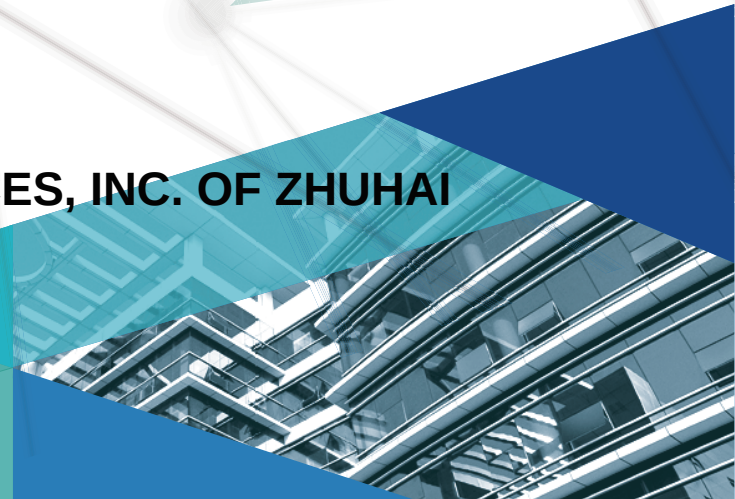
GREE
Change for life

# Service Manual



GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

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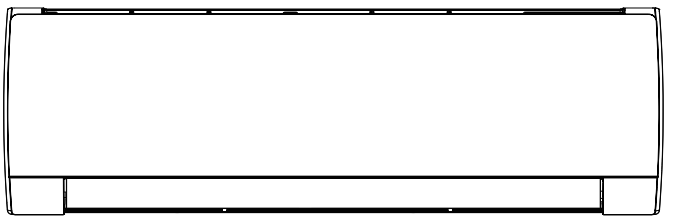
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# Part Ⅰ : Technical Information

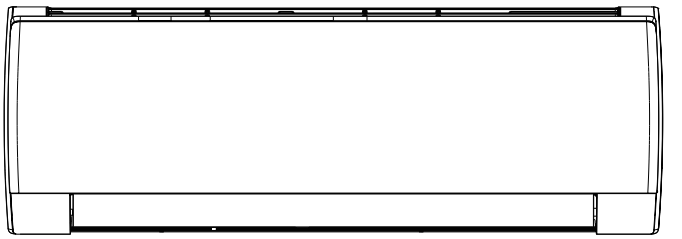
## 1. Summary

**Indoor Unit:**

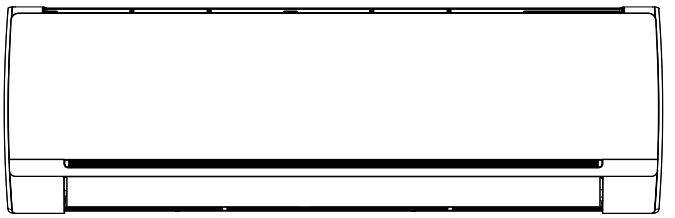
GWH07ACA-K3NNA1A/I
GWH09ACA-K3NNA1A/I



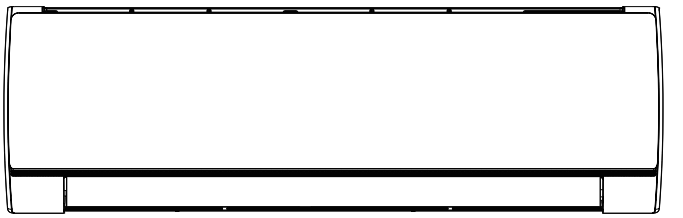
GWH07ACA-K3NNA5A/I GWH07ACA-K3NNA5B/I
GWH09ACB-K3NNA5A/I GWH09ACA-K3NNA5A



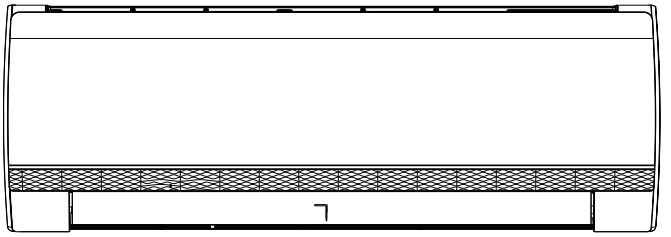
GWH07ACA-K3NNA4A/I
GWH09ACB-K3NNA4A/I
GWH07ACA-K3NNA4B/I
GWH09ACA-K3NNA4A/I



GWH09ACB-K3NNA2A/I
GWH07ACA-K3NNA2A/I
GWH07ACA-K3NNA2B/I
GWH09ACA-K3NNA2A/I

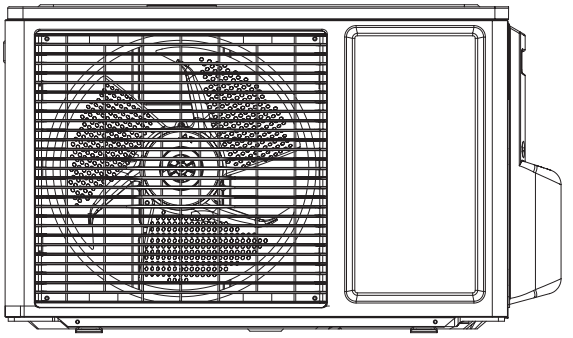


GWH07ACA-K3NNA3A/I
GWH09ACB-K3NNA3A/I
GWH09ACA-K3NNA3A/I

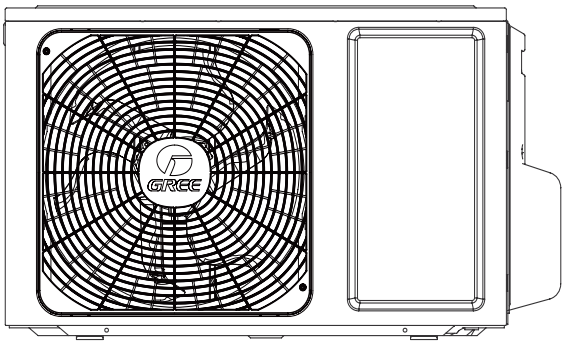


**Outdoor Unit:**

GWH07AAA-K3NNA1A/O
GWH09AAA-K3NNA1A/O



GWH07ACA-K3NNA5A/O
GWH09ACB-K3NNA5A/O




**Remote Controller:**

YAW1F



**Models List:**

| No. | Model | Product Code | Model | Product Code | Model | Product Code | Remote Controller |
|---|---|---|---|---|---|---|---|
| 1 | GWH07ACA-K3NNA1A | CA497000300 | GWH07ACA-K3NNA1A/I | CA497N00300 | GWH07AAA-K3NNA1A/O | CA115W13600 | YAW1F |
| 2 | | CA497000301 | | CA497N00301 | | | |
| 3 | | CA497000302 | | CA497N00302 | | | |
| 4 | | CA497000303 | | CA497N00303 | | | |
| 5 | GWH07ACA-K3NNA5B | CA341000900 | GWH07ACA-K3NNA5B/I | CA341N00900 | | | |
| 6 | GWH07ACA-K3NNA2B | CA342000900 | GWH07ACA-K3NNA2B/I | CA342N00900 | | | |
| 7 | GWH07ACA-K3NNA4B | CA344000600 | GWH07ACA-K3NNA4B/I | CA344N00600 | | | |
| 8 | GWH07ACA-K3NNA4A | CA344000200 | GWH07ACA-K3NNA4A/I | CA344N00200 | GWH07ACA-K3NNA5A/O | CA341W00100 | |
| 9 | GWH07ACA-K3NNA5A | CA341000100 | GWH07ACA-K3NNA5A/I | CA341N00100 | | | |
| 10 | GWH07ACA-K3NNA3A | CA343000100 | GWH07ACA-K3NNA3A/I | CA343N00100 | | | |
| 11 | | CA343000101 | | CA343N00101 | | | |
| 12 | GWH07ACA-K3NNA2A | CA342000500 | GWH07ACA-K3NNA2A/I | CA342N00500 | | | |
| 13 | GWH09ACA-K3NNA1A | CA497000400 | GWH09ACA-K3NNA1A/I | CA497N00400 | GWH09AAA-K3NNA1A/O | CA115W14400 | |
| 14 | | CA497000401 | | CA497N00401 | | | |
| 15 | | CA497000402 | | CA497N00402 | | | |
| 16 | | CA497000403 | | CA497N00403 | | | |
| 17 | GWH09ACA-K3NNA5A | CA341001000 | GWH09ACA-K3NNA5A/I | CA341N01000 | | | |
| 18 | GWH09ACA-K3NNA2A | CA342000700 | GWH09ACA-K3NNA2A/I | CA342N00700 | | | |
| 19 | | CA342000701 | | CA342N00701 | | | |
| 20 | GWH09ACA-K3NNA3A | CA343000700 | GWH09ACA-K3NNA3A/I | CA343N00700 | | | |
| 21 | GWH09ACA-K3NNA4A | CA344000700 | GWH09ACA-K3NNA4A/I | CA344N00700 | | | |
| 22 | GWH09ACB-K3NNA4A | CA344000100 | GWH09ACB-K3NNA4A/I | CA344N00100 | GWH09ACB-K3NNA5A/O | CA341W00200 | |
| 23 | GWH09ACB-K3NNA5A | CA341000200 | GWH09ACB-K3NNA5A/I | CA341N00200 | | | |
| 24 | GWH09ACB-K3NNA3A | CA343000200 | GWH09ACB-K3NNA3A/I | CA343N00200 | | | |
| 25 | GWH09ACB-K3NNA2A | CA342000400 | GWH09ACB-K3NNA2A/I | CA342N00400 | | | |

# 2. Specifications

## 2.1 Specification Sheet

| | | | | |
|---|---|---|---|---|
| Model | | | 1.GWH07ACA-K3NNA1A<br>2.GWH07ACA-K3NNA5B<br>3.GWH07ACA-K3NNA2B<br>4.GWH07ACA-K3NNA4B | 1.GWH07ACA-K3NNA4A<br>2.GWH07ACA-K3NNA5A<br>3.GWH07ACA-K3NNA2A<br>4.GWH07ACA-K3NNA3A |
| Product Code | | | 1.CA497000300/CA497000301<br>CA497000302/CA497000303<br>2.CA341000900 3.CA342000900<br>4.CA344000600 | 1.CA344000200 2.CA341000100<br>3.CA342000500<br>4.CA343000100/CA343000101 |
| Power Supply | Rated Voltage | V~ | 220-240 | 220-240 |
| | Rated Frequency | Hz | 50 | 50 |
| | Phases | | 1 | 1 |
| Power Supply Mode | | | Indoor | Indoor |
| Cooling Capacity | | W | 2250 | 2250 |
| Heating Capacity | | W | 2350 | 2350 |
| Cooling Power Input | | W | 700 | 700 |
| Heating Power Input | | W | 651 | 651 |
| Cooling Power Current | | A | 3.5 | 3.5 |
| Heating Power Current | | A | 3.2 | 3.2 |
| Rated Input | | W | 1050 | 1050 |
| Rated Cooling Current | | A | 5.5 | 5.5 |
| Rated Heating Current | | A | 4.7 | 4.7 |
| Air Flow Volume(SH/H/M/L/SL) | | $m^3/h$ | 470/420/370/250/- | 470/420/370/250/- |
| Dehumidifying Volume | | L/h | 0.6 | 0.6 |
| EER | | W/W | 3.21 | 3.21 |
| COP | | W/W | 3.61 | 3.61 |
| SEER | | W/W | / | / |
| HSPF | | W/W | / | / |
| Application Area | | $m^2$ | 10-16 | 10-16 |
| Indoor Unit | Model of Indoor Unit | | 1.GWH07ACA-K3NNA1A/I<br>2.GWH07ACA-K3NNA5B/I<br>3.GWH07ACA-K3NNA2B/I<br>4.GWH07ACA-K3NNA4B/I | 1.GWH07ACA-K3NNA4A/I<br>2.GWH07ACA-K3NNA5A/I<br>3.GWH07ACA-K3NNA2A/I<br>4.GWH07ACA-K3NNA3A/I |
| | Product Code of Indoor Unit | | 1.CA497N00300/CA497N00301<br>CA497N00302/CA497N00303<br>2.CA341N00900 3.CA342N00900<br>4.CA344N00600 | 1.CA344N00200 2.CA341N00100<br>3.CA342N00500<br>4.CA343N00100/CA343N00101 |
| | Fan Type | | Cross-flow | Cross-flow |
| | Diameter Length(DXL) | mm | Φ93X505 | Φ93X505 |
| | Fan Motor Cooling Speed(SH/H/M/L/SL) | r/min | 1300/1200/1100/850/- | 1300/1200/1100/850/- |
| | Fan Motor Heating Speed(SH/H/M/L/SL) | r/min | 1200/1100/1000/900/- | 1200/1100/1000/900/- |
| | Output of Fan Motor | W | 10 | 10 |
| | Fan Motor RLA | A | 0.15 | 0.15 |
| | Fan Motor Capacitor | μF | 1 | 1 |
| | Input of Heater | W | / | / |
| | Evaporator Form | | Aluminum Fin-copper Tube | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7.94 | Φ7.94 |
| | Row-fin Gap | mm | 1-1.2 | 1-1.2 |
| | Coil Length (LXDXW) | mm | 508X19.05X254 | 508X19.05X254 |
| | Swing Motor Model | | MP24AN | MP24AN |
| | Output of Swing Motor | W | 1.5 | 1.5 |
| | Fuse | A | 3.15 | 3.15 |
| | Sound Pressure Level (SH/H/M/L/SL) | dB (A) | 40/38/35/26/- | 40/38/35/26/- |
| | Sound Power Level (SH/H/M/L/SL) | dB (A) | 50/48/45/36/- | 50/48/45/36/- |
| | Dimension (WXHXD) | mm | 744X256X185 | 744X256X185 |
| | Dimension of Carton Box (LXWXH) | mm | 788X314X249 | 788X314X249 |
| | Dimension of Package (LXWXH) | mm | 793X330X260 | 793X330X260 |
| | Net Weight | kg | 8.0 | 8 |
| | Gross Weight | kg | 9.5 | 9.5 |

| | | | | |
|---|---|---|---|---|
| Outdoor Unit | Model of Outdoor Unit | | GWH07AAA-K3NNA1A/O | GWH07ACA-K3NNA5A/O |
| | Product Code of Outdoor Unit | | CA115W13600 | CA341W00100 |
| | Compressor Manufacturer/Trademark | | ZHUHAI LANDA COMPRESSOR CO.,LTD | ZHUHAI LANDA COMPRESSOR CO.,LTD |
| | Compressor Model | | QXA-A081A130A | QXA-A081A130A |
| | Compressor Oil | | RB68EP/FVC68D/FV50S | RB68EP/FVC68D/FV50S |
| | Compressor Type | | Rotary | Rotary |
| | L.R.A. | A | 15 | 15 |
| | Compressor RLA | A | 3.25 | 3.25 |
| | Compressor Power Input | W | 680 | 680 |
| | Overload Protector | | UP3-MC0（L） | UP3-MC0（L） |
| | Throttling Method | | Capillary | Capillary |
| | Operation Temp | °C | 16~30 | 16~30 |
| | Ambient Temp (Cooling) | °C | 18~43 | 18~43 |
| | Ambient Temp (Heating) | °C | -7~24 | -7~24 |
| | Condenser Form | | Aluminum Fin-copper Tube | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7.94 | Φ7.94 |
| | Rows-fin Gap | mm | 1-1.4 | 1-1.4 |
| | Coil Length (LXDXW) | mm | 658.3X19.05X396 | 658.3X19.05X396 |
| | Fan Motor Speed | rpm | 320 | 320 |
| | Output of Fan Motor | W | 20 | 20 |
| | Fan Motor RLA | A | 0.25 | 0.25 |
| | Fan Motor Capacitor | μF | 1.5 | 1.5 |
| | Air Flow Volume of Outdoor Unit | $m^3/h$ | 1200 | 1200 |
| | Fan Type | | Axial-flow | Axial-flow |
| | Fan Diameter | mm | Φ320 | Φ320 |
| | Defrosting Method | | Automatic Defrosting | Automatic Defrosting |
| | Climate Type | | T1 | T1 |
| | Isolation | | I | I |
| | Moisture Protection | | IPX4 | IPX4 |
| | Permissible Excessive Operating Pressure for the Discharge Side | MPa | 4.3 | 4.3 |
| | Permissible Excessive Operating Pressure for the Suction Side | MPa | 2.5 | 2.5 |
| | Sound Pressure Level (H/M/L) | dB (A) | 49/-/- | 49/-/- |
| | Sound Power Level (H/M/L) | dB (A) | 59/-/- | 59/-/- |
| | Dimension (WXHXD) | mm | 720X428X310 | 720X428X310 |
| | Dimension of Carton Box (LXWXH) | mm | 765X350X475 | 765X350X475 |
| | Dimension of Package (LXWXH) | mm | 768X353X490 | 768X353X490 |
| | Net Weight | kg | 22 | 22 |
| | Gross Weight | kg | 24 | 24 |
| | Refrigerant | | R410A | R410A |
| | Refrigerant Charge | kg | 0.55 | 0.55 |
| Connection Pipe | Length | m | 5 | 5 |
| | Gas Additional Charge | g/m | 20 | 20 |
| | Outer Diameter Liquid Pipe | mm | Φ6 | Φ6 |
| | Outer Diameter Gas Pipe | mm | Φ9.52 | Φ9.52 |
| | Max Distance Height | m | 10 | 10 |
| | Max Distance Length | m | 15 | 15 |
| | Note: The connection pipe applies metric diameter. | | | |

The above data is subject to change without notice; please refer to the nameplate of the unit.

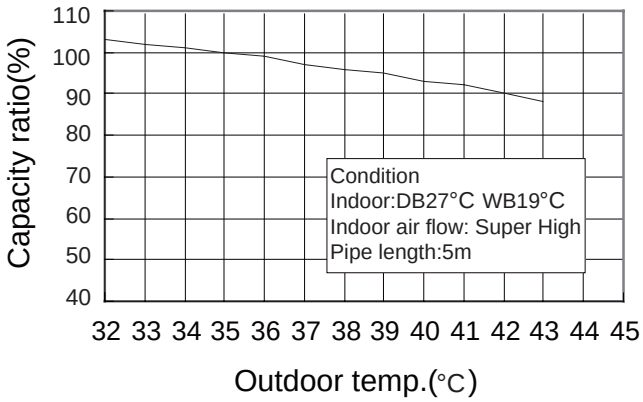
| | | | | |
|---|---|---|---|---|
| Model | | | 1.GWH09ACA-K3NNA1A<br>2.GWH09ACA-K3NNA5A<br>3.GWH09ACA-K3NNA4A<br>4.GWH09ACA-K3NNA2A<br>5.GWH09ACA-K3NNA3A | 1.GWH09ACB-K3NNA4A<br>2.GWH09ACB-K3NNA5A<br>3.GWH09ACB-K3NNA2A<br>4.GWH09ACB-K3NNA3A |
| Product Code | | | 1.CA497000400/CA497000401<br>CA497000402/CA497000403<br>2.CA341001000 3.CA344000700<br>4.CA342000700/CA342000701<br>5.CA343000700 | 1.CA344000100<br>2.CA341000200<br>3.CA342000400<br>4.CA343000200 |
| Power Supply | Rated Voltage | V~ | 220-240 | 220-240 |
| | Rated Frequency | Hz | 50 | 50 |
| | Phases | | 1 | 1 |
| Power Supply Mode | | | Indoor | Indoor |
| Cooling Capacity | | W | 2550 | 2638 |
| Heating Capacity | | W | 2650 | 2755 |
| Cooling Power Input | | W | 794 | 821 |
| Heating Power Input | | W | 734 | 763 |
| Cooling Power Current | | A | 3.7 | 4.0 |
| Heating Power Current | | A | 3.3 | 3.5 |
| Rated Input | | W | 1120 | 1150 |
| Rated Cooling Current | | A | 6.2 | 5.6 |
| Rated Heating Current | | A | 5.2 | 5.6 |
| Air Flow Volume(SH/H/M/L/SL) | | $m^3/h$ | 470/420/370/250/- | 570/500/430/300/- |
| Dehumidifying Volume | | L/h | 0.8 | 0.8 |
| EER | | W/W | 3.21 | 3.21 |
| COP | | W/W | 3.61 | 3.61 |
| SEER | | W/W | / | / |
| HSPF | | W/W | / | / |
| Application Area | | $m^2$ | 12-18 | 12-18 |
| Indoor Unit | Model of Indoor Unit | | 1.GWH09ACA-K3NNA1A/I<br>2.GWH09ACA-K3NNA5A/I<br>3.GWH09ACA-K3NNA4A/I<br>4.GWH09ACA-K3NNA2A/I<br>5.GWH09ACA-K3NNA3A/I | 1.GWH09ACB-K3NNA4A/I<br>2.GWH09ACB-K3NNA5A/I<br>3.GWH09ACB-K3NNA2A/I<br>4.GWH09ACB-K3NNA3A/I |
| | Product Code of Indoor Unit | | 1.CA497N00400/CA497N00401<br>CA497N00402/CA497N00403<br>2.CA341N01000 3.CA344N00700<br>4.CA342N00700/CA342N00701<br>5.CA343N00700 | 1.CA344N00100<br>2.CA341N00200<br>3.CA342N00400<br>4.CA343N00200 |
| | Fan Type | | Cross-flow | Cross-flow |
| | Diameter Length(DXL) | mm | Φ93X505 | Φ93X580 |
| | Fan Motor Cooling Speed(SH/H/M/L/SL) | r/min | 1300/1200/1100/850/- | 1300/1200/1100/850/- |
| | Fan Motor Heating Speed(SH/H/M/L/SL) | r/min | 1200/1100/1000/900/- | 1250/1150/1050/900/- |
| | Output of Fan Motor | W | 10 | 20 |
| | Fan Motor RLA | A | 0.15 | 0.215 |
| | Fan Motor Capacitor | μF | 1 | 1 |
| | Input of Heater | W | / | / |
| | Evaporator Form | | Aluminum Fin-copper Tube | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7.94 | Φ7.94 |
| | Row-fin Gap | mm | 1-1.2 | 1-1.2 |
| | Coil Length (LXDXW) | mm | 508X19.05X254 | 583X19.05X264 |
| | Swing Motor Model | | MP24AN | MP24AN |
| | Output of Swing Motor | W | 1.5 | 1.5 |
| | Fuse | A | 3.15 | 3.15 |
| | Sound Pressure Level (SH/H/M/L/SL) | dB (A) | 40/38/35/26/- | 40/37/35/27/- |
| | Sound Power Level (SH/H/M/L/SL) | dB (A) | 50/48/45/36/- | 50/47/45/37/- |
| | Dimension (WXHXD) | mm | 744X256X185 | 819X256X185 |
| | Dimension of Carton Box (LXWXH) | mm | 788X314X249 | 863X314X249 |
| | Dimension of Package (LXWXH) | mm | 793X330X260 | 868X330X260 |
| | Net Weight | kg | 8.0 | 8.5 |
| | Gross Weight | kg | 9.5 | 10 |

| | | | | |
|---|---|---|---|---|
| Outdoor Unit | Model of Outdoor Unit | | GWH09AAA-K3NNA1A/O | GWH09ACB-K3NNA5A/O |
| | Product Code of Outdoor Unit | | CA115W14400 | CA341W00200 |
| | Compressor Manufacturer/Trademark | | ZHUHAI LANDA COMPRESSOR CO.,LTD | ZHUHAI LANDA COMPRESSOR CO.,LTD |
| | Compressor Model | | QXA-M094T130 | QXA-B102C130 |
| | Compressor Oil | | RB68EP or equivalent | RB68EP/FV50S |
| | Compressor Type | | Rotary | Rotary |
| | L.R.A. | A | 18 | 17 |
| | Compressor RLA | A | 3.6 | 4 |
| | Compressor Power Input | W | 772.7 | 865 |
| | Overload Protector | | UP3-MC1 | UP3-00 |
| | Throttling Method | | Capillary | Capillary |
| | Operation Temp | °C | 16~30 | 16~30 |
| | Ambient Temp (Cooling) | °C | 18~43 | 18~43 |
| | Ambient Temp (Heating) | °C | -7~24 | -7~24 |
| | Condenser Form | | Aluminum Fin-copper Tube | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7.94 | Φ7.94 |
| | Rows-fin Gap | mm | 1-1.4 | 1-1.4 |
| | Coil Length (LXDXW) | mm | 658.3X19.05X396 | 655X19.05X396 |
| | Fan Motor Speed | rpm | 320 | 320 |
| | Output of Fan Motor | W | 20 | 20 |
| | Fan Motor RLA | A | 0.25 | 0.25 |
| | Fan Motor Capacitor | μF | 1.5 | 1.5 |
| | Air Flow Volume of Outdoor Unit | $m^3/h$ | 1200 | 1200 |
| | Fan Type | | Axial-flow | Axial-flow |
| | Fan Diameter | mm | Φ320 | Φ320 |
| | Defrosting Method | | Automatic Defrosting | Automatic Defrosting |
| | Climate Type | | T1 | T1 |
| | Isolation | | I | I |
| | Moisture Protection | | IPX4 | IPX4 |
| | Permissible Excessive Operating Pressure for the Discharge Side | MPa | 4.3 | 4.3 |
| | Permissible Excessive Operating Pressure for the Suction Side | MPa | 2.5 | 2.5 |
| | Sound Pressure Level (H/M/L) | dB (A) | 49/-/- | 48/-/- |
| | Sound Power Level (H/M/L) | dB (A) | 59/-/- | 58/-/- |
| | Dimension (WXHXD) | mm | 720X428X310 | 720X428X310 |
| | Dimension of Carton Box (LXWXH) | mm | 765X350X475 | 765X350X475 |
| | Dimension of Package (LXWXH) | mm | 768X353X490 | 768X353X490 |
| | Net Weight | kg | 24.5 | 25.5 |
| | Gross Weight | kg | 26.5 | 27.5 |
| | Refrigerant | | R410A | R410A |
| | Refrigerant Charge | kg | 0.56 | 0.63 |
| Connection Pipe | Length | m | 5 | 5 |
| | Gas Additional Charge | g/m | 20 | 15 |
| | Outer Diameter Liquid Pipe | mm | Φ6 | Φ6 |
| | Outer Diameter Gas Pipe | mm | Φ9.52 | Φ9.52 |
| | Max Distance Height | m | 10 | 10 |
| | Max Distance Length | m | 15 | 15 |
| | Note: The connection pipe applies metric diameter. | | | |

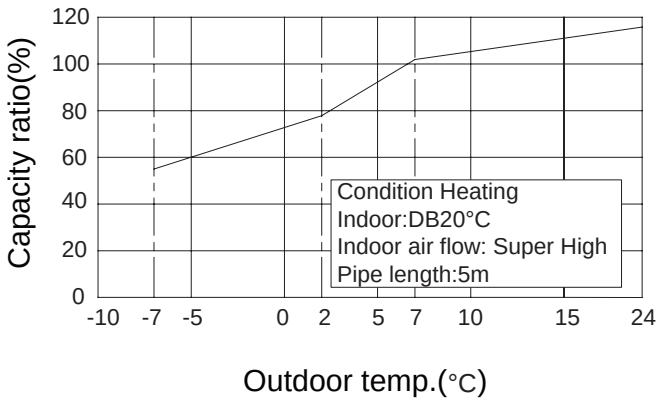
The above data is subject to change without notice; please refer to the nameplate of the unit.

## 2.2 Capacity Curve in Different Outdoor Temperature

**Cooling**




**Heating**




## 2.3 Cooling and Heating Data Sheet in Rated Frequency

**Cooling**

| Rated cooling condition(°C) (DB/WB) | | Model | Pressure of gas pipe connecting indoor and outdoor unit | Inlet and outlet pipe temperature of heat exchanger | | Fan speed of indoor unit | Fan speed of outdoor unit |
|---|---|---|---|---|---|---|---|
| Indoor | Outdoor | | P (MPa) | T1 (°C) | T2 (°C) | | |
| 27/19 | 35/24 | All model | 0.85~1.0 | in:8~11<br>out:11~14 | in:75~85<br>out:37~43 | Super High | High |

**Heating**

| Rated heatling condition(°C) (DB/WB) | | Model | Pressure of gas pipe connecting indoor and outdoor unit | Inlet and outlet pipe temperature of heat exchanger | | Fan speed of indoor unit | Fan speed of outdoor unit |
|---|---|---|---|---|---|---|---|
| Indoor | Outdoor | | P (MPa) | T1 (°C) | T2 (°C) | | |
| 20/- | 7/6 | All model | 3.5~3.8 | in:75~85<br>out:37~43 | in:1~3<br>out:2~5 | Super High | High |

**Instruction:**

T1: Inlet and outlet pipe temperature of evaporator

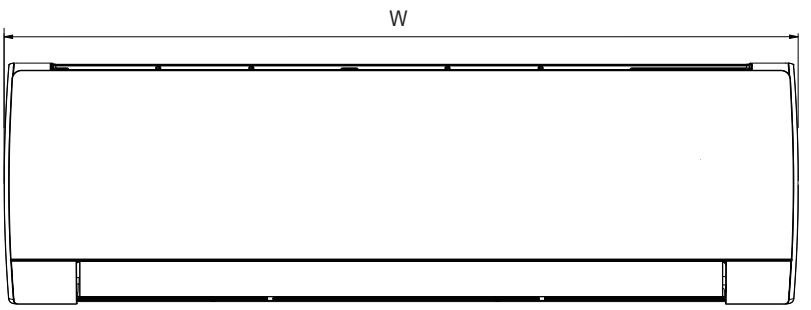
T2: Inlet and outlet pipe temperature of condenser

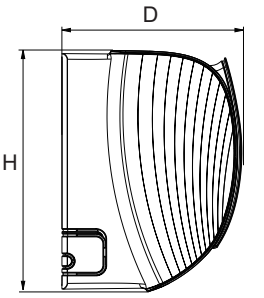
P: Pressure at the side of big valve

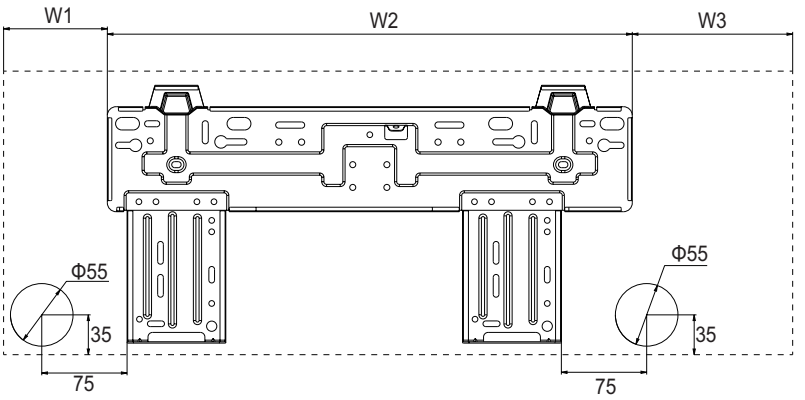
Connection pipe length: 5m.

# 3. Outline Dimension Diagram

## 3.1 Indoor Unit



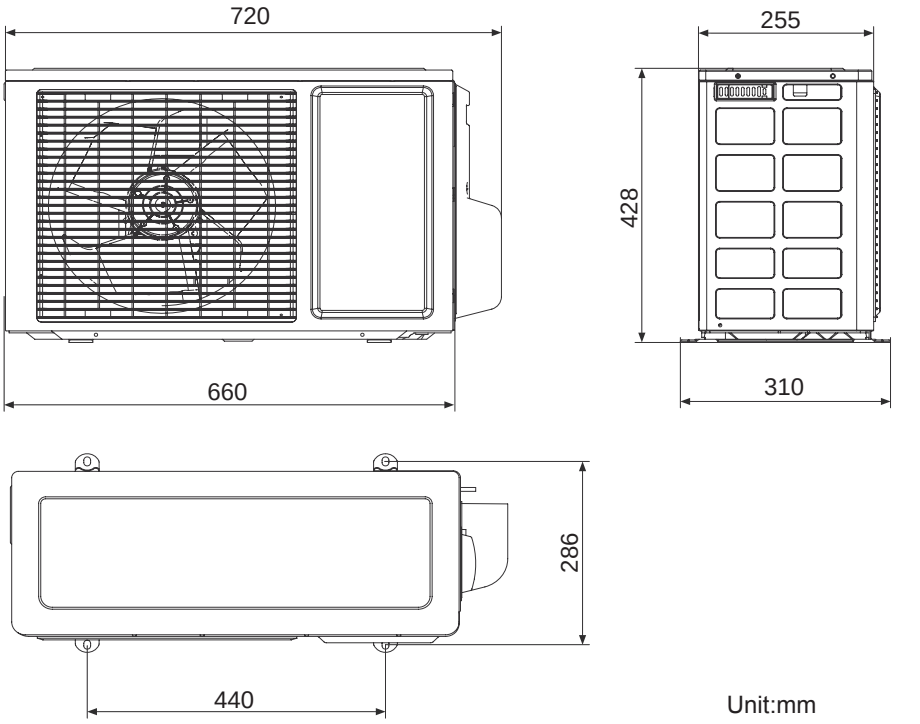




Unit:mm

| Models | W | H | D | W1 | W2 | W3 |
|---|---|---|---|---|---|---|
| 07/09K(ACA) | 744 | 256 | 185 | 116 | 462 | 166 |
| 09K(ACB) | 819 | 256 | 185 | 154 | 462 | 203 |

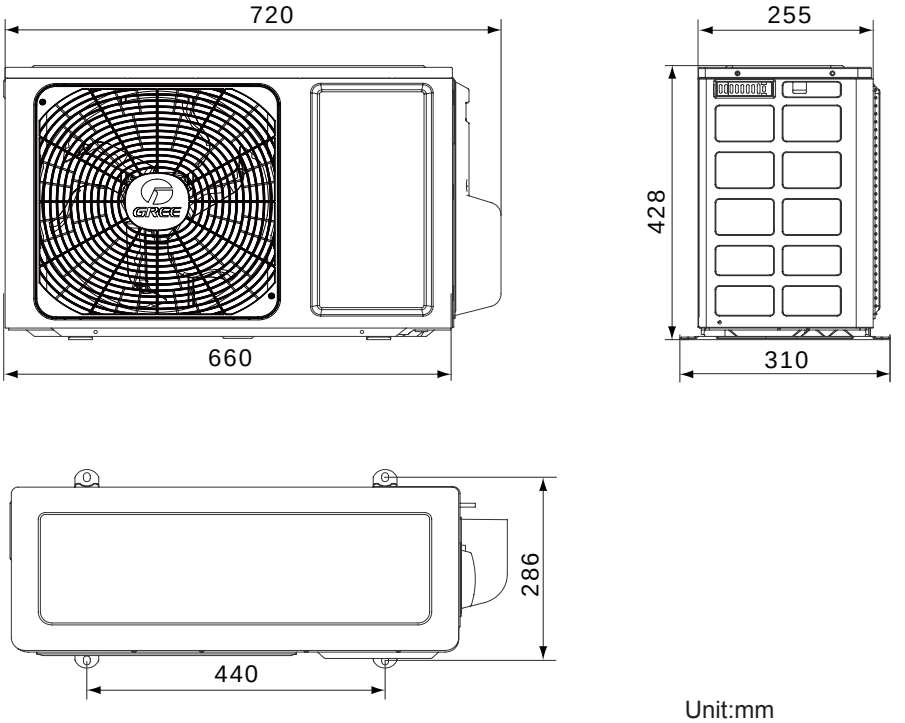
## 3.2 Outdoor Unit

GWH07AAA-K3NNA1A/O
GWH09AAA-K3NNA1A/O




Unit:mm

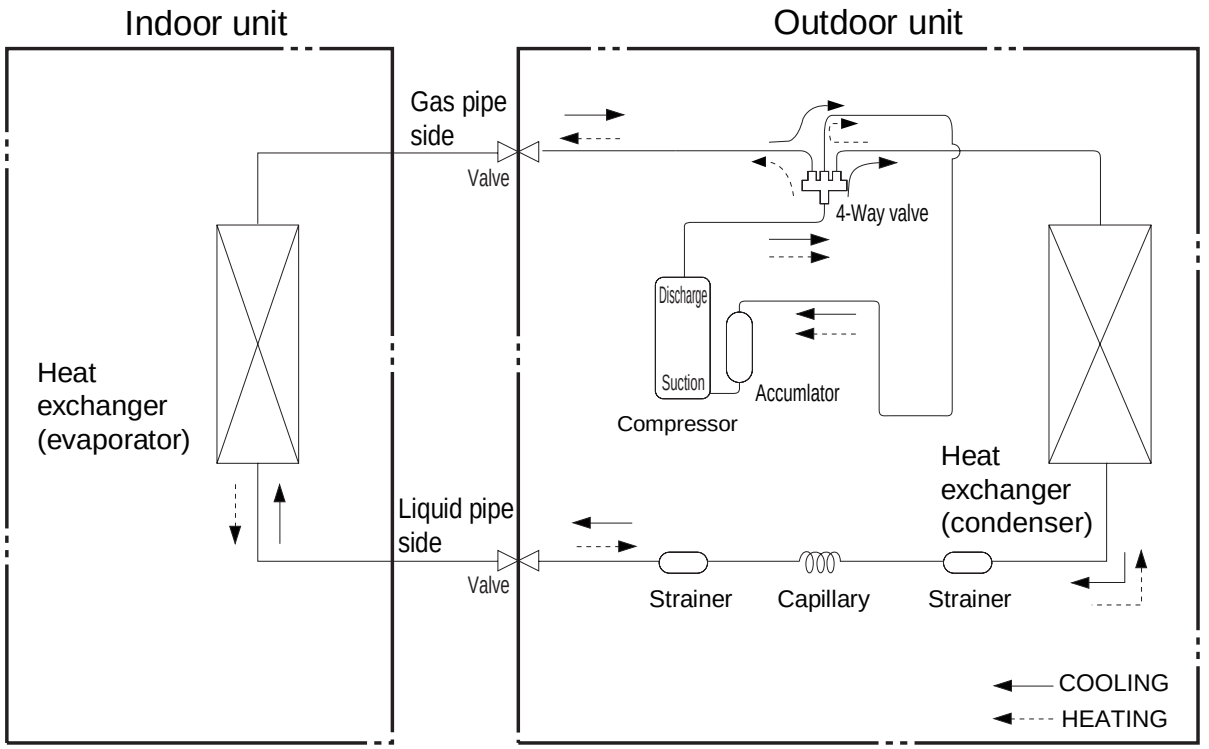
GWH07ACA-K3NNA5A/O
GWH09ACB-K3NNA5A/O




Unit:mm

# 4. Refrigerant System Diagram

### Cooling and heating model




Connection pipe specification:
Liquid pipe:1/4" (6mm)
Gas pipe:3/8" (9.52mm)

# 5. Electrical Part

## 5.1 Wiring Diagram

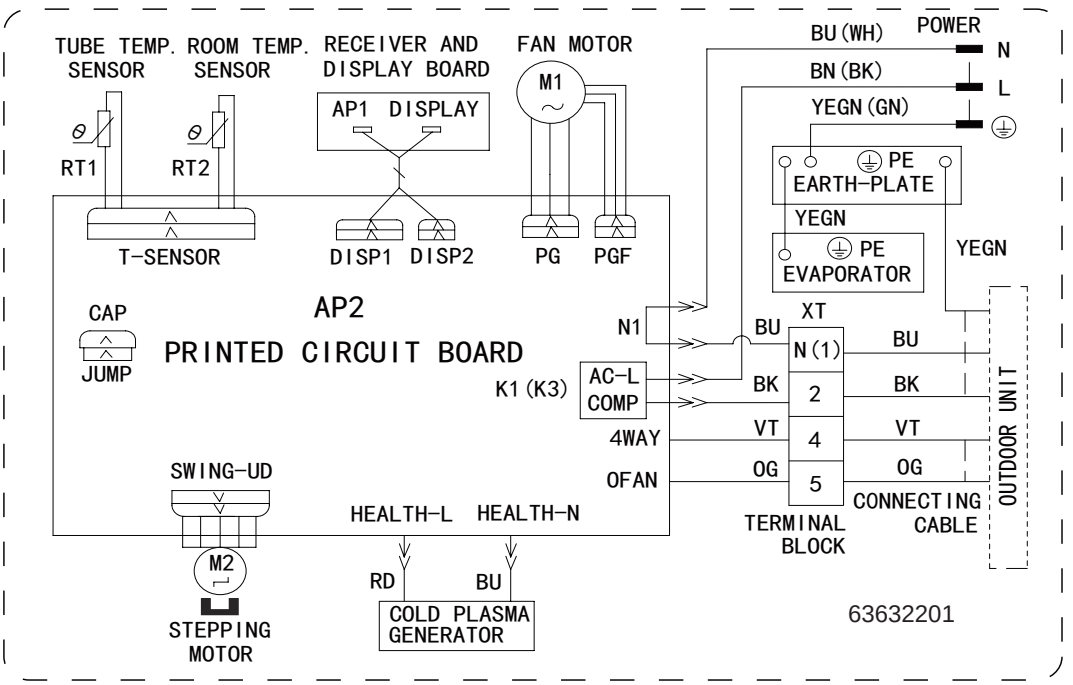
### ●Instruction

| Symbol | Symbol Color | Symbol | Symbol Color | Symbol | Name |
|---|---|---|---|---|---|
| WH | White | GN | Green | CAP | Jumper cap |
| YE | Yellow | BN | Brown | COMP | Compressor |
| RD | Red | BU | Blue | ⏚ | Grounding wire |
| YEGN | Yellow/Green | BK | Black | / | / |
| VT | Violet | OG | Orange | / | / |

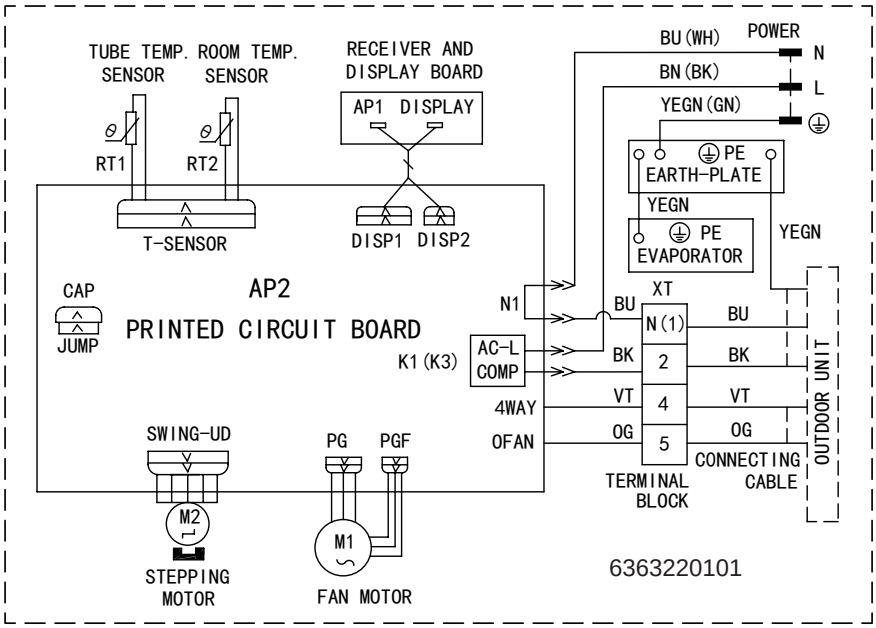
Note: Jumper cap is used to determine fan speed and the swing angle of horizontal lover for this model.

### ● Indoor Unit

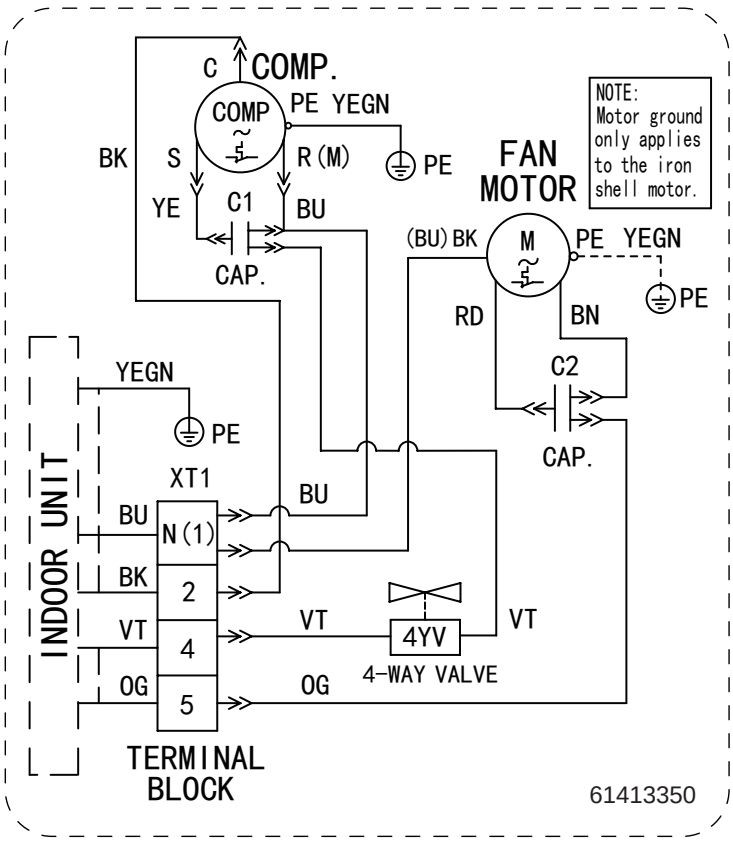
GWH07ACA-K3NNA1A/I(CA497N00300/CA497N00301) GWH07ACA-K3NNA3A/I(CA343N00100)
GWH09ACA-K3NNA1A/I(CA497N00400/CA497N00401) GWH09ACB-K3NNA3A/I(CA343N00200)
GWH07ACA-K3NNA5A/I(CA341N00100) GWH09ACB-K3NNA5A/I(CA341N00200)
GWH07ACA-K3NNA4A/I(CA344N00200) GWH09ACB-K3NNA4A/I(CA344N00100)
GWH09ACB-K3NNA2A/I(CA342N00400) GWH07ACA-K3NNA2A/I(CA342N00500)
GWH07ACA-K3NNA2B/I(CA342N00900) GWH09ACA-K3NNA2A/I(CA342N00700)



GWH07ACA-K3NNA1A/I(CA497N00302/CA497N00303) GWH07ACA-K3NNA5B/I GWH07ACA-K3NNA3A/I(CA343N00101)
GWH09ACA-K3NNA1A/I(CA497N00402/CA497N00403) GWH09ACA-K3NNA5A/I GWH09ACA-K3NNA3A/I(CA343N00700)
GWH07ACA-K3NNA4B/I GWH09ACA-K3NNA4A/I GWH09ACA-K3NNA2A/I(CA342N00701)



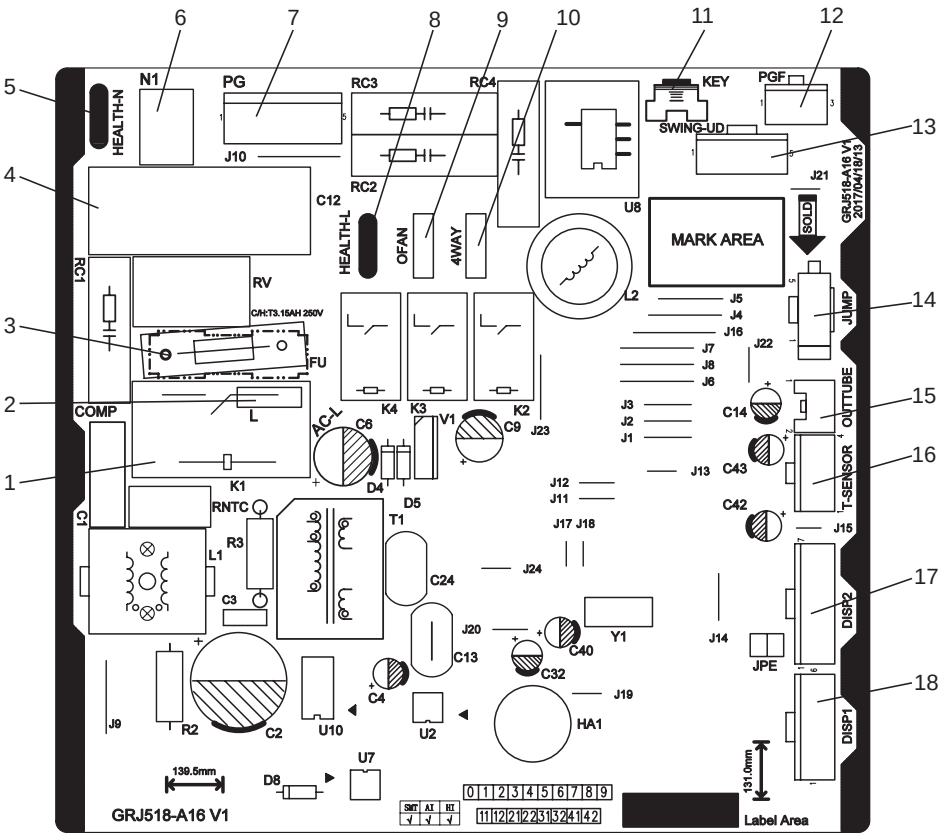

- **Outdoor Unit**




These wiring diagrams are subject to change without notice; please refer to the one supplied with the unit.

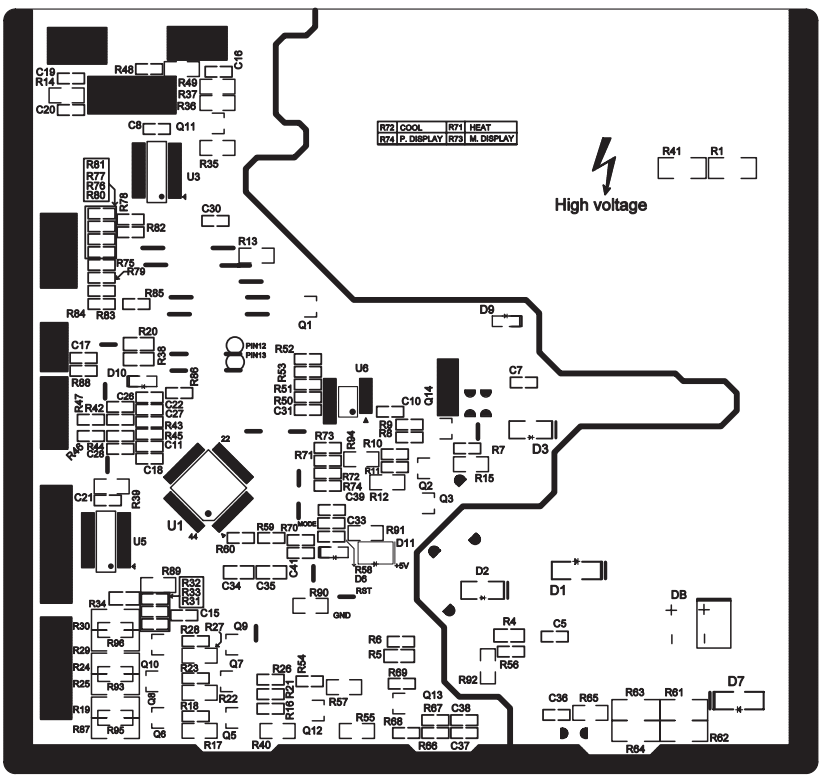
## 5.2 PCB Printed Diagram

### ● Top view




| No. | Name |
|---|---|
| 1 | Wiring terminal of compressor |
| 2 | Terminal of live wire |
| 3 | Fuse |
| 4 | Fan capacitor |
| 5 | Neutral wire terminal of cold plasma |
| 6 | Terminal of neutral wire |
| 7 | Wiring terminal of PG motor |
| 8 | Live wire terminal for cold plasma |
| 9 | Wiring terminal of outdoor fan (heat pump unit) |
| 10 | Wiring terminal of 4-way valve (heat pump unit) |
| 11 | Auto button |
| 12 | Feedback wiring terminal of PG motor |
| 13 | Wiring terminal of up&down swing motor |
| 14 | Jumper cap |
| 15 | Wiring terminal of outer tube temperature sensor |
| 16 | Wiring terminal of indoor unit temperature sensor |
| 17 | Wiring terminal 2 for display receiving board |
| 18 | Wiring terminal 1 of display receiving board |

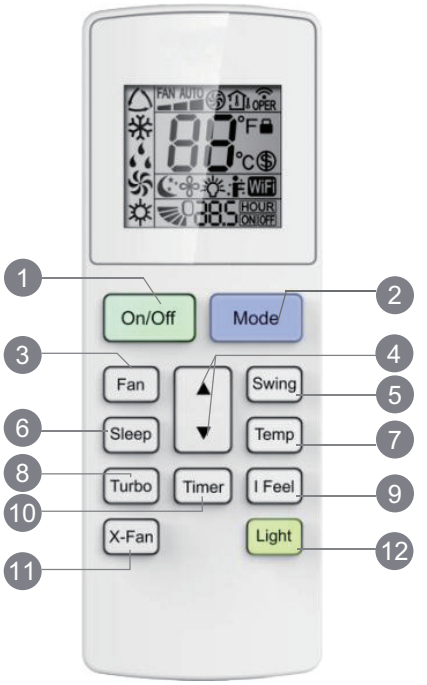
### ● Bottom view



# 6. Function and Control

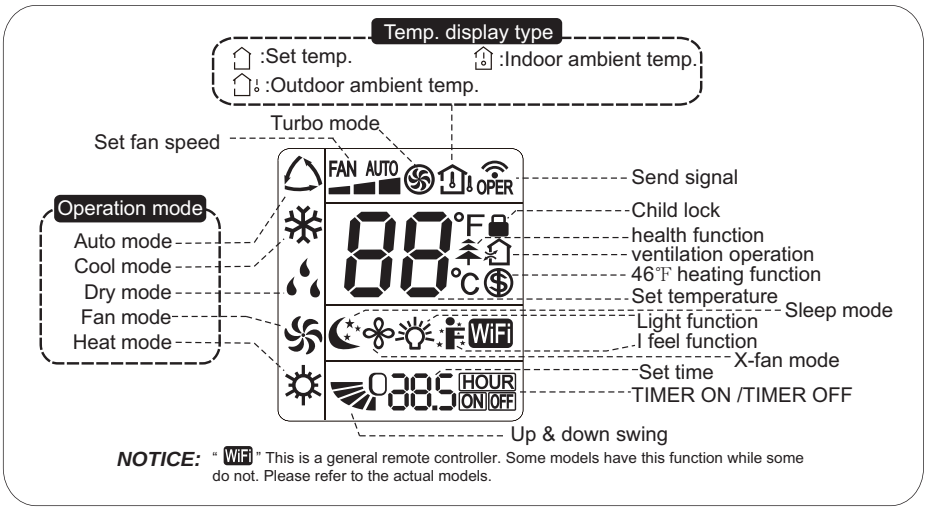
## 6.1 Remote Controller Introduction

### Buttons on Remote Controller




1. On/Off button
2. Mode button
3. Fan button
4. ▲/ ▼ button
5. Swing button
6. Sleep button
7. Temp button
8. Turbo button
9. I Feel button
10. Timer button
11. X-Fan button
12. Light button

### Icon Display on Remote Controller




### Note:

- This is a general use remote controller, it could be used for the air conditionerswith multifunction; For some function, which the model doesnt have, if pressthe corresponding button on the remote controller that the unit will keep the original running status.
- After putting through the power, the air conditioner will give out a sound.Operation indicator " ⏻ " is ON(red indicator,the colour is different for different). After that, you can operate the air conditioner by using remote controller.
- When power is connected(stand by condition), you can operate the air conditioner through the remote controller.
- Under on status, pressing the button on the remote controller, the signal icon " ((•)) " on the display of remote controller will blink once and the air conditioner will give out a “de” sound, which means the signal has been sent to the air conditioner.
- Under off status, set temperature and clock icon will be displayed on the display of remote controller (If timer on, timer off and light functions are set, the corresponding icons will be displayed on the display of remote controller at the same time); Under on status, the display will show the corresponding set function icons.

**1. ON/OFF button**

Press this button to turn on the unit. Press this button again to turn off the unit.

**2. MODE button**

Each time you press this button,a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT *, as the following:

AUTO ► COOL ► DRY ► FAN ► HEAT(Only for models with heating function.)

**3. FAN Button**

This button is used for setting Fan Speed in the sequence that goes from AUTO, , to , then back to Auto.

* Note:Fan speed under dry mode is low speed.

**4. ▲ / ▼ button**

Press ▲ / ▼ button to increase/decreaseset temperature. In AUTO mode,set temperature is not adjustable.
When setting Timer On or Timer Off, press "▲" or "▼" button to adjust the time.

**5.SWING button**

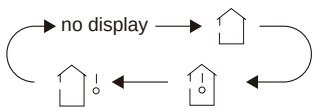
Press this button to set up & down swing angle.

**6. SLEEP Button**

Under Cool mode, press this button to turn on Sleep function. Press this button to cancel Sleep function. Under Fan and Dry mode, this function is unavailable.

**7. TIMER Button**

Press this button, you can see indoor set temperature, indoor ambient temperature on indoor unit's display. The setting on remote controller is selected circularly as below:




Note:
Outdoor temperature display is not available for some models. At that time, indoor unit receives " " signal, while it displays indoor set temperature.

8.Turbo button

Under COOL or HEAT mode, press this button to activate / deactivate the Turbo function.

9. **I FEEL button**

Press this button to start I FEEL function and " " will be displayed on the remote controller. After this function is set, the remote controller will send the detected ambient temperature to the controller and the unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to close I FEEL function and " " will disappear. When I FEEL function is turned on, the remote controller should be put within the area where indoor unit can receive the signal sent by the remote controller.

10.Timer button

● Under ON status, press this button to set timer OFF; Under OFF status, press this button to set timer ON.
● Press this button once and the characters of HOUR ON (OFF) will flash to be displayed. Meanwhile, press " ▲ " button or " ▼ " button to adjust timer setting (time will change quickly if holding " ▲ " or " ▼ " button). Time setting range is 0.5~24hours.
Press this button again to confirm timer setting and the characters of HOUR ON (OFF)will stop flashing.
If the characters are flashing but you haven't press timer button,timer setting status will be quit after 5s.If timer is confirmer, press this button again to cancel timer.

11.X-Fan button

● Press this button in COOL or DRY mode to turn on X-fan function.
When this function is started up, indoor fan will still operate at low fan speed for a while after turning off the unit by remote controller.

12.Light button

Press this button to turn on the display's light and press this button again to turn off the display's light.

Combination of " ▲ " and " ▼ " buttons: About lock

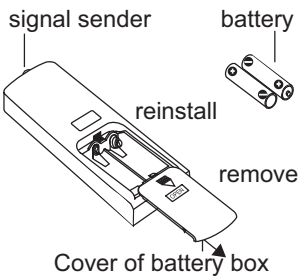
Press " ▲ " and " ▼ " buttons simultaneously 3s to lock or unlock the keypad. If the remote controller is locked, is displayed.
In this case, pressing any button, blinks three times.

Combination of "MODE" and " ▼ " buttons:
About switch between Fahrenheit and centigrade

At unit OFF, press " MODE " and " ▼ " buttons simultaneously to switch between °C and °F .

## Replacement of Batteries in Remote Controller

1. Press the back side of remote controller marked with "OPEN", as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.




**Note:**

- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 6m, and there should be no obstacles between them.
- Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote controller should be close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

# 6.2 Brief Description of Modes and Functions

## 1. Summary

**(1) Buzzer**

When the controller is energized or receives signal from button (emergency operation switch on air conditioner) or remote controller, the buzzer will give out a beep.

**(2) Display**

After energization, all icons will be displayed once. Operation icon is in red under standby status. After turning on the unit by remote controller, operation icon is bright and corresponding set operation mode icon will be displayed (Mode icon include: cooling, heating, drying).

**(3) Temperature parameter**

◆ Indoor set temperature (Tpreset)
◆ Indoor ambient temperature (Tamb.)
◆ Inner tube temperature of indoor evaporator (Ttube)

## 2. Introduction of Basic Mode Function

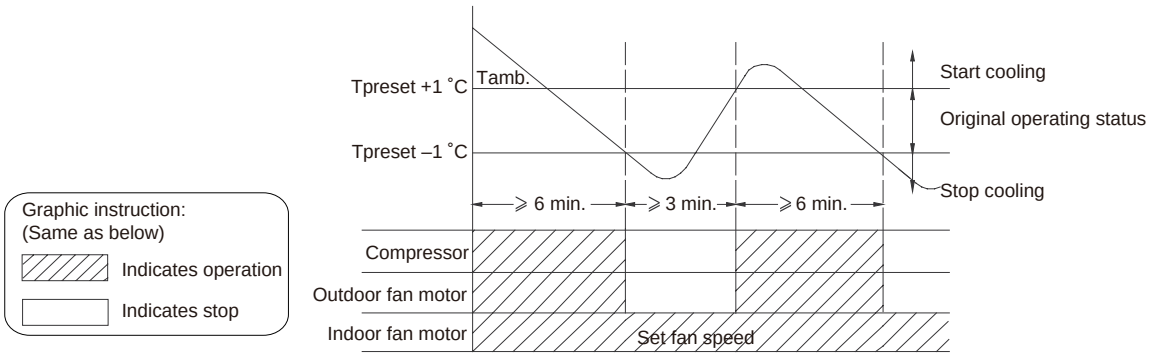
◆ Once the compressor is energized, there should be a minimum interval of 3 mins between two start-ups.
◆ If the unit is with memory function and is off before power failure, the compressor can be restarted without an interval of 3 mins; if the
◆ unit is on before power failure, the compressor will be restarted with an interval of 3 mins.
Once compressor is started, it won't stop within 6 mins according to the change of room temp.

**(1) Auto mode**

① Operation condition and process for auto mode
Under auto mode, the system will automatically select operation mode (cooling, heating, and fan) according to indoor ambient temperature. There swill be 30s delayed for protection between mode switchover.
◆ When Tamb. ≥26℃ , the system operates under cooling mode; Ex-factory set temperature is 20℃ .
◆ Heat pump unit: when Tamb. ≥22℃ , the system operates under heating mode; Ex-factory set temperature is 25℃ .
◆ 22℃ <Tamb.<26℃ : The system operates under fan mode if turn on the unit to enter into auto mode for the first time; If switch to auto mode from cooling, heating or fan mode, the system keeps previous operation mode; If switch to auto mode from drying mode, the system operates under fan mode.
② Display: Operation icon, actual operation mode icon, set temperature (that's the display content of dual-8 nixie tube)
③ Protection function is same as that under each mode.

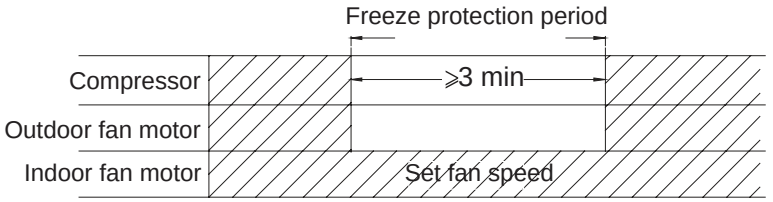
**(2) Cooling mode**

① Operation condition and process for cooling mode
◆ When Tamb. ≥Tset+1℃ , the system operates under cooling mode. In this case, the compressor, the ODU fan motor and the IDU fan motor operates at set speed.
◆ When Tamb. ≤Tset-1℃ , the compressor and the ODU fan motor stop, while the IDU fan motor operates at set speed.
◆ When Tset-1℃ <Tamb. <Tset+1℃ , the system will maintain its previous operation status.
In cooling mode, the 4-way valve is de-energized (4-way valve is not available for cooling only unit). Temperature setting range is 16~30℃ .




② Display: Operation icon, cooling icon, set temperature.
③ Protection function
◆ Freeze protection
During operation, when controller detected that Ttube≤0℃ for a consecutive period of time, the system enters into freeze protection. In that case, the compressor and the ODU fan stop operation, while the IDU operates at set fan speed. If freeze protection is released and

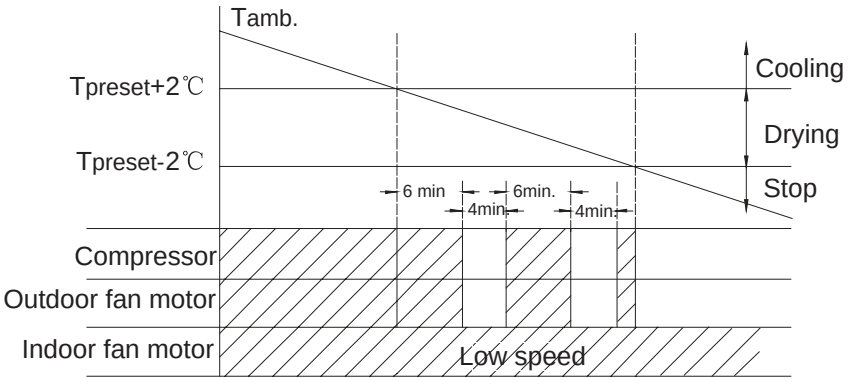
the compressor has been out of operation for 3 mins, the unit will resume its previous operation status.




◆ Overcurrent protection ( this protection function is not available for those models whose cooling capacity ≤12000Btu/h)
During operation process, if controller detected that system current exceeds the limit value for 3s consecutively (overcurrent), only the fan operates. About 3 mins later, if overcurrent is released, the system will resume original operation.
If overcurrent protection occurs for 6 times consecutively, and resume operation time won't exceed 6min every time, overcurrent protection information will be displayed. After turning off the unit, display won't be displayed.
If turn on the unit again, the system will be restated up again. Overcurrent protection information will be eliminated.
Please refer to maintenance part for display information and disposal method for details.

◆ Locked protection to IDU fan motor
During operation of IDU fan motor, if controller detected that the rotation speed of IDU fan motor less than 300/min or stop rotation, the motor operates abnormally. In order to prevent damage to motor, controller will protect automatically, the system stops operation and blocked information of IDU fan motor will be displayed. After turning off the unit, display won't be displayed.
If turn on the unit again, the system will be restated up again. Blocked information of IDU fan motor will be eliminated. (For some models, they can only be restated up after re-energized)
Please refer to maintenance part for display information and disposal method for details.

(3) Drying mode
① Operation condition and process for drying mode
◆ When Tamb. >Tset+2℃ , the system starts drying and cooling. In this case, the compressor and the ODU fan motor operate, and the IDU fan motor operates at low speed.
◆ When Tset-2℃ ≤Tamb. ≤Tset+2℃ , the system will start drying. In this case, the IDU fan motor operates at low speed; the compressor and the ODU fan motor operate for 6 minutes and stop for 4 minutes in cycle.
◆ When Tamb.<Tset-2℃ , the compressor and the ODU fan motor stop, while the IDU fan motor runs at low speed.
In drying mode, the 4-way valve is de-energized (4-way valve is not available for cooling only unit); Temperature setting range is 16~30℃ . Fan speed can't be adjusted.

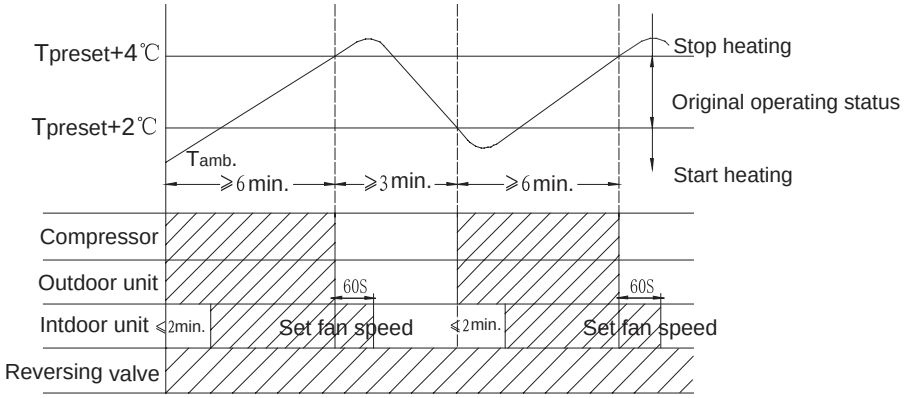



② Display: Operation icon, drying icon, set temperature.
③ Protection function
◆ Freeze protection
During dying and cooling operation, when the controller detected that Ttube≤0℃ for a period of time consecutively, the system will enter into freeze protection. In that case, the compressor and the ODU fan motor stops operation, while the IDU fan motor operates at low speed. When freeze protection is release and the compressor has stopped for 3min, the system will resume original operation.
During drying operation, when the controller detected that Ttube≤0℃ for a period of time consecutively, the system enters into freeze protection. In that case, the compressor, the ODU fan motor stops operation, while the IDU fan motor operates at low speed. When freeze protection is release and the compressor has stopped for 4min, the system will resume original operation.
◆ Other protection is same as that under cooling mode.
(4) Fan mode

① Operation condition and process for fan mode
In fan mode, the IDU fan motor operates at set speed, while the compressor and the ODU fan motor stop. 4-way valve is de-energized (4-way valve is not available for cooling only unit). Temperature setting range is 16~30℃ .
② Display: Operation icon, set temperature.
③ Protection function
In fan mode, there are overcurrent protection and blocked protection of IDU fan motor. Please refer to corresponding protection function under cooling mode for details.

**(5) Heating mode(no heating mode is not available for cooling only unit)**
① Operation conditioner and process for heating mode
◆ When Tamb.-Tsupplementary≤Tset-1℃, the unit starts heating operation. In this case, the 4-way valve, compressor and ODU fan motor run simultaneously; the IDU fan motor will run after a while to prevent blowing cold air.
◆ When Tamb.-Tsupplementary≥Tset+1℃, the compressor and ODU fan motor stop; the 4-way valve remains energized; the IDU fan motor blows residual heat for a while in set speed.
◆ When Tset-1℃＜Tamb.-Tsupplementary＜Tset +1℃, the unit will maintain its previous running status.

In heating mode, 4-way valve is energized. Temperature setting range is 16~30℃ .




② Display: Operation icon, heating icon, set temperature.
③ Defrosting condition and process
For ensusing heating effect, air conditioner will defrost automatically according to defrosting status on outdoor unit. During defrosting, the heating icon is on for a while and then extinguish.
④ Protection function
◆ Overheating prevention protection
During operation, if the controller detects that Ttube≥55℃or 56℃,the ODU fan motor stops operation; When Ttube returns to normal, fan motor resumes operation.
◆ Noise silencing protection
When turning off the unit or during mode switchover, the 4-way valve is closed. In order to decrease noise, the 4-way valve will delay 2mins to be closed.
◆ Overcurrent protection ( this protection function is not available for those models whose cooling capacity ≤12000Btu/h)
During operation process, if controller detected that system current exceeds the limit value for 3s consecutively(overcurrent), the system stops operation. About 3mins later, if overcurrent is released, the system will resume original operation. If overcurrent protection occurs for 6 times consecutively, and resume operation time won't exceed 6min every time, overcurrent protection information will be displayed. After turning off the unit, display won't be displayed.
If turn on the unit again, the system will be restated up again. Overcurrent protection information will be eliminated.
Please refer to maintenance part for display information and disposal method for details.
◆ Locked protection to IDU fan motor
During operation of IDU fan motor, if controller detected that the rotation speed of IDU fan motor less than 300/min or stop rotation, the motor operates abnormally. In order to prevent damage to motor, controller will protect automatically, the system stops operation and blocked information of IDU fan motor will be displayed. After turning off the unit, display won't be displayed.
If turn on the unit again, the system will be restated up again. Blocked information of IDU fan motor will be eliminated. (For some models, they can only be restated up after re-energized)
Please refer to maintenance part for display information and disposal method for details.

## 3. Other Control Function Introduction

**(1)Timer function**

Controller has general timer function and clock timer function. When you select the remote controller with general timer function, only the general timer function of controller can be activated; when you select the remote controller with clock timer, only the clock timer function of controller can be activated.

① General timer: The precision of general timer is 0.5hour. 24hours circulated timer can't be set.

◆ Timer ON: Timer ON can be set at unit OFF. If selected ON time is reached, the unit will start to operate according to previous setting status. Time setting range is 0.5~24hr in 30-minute increments.

◆ Timer OFF: Timer OFF can be set at unit ON. If selected OFF time is reached, the unit will stop. Time setting range is 0.5~24hr in 30-minute increments.

② Clock timer: The precision of clock timer is 0.5hour. 24hours circulated timer can be set.

◆ Timer ON: If timer ON is set during operation of the unit, the unit will continue to operate. If timer ON is set at unit OFF, upon ON time reaches, the unit will start to run according to previous setting status.

◆ Timer OFF: If timer OFF is set at unit OFF, the system will keep standby status. If timer OFF is set at unit ON, upon OFF time reaches, the unit will stop operation.

◆ Timer change:

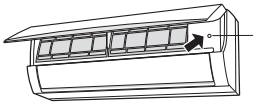
Although timer has been set, the unit still can be turned on/off by pressing ON/OFF button on the remote controller. You can also reset the timer.

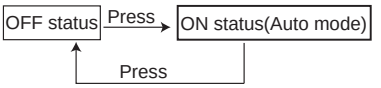
If timer ON and timer OFF are set at the same time during operation of the unit, the unit will keep running at current status till OFF time reaches. Upon ON time reached, the system will be turned on automatically. The unit will operate circularly like that every 24hours.

If timer ON and timer OFF are set at unit OFF status, the system keep OFF status till ON time reaches. Upon OFF time reaches, the system will be turned OFF automatically. The unit will operate circularly like that every 24hours.

**(2) Emergency operation switch**

After pressing this button, the system will operate according under auto mode and the IDU fan motor operates at auto speed. Swing motor operates when the IDU fan motor operates. Press this button again to turn off the unit.




**(3) Sleep function**

In this mode, the system will select proper sleep curve to operate according to different set temperature.

① If start up sleep function under cooling or drying mode, the system will increase set temperature automatically within a certain range to operate.

② If start up sleep function under heating mode, the system will decrease set temperature automatically within a certain range to operate.

**(4) Turbo function**

Turbo function can be set under cooling and heating modes. During operation of turbo function, the system operates at the maximum fan speed.

**(5) Dry function**

Dry function can be set under cooling and drying modes. During operation of drying function, the fan will stop operation after operating for a period of time when turning off the unit.

**(6) Auto fan speed control**

Auto fan speed control can be set under cooling, heating and fan mode. During operation of auto fan speed control, the IDU fan motor will adjust the fan speed (high, medium or low speed) according to ambient temperature.

**(7) Up&down swing control**

① After energization, up & down swing motor will firstly have the horizontal louver rotate anticlockwise to position O to close air outlet. If swing function has not been set after start-up of the unit, horizontal louver will turn clockwise to position D in heating mode, or turn clockwise to level position L in other modes.

② If swing function is set when turning on the unit, the horizontal louver will swing between L and D. Horizontal louver has 7 swing statuses:

◆ Stay at position L: control by remote controller:

◆ Stay at position A: control by remote controller:

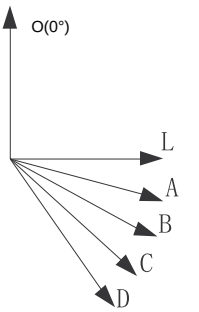
◆ Stay at position B: control by remote controller:

◆ Stay at position C: control by remote controller:

◆ Stay at position D: control by remote controller:

◆ Swing between L and D: control by remote controller:

◆ Stop at any postion between L and D (angles between L and D are equiangular) and no display on remote controller.



③ When turning off the unit, horizontal louver will close at position O.
④ Swing action is valid only when set swing command and the IDU fan motor is operating.

(8) Dual-8 nixie tube display
◆ When the air conditioner is turned on for the first time, dual-8 nixie tube defaulted to display current set temperature.
◆ When controller receives signal of display set temperature, dual-8 nixie tube displays set temperature. When received remote control signal is switched to indoor ambient temperature display status signal from other display status, dual-8 nixie tube will display indoor ambient temperature for 3-5s, and then turn back to display set temperature. If remote control to set other status, the display keeps the same.
◆ When air conditioner has a malfunction,dual-8 nixie tube will show relevant error code.

| | |
|---|---|
| F1 | Indoor ambient temperature sensor is open/short-circuited |
| F2 | Indoor evaporator temperature sensor is open/short-circuited |
| H6 | Blocked protection of IDU fan motor |
| C5 | Malfunction protection of jumper cap |
| U8 | Zero-crossing inspection circuit malfunction of the IDU fan motor |
| F0 | Lack of refrigerant or block protection for the system |
| E8 | Overload malfunction |

◆ When air conditioner is in auto defrosting,the heating icon will be on for a while and then extinguish. No display for some models without mode indicator.
◆ If turn off light button, all display will be turned off.

(9) Memory function
① Power failure when turning on the unit
◆ Memory content: ON status, mode, up&down swing, light, set temperature, set fan speed, general timer, Fahrenheit/ Celsius
◆ General timer can be memorized. Time of timer is calculated again from energization.
◆ Clock timer can't be memorized.
② Power failure when turning off the unit
◆ Memory content: OFF status, mode, up&down swing, light, set temperature, set fan speed, general timer, Fahrenheit/ Celsius
◆ General timer can be memorized. Time of timer is calculated again from energization.
◆ Clock timer can't be memorized.

## 4. Special Function

**(1) Health function (for the model with health function)**
During operation of the IDU fan motor, press health button on the remote controller to start health function (If there is not health button on the remote controller, the unit defaults health function ON).
**(2) I Feel function (for all models, but it needs the remote controller which can set this function)**
When I FEEL command is received, the controller will operate according to the ambient temperature sent by the remote controller (For defrosting and cold air prevention, the unit operates according to the ambient temperature sensed by the air conditioner). The remote controller will regularly send ambient temperature data to the controller. When the data has not been received for a long time, the unit will operate according to the temperature sensed by the air conditioner. If I FEEL function is not set, the ambient temperature will be that sensed by the air conditioner.

# Part Ⅱ : Installation and Maintenance

## 7. Notes for Installation and Maintenance

### Safety Precautions: Important!

**Please read the safety precautions carefully before installation and maintenance.**
**The following contents are very important for installation and maintenance.**

**Please follow the instructions below.**

**●The installation or maintenance must accord with the instructions.**
**●Comply with all national electrical codes and local electrical codes.**
**●Pay attention to the warnings and cautions in this manual.**
**●All installation and maintenance shall be performed by distributor or qualified person.**
**●All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.**
**●Be caution during installation and maintenance. Prohibit incorrect operation to prevent electric shock, casualty and other accidents.**

### Warnings

**Electrical Safety Precautions:**

**1. Cut off the power supply of air conditioner before checking and maintenance.**
**2. The air condition must apply specialized circuit and prohibit share the same circuit with other appliances.**
**3. The air conditioner should be installed in suitable location and ensure the power plug is touchable.**
**4. Make sure each wiring terminal is connected firmly during installation and maintenance.**
**5. Have the unit adequately grounded. The grounding wire cant be used for other purposes.**
**6. Must apply protective accessories such as protective boards, cable-cross loop and wire clip.**
**7. The live wire, neutral wire and grounding wire of power supply must be corresponding to the live wire, neutral wire and grounding wire of the air conditioner.**
**8. The power cord and power connection wires cant be pressed by hard objects.**
**9. If power cord or connection wire is broken, it must be replaced by a qualified person.**
**10. If the power cord or connection wire is not long enough, please get the specialized power cord or connection wire from the manufacture or distributor. Prohibit prolong the wire by yourself.**
**11. For the air conditioner without plug, an air switch must be installed in the circuit. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.**
**12. Make sure all wires and pipes are connected properly and the valves are opened before energizing.**
**13. Check if there is electric leakage on the unit body. If yes, please eliminate the electric leakage.**
**14. Replace the fuse with a new one of the same specification if it is burnt down; dont replace it with a cooper wire or conducting wire.**
**15. If the unit is to be installed in a humid place, the circuit breaker must be installed.**

**Installation Safety Precautions:**

**1. Select the installation location according to the requirement of this manual.(See the requirements in installation part)**
**2. Handle unit transportation with care; the unit should not be carried by only one person if it is more than 20kg.**
**3. When installing the indoor unit and outdoor unit, a sufficient fixing bolt must be installed; make sure the installation support is firm.**
**4. Ware safety belt if the height of working is above 2m.**
**5. Use equipped components or appointed components during installation.**
**6. Make sure no foreign objects are left in the unit after finishing installation.**

**Refrigerant Safety Precautions:**

**1. Avoid contact between refrigerant and fire as it generates poisonous gas; Prohibit prolong the connection pipe by welding.**
**2. Apply specified refrigerant only. Never have it mixed with any other refrigerant. Never have air remain in the refrigerant line as it may lead to rupture or other hazards.**
**3. Make sure no refrigerant gas is leaking out when installation is completed.**
**4. If there is refrigerant leakage, please take sufficient measure to minimize the density of refrigerant.**
**5. Never touch the refrigerant piping or compressor without wearing glove to avoid scald or frostbite.**

**Improper installation may lead to fire hazard, explosion, electric shock or injury.**

**To ensure safety, please be mindful of the following precautions.**

**●When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.**

**Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting in injury.**

**●When installing or moving this unit, do not charge the refrigerant which is not comply with that on the nameplate or unqualified refrigerant.Otherwise, it may cause abnormal operation, wrong action, mechanical malfunction or even series safety accident.**

**●When refrigerant needs to be recovered during relocating or repairing the unit, be sure that the unit is running in cooling mode. Then, fully close the valve at high pressure side (liquid valve).About 30-40 seconds later, fully close the valve at low pressure side (gas valve), immediately stop the unit and disconnect power. Please note that the time for refrigerant recovery should not exceed 1 minute.**

**If refrigerant recovery takes too much time, air may be sucked in and cause pressure rise or compressor rupture, resulting in injury.**

**●During refrigerant recovery, make sure that liquid valve and gas valve are fully closed and power is disconnected before detaching the connection pipe.**

**If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.**

**●When installing the unit, make sure that connection pipe is securely connected before the compressor starts running.**

**If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.**

**●Prohibit installing the unit at the place where there may be leaked corrosive gas or flammable gas.**

**If there leaked gas around the unit, it may cause explosion and other accidents.**

**●Do not use extension cords for electrical connections. If the electric wire is not long enough, please contact a local service center authorized and ask for a proper electric wire.**

**Poor connections may lead to electric shock or fire.**

**●Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the wires so that their terminals receive no external stresses.**

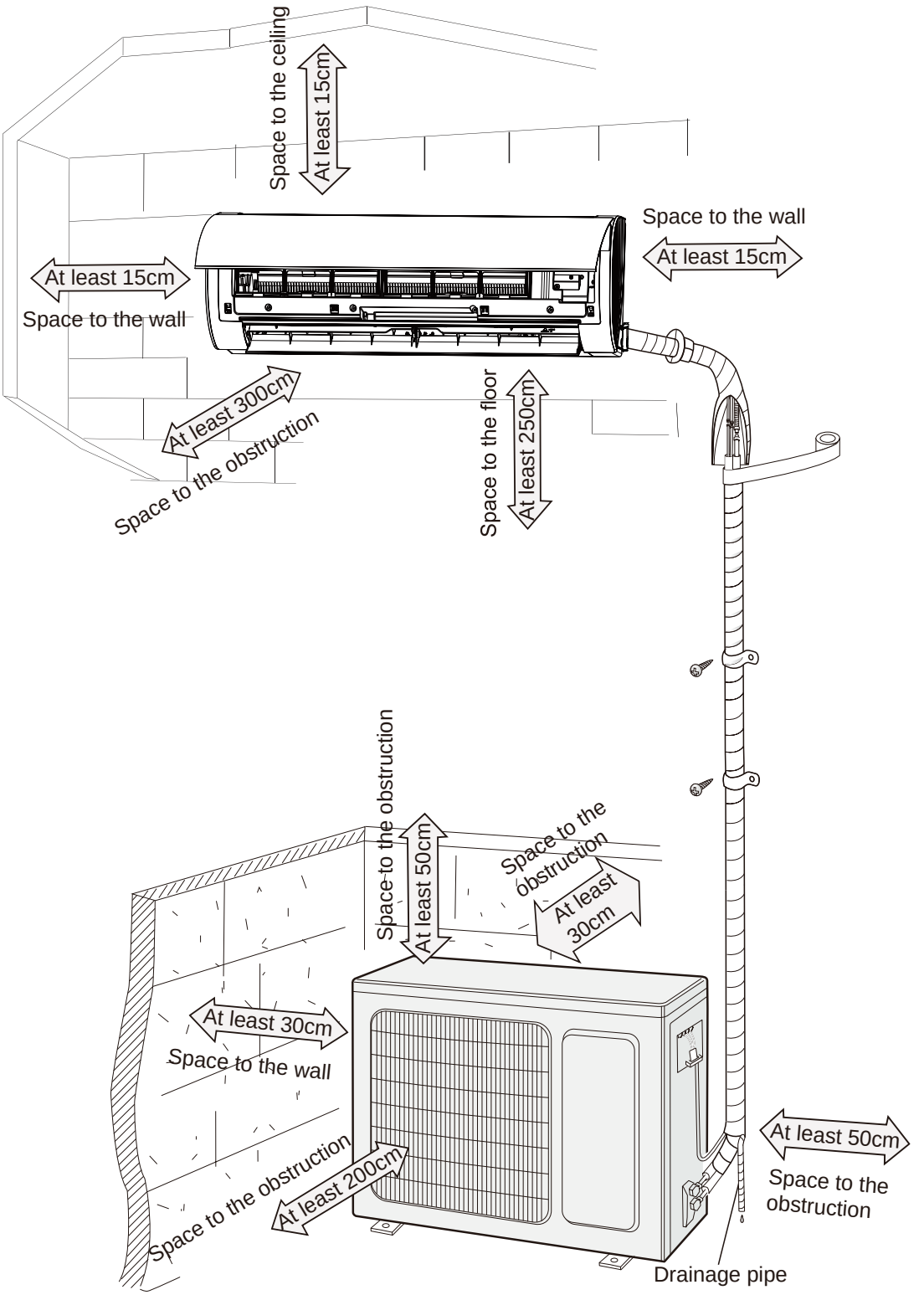
**Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.**

# Main Tools for Installation and Maintenance

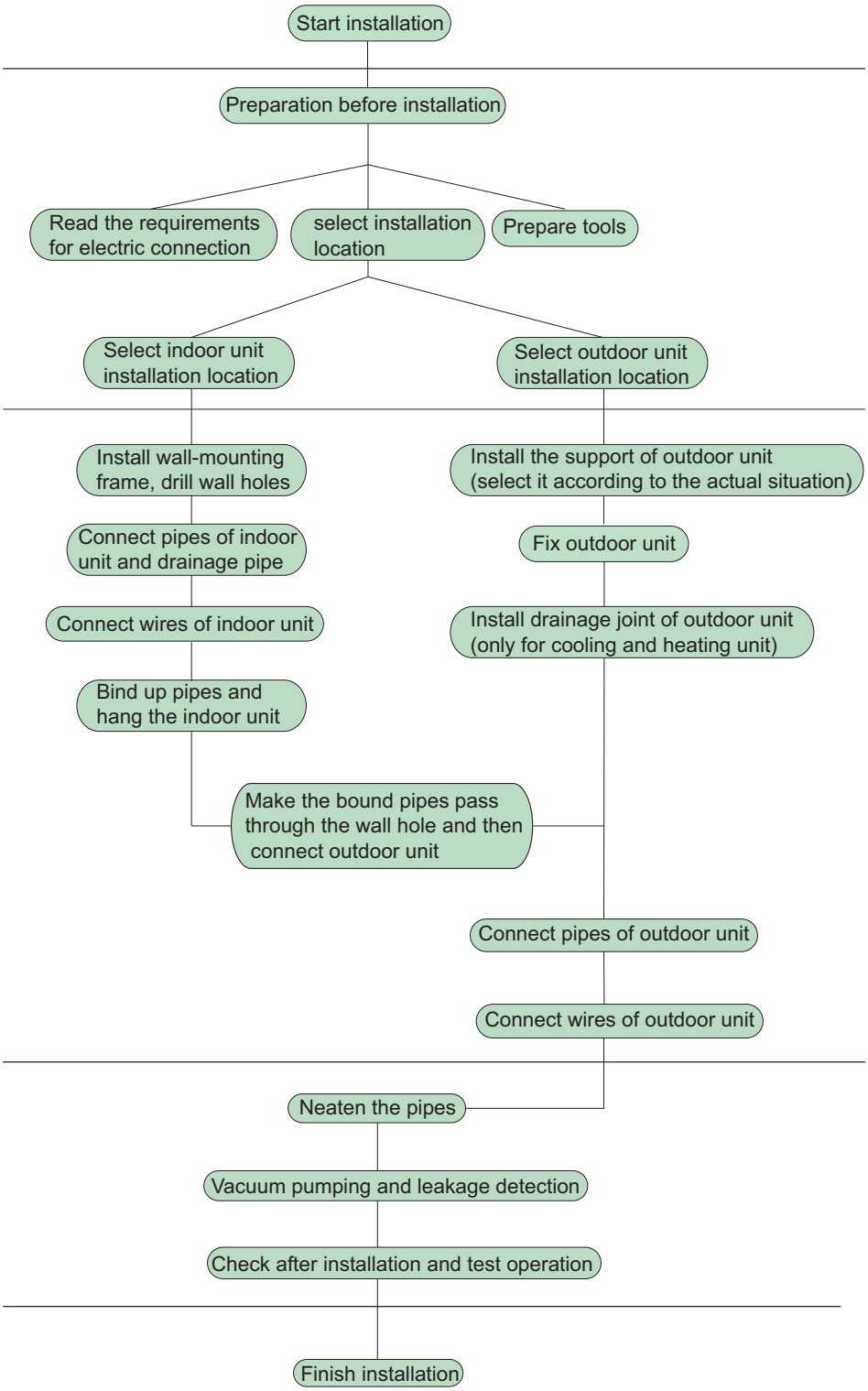
| | | |
|---|---|---|
| 1. Level meter, measuring tape  | 2. Screw driver  | 3. Impact drill, drill head, electric drill  |
| 4. Electroprobe  | 5. Universal meter  | 6. Torque wrench, open-end wrench, inner hexagon spanner  |
| 7. Electronic leakage detector  | 8. Vacuum pump  | 9. Pressure meter  |
| 10. Pipe pliers, pipe cutter    | 11. Pipe expander, pipe bender   | 12. Soldering appliance, refrigerant container   |

# 8. Installation

## 8.1 Installation Dimension Diagram



## Installation procedures




Note: this flow is only for reference; please find the more detailed installation steps in this section.

## 8.2 Installation Parts-Checking

| No. | Name | No. | Name |
|---|---|---|---|
| 1 | Indoor unit | 8 | Sealing gum |
| 2 | Outdoor unit | 9 | Wrapping tape |
| 3 | Connection pipe | 10 | Support of outdoor unit |
| 4 | Drainage pipe | 11 | Fixing screw |
| 5 | Wall-mounting frame | 12 | Drainage plug(cooling and heating unit) |
| 6 | Connecting cable(power cord) | 13 | Owners manual, remote controller |
| 7 | Wall pipe | | |

⚠ **Note:**
1.Please contact the local agent for installation.
2.Dont use unqualified power cord.

## 8.3 Selection of Installation Location

**1. Basic Requirement:**
Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:
(1) The place with strong heat sources, vapors, flammable or explosive gas, or volatile objects spread in the air.
(2) The place with high-frequency devices (such as welding machine, medical equipment).
(3) The place near coast area.
(4) The place with oil or fumes in the air.
(5) The place with sulfureted gas.
(6) Other places with special circumstances.
(7) The appliance shall not be installed in the laundry.

**2. Indoor Unit:**
(1) There should be no obstruction near air inlet and air outlet.
(2) Select a location where the condensation water can be dispersed easily and wont affect other people.
(3) Select a location which is convenient to connect the outdoor unit and near the power socket.
(4) Select a location which is out of reach for children.
(5) The location should be able to withstand the weight of indoor unit and wont increase noise and vibration.
(6) The appliance must be installed 2.5m above floor.
(7) Dont install the indoor unit right above the electric appliance.
(8) Please try your best to keep way from fluorescent lamp.

**3. Outdoor Unit:**
(1) Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
(2) The location should be well ventilated and dry, in which the outdoor unit wont be exposed directly to sunlight or strong wind.
(3) The location should be able to withstand the weight of outdoor unit.
(4) Make sure that the installation follows the requirement of installation dimension diagram.
(5) Select a location which is out of reach for children and far away from animals or plants.If it is unavoidable, please add fence for safety purpose.

## 8.4 Requirements for electric connection

**1. Safety Precaution**
(1) Must follow the electric safety regulations when installing the unit.
(2) According to the local safety regulations, use qualified power supply circuit and air switch.
(3) Make sure the power supply matches with the requirement of air conditioner. Unstable power supply or incorrect wiring may result in electric shock,fire hazard or malfunction. Please install proper power supply cables before using the air conditioner.
(4) Properly connect the live wire, neutral wire and grounding wire of power socket.
(5) Be sure to cut off the power supply before proceeding any work related to electricity and safety.
(6) Do not put through the power before finishing installation.
(7) If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
(8) The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
(9) The appliance shall be installed in accordance with national wiring regulations.

**2. Grounding Requirement:**
(1) The air conditioner is first class electric appliance. It must be properly grounding with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
(2) The yellow-green wire in air conditioner is grounding wire, which cant be used for other purposes.
(3) The grounding resistance should comply with national electric safety regulations.
(4) The appliance must be positioned so that the plug is accessible.
(5) An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
(6) Including an air switch with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

| Air-conditioner | Air switch capacity |
|---|---|
| 07/09K | 10A |

## 8.5 Installation of Indoor Unit

**1. Choosing Installation location**
Recommend the installation location to the client and then confirm it with the client.

**2. Install Wall-mounting Frame**
(1) Hang the wall-mounting frame on the wall; adjust it in horizontal position with the level meter and then point out the screw fixing holes on the wall.
(2) Drill the screw fixing holes on the wall with impact drill (the specification of drill head should be the same as the plastic expansion particle) and then fill the plastic expansion particles in the holes.

(3) Fix the wall-mounting frame on the wall with tapping screws (ST4.2X25TA) and then check if the frame is firmly installed by pulling the frame. If the plastic expansion particle is loose, please drill another fixing hole nearby.

**3. Install Wall-mounting Frame**

(1) Choose the position of piping hole according to the direction of outlet pipe. The position of piping hole should be a little lower than the wall-mounted frame.(As show in Fig.1)

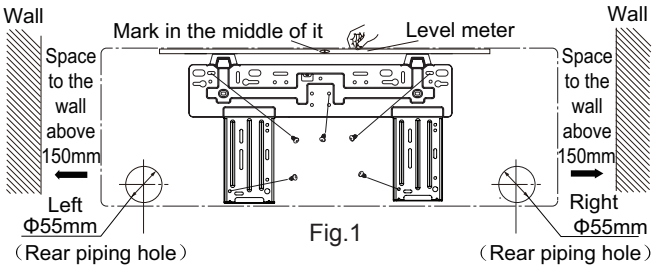



Fig.1

(2) Open a piping hole with the diameter of Φ55mm on the selected outlet pipe position.In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.(As show in Fig.2)

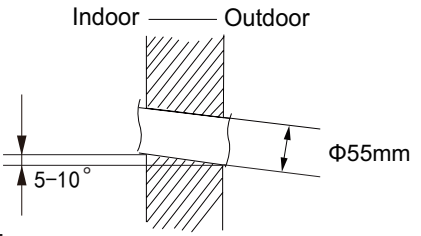



Fig.2

⚠ **Note:**

(1) Pay attention to dust prevention and take relevant safety measures when opening the hole.

(2) The plastic expansion particles are not provided and should be bought locally.

**4. Outlet Pipe**

(1) The pipe can be led out in the direction of right, rear right, left or rear left.(As show in Fig.3)

(2) When selecting leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.(As show in Fig.4)

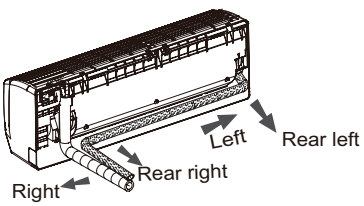



Fig.3

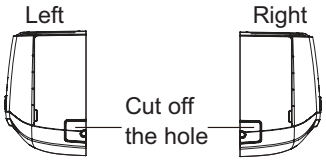



Fig.4

**5. Connect the Pipe of Indoor Unit**

(1) Aim the pipe joint at the corresponding bellmouth.(As show in Fig.5)

(2) Pretightening the union nut with hand.

(3) Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.(As show in Fig.6)

(4) Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.(As show in Fig.7)

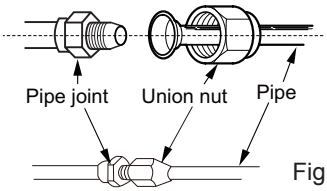



Fig.5

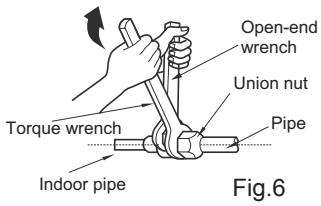



Fig.6

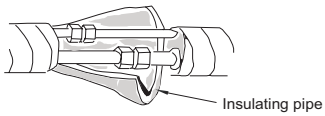



Fig.7

Refer to the following table for wrench moment of force:

| Hex nut diameter(mm) | Tightening torque(N·m) |
|---|---|
| Φ6 | 15~20 |
| Φ9.52 | 30~40 |
| Φ12 | 45~55 |
| Φ16 | 60~65 |
| Φ19 | 70~75 |

**6. Install Drain Hose**

(1) Connect the drain hose to the outlet pipe of indoor unit.(As show in Fig.8)

(2) Bind the joint with tape.(As show in Fig.9)

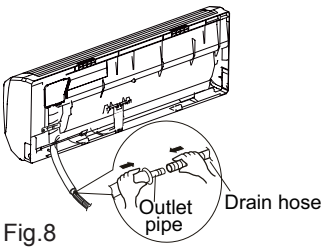



Fig.8

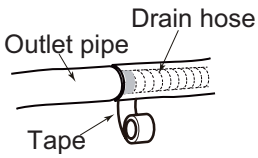



Fig.9

⚠ **Note:**

(1) Add insulating pipe in the indoor drain hose in order to prevent condensation.

(2) The plastic expansion particles are not provided.

(As show in Fig.10)

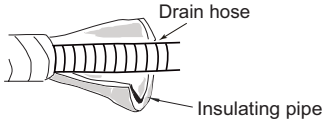



Fig.10

**7. Connect Wire of Indoor Unit**

(1) Open the panel, remove the screw on the wiring cover and then take down the cover.(As show in Fig.11)

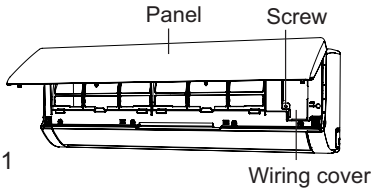



Fig.11

(2) Make the power connection wire go through the cable-cross hole at the back of indoor unit and then pull it out from the front side.(As show in Fig.12)

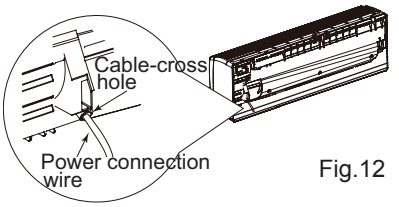



Fig.12

(3) Remove the wire clip; connect the power connection wiresignal control wire (only for cooling and heating unit) to the wiring terminal according to the color; tighten the screw and then fix the power connection wire with wire clip.(As show in Fig.13)

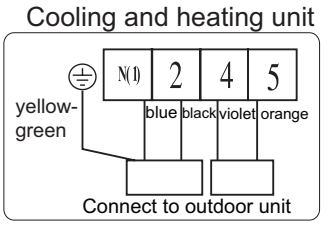
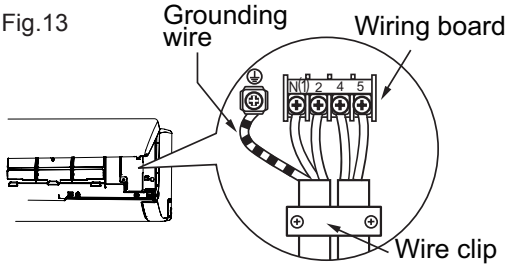



Fig.13




Note: The wiring connect is for reference only, please refer to the actual one.

(4) Put wiring cover back and then tighten the screw.
(5) Close the panel.

⚠ **Note:**

(1) All wires of indoor unit and outdoor unit should be connected by a professional.
(2) If the length of power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.
(3) For the air conditioner with plug, the plug should be reachable after finishing installation.
(4) For the air conditioner without plug, an air switch must be installed in the line. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.

**8. Bind up Pipe**

(1) Bind up the connection pipe, power cord and drain hose with the band.(As show in Fig.14)
(2) Reserve a certain length of drain hose and power cord for installation when binding them. When binding to a certain degree, separate the indoor power and then separate the drain hose.(As show in Fig.15)
(3) Bind them evenly.
(4) The liquid pipe and gas pipe should be bound separately at the end.

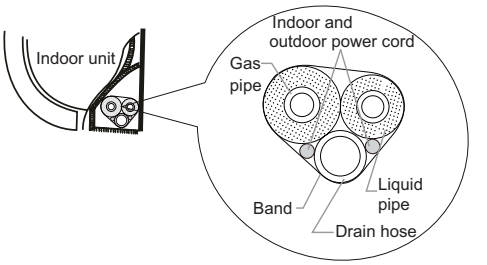



Fig.14

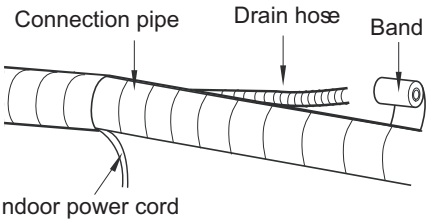



Fig.15

⚠ **Note:**

(1) The power cord and control wire cant be crossed or winding.
(2) The drain hose should be bound at the bottom.

**9. Hang the Indoor Unit**

(1) Put the bound pipes in the wall pipe and then make them pass through the wall hole.
(2) Hang the indoor unit on the wall-mounting frame.
(3) Stuff the gap between pipes and wall hole with sealing gum.
(4) Fix the wall pipe.(As show in Fig.16)
(5) Check if the indoor unit is installed firmly and closed to the wall.(As show in Fig.17)

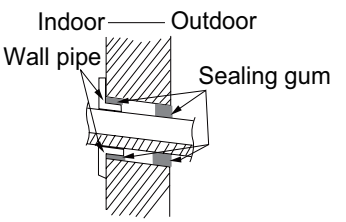
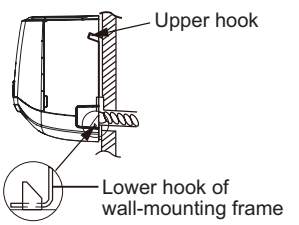



Fig.16

Fig.17




⚠ **Note:**

Do not bend the drain hose too excessively in order to prevent blocking.

## 8.6 Installation of Outdoor unit

**1. Fix the Support of Outdoor Unit(Select it according to the actual installation situation)**

(1) Select installation location according to the house structure.
(2) Fix the support of outdoor unit on the selected location with expansion screws.

⚠ **Note:**

(1) Take sufficient protective measures when installing the outdoor unit.
(2) Make sure the support can withstand at least four times the unit weight.
(3) The outdoor unit should be installed at least 3cm above the floor in order to install drain joint.(As show in Fig.18)
(4) For the unit with cooling capacity of 2300W~5000W, 6 expansion screws are needed; for the unit with cooling capacity of 6000W~8000W, 8 expansion screws are needed; for the unit with cooling capacity of 10000W~16000W, 10 expansion screws are needed.

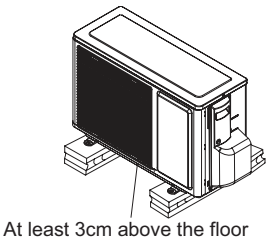



Fig.18

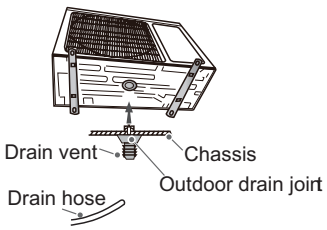



Fig.19

**2. Install Drain Joint(Only for cooling and heating unit)**

(1) Connect the outdoor drain joint into the hole on the chassis.
(2) Connect the drain hose into the drain vent.
(As show in Fig.19)

**3. Fix Outdoor Unit**

(1) Place the outdoor unit on the support.
(2) Fix the foot holes of outdoor unit with bolts.
(As show in Fig.20)

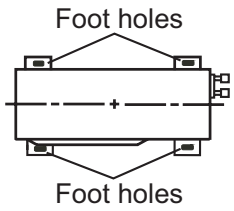



Fig.20

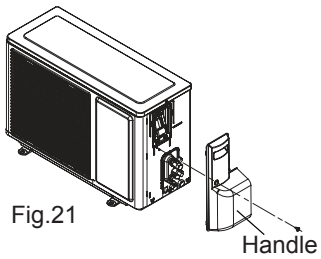



Fig.21

**4. Connect Indoor and Outdoor Pipes**

(1) Remove the screw on the right handle of outdoor unit and then remove the handle.(As show in Fig.21)
(2) Remove the screw cap of valve and aim the pipe joint at the bellmouth of pipe.(As show in Fig.22)

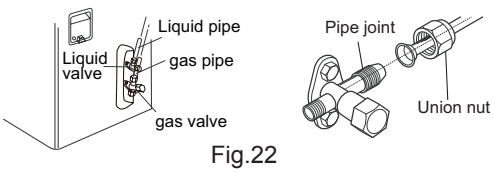



Fig.22

(3) Pretightening the union nut with hand.
(4) Tighten the union nut with torque wrench .

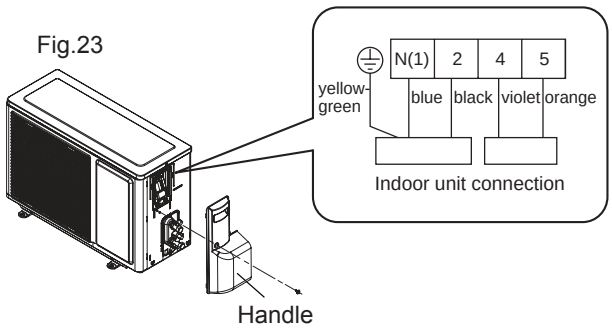
Refer to the following table for wrench moment of force:

| Hex nut diameter(mm) | Tightening torque(N·m) |
|---|---|
| Φ6 | 15~20 |
| Φ9.52 | 30~40 |
| Φ12 | 45~55 |
| Φ16 | 60~65 |
| Φ19 | 70~75 |

**5. Connect Outdoor Electric Wire**

(1) Remove the wire clip; connect the power connection wire and signal control wire (only for cooling and heating unit) to the wiring terminal according to the color; fix them with screws.(As show in Fig.23)

Fig.23




Note: the wiring connect is for reference only,please refer to the actual one.

(2) Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

⚠ **Note:**

(1) After tightening the screw, pull the power cord slightly to check if it is firm.
(2) Never cut the power connection wire to prolong or shorten the distance.

**6. Neaten the Pipes**

(1) The pipes should be placed along the wall, bent reasonably and hidden possibly. Min. semidiameter of bending the pipe is 10cm.
(2) If the outdoor unit is higher than the wall hole, you must set a U-shaped curve in the pipe before pipe goes into the room, in order to prevent rain from getting into the room.(As show in Fig.24)

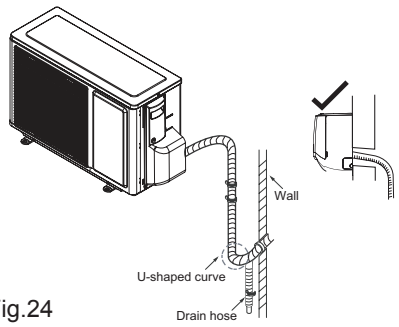



Fig.24

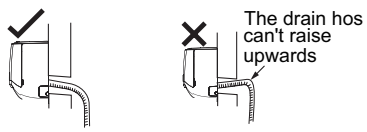



Fig.25

⚠ **Note:**

(1) The through-wall height of drain hose shouldnt be higher than the outlet pipe hole of indoor unit.(As show in Fig.25)
(2) Slant the drain hose slightly downwards. The drain hose cant be curved, raised and fluctuant, etc.(As show in Fig.26)

(3) The water outlet cant be placed in water in order to drain smoothly.(As show in Fig.27)

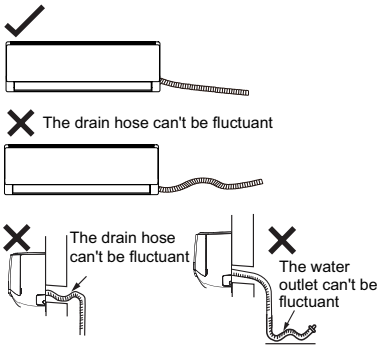



Fig.26

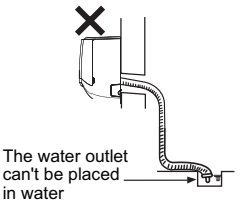



Fig.27

## 8.7 Vacuum Pumping and Leak Detection

**1. Use Vacuum Pump**

(1) Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.

(2) Connect the charging hose of piezometer to the refrigerant charging vent of gas valve and then connect the other charging hose to the vacuum pump.

(3) Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in -0.1MPa.

(4) Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -0.1MPa. If the pressure decreases, there may be leakage.

(5) Remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.

(6) Tighten the screw caps of valves and refrigerant charging vent.(As show in Fig.28)

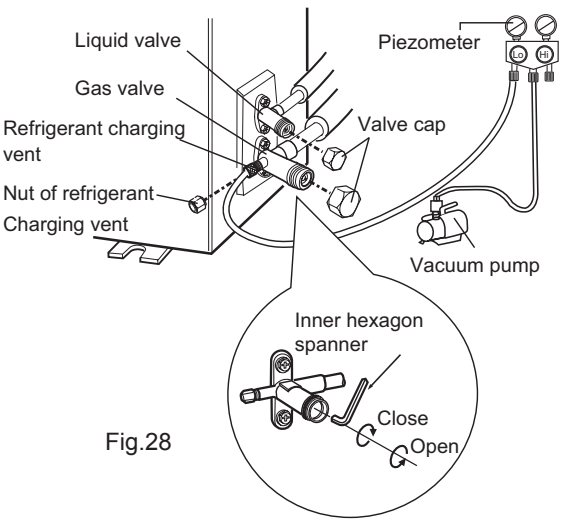



Fig.28

**2. Leakage Detection**

(1) With leakage detector:

Check if there is leakage with leakage detector.

(2) With soap water:

If leakage detector is not available, please use soap water for leakage detection. Apply soap water at the suspected position and keep the soap water for more than 3min. If there are air bubbles coming out of this position, theres a leakage.

## 8.8 Check after Installation and Test operation

**1. Check after Installation**

Check according to the following requirement after finishing installation.

| NO. | Items to be checked | Possible malfunction |
|---|---|---|
| 1 | Has the unit been installed firmly? | The unit may drop, shake or emit noise. |
| 2 | Have you done the refrigerant leakage test? | It may cause insufficient cooling (heating) capacity. |
| 3 | Is heat insulation of pipeline sufficient? | It may cause condensation and water dripping. |
| 4 | Is water drained well? | It may cause condensation and water dripping. |
| 5 | Is the voltage of power supply according to the voltage marked on the nameplate? | It may cause malfunction or damage the parts. |
| 6 | Is electric wiring and pipeline installed correctly? | It may cause malfunction or damage the parts. |
| 7 | Is the unit grounded securely? | It may cause electric leakage. |
| 8 | Does the power cord follow the specification? | It may cause malfunction or damage the parts. |
| 9 | Is there any obstruction in air inlet and air outlet? | It may cause insufficient cooling (heating) capacity. |
| 10 | The dust and sundries caused during installation are removed? | It may cause malfunction or damaging the parts. |
| 11 | The gas valve and liquid valve of connection pipe are open completely? | It may cause insufficient cooling (heating) capacity. |
| 12 | Is the inlet and outlet of piping hole been covered? | It may cause insufficient cooling (heating) capacity or waster eletricity. |

**2. Test Operation**

(1) Preparation of test operation

● The client approves the air conditioner installation.

● Specify the important notes for air conditioner to the client.

(2) Method of test operation

● Put through the power, press ON/OFF button on the remote controller to start operation.

● Press MODE button to select AUTO, COOL, DRY, FAN and HEAT to check whether the operation is normal or not.

● If the ambient temperature is lower than 16℃ , the air conditioner cant start cooling.

# 9. Maintenance

## 9.1 Error code

| No. | Malfunction Name | Display Method of Indoor Unit (Error Code) | A/C Status | Possible Causes(For specific maintenance method, please refer to the following procedure of troubleshooting) |
|---|---|---|---|---|
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except IDU fan motor operates, other loads stop operation; During heating operation, the system stops operation. | 1.The wiring terminal between indoor ambient temperature sensor and main board is loosened or poorly contacted;<br>2.There's short circuit due to trip-over of the parts on controller;<br>3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor)<br>4. Main board is broken. |
| 2 | Indoor evaporator temperature sensor is open/short-circuited | F2 | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except IDU fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | 1.The wiring terminal between indoor evaporator temperature sensor and main board is loosened or poorly contacted;<br>2.There's short circuit due to the trip-over of the parts on controller;<br>3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor)<br>4. Main board is broken. |
| 3 | Blocked protection of IDU fan motor | H6 | IDU fan, ODU fan, compressor and electric heat tube stop operation. Horizontal louver stops at the current position. | 1.The feedback terminal of PG motor is not connected tightly.<br>2.The control terminal of PG motor is not connected tightly.<br>3.Fan blade rotates unsmoothly.<br>4.Malfunction of motor<br>5.Main board is broken. |
| 4 | Malfunction protection of jumper cap | C5 | Operation of remote controller or control panel is available, but the unit won't act. | 1.There's not jumper cap on the main board.<br>2.Jumper cap is not inserted properly and tightly.<br>3.Jumper cap is damaged.<br>4.Controller is damaged. |
| 5 | Overload malfunction | E8 | The entire unit stops. | 1.Indoor and outdoor heat exchanger is too dirty? Or air inlet/outlet is blocked?<br>2.Fan motor is not working. Abnormal fan speed; fan speed is too low or the fan doesn't run.<br>3.Compressor operates normally or not? Is there any abnormal noise or oil leak? Casing is too hot?<br>4.System is blocked inside? (Dirt blockage? Ice blockage? Oil blockage? Y-valve is not fully open?)<br>5.Main board temperature sensor detects wrongly. |

| | | | | |
|---|---|---|---|---|
| 6 | Zero-crossing inspection circuit malfunction of the IDU fan motor | U8 | Operation of remote controller or control panel is available, but the unit won't act. | 1.Quick de-energization and energization. Wrong judgement by the controller because the electric-discharging of capacitor is slow.<br>2.Zero-crossing inspection circuit of main board for controller is abnormal. |
| 7 | Lack of refrigerant or block protection for the system | F0 | The Dual-8 Code Display will show F0 and the complete unit stops. | 1.Refrigerant leakage;<br>2.Indoor evaporator temperature sensor works abnormally;<br>3.The unit has been plugged up somewhere;<br>4.The compressor can't be started up normally. Because the power voltage for the complete unit is too low, and the outdoor working condition is too high. |

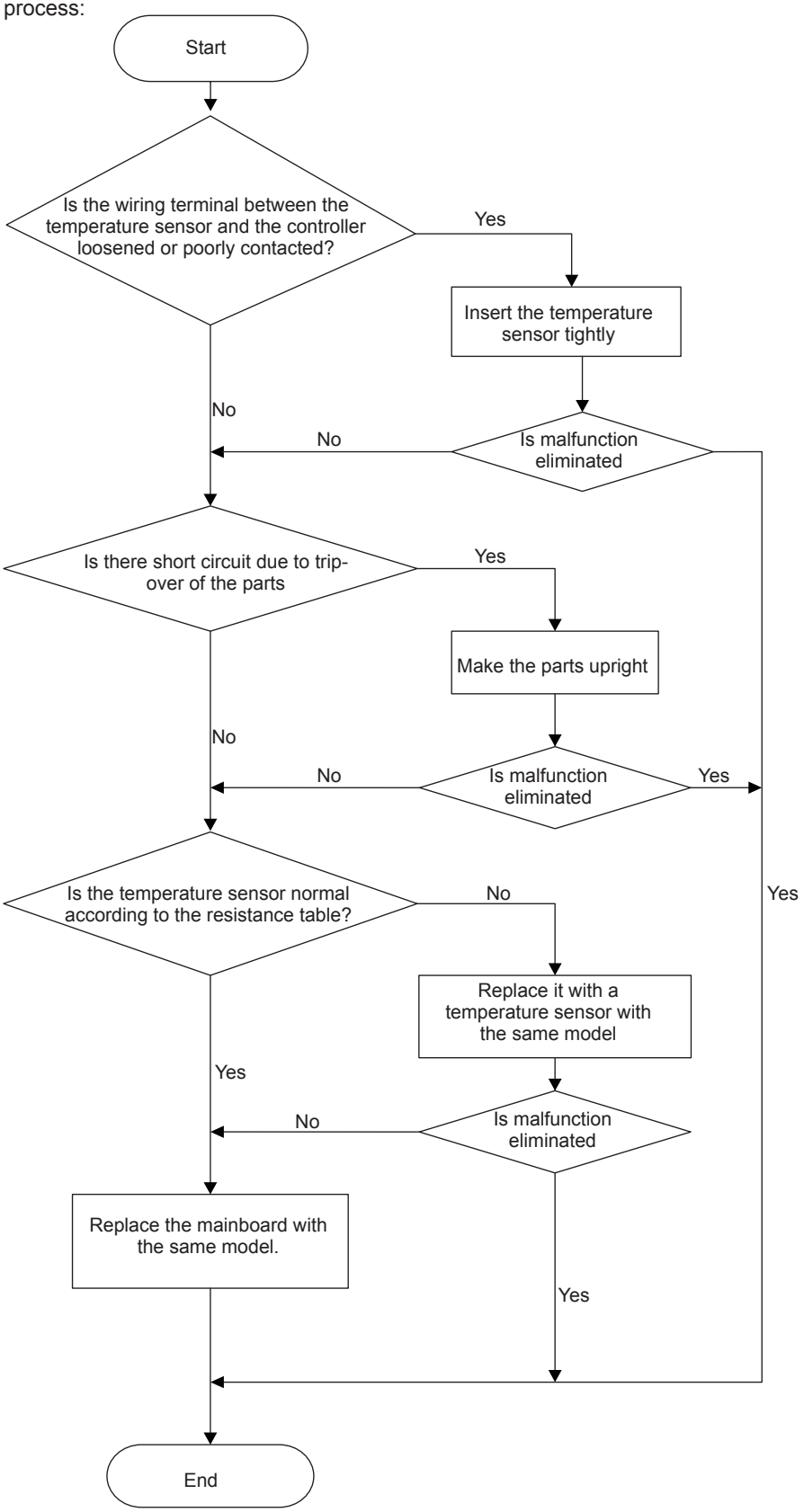
# 9.2 Procedure of Troubleshooting

**1. Malfunction of Temperature Sensor F1, F2**

Main detection points:

- Is the wiring terminal between the temperature sensor and the controller loosened or poorly contacted?
- Is there short circuit due to trip-over of the parts?
- Is the temperature sensor broken?
- Is mainboard broken?

Malfunction diagnosis process:

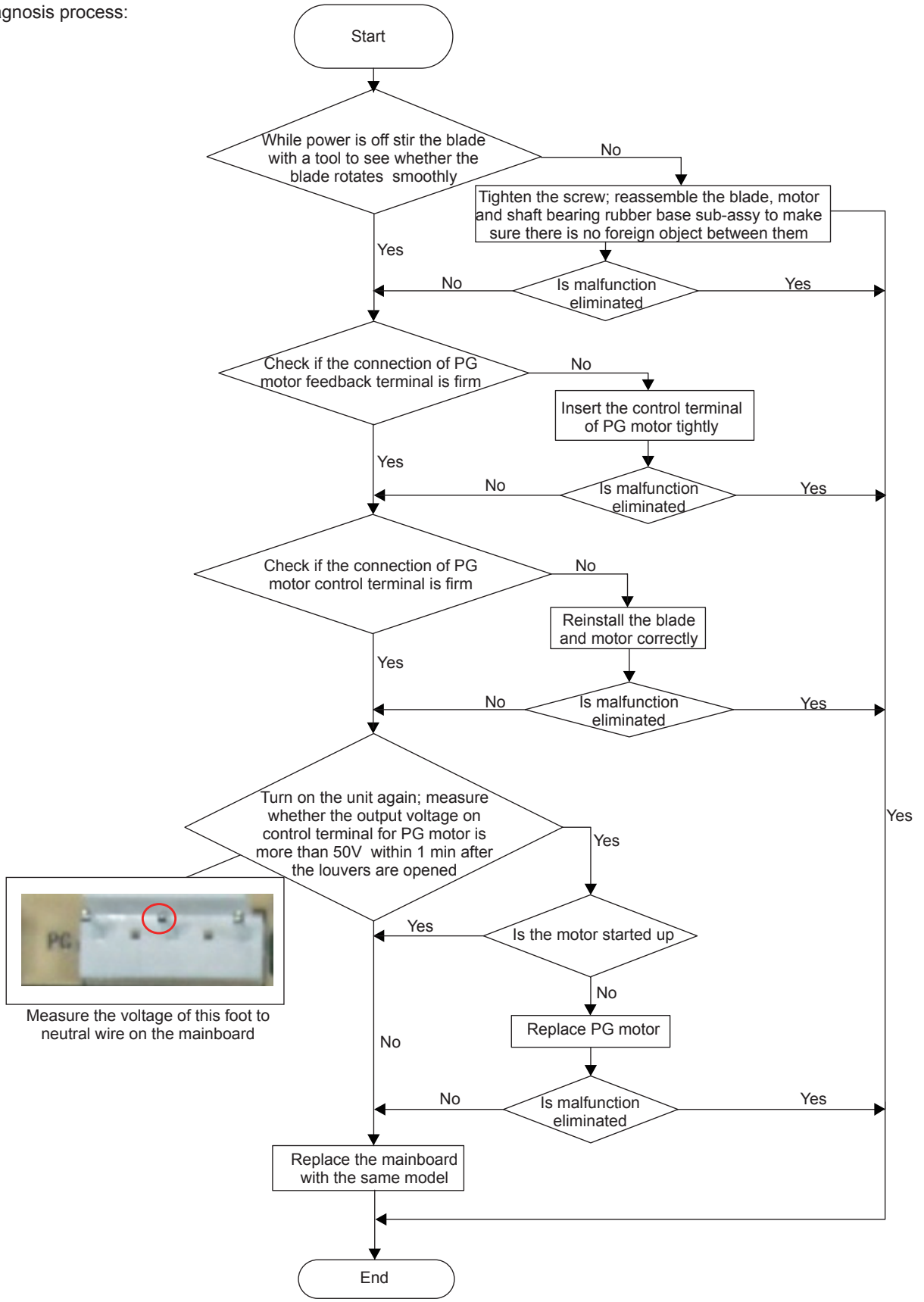


**2. Malfunction of Blocked Protection of IDU Fan Motor H6**

Main detection points:

- SmoothlyIs the control terminal of PG motor connected tightly?
- SmoothlyIs the feedback interface of PG motor connected tightly?
- The fan motor can't operate?
- The motor is broken?
- Detectioncircuit of the mainboard is defined abnormal?

Malfunction diagnosis process:

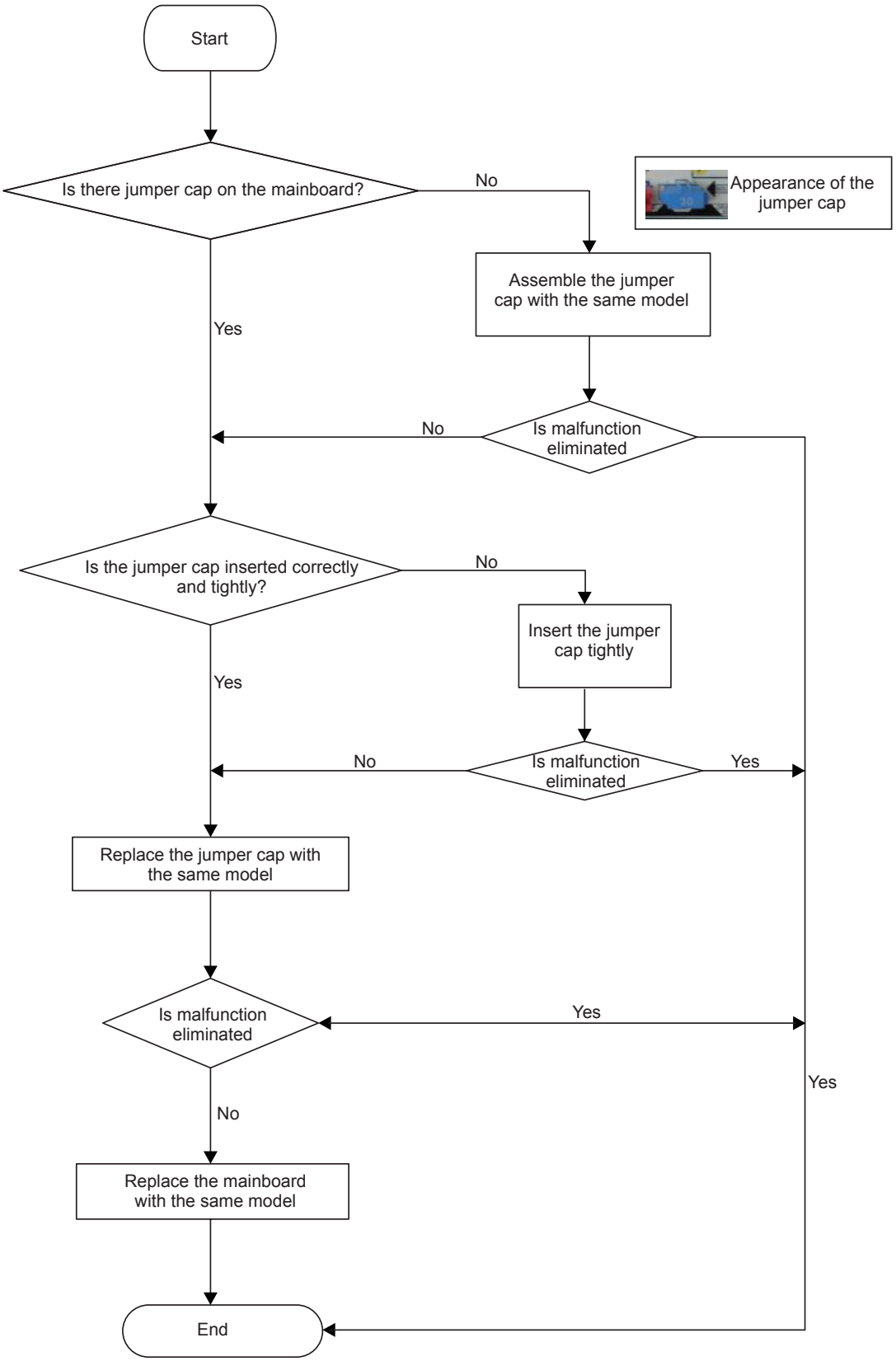


**3. Malfunction of Protection of Jumper Cap C5**

Main detection points:

- Is there jumper cap on the mainboard?
- Is the jumper cap inserted correctly and tightly?
- The jumper is broken?
- The motor is broken?
- Detection circuit of the mainboard is defined abnormal?

Malfunction diagnosis process:



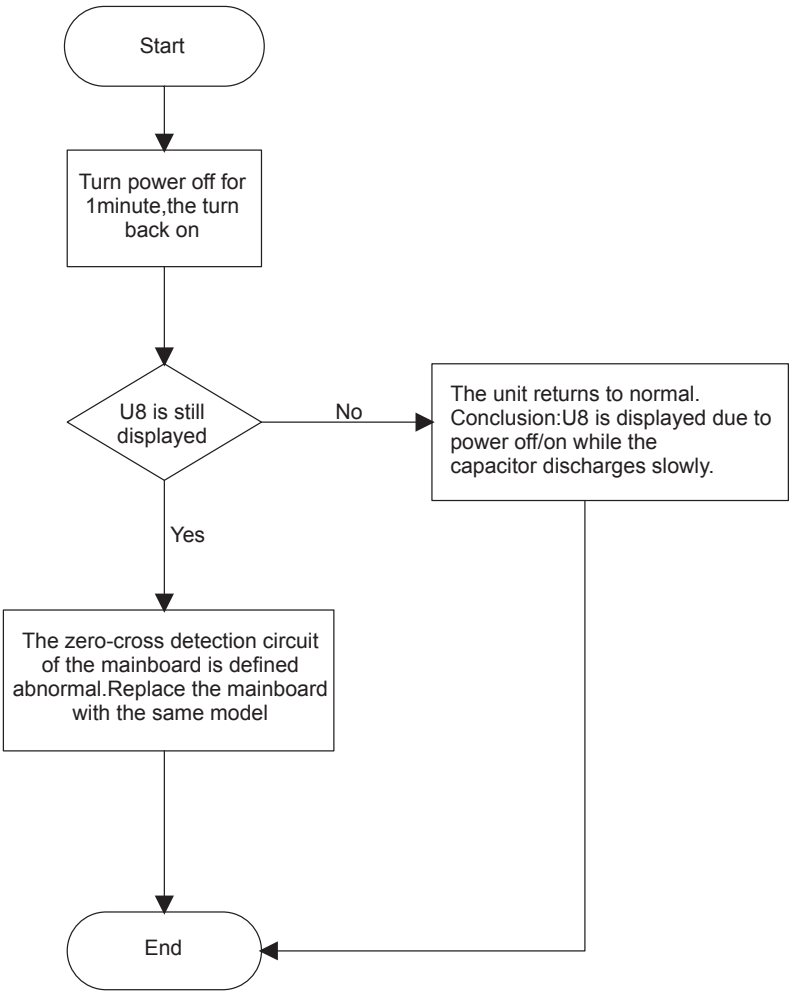
**4. Malfunction of Zero-crossing Inspection Circuit Malfunction of the IDU Fan Motor U8**

Main detection points:

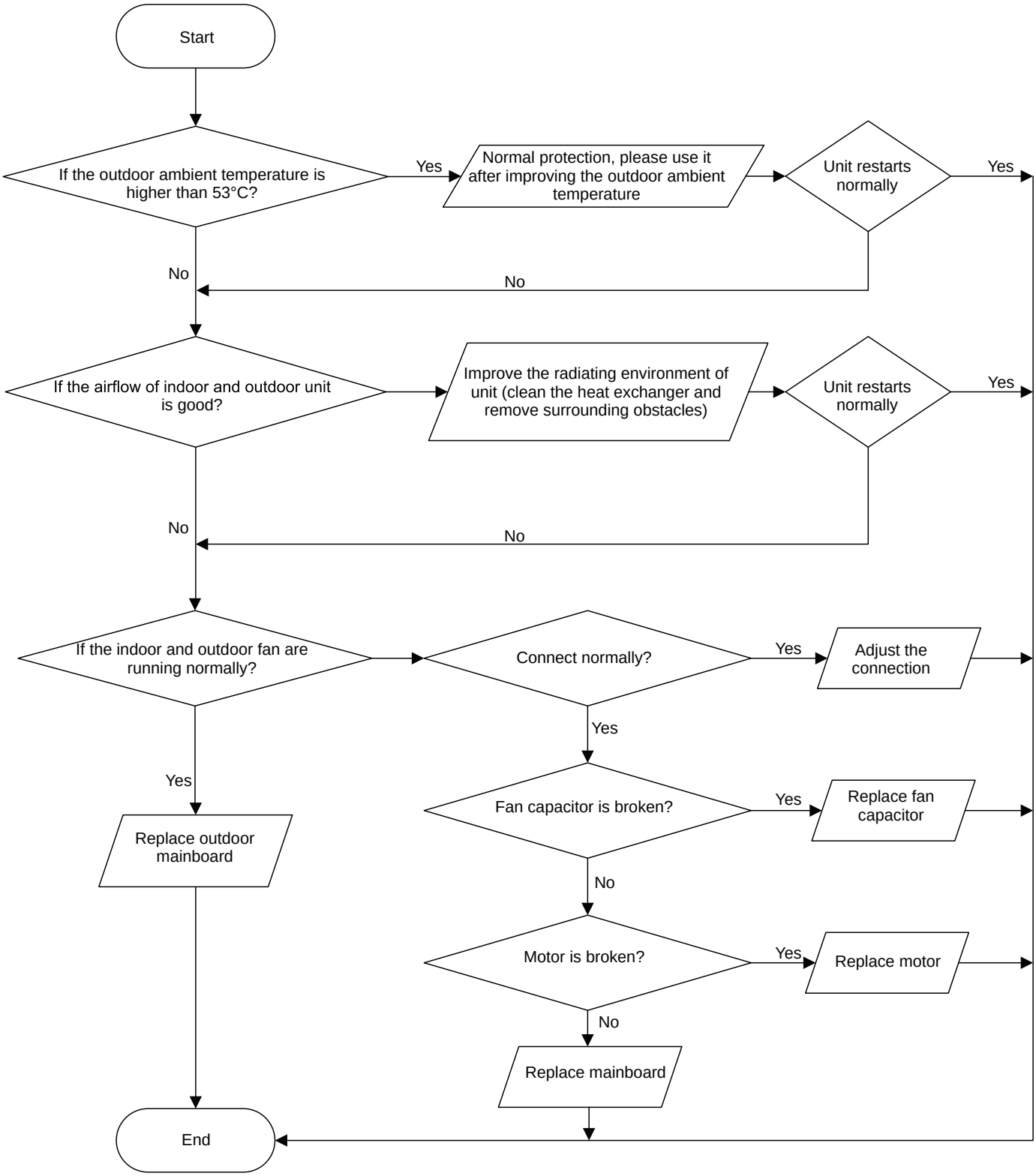
● Instant energization afte de-energization while the capacitordischarges slowly?

● The zero-cross detectioncircuit of the mainboard is defined abnormal?

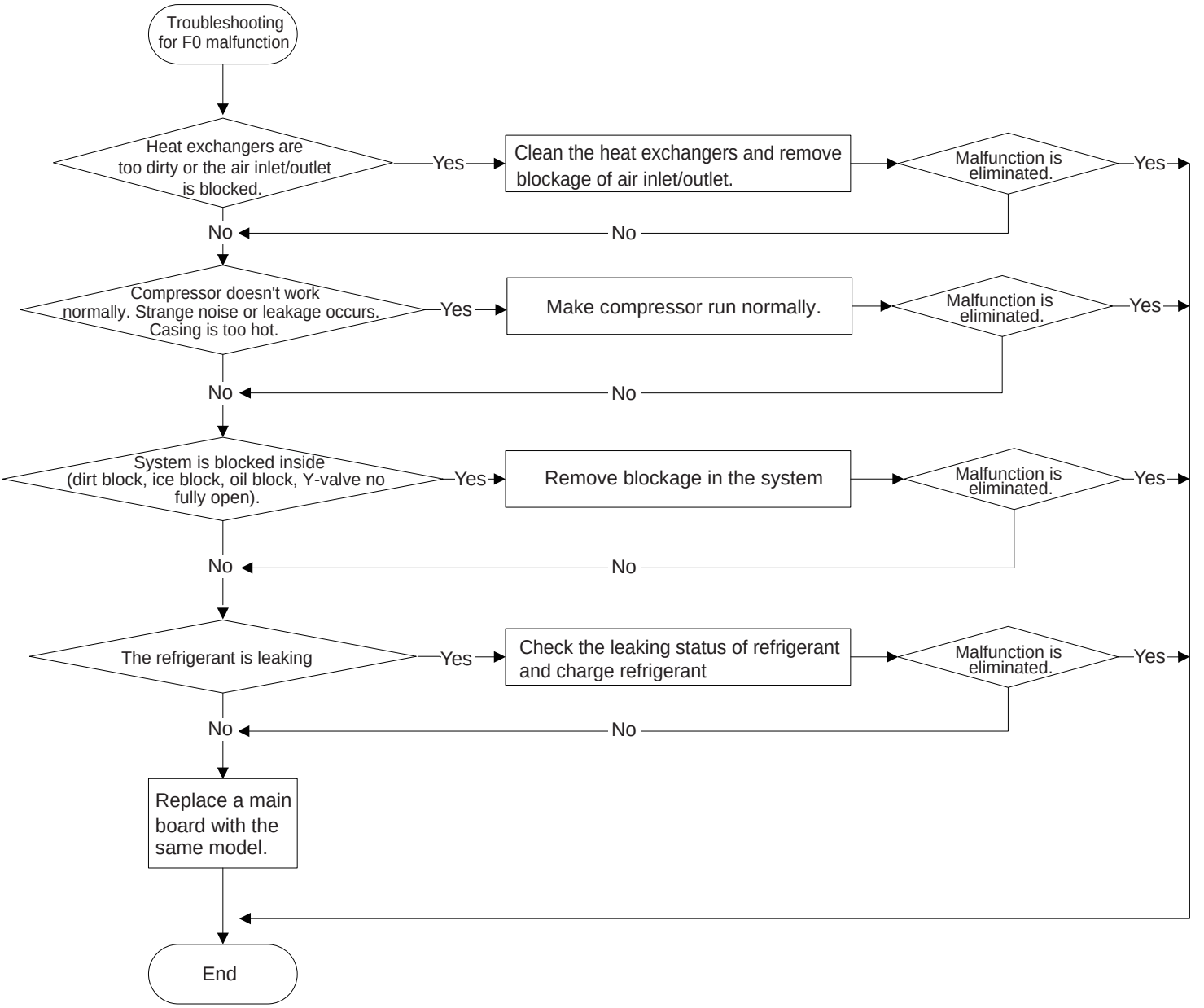
Malfunction diagnosis process:



**5. High Temperature and Overload Protection (AP1 below means control board of outdoor unit) E8**



### 6. Malfunction of Insufficient fluorine protection F0



# 9.3 Maintenance method for normal malfunction

**1. Air Conditioner Cant be Started Up**

| Possible Causes | Discriminating Method (Air conditioner Status) | Troubleshooting |
|---|---|---|
| No power supply, or poor connection for power plug | After energization, operation indicator isnt bright and the buzzer cant give out sound | Confirm whether its due to power failure. If yes, wait for power recovery. If not, check power supply circuit and make sure the power plug is connected well. |
| Wrong wire connection between indoor unit and outdoor unit, or poor connection for wiring terminals | Under normal power supply circumstances, operation indicator isnt bright after energization | Check the circuit according to circuit diagram and connect wires correctly. Make sure all wiring terminals are connected firmly |
| Electric leakage for air conditioner | After energization, room circuit breaker trips off at once | Make sure the air conditioner is grounded reliably<br>Make sure wires of air conditioner is connected correctly<br>Check the wiring inside air conditioner. Check whether the insulation layer of power cord is damaged; if yes, place the power cord. |
| Model selection for air switch is improper | After energization, air switch trips off | Select proper air switch |
| Malfunction of remote controller | After energization, operation indicator is bright, while no display on remote controller or buttons have no action. | Replace batteries for remote controller<br>Repair or replace remote controller |

**2. Poor Cooling (Heating) for Air Conditioner**

| Possible Causes | Discriminating Method (Air conditioner Status) | Troubleshooting |
|---|---|---|
| Set temperature is improper | Observe the set temperature on remote controller | Adjust the set temperature |
| Rotation speed of the IDU fan motor is set too low | Small wind blow | Set the fan speed at high or medium |
| Filter of indoor unit is blocked | Check the filter to see its blocked | Clean the filter |
| Installation position for indoor unit and outdoor unit is improper | Check whether the installation postion is proper according to installation requirement for air conditioner | Adjust the installation position, and install the rainproof and sunproof for outdoor unit |
| Refrigerant is leaking | Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Units pressure is much lower than regulated range | Find out the leakage causes and deal with it. Add refrigerant. |
| Malfunction of 4-way valve | Blow cold wind during heating | Replace the 4-way valve |
| Malfunction of capillary | Discharged air temperature during cooling is higher than normal discharged wind temperature; Discharged air temperature during heating is lower than normal discharged wind temperature; Unitt pressure is much lower than regulated range. If refrigerant isnt leaking, part of capillary is blocked | Replace the capillary |
| Flow volume of valve is insufficient | The pressure of valves is much lower than that stated in the specification | Open the valve completely |
| Malfunction of horizontal louver | Horizontal louver cant swing | Refer to point 3 of maintenance method for details |
| Malfunction of the IDU fan motor | The IDU fan motor cant operate | Refer to troubleshooting for H6 for maintenance method in details |
| Malfunction of the ODU fan motor | The ODU fan motor cant operate | Refer to point 4 of maintenance method for details |
| Malfunction of compressor | Compressor cant operate | Refer to point 5 of maintenance method for details |

**3. Horizontal Louver Cant Swing**

| Possible Causes | Discriminating Method (Air conditioner Status) | Troubleshooting |
|---|---|---|
| Wrong wire connection, or poor connection | Check the wiring status according to circuit diagram | Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly |
| Stepping motor is damaged | Stepping motor cant operate | Repair or replace stepping motor |
| Main board is damaged | Others are all normal, while horizontal louver cant operate | Replace the main board with the same model |

**4. ODU Fan Motor Cant Operate**

| Possible causes | Discriminating method (air conditioner status) | Troubleshooting |
|---|---|---|
| Wrong wire connection, or poor connection | Check the wiring status according to circuit diagram | Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly |
| Capacity of the ODU fan motor is damaged | Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor. | Replace the capacity of fan |
| Power voltage is a little low or high | Use universal meter to measure the power supply voltage. The voltage is a little high or low | Suggest to equip with voltage regulator |
| Motor of outdoor unit is damaged | When unit is on, cooling/heating performance is bad and ODU compressor generates a lot of noise and heat. | Change compressor oil and refrigerant. If no better, replace the compressor with a new one |

**5. Compressor Cant Operate**

| Possible causes | Discriminating method (air conditioner status) | Troubleshooting |
|---|---|---|
| Wrong wire connection, or poor connection | Check the wiring status according to circuit diagram | Connect wires according to wiring diagram to make sure all wiring terminals are connected firmly |
| Capacity of compressor is damaged | Measure the capacity of fan capacitor with an universal meter and find that the capacity is out of the deviation range indicated on the nameplate of fan capacitor. | Replace the compressor capacitor |
| Power voltage is a little low or high | Use universal meter to measure the power supply voltage. The voltage is a little high or low | Suggest to equip with voltage regulator |
| Coil of compressor is burnt out | Use universal meter to measure the resistance between compressor terminals and its 0 | Repair or replace compressor |
| Cylinder of compressor is blocked | Compressor cant operate | Repair or replace compressor |

**6. Air Conditioner is Leaking**

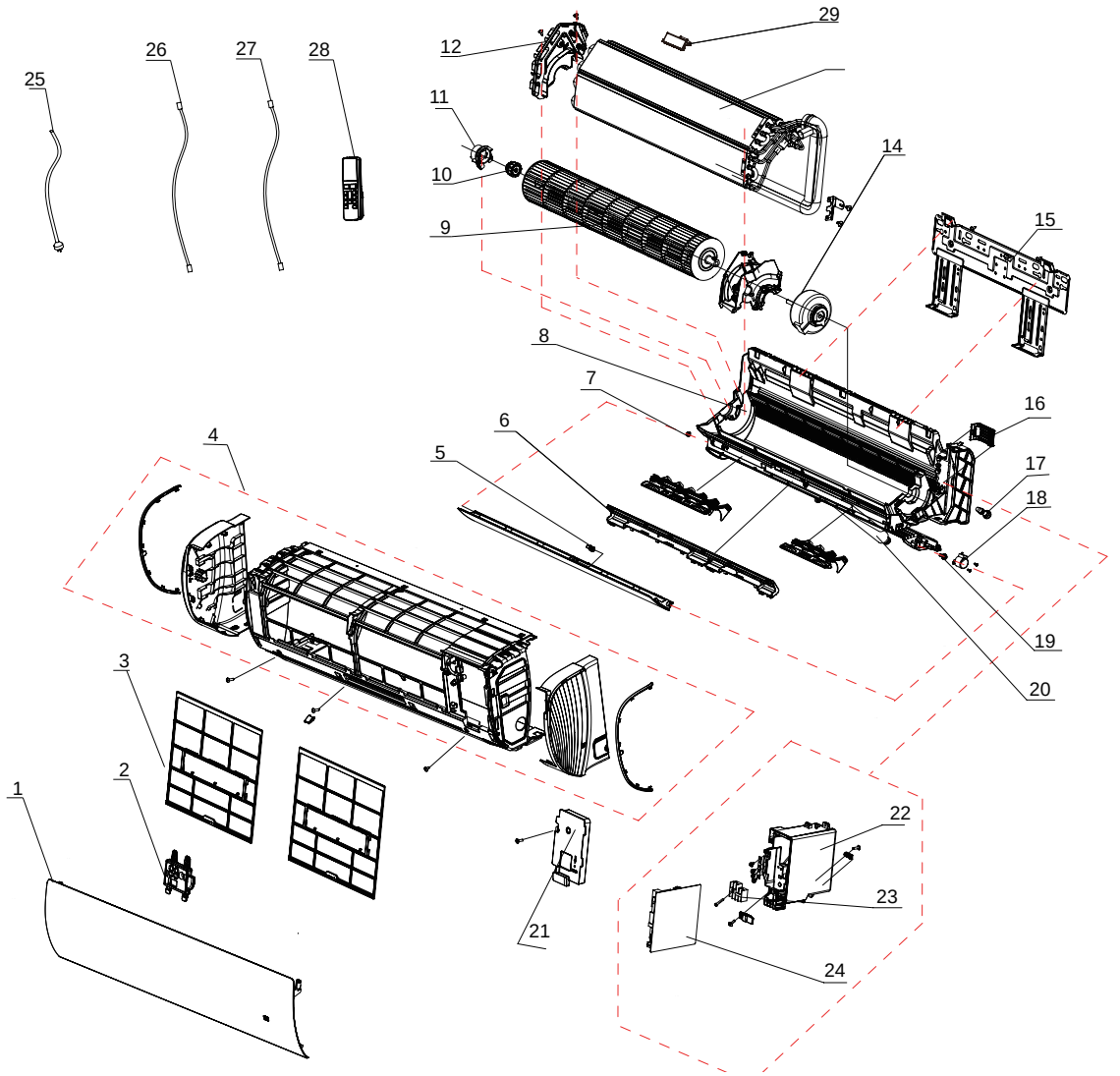
| Possible causes | Discriminating method (air conditioner status) | Troubleshooting |
|---|---|---|
| Drain pipe is blocked | Water leaking from indoor unit | Eliminate the foreign objects inside the drain pipe |
| Drain pipe is broken | Water leaking from drain pipe | Replace drain pipe |
| Wrapping is not tight | Water leaking from the pipe connection place of indoor unit | Wrap it again and bundle it tightly |

**7. Abnormal Sound and Vibration**

| Possible causes | Discriminating method (air conditioner status) | Troubleshooting |
|---|---|---|
| When turn on or turn off the unit, the panel and other parts will expand and theres abnormal sound | Theres the sound of "PAPA" | Normal phenomenon. Abnormal sound will disappear after a few minutes. |
| When turn on or turn off the unit, theres abnormal sound due to flow of refrigerant inside air conditioner | Water-running sound can be heard | Normal phenomenon. Abnormal sound will disappear after a few minutes. |
| Foreign objects inside the indoor unit or therere parts touching together inside the indoor unit | Theres abnormal sound fro indoor unit | Remove foreign objects. Adjust all parts position of indoor unit, tighten screws and stick damping plaster between connected parts |
| Foreign objects inside the outdoor unit or therere parts touching together inside the outdoor unit | Theres abnormal sound fro outdoor unit | Remove foreign objects. Adjust all parts position of outdoor unit, tighten screws and stick damping plaster between connected parts |
| Short circuit inside the magnetic coil | During heating, the way valve has abnormal electromagnetic sound | Replace magnetic coil |
| Abnormal shake of compressor | Outdoor unit gives out abnormal sound | Adjust the support foot mat of compressor, tighten the bolts |
| Abnormal sound inside the compressor | Abnormal sound inside the compressor | If add too much refrigerant during maintenance, please reduce refrigerant properly. Replace compressor for other circumstances. |

# 10. Exploded View and Parts List

## 10.1 Indoor Unit




The component picture is only for reference; please refer to the actual product.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07ACA-K3NNA1A/I | | |
| | Product Code | CA497N00300 | CA497N00301 | |
| 1 | Front Panel | 200003000129T01 | 20000300012901K01 | 1 |
| 2 | Display Board | 300001000202 | 300001000209 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 00000200004201 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003122 | 100002003122 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000136 | 30135000136 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | / | 430001000001 | 1 |

Above data is subject to change without notice.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07ACA-K3NNA1A/I | | |
| | Product Code | CA497N00302 | CA497N00303 | |
| 1 | Front Panel | 20000300012901K01 | 200003000129T01 | 1 |
| 2 | Display Board | 300001000209 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 00000200004201 | 000002000042 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005P01 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002002770 | 100002003240 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000145 | 30135000145 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | / | / | / |

Above data is subject to change without notice.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH09ACA-K3NNA1A/I | | |
| | Product Code | CA497N00400 | CA497N00401 | |
| 1 | Front Panel | 200003000129T01 | 20000300012901K01 | 1 |
| 2 | Display Board | 300001000202 | 300001000209 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 00000200004201 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003122 | 100002003122 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000136 | 30135000136 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | 430001000001 | 430001000001 | 1 |

Above data is subject to change without notice.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH09ACA-K3NNA1A/I | | |
| | Product Code | CA497N00402 | CA497N00403 | |
| 1 | Front Panel | 200003000129T01 | 20000300012901K01 | 1 |
| 2 | Display Board | 300001000202 | 300001000209 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 00000200004201 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005P01 | 1 |
| 22 | Electric Box Assy | 100002003240 | 100002002770 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000145 | 30135000145 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | / | / | / |

Above data is subject to change without notice.

| NO. | Description | Part Code | | | Qty |
|---|---|---|---|---|---|
| | | GWH07ACA-K3NNA5A/I | GWH09ACB-K3NNA5A/I | GWH09ACB-K3NNA2A/I | |
| | Product Code | CA341N00100 | CA341N00200 | CA342N00400 | |
| 1 | Front Panel | 200003060003T | 200003060004 | 000003060089 | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 1112221905 | 1112221905 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000041 | 000002000041 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000002 | 200006000002 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000061 | 000001000061 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352066 | 10352066 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 76512051 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000143 | 011001000143 | 1 |
| 14 | Fan Motor | 15012115 | 150120874 | 150120874 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003122 | 100002003125 | 100002003125 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000136 | 30135000136 | 30135000136 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | 430001000001 | 430001000001 | 430001000001 | 1 |

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| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07ACA-K3NNA4A/I | GWH09ACB-K3NNA4A/I | |
| | Product Code | CA344N00200 | CA344N00100 | |
| 1 | Front Panel | 200003060008 | 200003060018 | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 1112246910 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000041 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000002 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000061 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352066 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000143 | 1 |
| 14 | Fan Motor | 15012115 | 150120874 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003122 | 100002003125 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000136 | 30135000136 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | 430001000001 | 430001000001 | 1 |

Above data is subject to change without notice.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07ACA-K3NNA5B/I | GWH07ACA-K3NNA2A/I | |
| | Product Code | CA341N00900 | CA342N00500 | |
| 1 | Front Panel | 200003060003 | 000003060090 | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000042 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003240 | 100002003122 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000145 | 30135000136 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | / | 430001000001 | 1 |

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| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH09ACA-K3NNA5A/I | GWH07ACA-K3NNA2B/I | |
| | Product Code | CA341N01000 | CA342N00900 | |
| 1 | Front Panel | 200003060003 | 000003060090 | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000042 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003240 | 100002003122 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000145 | 30135000136 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | / | 430001000001 | 1 |

Above data is subject to change without notice.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH09ACA-K3NNA2A/I | GWH07ACA-K3NNA4B/I | |
| | Product Code | CA342N00700 | CA344N00600 | |
| 1 | Front Panel | 000003060090 | 000003060018 | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000042 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003122 | 100002003240 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000136 | 30135000145 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | 430001000001 | / | 1 |

Above data is subject to change without notice.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH09ACA-K3NNA4A/I | GWH09ACA-K3NNA2A/I | |
| | Product Code | CA344N00700 | CA342N00701 | |
| 1 | Front Panel | 000003060018 | 200003060042T | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000042 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003240 | 100002003240 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000145 | 30135000145 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | / | / | / |

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| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07ACA-K3NNA3A/I | GWH09ACB-K3NNA3A/I | |
| | Product Code | CA343N00100 | CA343N00200 | |
| 1 | Front Panel | 200003060022T02 | 200003060021T01 | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 1112221905 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000041 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000002 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000061 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352066 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 7651205102 | 7651205102 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000143 | 1 |
| 14 | Fan Motor | 15012115 | 150120874 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003122 | 100002003125 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000136 | 30135000136 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | 430001000001 | 430001000001 | 1 |

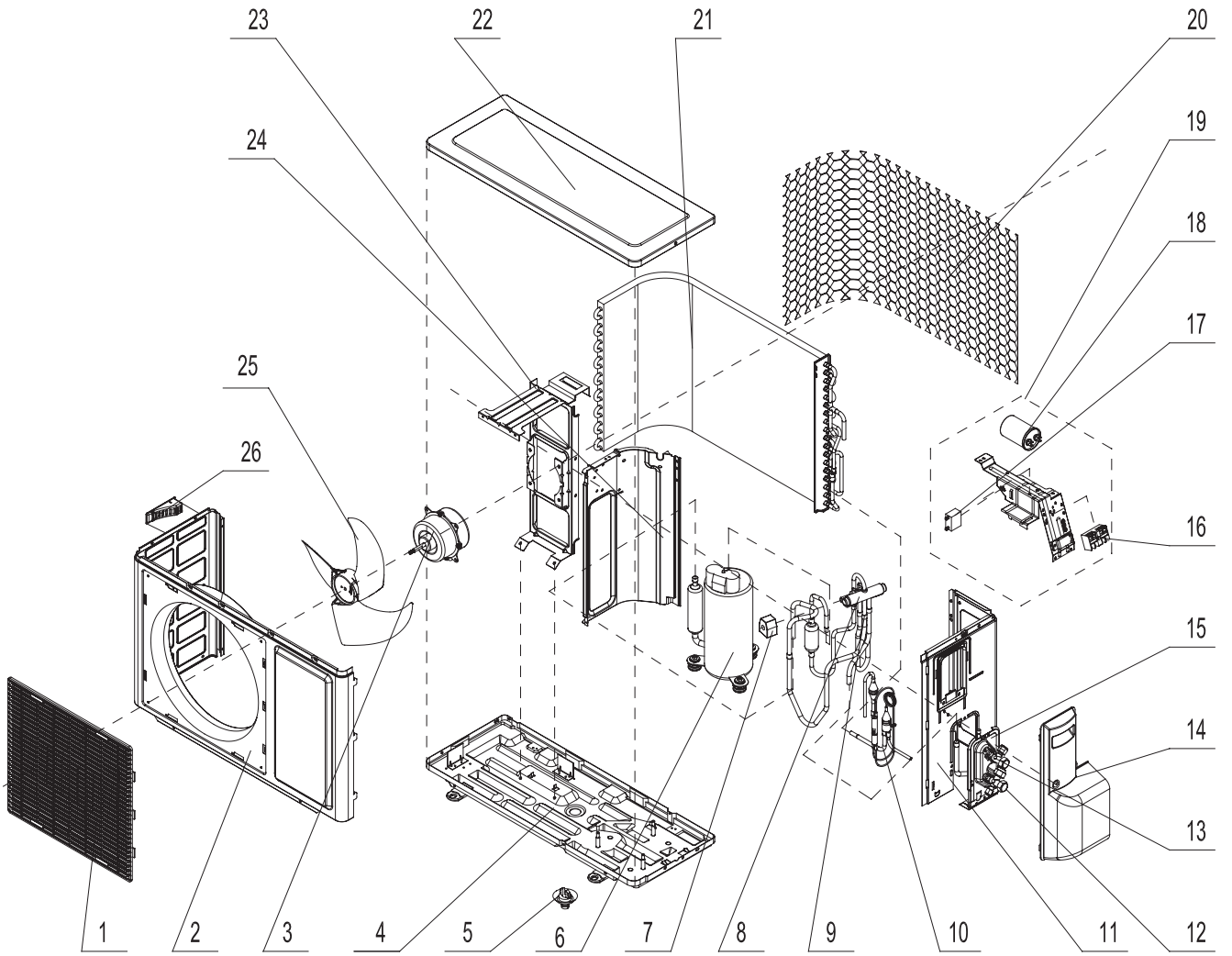
Above data is subject to change without notice.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07ACA-K3NNA3A/I | GWH09ACA-K3NNA3A/I | |
| | Product Code | CA343N00101 | CA343N00700 | |
| 1 | Front Panel | 200003060022T02 | 200003060022T02 | 1 |
| 2 | Display Board | 300001000202 | 300001000202 | 1 |
| 3 | Filter Sub-Assy | 11122472 | 11122472 | 2 |
| 4 | Front Case Assy | 000002000042 | 000002000042 | 1 |
| 5 | Axile Bush | 10542036 | 10542036 | 1 |
| 6 | Helicoid Tongue | 200006000001 | 200006000001 | 1 |
| 7 | Left Axile Bush | 10512037 | 10512037 | 1 |
| 8 | Rear Case assy | 000001000062 | 000001000062 | 1 |
| 9 | Cross Flow Fan | 10352067 | 10352067 | 1 |
| 10 | O-Gasket sub-assy of Bearing | 76512051 | 76512051 | 1 |
| 11 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 12 | Evaporator Support | 200025000002 | 200025000002 | 1 |
| 13 | Evaporator Assy | 011001000123 | 011001000123 | 1 |
| 14 | Fan Motor | 15012115 | 15012115 | 1 |
| 15 | Wall Mounting Frame Sub-assy | 017211000005 | 017211000005 | 1 |
| 16 | Connecting pipe clamp | 200017000001 | 200017000001 | 1 |
| 17 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 18 | Stepping Motor | 1521210811 | 1521210811 | 1 |
| 19 | Crank | 73012005 | 73012005 | 1 |
| 20 | Drainage Hose | 0523001408 | 0523001408 | 1 |
| 21 | Electric Box Cover2 | 200082000005 | 200082000005 | 1 |
| 22 | Electric Box Assy | 100002003240 | 100002003240 | 1 |
| 23 | Terminal Board | 42010268 | 42010268 | 1 |
| 24 | Main Board | 30135000145 | 30135000145 | 1 |
| 25 | Power Cord | 4002046439 | 4002046439 | 1 |
| 26 | Connecting Cable | 40020540 | 40020540 | 0 |
| 27 | Connecting Cable | 40020536 | 40020536 | 0 |
| 28 | Remote Controller | 305001000009 | 305001000009 | 1 |
| 29 | Cold Plasma Generator | / | / | / |

Above data is subject to change without notice.

## 10.2 Outdoor Unit

GWH07AAA-K3NNA1A/O
GWH09AAA-K3NNA1A/O

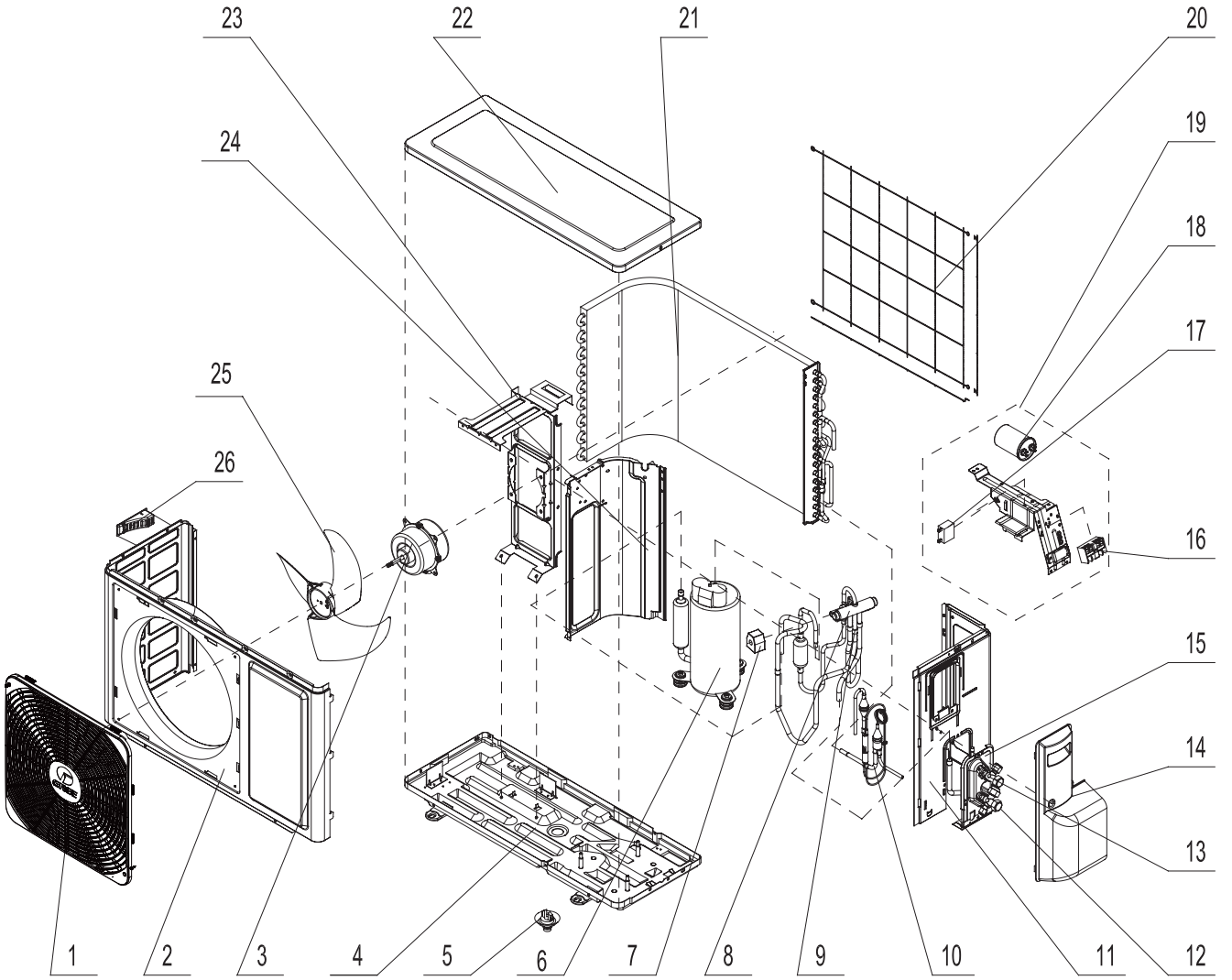



The component picture is only for reference; please refer to the actual product.

| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07AAA-K3NNA1A/O | GWH09AAA-K3NNA1A/O | |
| | Product Code | CA115W13600 | CA115W14400 | |
| 1 | Front Grill | 22263002 | 22263002 | 1 |
| 2 | Cabinet | 01533255P | 01533255P | 1 |
| 3 | Fan Motor | 1501315604 | 1501315604 | 1 |
| 4 | Chassis Sub-assy | 017000000107 | 017000000112P | 1 |
| 5 | Drainage Connecter | 06123401 | 06123401 | 1 |
| 6 | Compressor and Fittings | 009001000075 | 009001000025 | 1 |
| 7 | Magnet Coil | 4300040047 | 4300040047 | 1 |
| 8 | 4-Way Valve | 430004022 | 430004022 | 1 |
| 9 | 4-Way Valve Assy | 030152000119 | 030152000203 | 1 |
| 10 | Capillary Sub-assy | 030006000201 | 030006000277 | 1 |
| 11 | Right Side Plate Sub-Assy | 01303243 | 01303243 | 1 |
| 12 | Valve | 07130239 | 07130239 | 1 |
| 13 | Valve | 07100005 | 07100005 | 1 |
| 14 | Big Handle | 26233101 | 2623304202 | 1 |
| 15 | Valve Support | 01713424 | 01713041 | 1 |
| 16 | Terminal Board | 420001000003 | 420001000003 | 1 |
| 17 | Capacitor CBB61S | 3301074701 | 3301074701 | 1 |
| 18 | Capacitor CBB65 | 3300008102 | 33000081 | 1 |
| 19 | Electric Box Assy | 100002000395 | 100002000477 | 1 |
| 20 | Rear Grill | 11123204 | 11123204 | 1 |
| 21 | Condenser Assy | 011002000217 | 011002000294 | 1 |
| 22 | Top Cover Plate | 01253045P | 01253045P | 1 |
| 23 | Motor Support Sub-Assy | 01703204 | 01703204 | 1 |
| 24 | Clapboard Sub-Assy | 01233207 | 01233207 | 1 |
| 25 | Axial Flow Fan | 10333002 | 10333002 | 1 |
| 26 | Small Handle | 26233100 | 26233100 | 1 |

Above data is subject to change without notice.

GWH07ACA-K3NNA5A/O
GWH09ACB-K3NNA5A/O




The component picture is only for reference; please refer to the actual product.

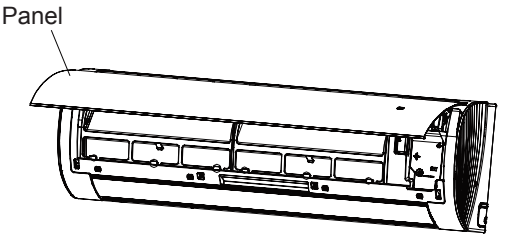
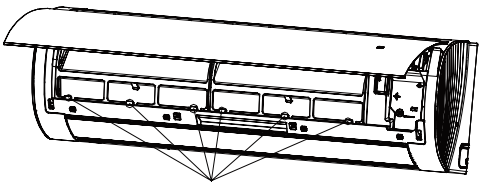
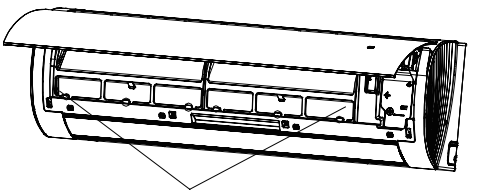
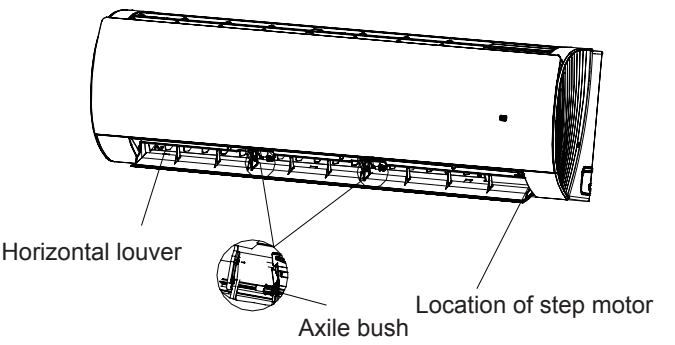
| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH07ACA-K3NNA5A/O | GWH09ACB-K3NNA5A/O | |
| | Product Code | CA341W00100 | CA341W00200 | |
| 1 | Front Grill | 22413030 | 22413030 | 1 |
| 2 | Cabinet | 01533255P | 01533255P | 1 |
| 3 | Fan Motor | 1501315604 | 1501315604 | 1 |
| 4 | Chassis Sub-assy | 017000000107 | 017000000112P | 1 |
| 5 | Drainage Connecter | 06123401 | 06123401 | 1 |
| 6 | Compressor and Fittings | 009001000075 | 009001000025 | 1 |
| 7 | Magnet Coil | 4300040047 | 4300040047 | 1 |
| 8 | 4-Way Valve | 430004022 | 430004022 | 1 |
| 9 | 4-Way Valve Assy | 030152000119 | 030152000203 | 1 |
| 10 | Capillary Sub-assy | 030006000201 | 030006000277 | 1 |
| 11 | Right Side Plate Sub-Assy | 01303243 | 01303243 | 1 |
| 12 | Valve | 07130239 | 07130239 | 1 |
| 13 | Valve | 07100005 | 07100005 | 1 |
| 14 | Big Handle | 26233101 | 2623304202 | 1 |
| 15 | Valve Support | 01713424 | 01713041 | 1 |
| 16 | Terminal Board | 420001000003 | 420001000003 | 1 |
| 17 | Capacitor CBB61S | 3301074701 | 3301074701 | 1 |
| 18 | Capacitor CBB65 | 3300008102 | 33000081 | 1 |
| 19 | Electric Box Assy | 100002000395 | 100002000477 | 1 |
| 20 | Rear Grill | 01473041 | 01473041 | 1 |
| 21 | Condenser Assy | 011002000217 | 011002000294 | 1 |
| 22 | Top Cover Plate | 01253045P | 01253045P | 1 |
| 23 | Motor Support Sub-Assy | 01703204 | 01703204 | 1 |
| 24 | Clapboard Sub-Assy | 01233207 | 01233207 | 1 |
| 25 | Axial Flow Fan | 10333002 | 10333002 | 1 |
| 26 | Small Handle | 26233100 | 26233100 | 1 |

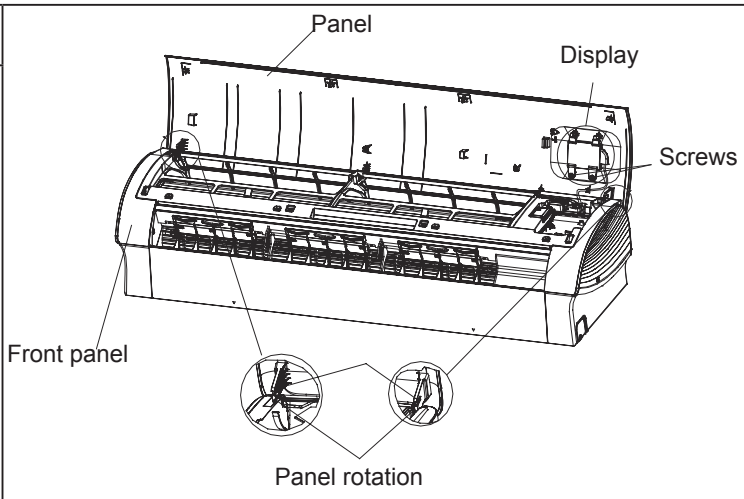
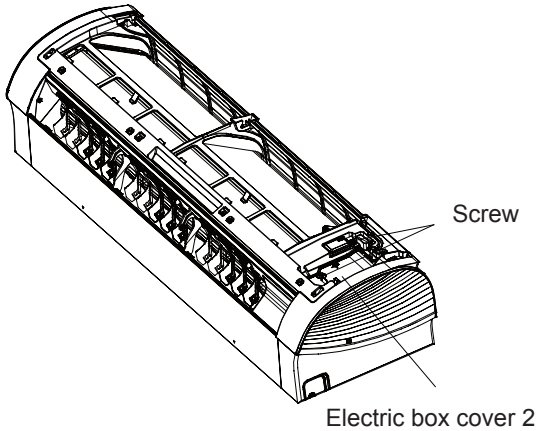
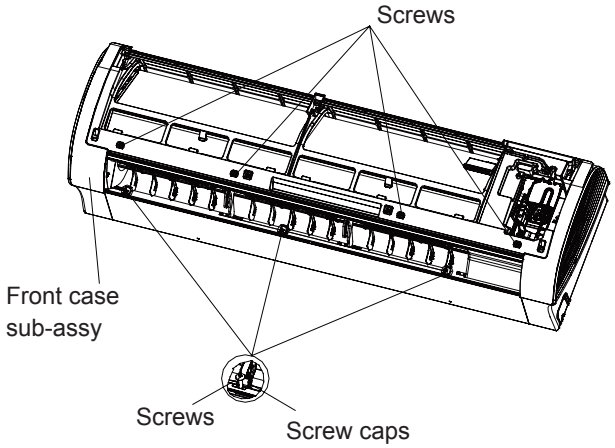
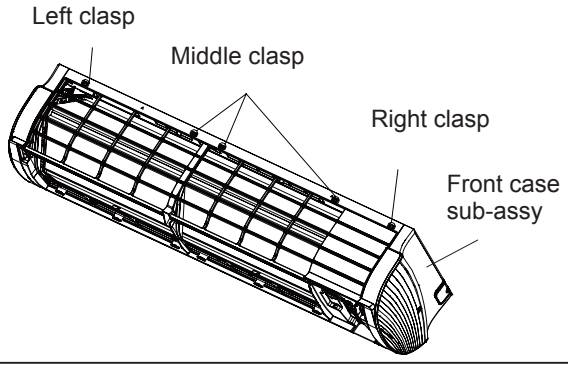
Above data is subject to change without notice.

# 11. Removal Procedure

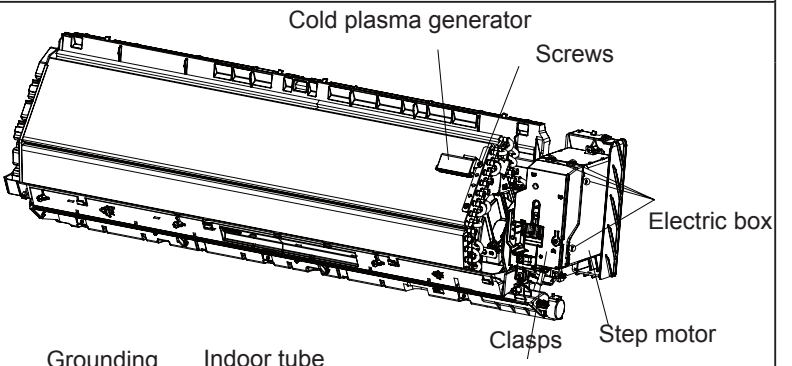
## 11.1 Removal Procedure of Indoor Unit

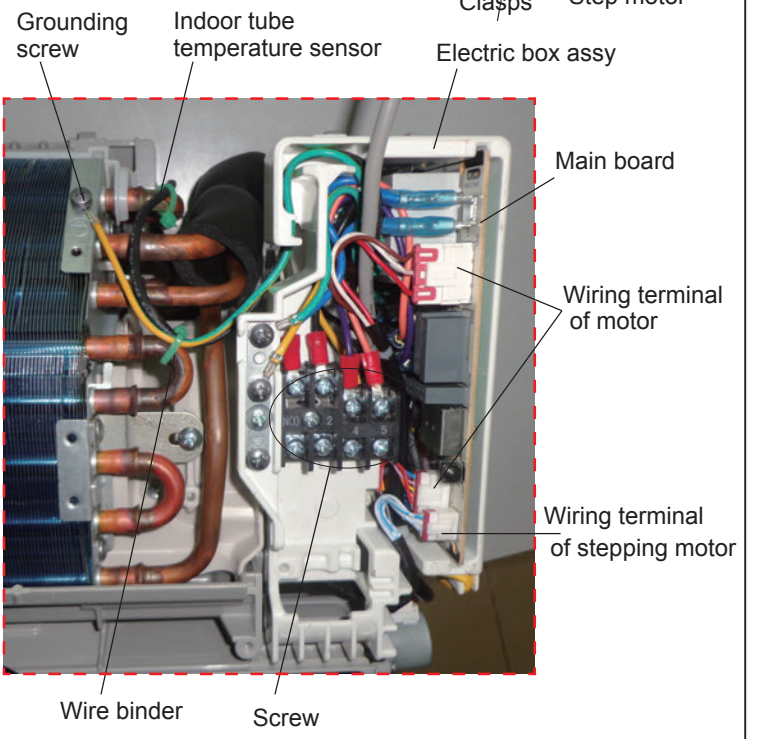
**Caution: discharge the refrigerant completely before removal.**

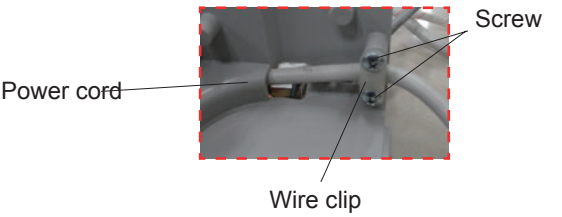
| Step | Procedure | |
|---|---|---|
| 1. Remove filter | |  |
| a | Open the panel. | |
| b | Loosen the clasp shown in the fig and then pull the left filter and right filer outwards to remove them. |  <br>  |
| 2. Remove horizontal louver | | |
| | Push out the axile bush on horizontal louver. Bend the horizontal louver with hand and then separate the horizontal louver from the crankshaft of step motor to remove it. |  |

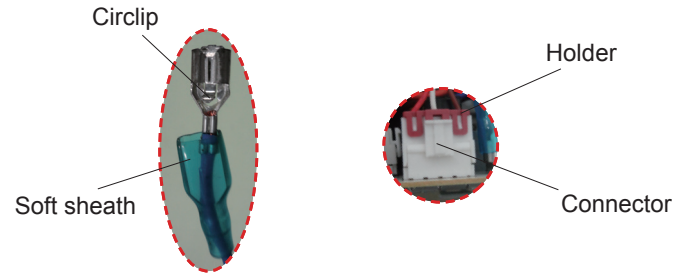
| Step | Procedure | |
|---|---|---|
| 3. Remove panel | |  |
| | Open the front panel; separate the panel rotation shaft from the groove fixing the front panel and then removes the front panel.<br><br>Note:<br>The display of some models is fixed on the panel; unscrew the screws fixing the display on the panel before removing the panel. | |
| 4. Remove electric box cover 2 | |  |
| | Remove the screws on the electric box cover 2 to remove the electric box cover 2. | |
| 5. Remove front case sub-assy | |  |
| a | Remove the screws fixing front case.<br><br>Note:<br>(1) Open the screw caps before removing the screws around the air outlet.<br>(2) The quantity of screws fixing the front case sub-assy is different for different models. | |
| b | Loosen the clasps at left, middle and right sides of front case. Life the front case sub-assy upwards to remove it. |  |

| Step | Procedure |
|---|---|
| 6. Remove electric box assy | |
| a | Loosen the connection clasps between Cold plasma generator and electric box, and then remove the cold plasma generator. |
| b | ① Cut off the wire binder and pull out the indoor tube temperature sensor.<br>② Screw off one grounding screw.<br>③ Remove the wiring terminals of motor andstepping motor.<br>④ Remove the electric box assy.<br>⑤ Screw off the screws that are locking each. |
| c | Rotate the electric box assy. Twist off the screws that are locking the wire clip and loosen the power cord. Remove the wiring terminal of power cord. Lift up the main board and take it off. |
| | Instruction: Some wiring terminal of this product is with lock catch and other devices. The pulling method is as below:<br>1.Remove the soft sheath for some terminals at first, hold the circlip and then pull out the terminals.<br>2.Pull out the holder for some terminals at first (holder is not available for some wiring terminal), hold the connector and then pull the terminal. |

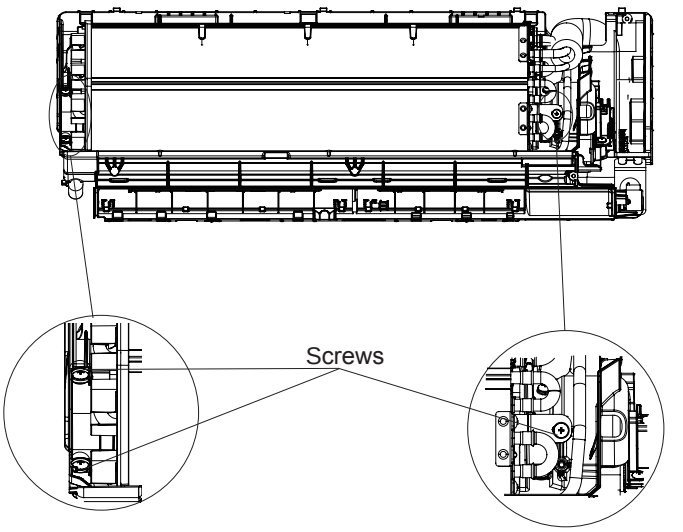


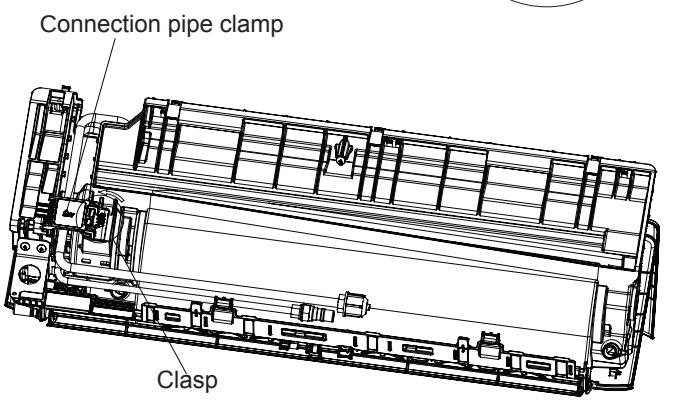



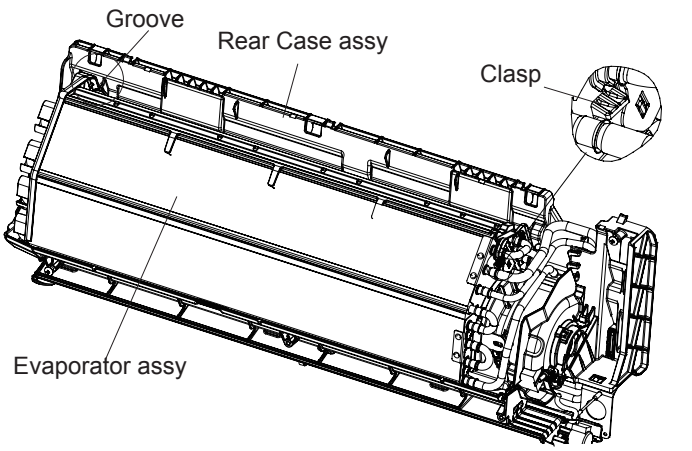



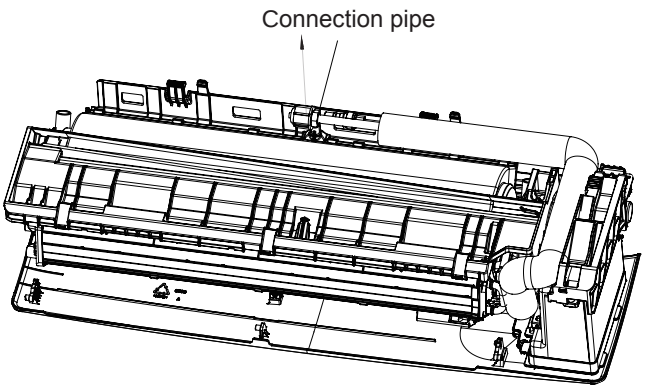



| Step | Procedure |
|---|---|
| 7. Remove evaporator assy | |
| a | Remove 3 screws fixing evaporator assy. |
| b | At the back of the unit, Loosen the clasp,connection pipe clamp and then remove the connection pipe clamp. |
| c | First remove the left side of evaporator from the groove of bottom shell and then remove the right side from the clasp on the bottom shell. |
| d | Adjust the position of connection pipe on evaporator slightly and then lift the evaporator upwards to remove it. |

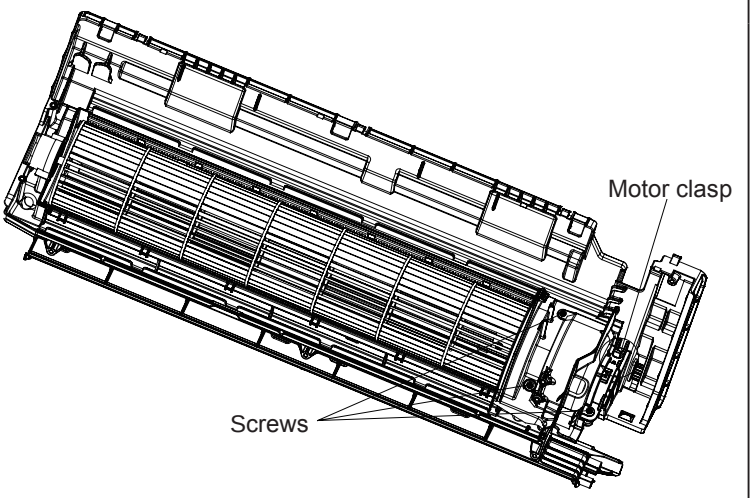


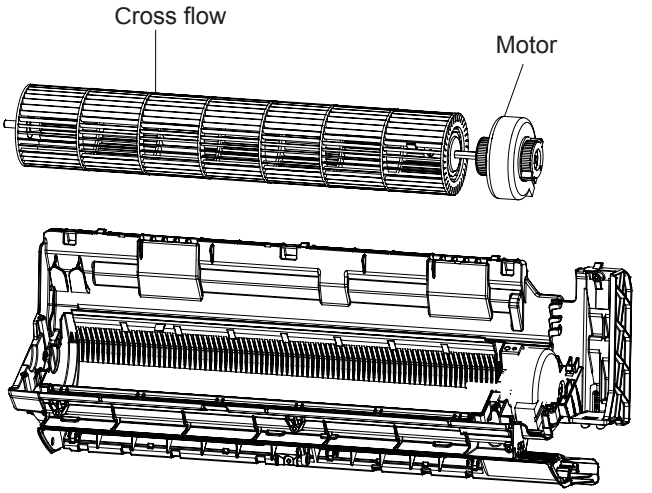



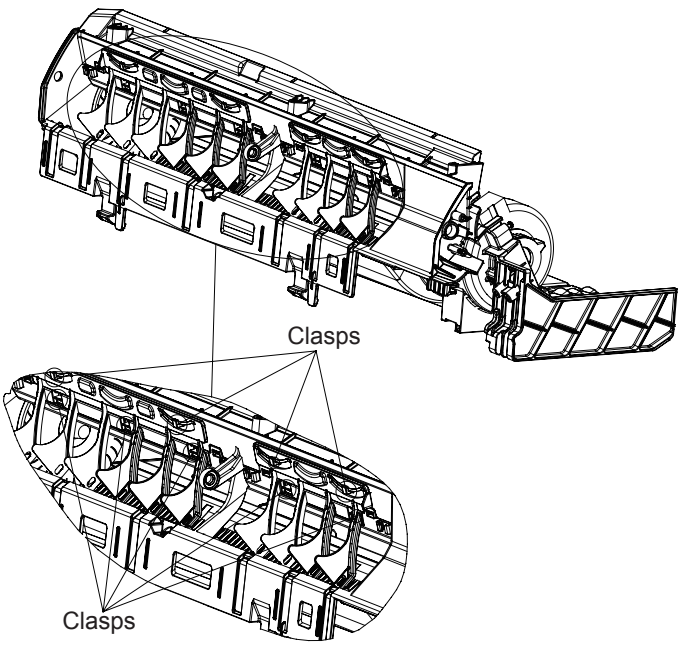



| Step | Procedure |
|---|---|
| 8. Remove motor and cross flow blade | |
| a | Remove 3 screws fixing motor clamp and then remove the motor clamp. |
| b | Remove the at the connection place of cross flow blade and motor; lift the motor and cross flow blade upwards to remove them. |
| 9. Remove vertical louver | |
| | Loosen the connection clasps between vertical louver and bottom case to remove vertical louver. |

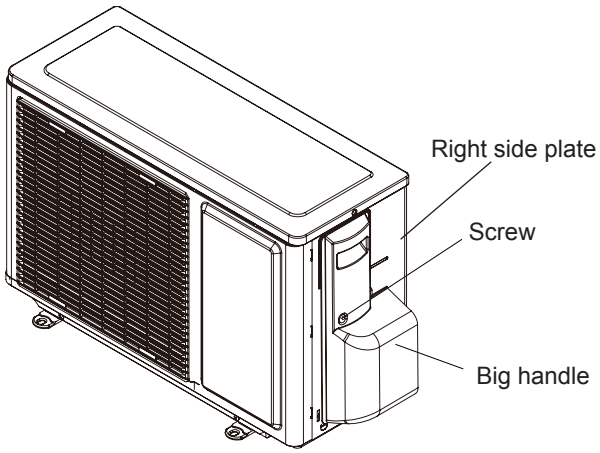
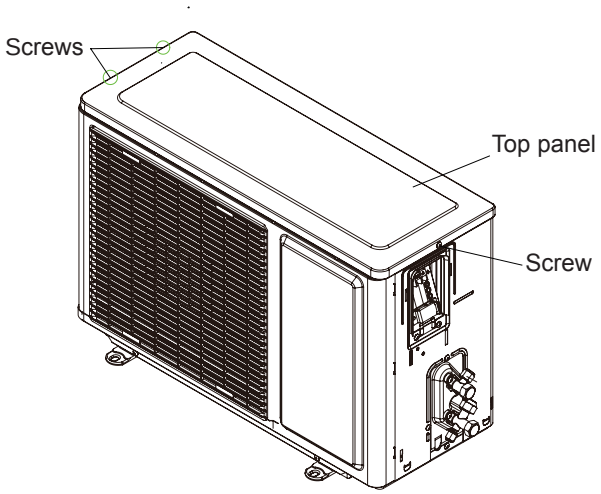
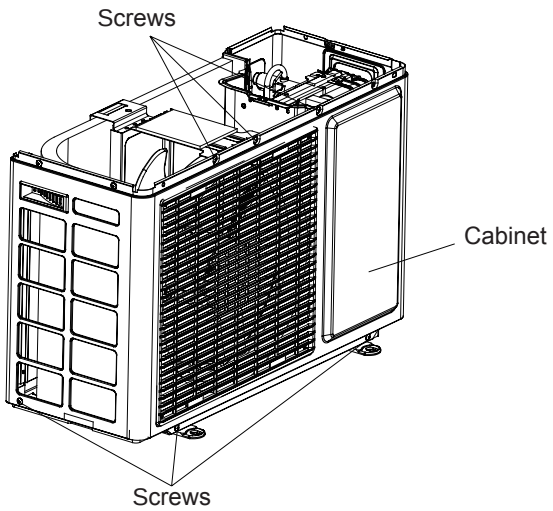


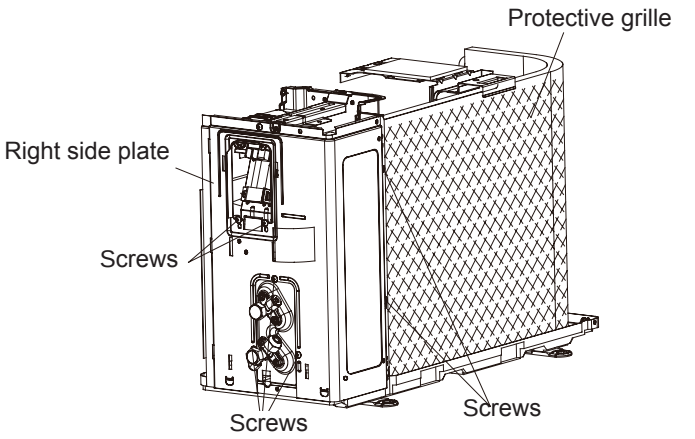
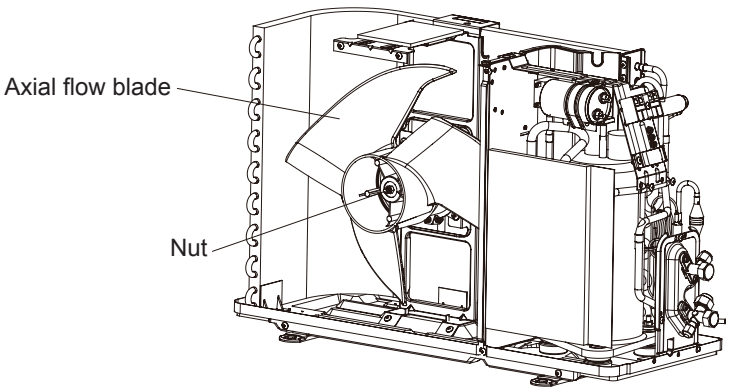
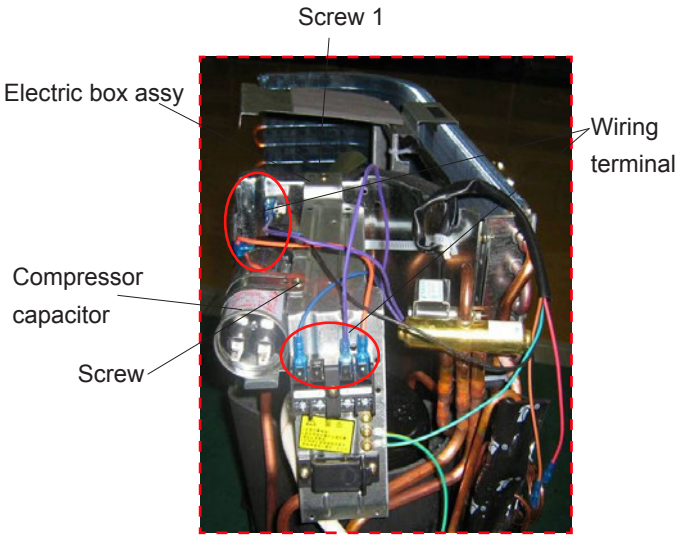



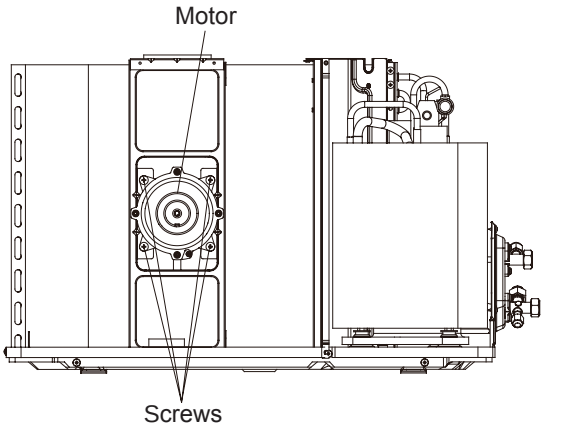
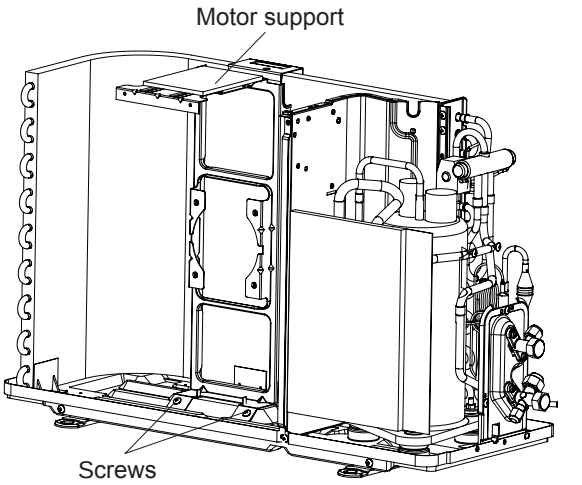
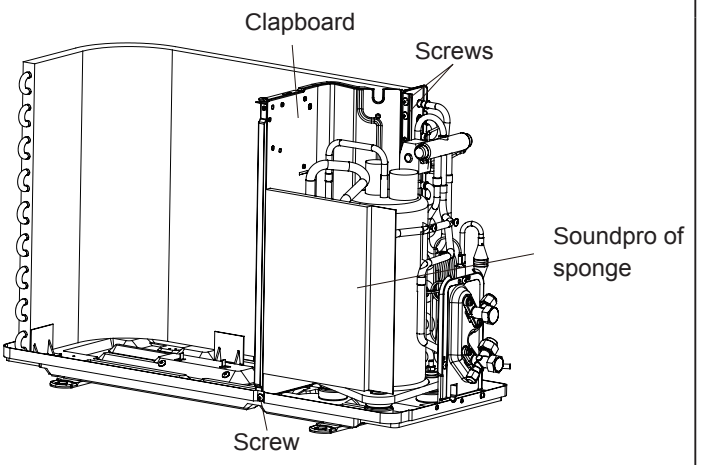



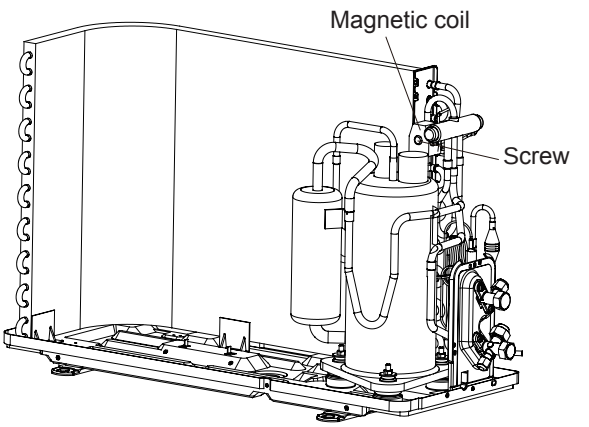
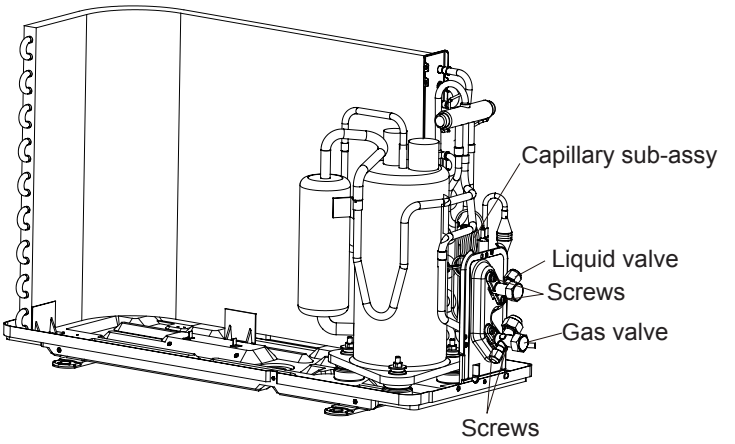
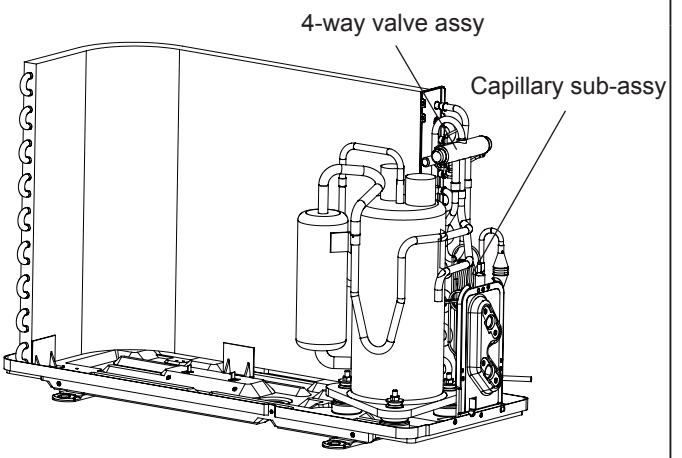
## 11.2 Removal Procedure of Outdoor Unit

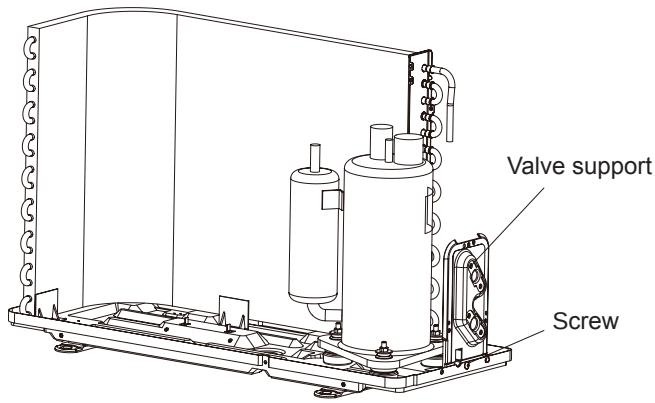
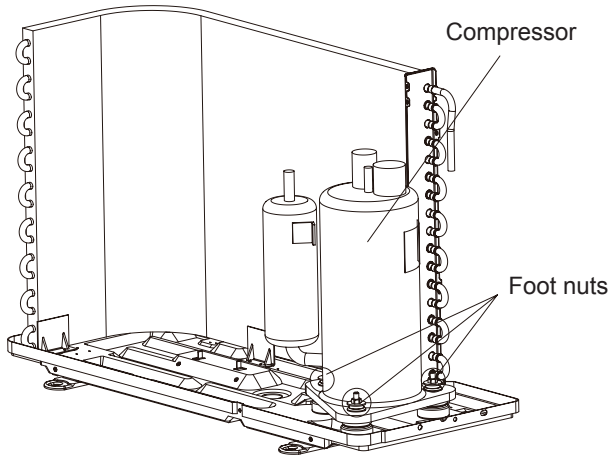
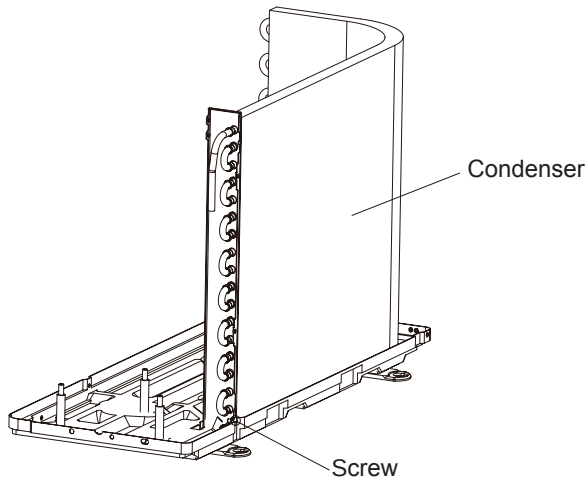
GWH07AAA-K3NNA1A/O GWH09AAA-K3NNA1A/O

| Step | Procedure | |
|---|---|---|
| 1. Remove big handle | |  |
| | Remove the screw fixing big handle; slide out the big handle upwards to make the clasp of big handle separate from the groove of right side plate, and then remove the big handle. | |
| 2. Remove top panel | |  |
| | Remove the screws fixing top panel and then remove the top panel. | |
| 3. Remove cabinet | |  |
| | Remove the cabinet by screwing off the locking screws on cabinet. | |

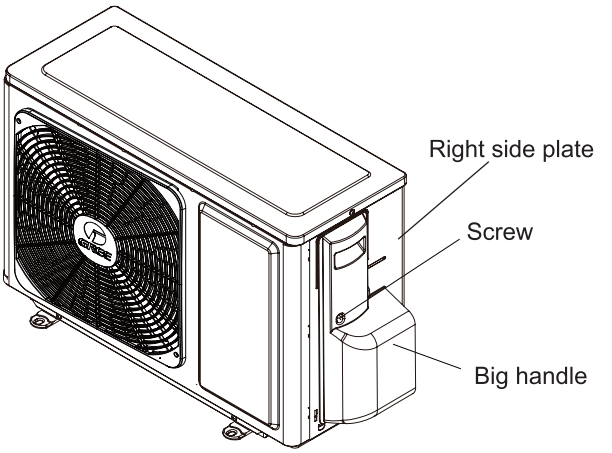
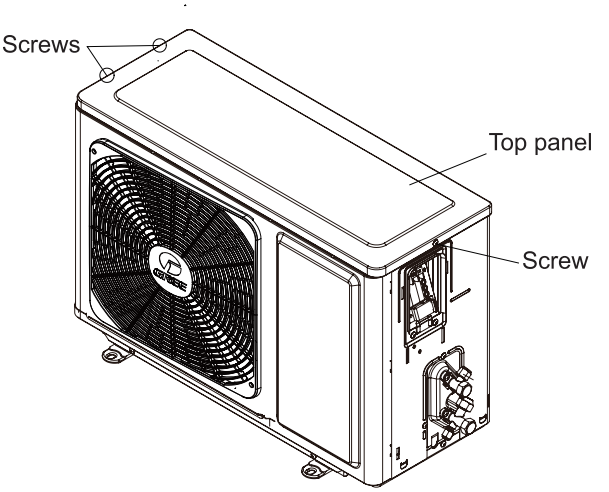
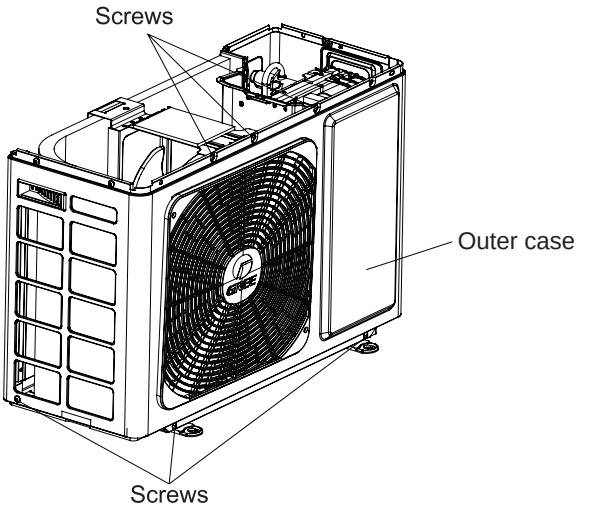
| Step | Procedure |
|---|---|
| 4. Remove right side plate |  |
| Remove the screws fixing right side plate and then remove the right side plate.<br><br>Cut off the wire binder fixing the protective grille and then remove the protective grille. | |
| 5. Remove axial flow blade |  |
| Remove the nut fixing axial flow blade and then remove the axial flow blade. | |
| 6. Remove electric box assy |  |
| Remove the wiring terminals on electric box.<br>Screw off screw 1 fixing the electric box assy and then remove the electric box assy.<br>Screw off the screws fixing compressor capacitor.<br>Then remove the compressor capacitor. | |

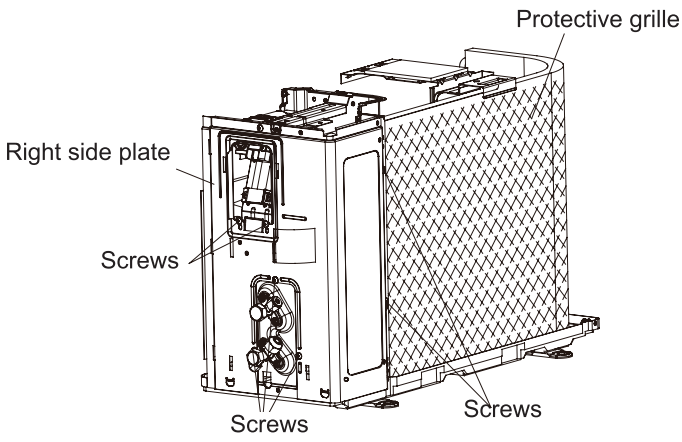
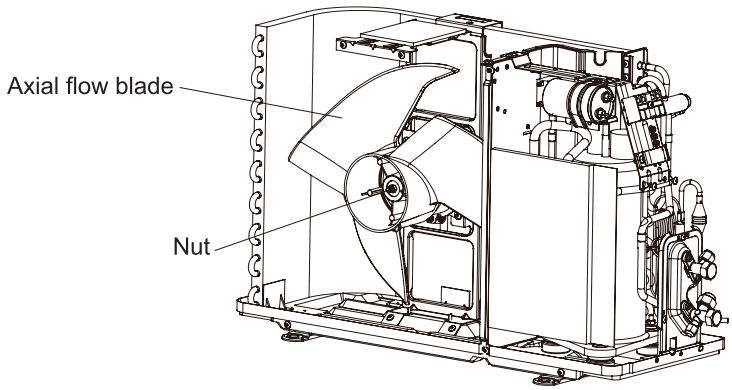
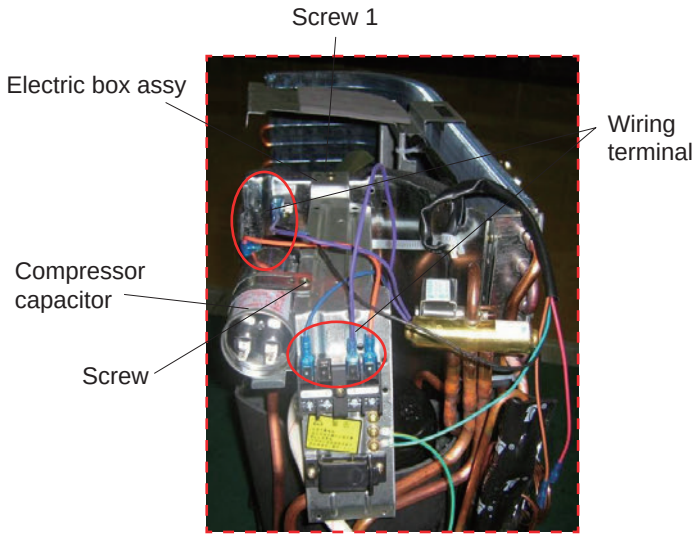
| Step | Procedure |
|---|---|
| 7. Remove motor |  |
| Remove the screws fixing motor and then remove the motor. | |
| 8. Remove motor support |  |
| Remove the screws fixing motor support and then remove the motor support. | |
| 9. Remove clapboard and soundproof sponge |  |
| Remove the screws fixing clapboard and then remove the clapboard.<br><br>Remove the soundproof sponge wrapping the compressor.(Some models are without soundproof sponge) | |

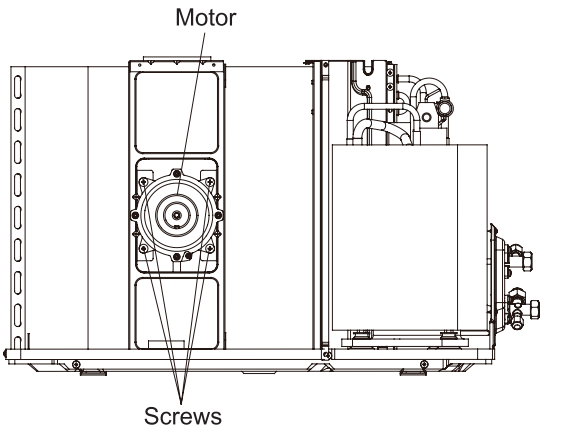
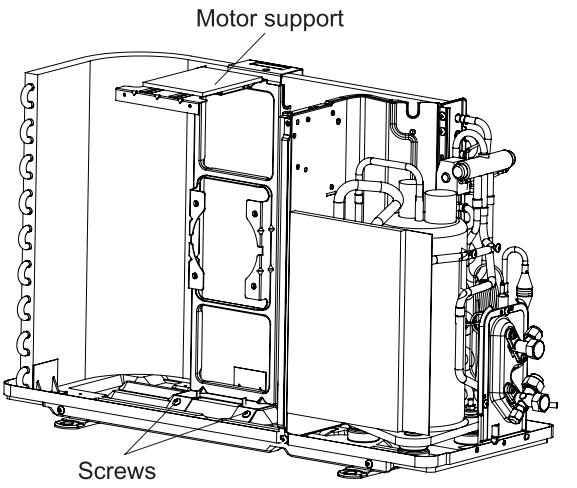
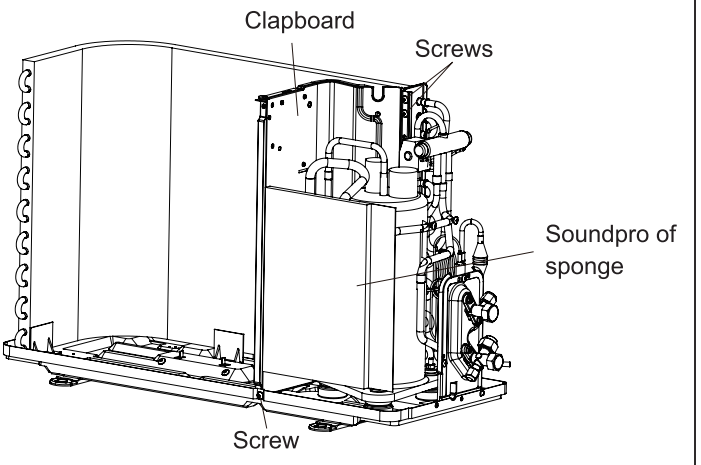
| Step | Procedure |
|---|---|
| 10. Remove magnetic coil |  |
| Remove one screw on magnetic coil, and then remove the magnetic coil. | |
| 11. Remove gas valve and liquid valve |  |
| Unsolder the spot weld between capillary with valve and condenser; remove two screws fixing the gas valve; unsolder the spot weld connecting gas valve and air-return pipe, and then remove the gas valve.<br><br>Remove two screws fixing the liquid valve; unsolder the spot weld connecting liquid valve and Y-type pipe, and then remove the liquid valve.<br><br>Note:<br>When unsoldering the spot weld, wrap the gas valve with wet cloth completely to avoid damaging the valve due to high temperature. | |
| 12. Remove 4-way valve assy and capillary sub-assy |  |
| Unsolder the spot weld of 4-way valve assy, capillary, compressor and condenser, and then remove the 4-way valve assy and capillary sub-assy.<br><br>Note:<br>When unsoldering the spot weld, wrap the 4-way valve with wet cloth completely to avoid damaging the valve due to high temperature. | |

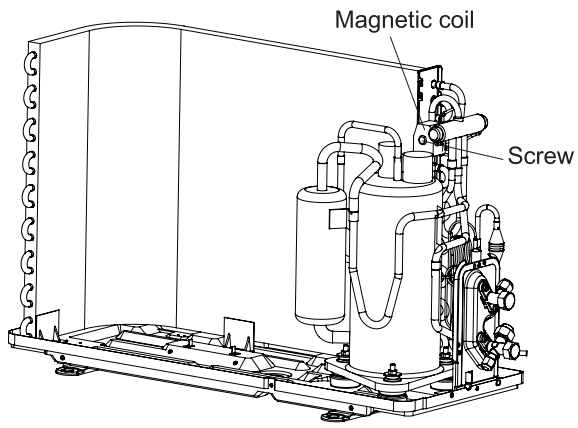
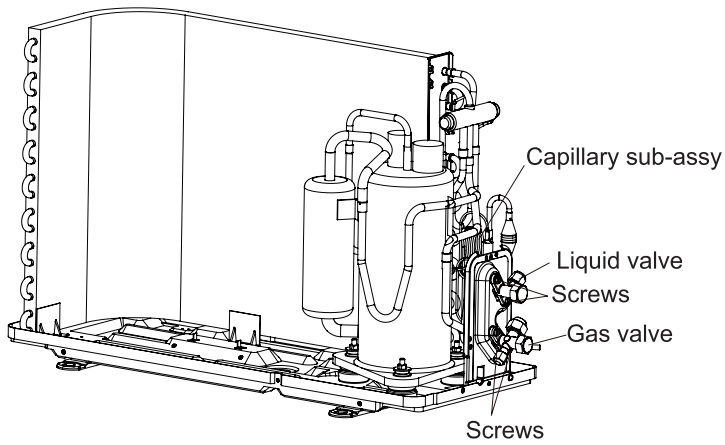
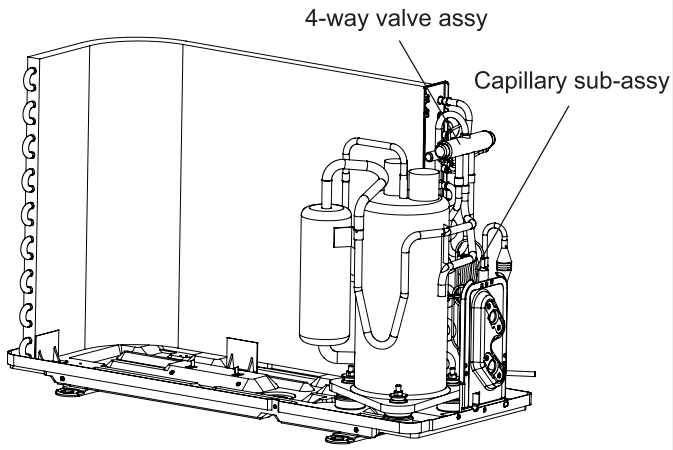
| Step | Procedure |
|---|---|
| 13. Remove valve support |  |
| Screw off the screw fixing the valve support and then remove the valve support. | |
| 14.Remove compressor |  |
| Remove 3 foot nuts on compressor, and then remove the compressor.<br><br>Note:<br>Protect the ports of discharge pipe and suction pipe to avoid foreign objects to enter it. | |
| 15. Remove condenser |  |
| Remove one screw fixing the condenser, then remove the condenser. | |

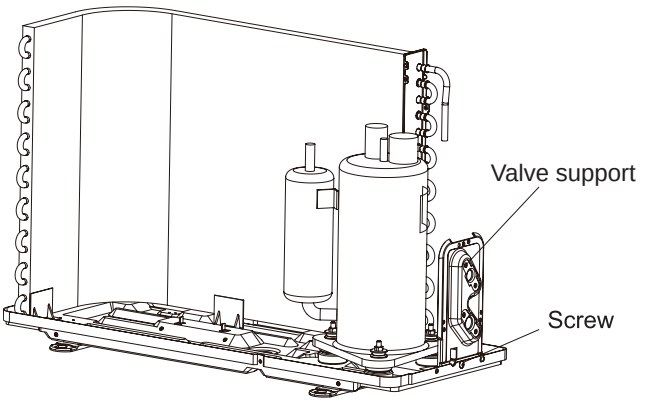
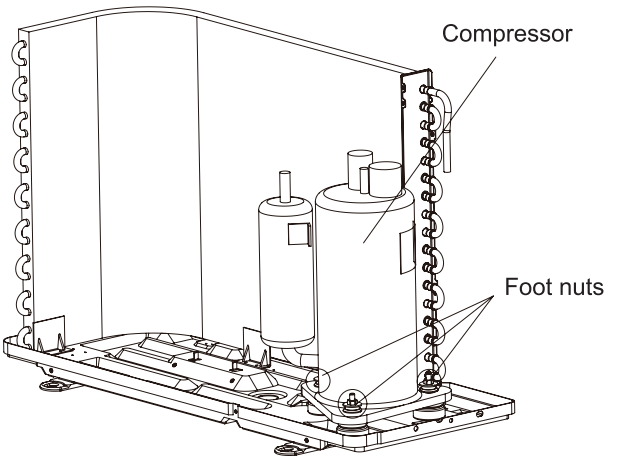
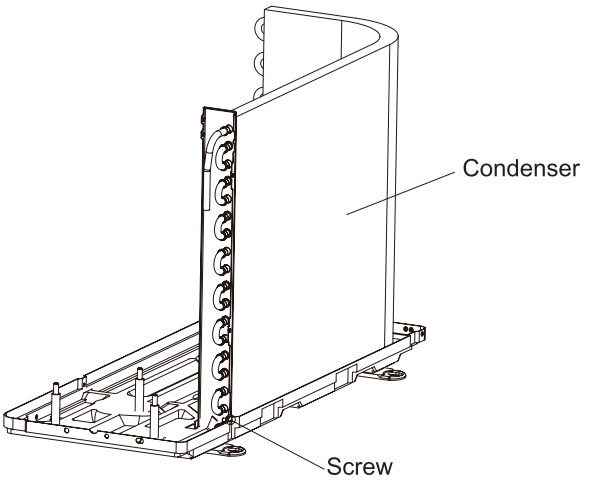
GWH07ACA-K3NNA5A/O GWH09ACB-K3NNA5A/O

| Step | Procedure |
|---|---|
| 1. Remove big handle | |
| Remove the screw fixing big handle; slide out the big handle upwards to make the clasp of big handle separate from the groove of right side plate, and then remove the big handle. |  |
| 2. Remove top panel | |
| Remove the screws fixing top panel and then remove the top panel. |  |
| 3. Remove outer case | |
| Remove the screws fixing the outer case and then remove the outer case. |  |

| Step | Procedure |
|---|---|
| 4. Remove right side plate |  |
| Remove the screws fixing right side plate and then remove the right side plate.<br>Cut off the wire binder which fixing the protective grille, and then remove the protective grille. | |
| 5. Remove axial flow blade |  |
| Remove the nut fixing axial flow blade and then remove the axial flow blade. | |
| 6. Remove electric box assy |  |
| Remove each wiring terminal of electric box assy.Remove screw 1 fixing electric box assy and then remove the electric box assy.<br>Remove the screw fixing compressor capacitor and then remove the compressor capacitor. | |

| Step | Procedure |
|---|---|
| 7. Remove motor | |
| Remove the screws fixing motor and then remove the motor. |  |
| 8. Remove motor support | |
| Remove the screws fixing motor support and then remove the motor support. |  |
| 9. Remove clapboard and soundproof sponge | |
| Remove the screws fixing clapboard and then remove the clapboard.<br><br>Remove the soundproof sponge wrapping the compressor.(Some models are without soundproof sponge) |  |

| Step | Procedure |
|---|---|
| 10. Remove magnetic coil |  |
| Remove one screw on magnetic coil, and then remove the magnetic coil. | |
| 11. Remove gas valve and liquid valve |  |
| Unsolder the spot weld between capillary with valve and condenser; remove two screws fixing the gas valve; unsolder the spot weld connecting gas valve and air-return pipe, and then remove the gas valve.<br><br>Remove two screws fixing the liquid valve; unsolder the spot weld connecting liquid valve and Y-type pipe, and then remove the liquid valve.<br><br>Note:<br>When unsoldering the spot weld, wrap the gas valve with wet cloth completely to avoid damaging the valve due to high temperature. | |
| 12. Remove 4-way valve assy and capillary sub-assy |  |
| Unsolder the spot weld of 4-way valve assy, capillary, compressor and condenser, and then remove the 4-way valve assy and capillary sub-assy.<br><br>Note:<br>When unsoldering the spot weld, wrap the 4-way valve with wet cloth completely to avoid damaging the valve due to high temperature. | |

| Step | Procedure |
|---|---|
| 13.Remove valve support<br>Remove the screw fixing valve support and then remove the valve support. |  |
| 14.Remove compressor<br>Remove 3 foot nuts on compressor, and then remove the compressor.<br><br>Note:<br>Protect the ports of discharge pipe and suction pipe to avoid foreign objects to enter it. |  |
| 15. Remove condenser<br>Remove one screw fixing the condenser, then remove the condenser. |  |

# Appendix:

## Appendix 1: Reference Sheet of Celsius and Fahrenheit

**Conversion formula for Fahrenheit degree and Celsius degree: Tf=Tcx1.8+32**

**Set temperature**

| Fahrenheit display temperature (°F) | Fahrenheit (°F) | Celsius(°C) | | Fahrenheit display temperature (°F) | Fahrenheit (°F) | Celsius(°C) | | Fahrenheit display temperature (°F) | Fahrenheit (°F) | Celsius(°C) |
|---|---|---|---|---|---|---|---|---|---|---|
| 61 | 60.8 | 16 | | 69/70 | 69.8 | 21 | | 78/79 | 78.8 | 26 |
| 62/63 | 62.6 | 17 | | 71/72 | 71.6 | 22 | | 80/81 | 80.6 | 27 |
| 64/65 | 64.4 | 18 | | 73/74 | 73.4 | 23 | | 82/83 | 82.4 | 28 |
| 66/67 | 66.2 | 19 | | 75/76 | 75.2 | 24 | | 84/85 | 84.2 | 29 |
| 68 | 68 | 20 | | 77 | 77 | 25 | | 86 | 86 | 30 |

**Ambient temperature**

| Fahrenheit display temperature (°F) | Fahrenheit (°F) | Celsius(°C) | | Fahrenheit display temperature (°F) | Fahrenheit (°F) | Celsius(°C) | | Fahrenheit display temperature (°F) | Fahrenheit (°F) | Celsius(°C) |
|---|---|---|---|---|---|---|---|---|---|---|
| 32/33 | 32 | 0 | | 55/56 | 55.4 | 13 | | 79/80 | 78.8 | 26 |
| 34/35 | 33.8 | 1 | | 57/58 | 57.2 | 14 | | 81 | 80.6 | 27 |
| 36 | 35.6 | 2 | | 59/60 | 59 | 15 | | 82/83 | 82.4 | 28 |
| 37/38 | 37.4 | 3 | | 61/62 | 60.8 | 16 | | 84/85 | 84.2 | 29 |
| 39/40 | 39.2 | 4 | | 63 | 62.6 | 17 | | 86/87 | 86 | 30 |
| 41/42 | 41 | 5 | | 64/65 | 64.4 | 18 | | 88/89 | 87.8 | 31 |
| 43/44 | 42.8 | 6 | | 66/67 | 66.2 | 19 | | 90 | 89.6 | 32 |
| 45 | 44.6 | 7 | | 68/69 | 68 | 20 | | 91/92 | 91.4 | 33 |
| 46/47 | 46.4 | 8 | | 70/71 | 69.8 | 21 | | 93/94 | 93.2 | 34 |
| 48/49 | 48.2 | 9 | | 72 | 71.6 | 22 | | 95/96 | 95 | 35 |
| 50/51 | 50 | 10 | | 73/74 | 73.4 | 23 | | 97/98 | 96.8 | 36 |
| 52/53 | 51.8 | 11 | | 75/76 | 75.2 | 24 | | 99 | 98.6 | 37 |
| 54 | 53.6 | 12 | | 77/78 | 77 | 25 | | | | |

## Appendix 2: Configuration of Connection Pipe

1.Standard length of connection pipe

● 5m, 7.5m, 8m.

2.Min. length of connection pipe is 3m.

3.Max. length of connection pipe and max. high difference.（More details please refer to the specifications.)

4.The additional refrigerant oil and refrigerant charging required after prolonging connection pipe

● After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.

● The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):

● Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.

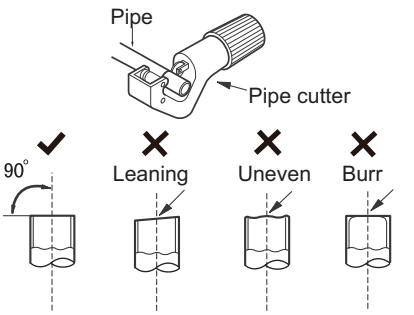
● Additional refrigerant charging amount = prolonged length of liquid pipe X additional refrigerant charging amount per meter

| Additional refrigerant charging amount for R22, R407C, R410A and R134a | | | |
|---|---|---|---|
| Diameter of connection pipe | | Outdoor unit throttle | |
| Liquid pipe(mm) | Gas pipe(mm) | Cooling only(g/m) | Cooling and heating(g/m) |
| Φ6 | Φ9.5 or Φ12 | 15 | 20 |
| Φ6 or Φ9.5 | Φ16 or Φ19 | 15 | 50 |
| Φ12 | Φ19 or Φ22.2 | 30 | 120 |
| Φ16 | Φ25.4 or Φ31.8 | 60 | 120 |
| Φ19 | / | 250 | 250 |
| Φ22.2 | / | 350 | 350 |

# Appendix 3: Pipe Expanding Method

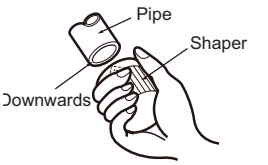
⚠ **Note:**

**Improper pipe expanding is the main cause of refrigerant leakage.Please expand the pipe according to the following steps:**



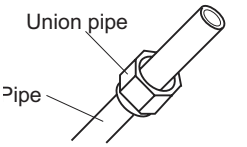

A:Cut the pip
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.

B:Remove the burrs
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.




C:Put on suitable insulating pipe

D:Put on the union nut
- Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.

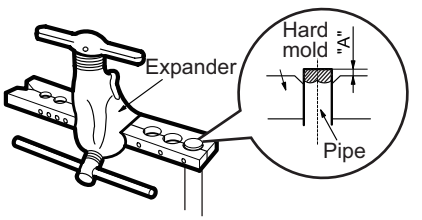



E:Expand the port
- Expand the port with expander.

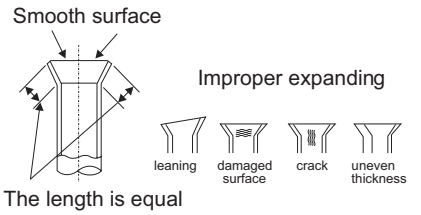
⚠ **Note:**

- "A" is different according to the diameter, please refer to the sheet below:

| Outer diameter(mm) | A(mm) | |
|---|---|---|
| | Max | Min |
| Φ6 - 6.35 (1/4") | 1.3 | 0.7 |
| Φ9.52 (3/8”) | 1.6 | 1.0 |
| Φ12 - 12.70 (1/2”) | 1.8 | 1.0 |
| Φ16 - 15.88 (5/8”) | 2.4 | 2.2 |




F:Inspection
- Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.



# Appendix 4: List of Resistance for Temperature Sensor

**Resistance Table of Ambient Temperature Sensor for Indoor and Outdoor (15K)**

| Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) |
|---|---|---|---|---|---|---|---|---|---|---|
| -19 | 138.1 | | 20 | 18.75 | | 59 | 3.848 | | 98 | 1.071 |
| -18 | 128.6 | | 21 | 17.93 | | 60 | 3.711 | | 99 | 1.039 |
| -17 | 121.6 | | 22 | 17.14 | | 61 | 3.579 | | 100 | 1.009 |
| -16 | 115 | | 23 | 16.39 | | 62 | 3.454 | | 101 | 0.98 |
| -15 | 108.7 | | 24 | 15.68 | | 63 | 3.333 | | 102 | 0.952 |
| -14 | 102.9 | | 25 | 15 | | 64 | 3.217 | | 103 | 0.925 |
| -13 | 97.4 | | 26 | 14.36 | | 65 | 3.105 | | 104 | 0.898 |
| -12 | 92.22 | | 27 | 13.74 | | 66 | 2.998 | | 105 | 0.873 |
| -11 | 87.35 | | 28 | 13.16 | | 67 | 2.896 | | 106 | 0.848 |
| -10 | 82.75 | | 29 | 12.6 | | 68 | 2.797 | | 107 | 0.825 |
| -9 | 78.43 | | 30 | 12.07 | | 69 | 2.702 | | 108 | 0.802 |
| -8 | 74.35 | | 31 | 11.57 | | 70 | 2.611 | | 109 | 0.779 |
| -7 | 70.5 | | 32 | 11.09 | | 71 | 2.523 | | 110 | 0.758 |
| -6 | 66.88 | | 33 | 10.63 | | 72 | 2.439 | | 111 | 0.737 |
| -5 | 63.46 | | 34 | 10.2 | | 73 | 2.358 | | 112 | 0.717 |
| -4 | 60.23 | | 35 | 9.779 | | 74 | 2.28 | | 113 | 0.697 |
| -3 | 57.18 | | 36 | 9.382 | | 75 | 2.206 | | 114 | 0.678 |
| -2 | 54.31 | | 37 | 9.003 | | 76 | 2.133 | | 115 | 0.66 |
| -1 | 51.59 | | 38 | 8.642 | | 77 | 2.064 | | 116 | 0.642 |
| 0 | 49.02 | | 39 | 8.297 | | 78 | 1.997 | | 117 | 0.625 |
| 1 | 46.6 | | 40 | 7.967 | | 79 | 1.933 | | 118 | 0.608 |
| 2 | 44.31 | | 41 | 7.653 | | 80 | 1.871 | | 119 | 0.592 |
| 3 | 42.14 | | 42 | 7.352 | | 81 | 1.811 | | 120 | 0.577 |
| 4 | 40.09 | | 43 | 7.065 | | 82 | 1.754 | | 121 | 0.561 |
| 5 | 38.15 | | 44 | 6.791 | | 83 | 1.699 | | 122 | 0.547 |
| 6 | 36.32 | | 45 | 6.529 | | 84 | 1.645 | | 123 | 0.532 |
| 7 | 34.58 | | 46 | 6.278 | | 85 | 1.594 | | 124 | 0.519 |
| 8 | 32.94 | | 47 | 6.038 | | 86 | 1.544 | | 125 | 0.505 |
| 9 | 31.38 | | 48 | 5.809 | | 87 | 1.497 | | 126 | 0.492 |
| 10 | 29.9 | | 49 | 5.589 | | 88 | 1.451 | | 127 | 0.48 |
| 11 | 28.51 | | 50 | 5.379 | | 89 | 1.408 | | 128 | 0.467 |
| 12 | 27.18 | | 51 | 5.197 | | 90 | 1.363 | | 129 | 0.456 |
| 13 | 25.92 | | 52 | 4.986 | | 91 | 1.322 | | 130 | 0.444 |
| 14 | 24.73 | | 53 | 4.802 | | 92 | 1.282 | | 131 | 0.433 |
| 15 | 23.6 | | 54 | 4.625 | | 93 | 1.244 | | 132 | 0.422 |
| 16 | 22.53 | | 55 | 4.456 | | 94 | 1.207 | | 133 | 0.412 |
| 17 | 21.51 | | 56 | 4.294 | | 95 | 1.171 | | 134 | 0.401 |
| 18 | 20.54 | | 57 | 4.139 | | 96 | 1.136 | | 135 | 0.391 |
| 19 | 19.63 | | 58 | 3.99 | | 97 | 1.103 | | 136 | 0.382 |

**Resistance Table of Tube Temperature Sensors for Outdoor and Indoor (20K)**

| Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) |
|---|---|---|---|---|---|---|---|---|---|---|
| -19 | 181.4 | | 20 | 25.01 | | 59 | 5.13 | | 98 | 1.427 |
| -18 | 171.4 | | 21 | 23.9 | | 60 | 4.948 | | 99 | 1.386 |
| -17 | 162.1 | | 22 | 22.85 | | 61 | 4.773 | | 100 | 1.346 |
| -16 | 153.3 | | 23 | 21.85 | | 62 | 4.605 | | 101 | 1.307 |
| -15 | 145 | | 24 | 20.9 | | 63 | 4.443 | | 102 | 1.269 |
| -14 | 137.2 | | 25 | 20 | | 64 | 4.289 | | 103 | 1.233 |
| -13 | 129.9 | | 26 | 19.14 | | 65 | 4.14 | | 104 | 1.198 |
| -12 | 123 | | 27 | 18.13 | | 66 | 3.998 | | 105 | 1.164 |
| -11 | 116.5 | | 28 | 17.55 | | 67 | 3.861 | | 106 | 1.131 |
| -10 | 110.3 | | 29 | 16.8 | | 68 | 3.729 | | 107 | 1.099 |
| -9 | 104.6 | | 30 | 16.1 | | 69 | 3.603 | | 108 | 1.069 |
| -8 | 99.13 | | 31 | 15.43 | | 70 | 3.481 | | 109 | 1.039 |
| -7 | 94 | | 32 | 14.79 | | 71 | 3.364 | | 110 | 1.01 |
| -6 | 89.17 | | 33 | 14.18 | | 72 | 3.252 | | 111 | 0.983 |
| -5 | 84.61 | | 34 | 13.59 | | 73 | 3.144 | | 112 | 0.956 |
| -4 | 80.31 | | 35 | 13.04 | | 74 | 3.04 | | 113 | 0.93 |
| -3 | 76.24 | | 36 | 12.51 | | 75 | 2.94 | | 114 | 0.904 |
| -2 | 72.41 | | 37 | 12 | | 76 | 2.844 | | 115 | 0.88 |
| -1 | 68.79 | | 38 | 11.52 | | 77 | 2.752 | | 116 | 0.856 |
| 0 | 65.37 | | 39 | 11.06 | | 78 | 2.663 | | 117 | 0.833 |
| 1 | 62.13 | | 40 | 10.62 | | 79 | 2.577 | | 118 | 0.811 |
| 2 | 59.08 | | 41 | 10.2 | | 80 | 2.495 | | 119 | 0.77 |
| 3 | 56.19 | | 42 | 9.803 | | 81 | 2.415 | | 120 | 0.769 |
| 4 | 53.46 | | 43 | 9.42 | | 82 | 2.339 | | 121 | 0.746 |
| 5 | 50.87 | | 44 | 9.054 | | 83 | 2.265 | | 122 | 0.729 |
| 6 | 48.42 | | 45 | 8.705 | | 84 | 2.194 | | 123 | 0.71 |
| 7 | 46.11 | | 46 | 8.37 | | 85 | 2.125 | | 124 | 0.692 |
| 8 | 43.92 | | 47 | 8.051 | | 86 | 2.059 | | 125 | 0.674 |
| 9 | 41.84 | | 48 | 7.745 | | 87 | 1.996 | | 126 | 0.658 |
| 10 | 39.87 | | 49 | 7.453 | | 88 | 1.934 | | 127 | 0.64 |
| 11 | 38.01 | | 50 | 7.173 | | 89 | 1.875 | | 128 | 0.623 |
| 12 | 36.24 | | 51 | 6.905 | | 90 | 1.818 | | 129 | 0.607 |
| 13 | 34.57 | | 52 | 6.648 | | 91 | 1.736 | | 130 | 0.592 |
| 14 | 32.98 | | 53 | 6.403 | | 92 | 1.71 | | 131 | 0.577 |
| 15 | 31.47 | | 54 | 6.167 | | 93 | 1.658 | | 132 | 0.563 |
| 16 | 30.04 | | 55 | 5.942 | | 94 | 1.609 | | 133 | 0.549 |
| 17 | 28.68 | | 56 | 5.726 | | 95 | 1.561 | | 134 | 0.535 |
| 18 | 27.39 | | 57 | 5.519 | | 96 | 1.515 | | 135 | 0.521 |
| 19 | 26.17 | | 58 | 5.32 | | 97 | 1.47 | | 136 | 0.509 |

**Resistance Table of Discharge Temperature Sensor for Outdoor (50K)**

| Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) | | Temp(°C) | Resistance(kΩ) |
|---|---|---|---|---|---|---|---|---|---|---|
| -29 | 853.5 | | 10 | 98 | | 49 | 18.34 | | 88 | 4.75 |
| -28 | 799.8 | | 11 | 93.42 | | 50 | 17.65 | | 89 | 4.61 |
| -27 | 750 | | 12 | 89.07 | | 51 | 16.99 | | 90 | 4.47 |
| -26 | 703.8 | | 13 | 84.95 | | 52 | 16.36 | | 91 | 4.33 |
| -25 | 660.8 | | 14 | 81.05 | | 53 | 15.75 | | 92 | 4.20 |
| -24 | 620.8 | | 15 | 77.35 | | 54 | 15.17 | | 93 | 4.08 |
| -23 | 580.6 | | 16 | 73.83 | | 55 | 14.62 | | 94 | 3.96 |
| -22 | 548.9 | | 17 | 70.5 | | 56 | 14.09 | | 95 | 3.84 |
| -21 | 516.6 | | 18 | 67.34 | | 57 | 13.58 | | 96 | 3.73 |
| -20 | 486.5 | | 19 | 64.33 | | 58 | 13.09 | | 97 | 3.62 |
| -19 | 458.3 | | 20 | 61.48 | | 59 | 12.62 | | 98 | 3.51 |
| -18 | 432 | | 21 | 58.77 | | 60 | 12.17 | | 99 | 3.41 |
| -17 | 407.4 | | 22 | 56.19 | | 61 | 11.74 | | 100 | 3.32 |
| -16 | 384.5 | | 23 | 53.74 | | 62 | 11.32 | | 101 | 3.22 |
| -15 | 362.9 | | 24 | 51.41 | | 63 | 10.93 | | 102 | 3.13 |
| -14 | 342.8 | | 25 | 49.19 | | 64 | 10.54 | | 103 | 3.04 |
| -13 | 323.9 | | 26 | 47.08 | | 65 | 10.18 | | 104 | 2.96 |
| -12 | 306.2 | | 27 | 45.07 | | 66 | 9.83 | | 105 | 2.87 |
| -11 | 289.6 | | 28 | 43.16 | | 67 | 9.49 | | 106 | 2.79 |
| -10 | 274 | | 29 | 41.34 | | 68 | 9.17 | | 107 | 2.72 |
| -9 | 259.3 | | 30 | 39.61 | | 69 | 8.85 | | 108 | 2.64 |
| -8 | 245.6 | | 31 | 37.96 | | 70 | 8.56 | | 109 | 2.57 |
| -7 | 232.6 | | 32 | 36.38 | | 71 | 8.27 | | 110 | 2.50 |
| -6 | 220.5 | | 33 | 34.88 | | 72 | 7.99 | | 111 | 2.43 |
| -5 | 209 | | 34 | 33.45 | | 73 | 7.73 | | 112 | 2.37 |
| -4 | 198.3 | | 35 | 32.09 | | 74 | 7.47 | | 113 | 2.30 |
| -3 | 199.1 | | 36 | 30.79 | | 75 | 7.22 | | 114 | 2.24 |
| -2 | 178.5 | | 37 | 29.54 | | 76 | 7.00 | | 115 | 2.18 |
| -1 | 169.5 | | 38 | 28.36 | | 77 | 6.76 | | 116 | 2.12 |
| 0 | 161 | | 39 | 27.23 | | 78 | 6.54 | | 117 | 2.07 |
| 1 | 153 | | 40 | 26.15 | | 79 | 6.33 | | 118 | 2.02 |
| 2 | 145.4 | | 41 | 25.11 | | 80 | 6.13 | | 119 | 1.96 |
| 3 | 138.3 | | 42 | 24.13 | | 81 | 5.93 | | 120 | 1.91 |
| 4 | 131.5 | | 43 | 23.19 | | 82 | 5.75 | | 121 | 1.86 |
| 5 | 125.1 | | 44 | 22.29 | | 83 | 5.57 | | 122 | 1.82 |
| 6 | 119.1 | | 45 | 21.43 | | 84 | 5.39 | | 123 | 1.77 |
| 7 | 113.4 | | 46 | 20.6 | | 85 | 5.22 | | 124 | 1.73 |
| 8 | 108 | | 47 | 19.81 | | 86 | 5.06 | | 125 | 1.68 |
| 9 | 102.8 | | 48 | 19.06 | | 87 | 4.90 | | 126 | 1.64 |



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**For product improvement, specifications and appearance in this manual are subject to change without prior notice.**