | 18 ~ 48 (64.4 ~ 118.4)       |       |
|                               | Heating(Outdoor)                        | °C(°F)            | -5 ~ 24 (23 ~ 75.2)          | -5 ~ 24 (23 ~ 75.2)          |       |
| Max. Piping Length            |   | m(ft)             | 15(49.2)                     | 15(49.2)                     |       |
| Chargeless                    |   | m(ft)             | -                            | -                            |       |
| Max. Elevation Difference     |   | m(ft)             | 7(23)                        | 7(23)                        |       |
| Tool Code(Chassis)            | Indoor + Outdoor                        |                   | SW + UA3 Plus                | SB + UA3 Plus                |       |
| Fuctions                      | Temperature Control                     |                   | O                            | O                            |       |
|                               | Allergy Free Filter                     |                   | -                            | -                            |       |
|                               | Plasma Filter                           |                   | -                            | -                            |       |
|                               | Prefilter(washable/anti-fungus)         |                   | O                            | O                            |       |
|                               | Auto Clean                              |                   | O                            | O                            |       |
|                               | CHAOS Wind(Auto Wind)                   |                   | O                            | O                            |       |
|                               | Steps, Fan/Cool/Heat                    |                   | 3/4/3                        | 3/4/3                        |       |
|                               | Airflow Direction Control(up& Down)     |                   | O                            | O                            |       |
|                               | Airflow Direction Control(left & right) |                   | -                            | -                            |       |
|                               | Remote Controller Type                  |                   | Wireless LCD(Better-Remocon) | Wireless LCD(Better-Remocon) |       |
|                               | Setting Temperature                     | Cooling           |                              | 18-30                        | 18-30 |
|                               |   | Heating           |                              | 16-30                        | 16-30 |
|                               | Auto Operation (Micom Control)          |                   | -                            | -                            |       |
|                               | Auto Changeover (Micom Control)         |                   | O                            | O                            |       |
|                               | Self Diagnosis                          |                   | O                            | O                            |       |
|                               | Timer                                   |                   | O                            | O                            |       |
|                               | Sleep Operation                         |                   | O                            | O                            |       |
|                               | Soft Dry Operation                      |                   | O                            | O                            |       |
|                               | Restart Delay(minute)                   |                   | 3                            | 3                            |       |
|                               | Deice Control(Defrost)                  |                   | O                            | O                            |       |
|                               | Hot Start                               |                   | O                            | O                            |       |
|                               | Jet Cool, Jet Heat                      |                   | O                            | O                            |       |
|                               | Low Ambient Operation                   |                   | -                            | -                            |       |
|                               | Special Function                        |                   | -                            | -                            |       |

**Note:**

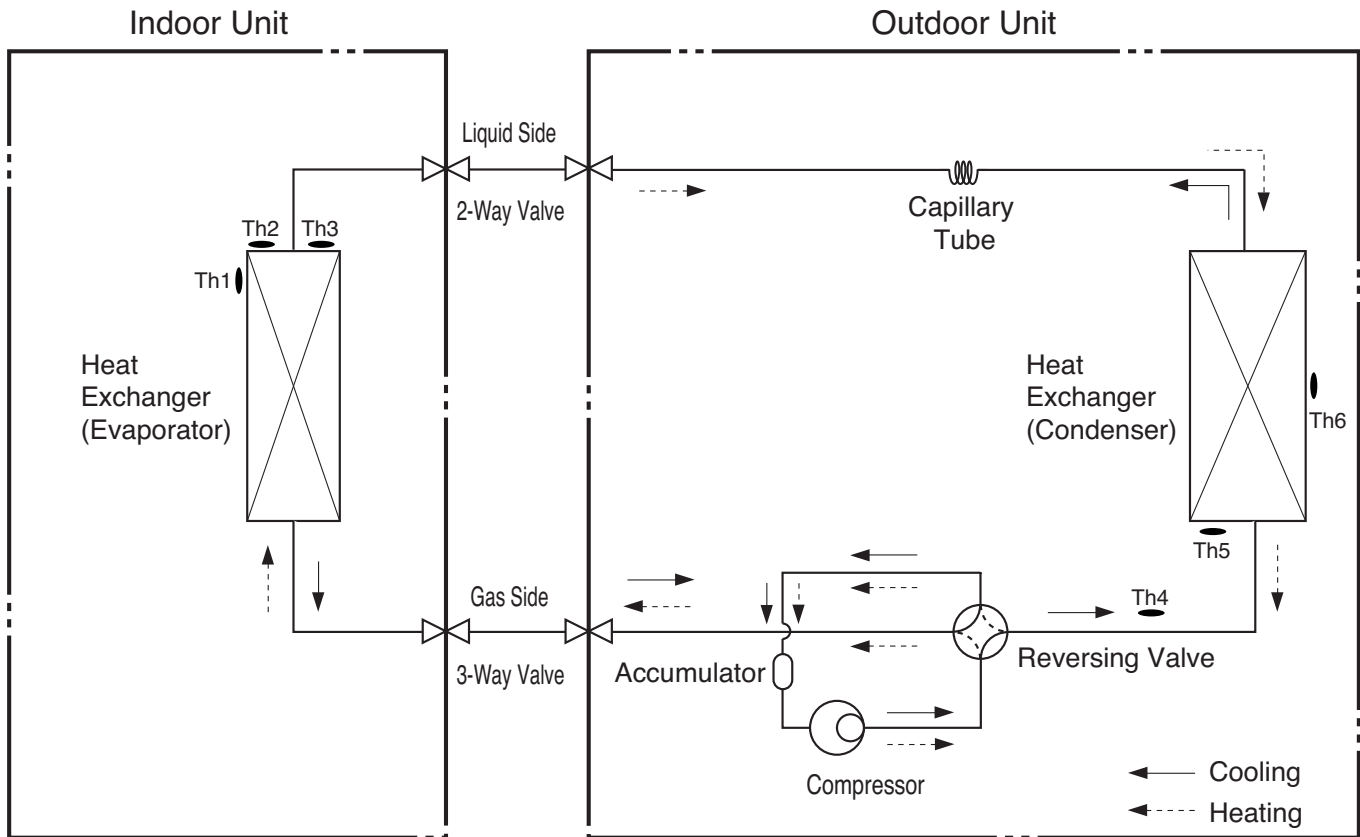
O : Applied, - : No relation

\* For circuit breaker rating, please conform to local standards wherever necessary.

\* Some of functions are slightly different depending upon models.

\* The specification may be subject to change without notice for purpose of improvement.

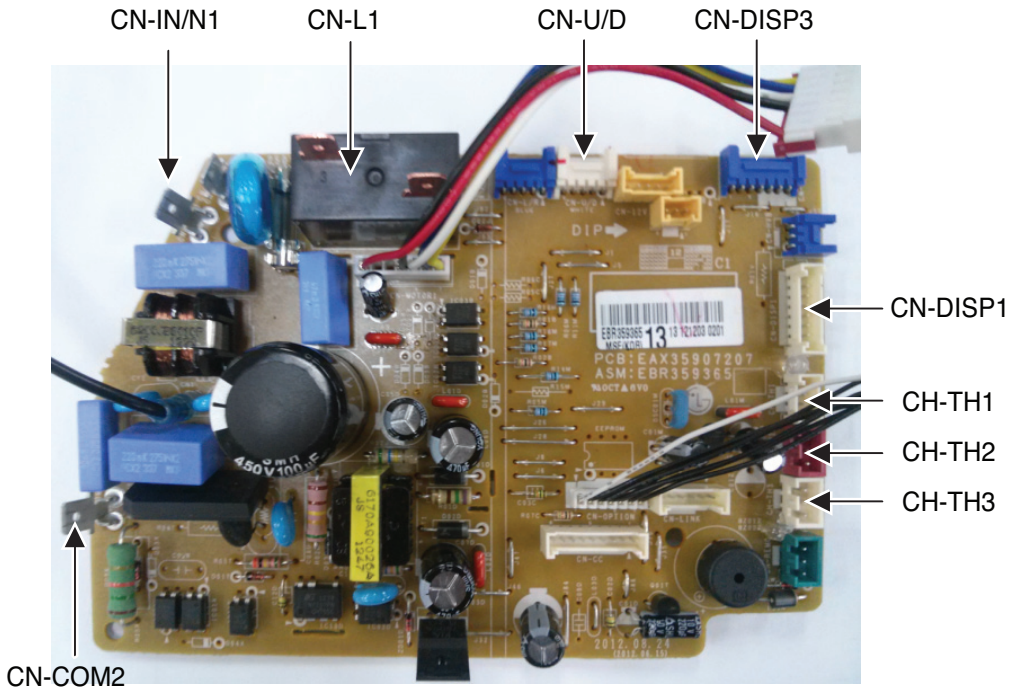
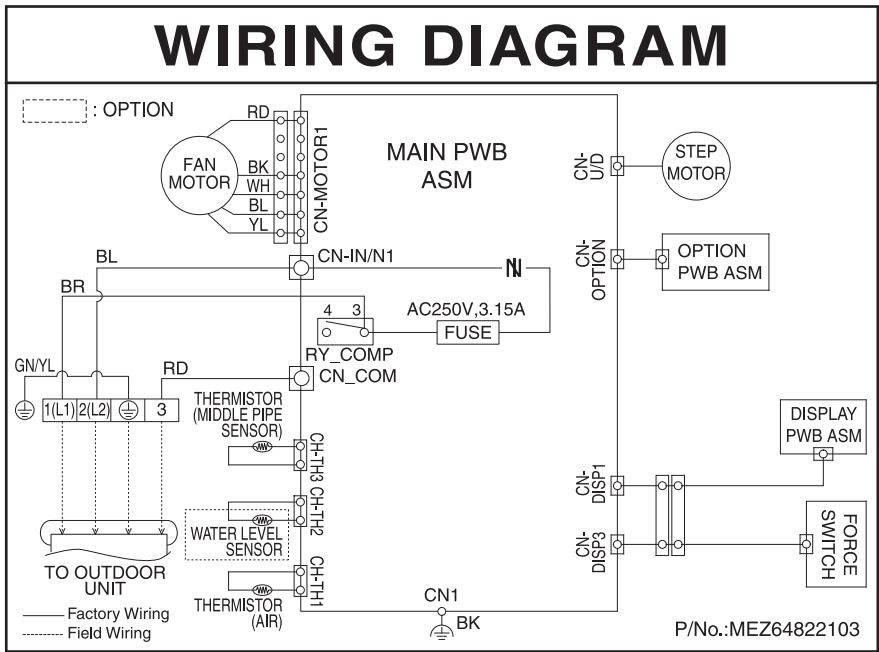
## 2. Piping Diagrams



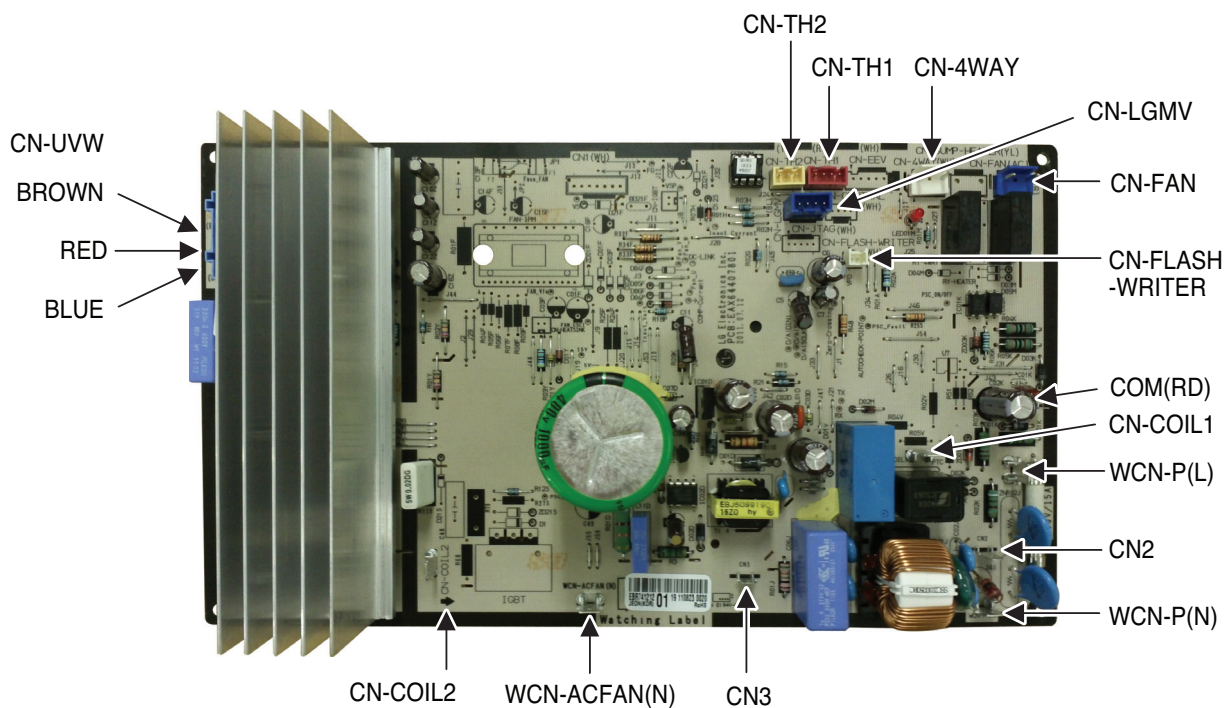
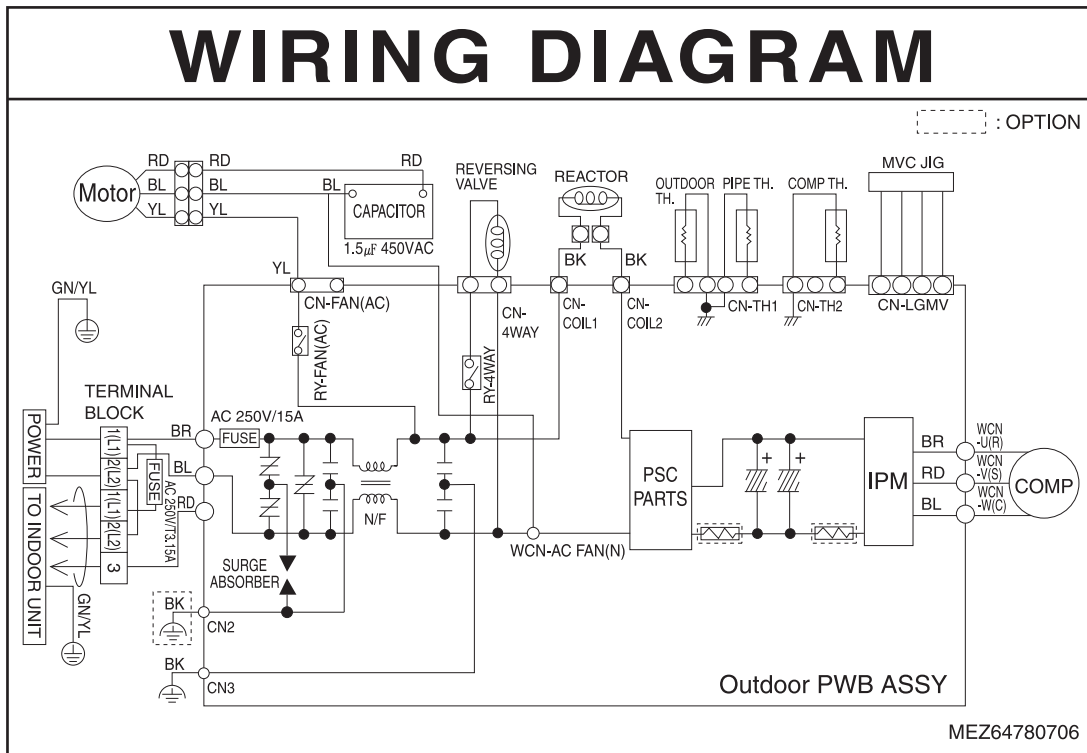
| LOC | Description                               | PCB Connector   |
|-----|---|-----------------|
| Th1 | Thermistor for indoor air temperature     | CH-TH1(Indoor)  |
| Th2 | Water level sensor (Option)               | CH-TH2(Indoor)  |
| Th3 | Thermistor for evaporating temperature    | CH-TH3(INDOOR)  |
| Th4 | Thermistor for discharge pipe temperature | CN-TH2(OUTDOOR) |
| Th5 | Thermistor for condensing temperature     | CN-TH1(OUTDOOR) |
| Th6 | Thermistor for outdoor air temperature    | CN-TH1(OUTDOOR) |

# 3. Wiring Diagrams

## Indoor Unit

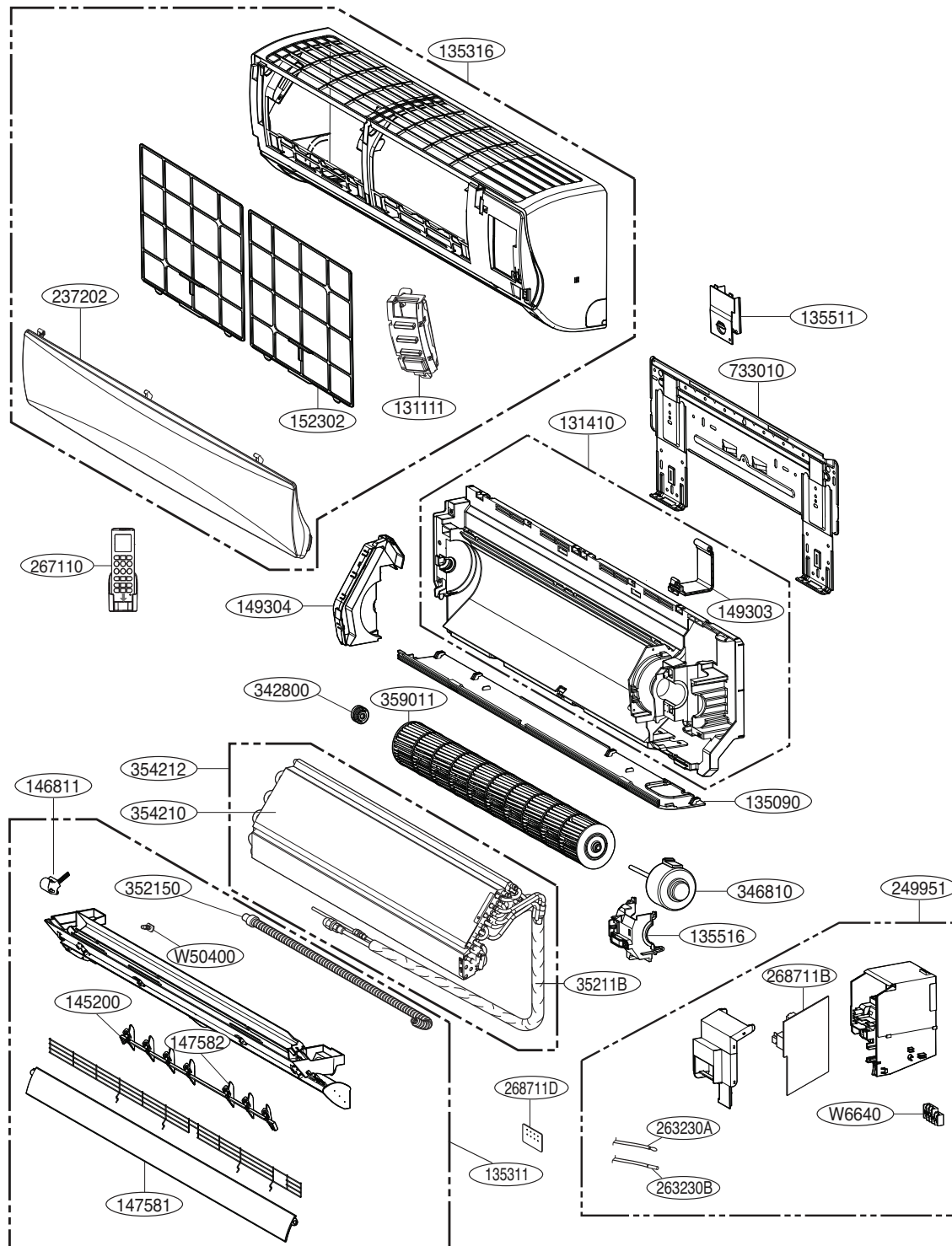


## Outdoor Unit



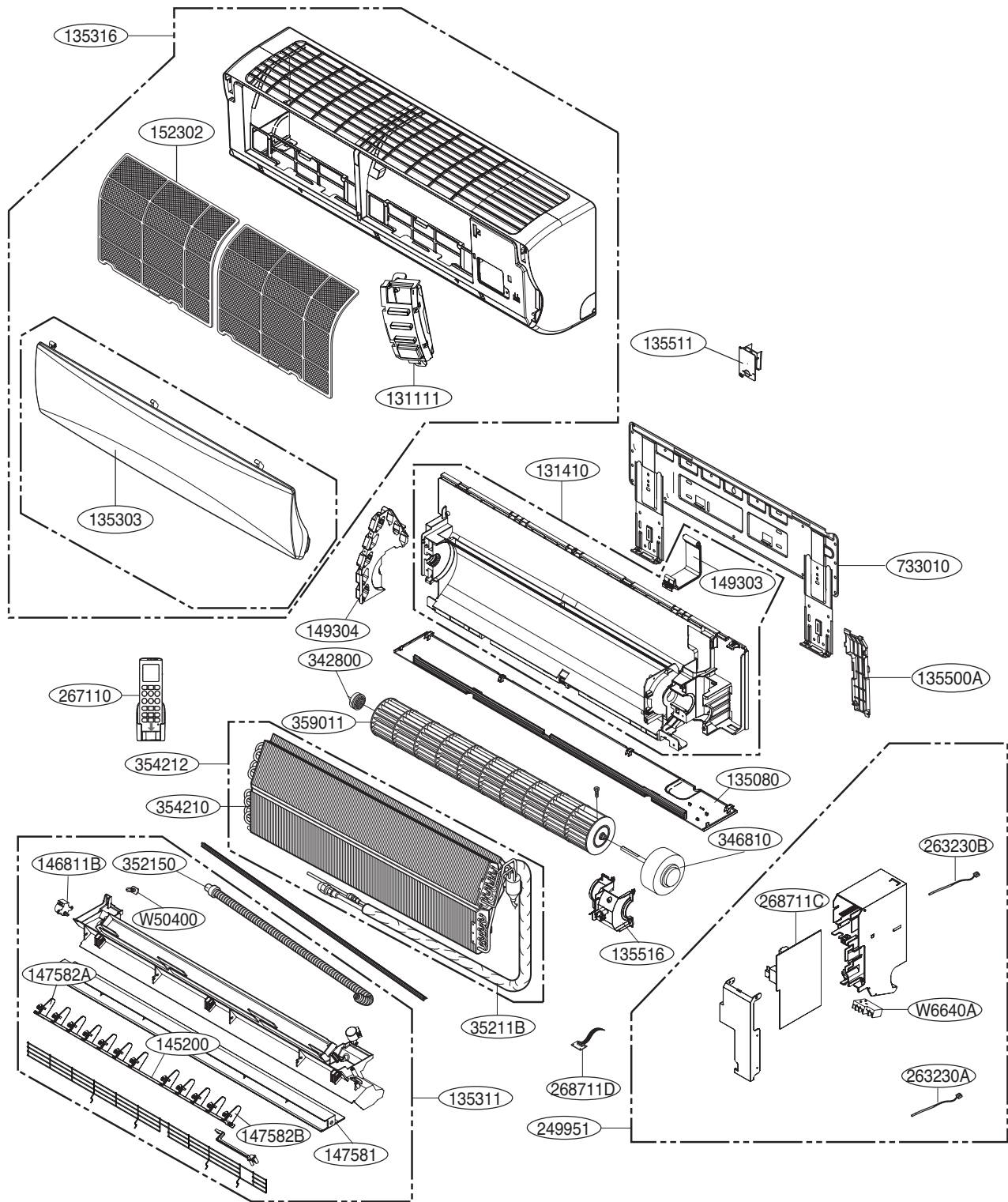
## 4. Exploded View

### Indoor Unit ASNW093WSA7



| LOC.    | Description                            | PCB Connector  |
|---------|--|----------------|
| 263230A | Thermistor for indoor air temperature  | CN-TH1(Indoor) |
| 263230B | Thermistor for evaporating temperature | CN-TH3(Indoor) |

# ASNW123BSA7



| LOC.    | Description                            | PCB Connector  |
|---------|--|----------------|
| 263230A | Thermistor for indoor air temperature  | CN-TH1(Indoor) |
| 263230B | Thermistor for evaporating temperature | CN-TH3(Indoor) |





P/NO : MFL67499915

February, 2015