# Service Manual

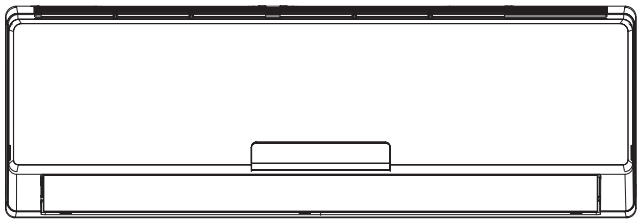
MODEL: GWH09MA-K3NNA3F
GWH09MA-K3NNA3E
GWH09MA-K3NNC5A
GWH09MA-K3NNC8A
(Refrigerant R410A)

GREE ELECTRIC APPLIANCES, INC.OF ZHUHAI

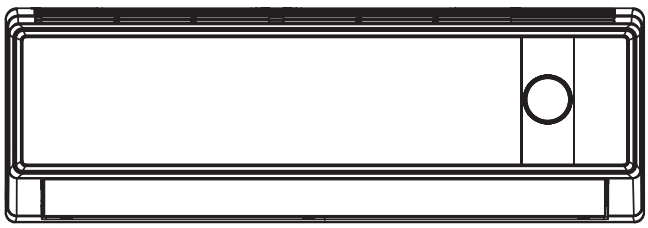
# Summary and features

**Indoor Unit**

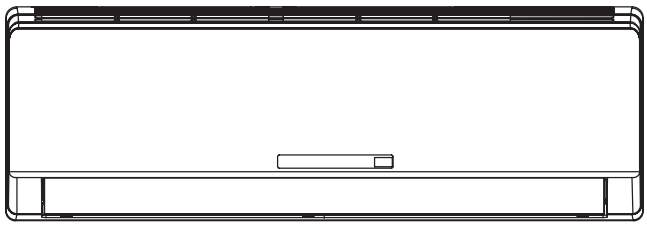
**GWH09MA-K3NNA3F/I**
**GWH09MA-K3NNA3E/I**



**GWH09MA-K3NNC5A/I**

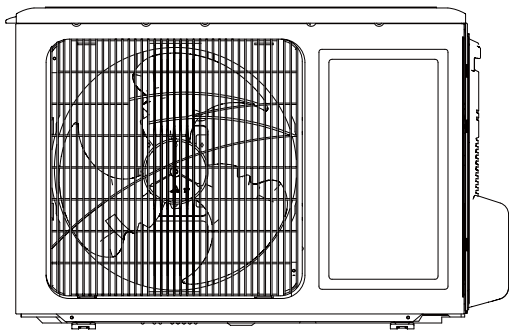


**GWH09MA-K3NNC8A/I**



**Outdoor Unit**

**GWH09MA-K3NNA3A/O**
**GWH09MA-K3NNA3E/O**
**GWH09MA-K3NNA3F/O**



**Remote control window**

**YB1FA**

**YB1F4**

# 1.Safety Precautions

**Installing, starting up, and servicing air conditioner can be hazardous due to system pressure, electrical components, and equipment location, etc.**

**Only trained, qualified installers and service personnel are allowed to install, start-up, and service this equipment. Untrained personnel can perform basic maintenance functions such as cleaning coils. All other operations should be performed by trained service personnel.**

**When handling the equipment, observe precautions in the manual and on tags, stickers, and labels attached to the equipment. Follow all safety codes. Wear safety glasses and work gloves. Keep quenching cloth and fire extinguisher nearby when brazing.**

**Read the instructions thoroughly and follow all warnings or cautions in literature and attached to the unit. Consult local building codes and current editions of national as well as local electrical codes.**

**Recognize the following safety information:**

**Warning** Incorrect handling could result in personal injury or death.

**Caution** Incorrect handling may result in minor injury, or damage to product or property.

## Warning

**All electric work must be performed by a licensed technician according to local regulations and the instructions given in this manual.**

- **Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position. There may be more than 1 disconnect switch. Lock out and tag switch with a suitable warning label.**
- **Never supply power to the unit unless all wiring and tubing are completed, reconnected and checked.**
- **This system adopts highly dangerous electrical voltage. Incorrect connection or inadequate grounding can cause personal injury or death. Stick to the wiring diagram and all the instructions when wiring.**
- **Have the unit adequately grounded in accordance with local electrical codes.**
- **Have all wiring connected tightly. Loose connection may lead to overheating and a possible fire hazard.**

**All installation or repair work shall be performed by your dealer or a specialized subcontractor as there is the risk of fire, electric shock, explosion or injury.**

- **Make sure the outdoor unit is installed on a stable, level surface with no accumulation of snow, leaves, or trash beside.**
- **Make sure the ceiling/wall is strong enough to bear the weight of the unit.**
- **Make sure the noise of the outdoor unit does not disturb neighbors.**
- **Follow all the installation instructions to minimize the risk of damage from earthquakes, typhoons or strong winds.**
- **Avoid contact between refrigerant and fire as it generates poisonous gas.**
- **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 and other hazards.**
- **Make sure no refrigerant gas is leaking out when installation is completed.**
- **Should there be refrigerant leakage, the density of refrigerant in the air shall in no way exceed its limited value, or it may lead to explosion.**
- **Keep your fingers and clothing away from any moving parts.**
- **Clear the site after installation. Make sure no foreign objects are left in the unit.**
- **Always ensure effective grounding for the unit.**

## Caution

- **Never install the unit in a place where a combustible gas might leak, or it may lead to fire or explosion.**
- **Make a proper provision against noise when the unit is installed at a telecommunication center or hospital.**
- **Provide an electric leak breaker when it is installed in a watery place.**
- **Never wash the unit with water.**
- **Handle unit transportation with care. The unit should not be carried by only one person if it is more than 20kg.**
- **Never touch the heat exchanger fins with bare hands.**
- **Never touch the compressor or refrigerant piping without wearing glove.**
- **Do not have the unit operate without air filter.**
- **Should any emergency occur, stop the unit and disconnect the power immediately.**
- **Properly insulate any tubing running inside the room to prevent the water from damaging the wall.**

# 2.Specifications

## 2.1 Unit Specifications

| Model | | | GWH09MA-K3NNC8A | GWH09MA-K3NNC5A |
|---|---|---|---|---|
| Product Code | | | CA19200010 | CA17900040 |
| Power Supply | Rated Voltage | V～ | 220-240 | |
| | Rated Frequency | Hz | 50 | |
| | Phases | | 1 | |
| Power Supply Mode | | | Indoor | |
| Cooling Capacity | | W | 2600 | |
| Heating Capacity | | W | 2800 | |
| Cooling Power Input | | W | 809 | |
| Heating Power Input | | W | 775 | |
| Cooling Power Current | | A | 3.7 | |
| Heating Power Current | | A | 3.5 | |
| Rated Input | | W | 1120/1020 | |
| Rated Current | | A | 5/4.5 | |
| Air Flow Volume(SH/H/M/L/SL) | | $m^3/h$ | 500/-/-/- | |
| Dehumidifying Volume | | L/h | 0.8 | |
| EER | | W/W | 3.21 | |
| COP | | W/W | 3.61 | |
| SEER | | W/W | / | |
| HSPF | | W/W | / | |
| Application Area | | $m^2$ | 12-18 | |
| Indoor Unit | Model of indoor unit | | GWH09MA-K3NNC8A/I | GWH09MA-K3NNC5A/I |
| | Fan Type | | Cross-flow | |
| | Diameter Length(DXL) | mm | Φ85X596 | |
| | Fan Motor Cooling Speed(SH/H/M/L/SL) | r/min | 1260/1050/920/730/- | |
| | Fan Motor Heating Speed(SH/H/M/L/SL) | r/min | 1320/1200/1100/950/- | |
| | Output of Fan Motor | W | 10 | |
| | Fan Motor RLA | A | 0.1 | |
| | Fan Motor Capacitor | μF | 1 | |
| | Input of Heater | W | / | |
| | Evaporator Form | | Aluminum Fin-copper Tube | |
| | Pipe Diameter | mm | Φ7 | |
| | Row-fin Gap | mm | 2-1.5 | |
| | Coil Length (LXDXW) | mm | 581X25.4X264 | |
| | Swing Motor Model | | MP24AA | |
| | Output of Swing Motor | W | 1.5 | |
| | Fuse | A | PCB 3.15A | |
| | Sound Pressure Level (SH/H/M/L/SL) | dB (A) | 39/36/33/30/- | 39/36/33/30/- |
| | Sound Power Level (SH/H/M/L/SL) | dB (A) | 50/48/45/42/- | 50/48/45/42/- |
| | Dimension (WXHXD) | mm | 790X265X177 | |
| | Dimension of Carton Box (L/W/H) | mm | 867X245X340 | |
| | Dimension of Package(L/W/H) | mm | 870X248X355 | |
| | Net Weight | kg | 9 | |
| | Gross Weight | kg | 12 | |

| | | | |
|---|---|---|---|
| Outdoor Unit | Model of Outdoor Unit | | GWH09MA-K3NNA3A/O |
| | Compressor Manufacturer/Trademark | | ZHUHAI LANDA COMPRESSOR CO. LTD. /GREE |
| | Compressor Model | | QXA-B102uC130 |
| | Compressor Oil | | PVE(DN HERMITIC FVC 68D) |
| | Compressor Type | | Rotary |
| | L.R.A. | A | 18 |
| | Compressor RLA | A | 3.9 |
| | Compressor Power Input | W | 858 |
| | Overload Protector | | B210-150-241H |
| | Throttling Method | | Capillary |
| | Operation Temp | ℃ | 16～30 |
| | Ambient Temp (Cooling) | ℃ | 18～43 |
| | Ambient Temp (Heating) | ℃ | -7～24 |
| | Condenser Form | | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7 |
| | Rows-fin Gap | mm | 1－1.4 |
| | Coil Length (LXDXW) | mm | 741X495.3X12.7 |
| | Fan Motor Speed | rpm | 850 |
| | Output of Fan Motor | W | 30 |
| | Fan Motor RLA | A | 0.23 |
| | Fan Motor Capacitor | μF | 2 |
| | Air Flow Volume of Outdoor Unit | $m^3/h$ | 1800 |
| | Fan Type | | Axial-flow |
| | Fan Diameter | mm | Φ400 |
| | Defrosting Method | | Automatic Defrosting |
| | Climate Type | | T1 |
| | Isolation | | I |
| | Moisture Protection | | IP24 |
| | Permissible Excessive Operating Pressure for the Discharge Side | MPa | 3.8 |
| | Permissible Excessive Operating Pressure for the Suction Side | MPa | 1.2 |
| | Sound Pressure Level (H/M/L) | dB (A) | 50/-/- |
| | Sound Power Level (H/M/L) | dB (A) | 60/-/- |
| | Dimension (WXHXD) | mm | 848X540X320 |
| | Dimension of Carton Box (L/W/H) | mm | 875X357X565 |
| | Dimension of Package(L/W/H) | mm | 878X360X580 |
| | Net Weight | kg | 26 |
| | Gross Weight | kg | 30 |
| | Refrigerant | | R410A |
| | Refrigerant Charge | kg | 0.75 |
| Connection Pipe | Length | m | 4 |
| | Gas Additional Charge | g/m | 20 |
| | Outer Diameter Liquid Pipe | mm | Φ6 |
| | Outer Diameter Gas Pipe | mm | Φ9.52 |
| | Max Distance Height | m | 10 |
| | Max Distance Length | m | 20 |

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

| | | | |
|---|---|---|---|
| Model | | | GWH09MA-K3NNA3F |
| Product Code | | | CA17100680 |
| Power Supply | Rated Voltage | V～ | 220-240 |
| | Rated Frequency | Hz | 50 |
| | Phases | | 1 |
| Power Supply Mode | | | Indoor |
| Cooling Capacity | | W | 2600 |
| Heating Capacity | | W | 2800 |
| Cooling Power Input | | W | 809 |
| Heating Power Input | | W | 775 |
| Cooling Power Current | | A | 3.59 |
| Heating Power Current | | A | 3.44 |
| Rated Input | | W | 1120 |
| Rated Current | | A | 4.97 |
| Air Flow Volume(SH/H/M/L/SL) | | $m^3/h$ | 500/-/-/-/- |
| Dehumidifying Volume | | L/h | 0.8 |
| EER | | W/W | 3.21 |
| COP | | W/W | 3.61 |
| SEER | | W/W | / |
| HSPF | | W/W | / |
| Application Area | | $m^2$ | 12-18 |
| Indoor Unit | Model of indoor unit | | GWH09MA-K3NNA3F/I |
| | Fan Type | | Cross-flow |
| | Diameter Length(DXL) | mm | Φ85X596 |
| | Fan Motor Cooling Speed(SH/H/M/L/SL) | r/min | 1260/1050/920/730/- |
| | Fan Motor Heating Speed(SH/H/M/L/SL) | r/min | 1320/1200/1100/950/- |
| | Output of Fan Motor | W | 10 |
| | Fan Motor RLA | A | 0.13 |
| | Fan Motor Capacitor | μF | 1 |
| | Input of Heater | W | / |
| | Evaporator Form | | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7 |
| | Row-fin Gap | mm | 2-1.5 |
| | Coil Length (LXDXW) | mm | 589X25.4X266.7 |
| | Swing Motor Model | | MP24AA |
| | Output of Swing Motor | W | 1.5W |
| | Fuse | A | PCB 3.15A |
| | Sound Pressure Level (SH/H/M/L/SL) | dB (A) | 40/37/35/32/- |
| | Sound Power Level (SH/H/M/L/SL) | dB (A) | 49/47/45/42/- |
| | Dimension (WXHXD) | mm | 790X265X170 |
| | Dimension of Carton Box (L/W/H) | mm | 870X248X355 |
| | Dimension of Package(L/W/H) | mm | 873X251X370 |
| | Net Weight | kg | 9 |
| | Gross Weight | kg | 12 |

| | | | |
|---|---|---|---|
| Outdoor Unit | Model of Outdoor Unit | | GWH09MA-K3NNA3F/O |
| | Compressor Manufacturer/Trademark | | GREE |
| | Compressor Model | | QXA-B102uC130 |
| | Compressor Oil | | PVE(DN HERMITIC FVC 68D) |
| | Compressor Type | | Rotary |
| | L.R.A. | A | 18 |
| | Compressor RLA | A | 4±5% |
| | Compressor Power Input | W | 858±5% |
| | Overload Protector | | B210-150-241H |
| | Throttling Method | | Capillary |
| | Operation Temp | ℃ | 16～30 |
| | Ambient Temp (Cooling) | ℃ | 18～43 |
| | Ambient Temp (Heating) | ℃ | -7～24 |
| | Condenser Form | | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7 |
| | Rows-fin Gap | mm | 1-1.4 |
| | Coil Length (LXDXW) | mm | 780.45X12.7X495.3 |
| | Fan Motor Speed | rpm | 800 |
| | Output of Fan Motor | W | 30 |
| | Fan Motor RLA | A | 0.37 |
| | Fan Motor Capacitor | μF | 2 |
| | Air Flow Volume of Outdoor Unit | $m^3/h$ | 1800 |
| | Fan Type | | Cross-flow |
| | Fan Diameter | mm | 400 |
| | Defrosting Method | | Automatic Defrosting |
| | Climate Type | | T1 |
| | Isolation | | I |
| | Moisture Protection | | IP24 |
| | Permissible Excessive Operating Pressure for the Discharge Side | MPa | 3.8 |
| | Permissible Excessive Operating Pressure for the Suction Side | MPa | 1.2 |
| | Sound Pressure Level (H/M/L) | dB (A) | 50 |
| | Sound Power Level (H/M/L) | dB (A) | 60 |
| | Dimension (WXHXD) | mm | 848X540X320 |
| | Dimension of Carton Box (L/W/H) | mm | 878X360X580 |
| | Dimension of Package(L/W/H) | mm | 881X363X605 |
| | Net Weight | kg | 29 |
| | Gross Weight | kg | 33 |
| | Refrigerant | | R410A |
| | Refrigerant Charge | kg | 0.75 |
| Connection Pipe | Length | m | 4 |
| | Gas Additional Charge | g/m | 20 |
| | Outer Diameter Liquid Pipe | mm | Φ6 |
| | Outer Diameter Gas Pipe | mm | Φ9.52 |
| | Max Distance Height | m | 10 |
| | Max Distance Length | m | 15 |

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

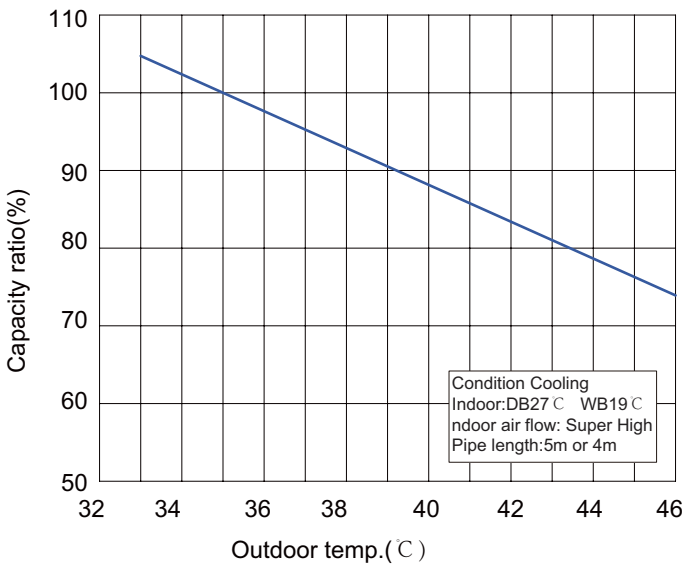
| | | | |
|---|---|---|---|
| Model | | | GWH09MA-K3NNA3E |
| Product Code | | | CA17100800 |
| Power Supply | Rated Voltage | V～ | 220-240 |
| | Rated Frequency | Hz | 50 |
| | Phases | | 1 |
| Power Supply Mode | | | Indoor |
| Cooling Capacity | | W | 2680 |
| Heating Capacity | | W | 2880 |
| Cooling Power Input | | W | 834 |
| Heating Power Input | | W | 797 |
| Cooling Power Current | | A | 3.70 |
| Heating Power Current | | A | 3.54 |
| Rated Input | | W | 1120 |
| Rated Current | | A | 4.97 |
| Air Flow Volume(SH/H/M/L/SL) | | $m^3/h$ | 500 /-/-/-/- |
| Dehumidifying Volume | | L/h | 0.8 |
| EER | | W/W | 3.21 |
| COP | | W/W | 3.61 |
| SEER | | W/W | / |
| HSPF | | W/W | / |
| Application Area | | $m^2$ | 12-18 |
| Indoor Unit | Model of indoor unit | | GWH09MA-K3NNA3E/I |
| | Fan Type | | Cross-flow |
| | Diameter Length(DXL) | mm | Φ85X596 |
| | Fan Motor Cooling Speed(SH/H/M/L/SL) | r/min | 1260/1050/920/730/- |
| | Fan Motor Heating Speed(SH/H/M/L/SL) | r/min | 1320/1200/1100/950/- |
| | Output of Fan Motor | W | 10 |
| | Fan Motor RLA | A | 0.13 |
| | Fan Motor Capacitor | μF | 1 |
| | Input of Heater | W | / |
| | Evaporator Form | | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7 |
| | Row-fin Gap | mm | 2-1.5 |
| | Coil Length (LXDXW) | mm | 589X25.4X266.7 |
| | Swing Motor Model | | MP24AA |
| | Output of Swing Motor | W | 1.5W |
| | Fuse | A | PCB 3.15A Transformer 0.2A |
| | Sound Pressure Level(SH/H/M/L/SL) | dB (A) | 39/37/35/32/- |
| | Sound Power Level(SH/H/M/L/SL) | dB (A) | 49/47/45/42/- |
| | Dimension (WXHXD) | mm | 790X265X170 |
| | Dimension of Carton Box (L/W/H) | mm | 1017X325X352 |
| | Dimension of Package(L/W/H) | mm | 1020X328X367 |
| | Net Weight | kg | 13.5 |
| | Gross Weight | kg | 18 |

| | | | |
|---|---|---|---|
| Outdoor Unit | Model of Outdoor Unit | | GWH09MA-K3NNA3E/O |
| | Compressor Manufacturer/Trademark | | ZHUHAI LANDA COMPRESSOR CO. LTD. /GREE |
| | Compressor Model | | QXA-B102uC130 |
| | Compressor Oil | | PVE(DN HERMITIC FVC 68D) |
| | Compressor Type | | Rotary |
| | L.R.A. | A | 18 |
| | Compressor RLA | A | 4±5% |
| | Compressor Power Input | W | 858±5% |
| | Overload Protector | | B210-150-241H |
| | Throttling Method | | Capillary |
| | Operation Temp | ℃ | 16～30 |
| | Ambient Temp (Cooling) | ℃ | 18～43 |
| | Ambient Temp (Heating) | ℃ | -7～24 |
| | Condenser Form | | Aluminum Fin-copper Tube |
| | Pipe Diameter | mm | Φ7 |
| | Rows-fin Gap | mm | 1-1.4 |
| | Coil Length (LXDXW) | mm | 780.45X12.7X495.3 |
| | Fan Motor Speed | rpm | 800 |
| | Output of Fan Motor | W | 30 |
| | Fan Motor RLA | A | 0.37 |
| | Fan Motor Capacitor | μF | 2 |
| | Air Flow Volume of Outdoor Unit | $m^3/h$ | 1800 |
| | Fan Type | | Cross-flow |
| | Fan Diameter | mm | 400 |
| | Defrosting Method | | Automatic Defrosting |
| | Climate Type | | T1 |
| | Isolation | | I |
| | Moisture Protection | | IP24 |
| | Permissible Excessive Operating Pressure for the Discharge Side | MPa | 3.8 |
| | Permissible Excessive Operating Pressure for the Suction Side | MPa | 1.2 |
| | Sound Pressure Level (H/M/L) | dB (A) | 50 |
| | Sound Power Level (H/M/L) | dB (A) | 60 |
| | Dimension (WXHXD) | mm | 848X540X320 |
| | Dimension of Carton Box (L/W/H) | mm | 878X360X580 |
| | Dimension of Package(L/W/H) | mm | 881X363X595 |
| | Net Weight | kg | 29 |
| | Gross Weight | kg | 33 |
| | Refrigerant | | R410A |
| | Refrigerant Charge | kg | 0.70 |
| Connection Pipe | Length | m | 5 |
| | Gas Additional Charge | g/m | / |
| | Outer Diameter Liquid Pipe | mm | / |
| | Outer Diameter Gas Pipe | mm | / |
| | Max Distance Height | m | / |
| | Max Distance Length | m | / |

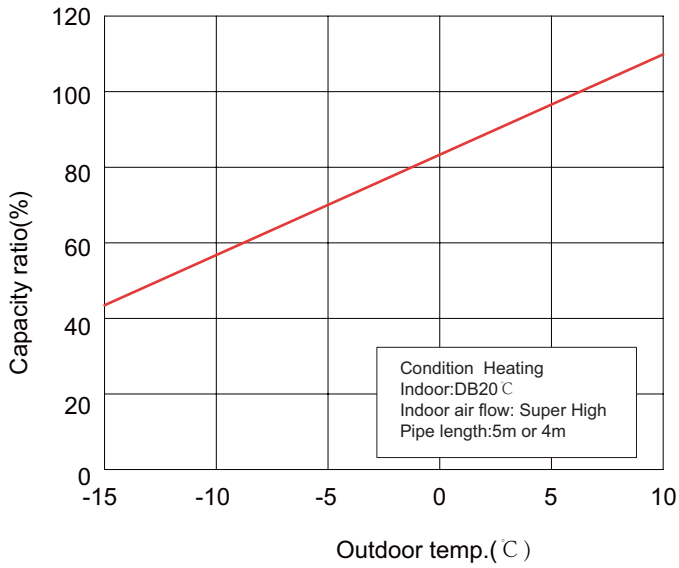
The above data is subject to change without notice. Please refer to the nameplate of the unit.

## 2.2 Capacity Variation Ratio According to Temperature

Cooling




Heating




## 2.3 Operation Data

**Cooling**

| Temperature condition (℃) | | Model name | Standard pressure | Heat exchanger pipe temp | | Indoor fan mode | Outdoor fan mode | Compressor revolution (rps) |
|---|---|---|---|---|---|---|---|---|
| Indoor | Outdoor | | P (MPa) | T1 (°C) | T2 (°C) | | | |
| 27/19 | 35/24 | 9K | 0.99~1.19 | 10.2 to 13.4 | 79.6 to 37.9 | 1260 | 830±20 | / |
| 27/19 | 35/24 | 12K | 0.48~0.56 | in:8 to 11<br>out:11 to 14 | in:75 to 85<br>out:37 to 43 | 1260 | 850 | / |

**Heating**

| Temperature condition (℃) | | Model name | Standard pressure | Heat exchanger pipe temp | | Indoor fan mode | Outdoor fan mode | Compressor revolution (rps) |
|---|---|---|---|---|---|---|---|---|
| Indoor | Outdoor | | P (MPa) | T1 (°C) | T2 (°C) | | | |
| 20/- | 7/6 | 9K | 2.38~2.58 | 80.1 to 35.5 | 7.5 to 5.3 | 1320 | 830±20 | / |
| 20/- | 7/6 | 12K | 1.55~1.75 | in:75 to 85<br>out:37 to 43 | in:1 to 3<br>out:2 to 5 | 1280 | 850 | / |

P: gas valve outlet pressure

T1: outlet tube temperature of evaporator

T2: outlet tube temperature of condenser

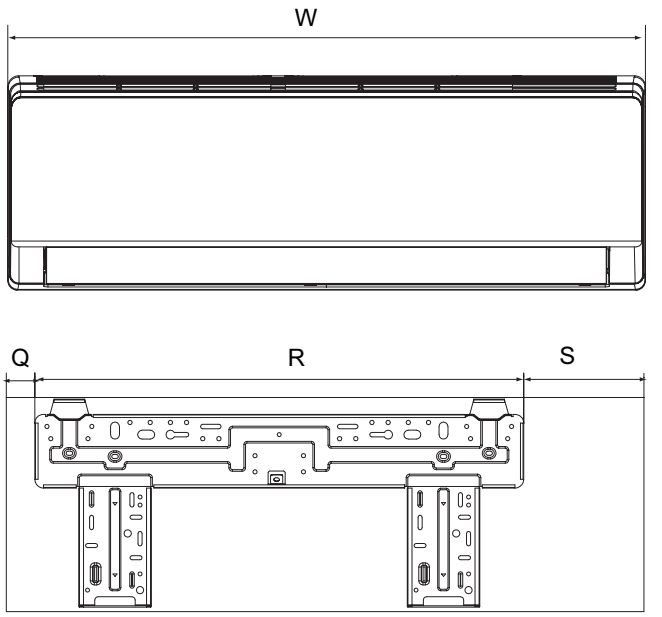
**NOTES :**

**(1) Measure surface temperature of heat exchanger pipe around center of heat exchanger path U bent. (Thermistor themometer)**

**(2) Connecting piping condition : 5 m or 4m**

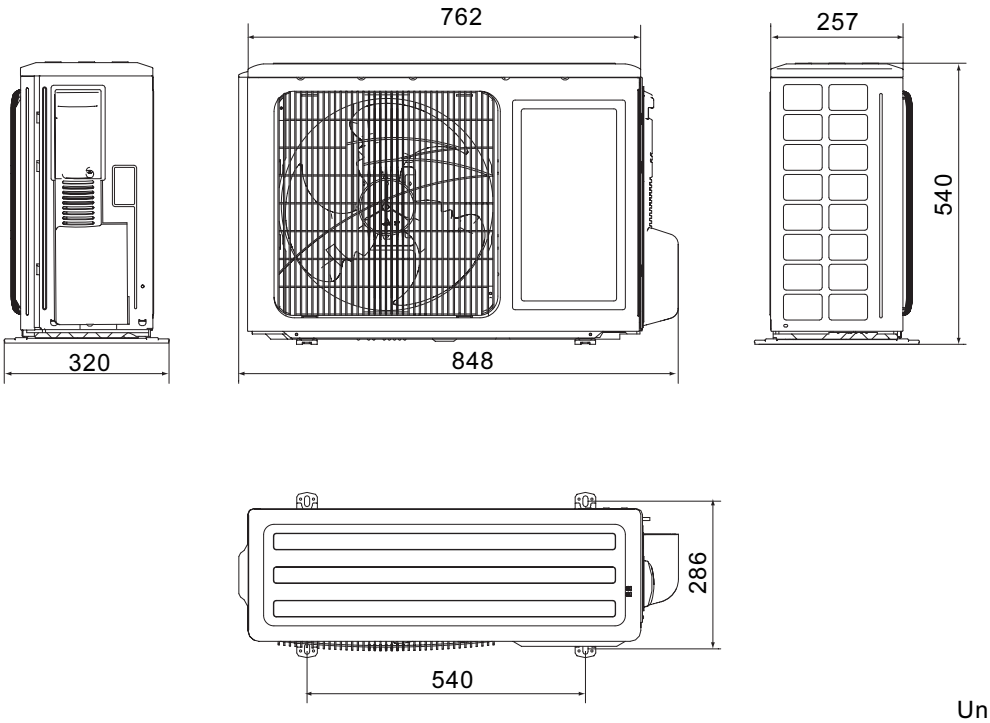
# 3. Construction Views

## 3.1 Indoor Unit



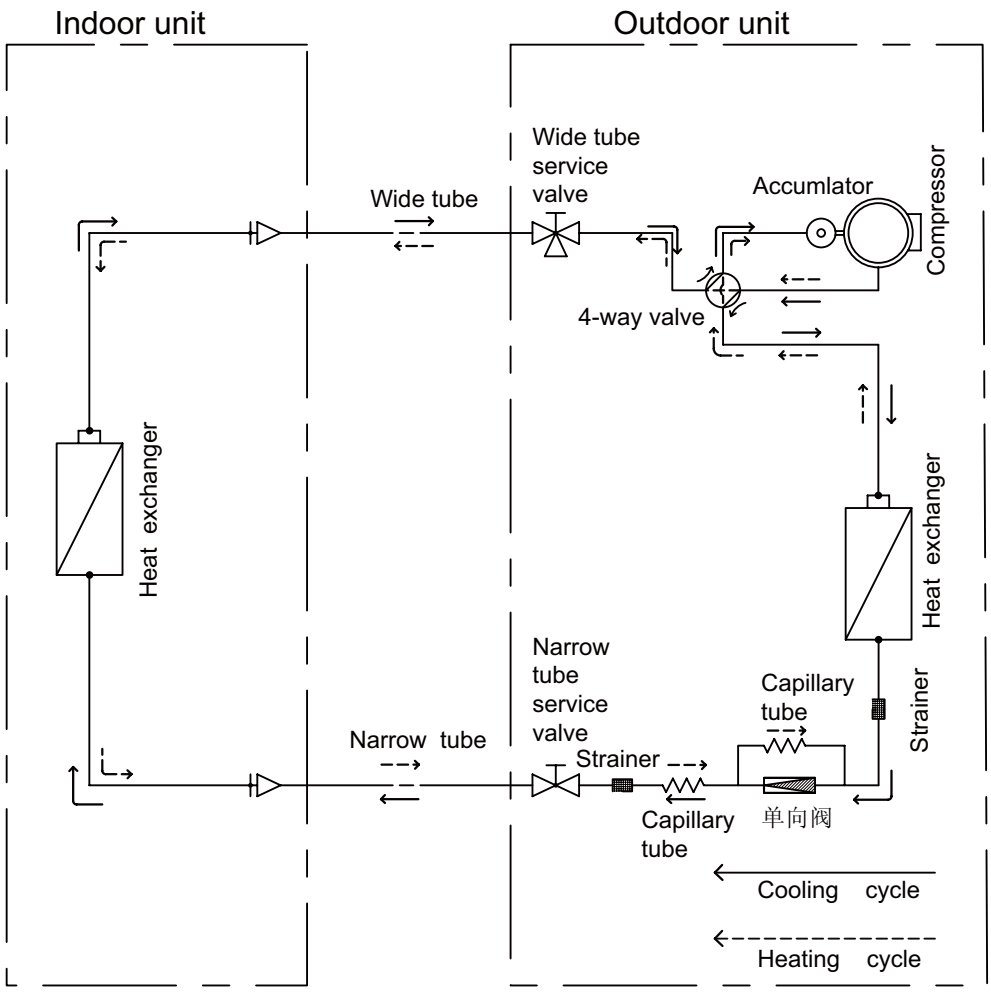

| Model | W | H | D | Q | R | S |
|---|---|---|---|---|---|---|
| 09K | 790 | 265 | 177 | 35 | 605 | 150 |
| GWH09MA-K3NNA3F<br>GWH09MA-K3NNA3E | 790 | 265 | 170 | 35 | 605 | 150 |

## 3.2 Outdoor Unit




Unit:mm

# 4. Refrigerant System Diagram




Refrigerant pipe diameter
Liquid : 1/4" (6 mm)
Gas : 3/8" (9.52 mm)

# 5. Schematic Diagram

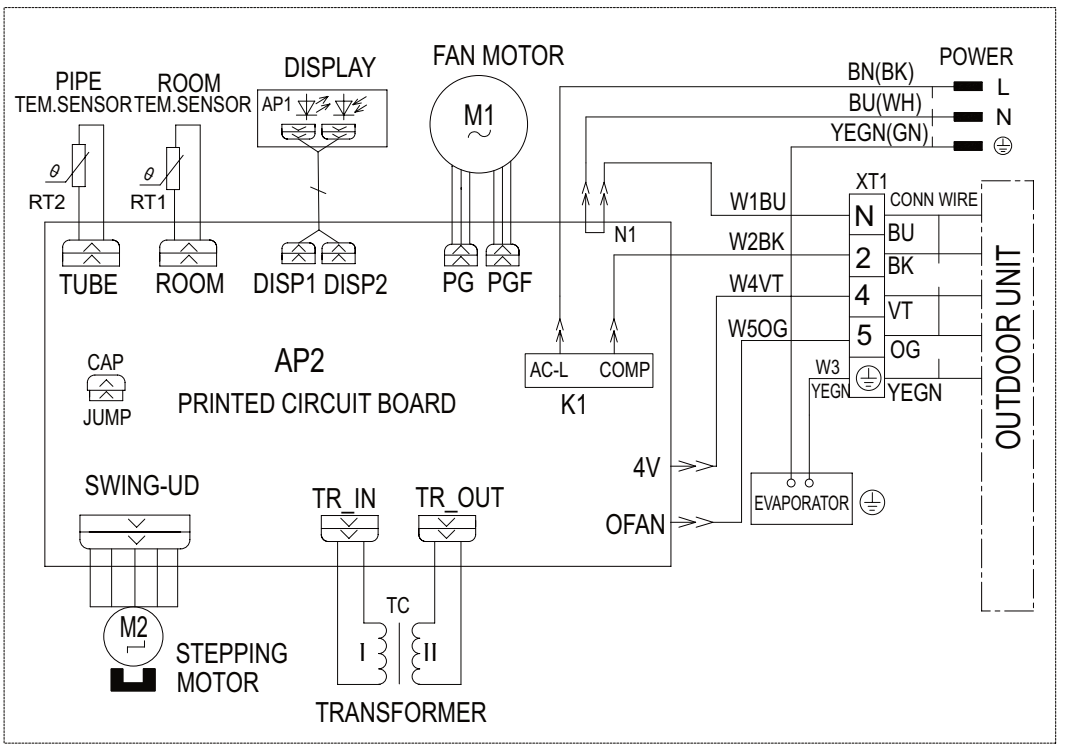
## 5.1 Electrical Data

| Symbol | Color symbol | Symbol | Color symbol |
|---|---|---|---|
| **WH** | WHITE | **BN** | BROWN |
| **YE** | YELLOW | **BU** | BLUE |
| **RD** | RED | **BK** | BLACK |
| **YEGN** | YELLOW GREEN | **VT** | VIOLET |
| **OG** | ORANGE | ⏚ | PROTECTIVE EARTH |
| **SAT** | OVERLOAD | **COMP** | COMPRESSOR |
| **GN** | GREEN | | |

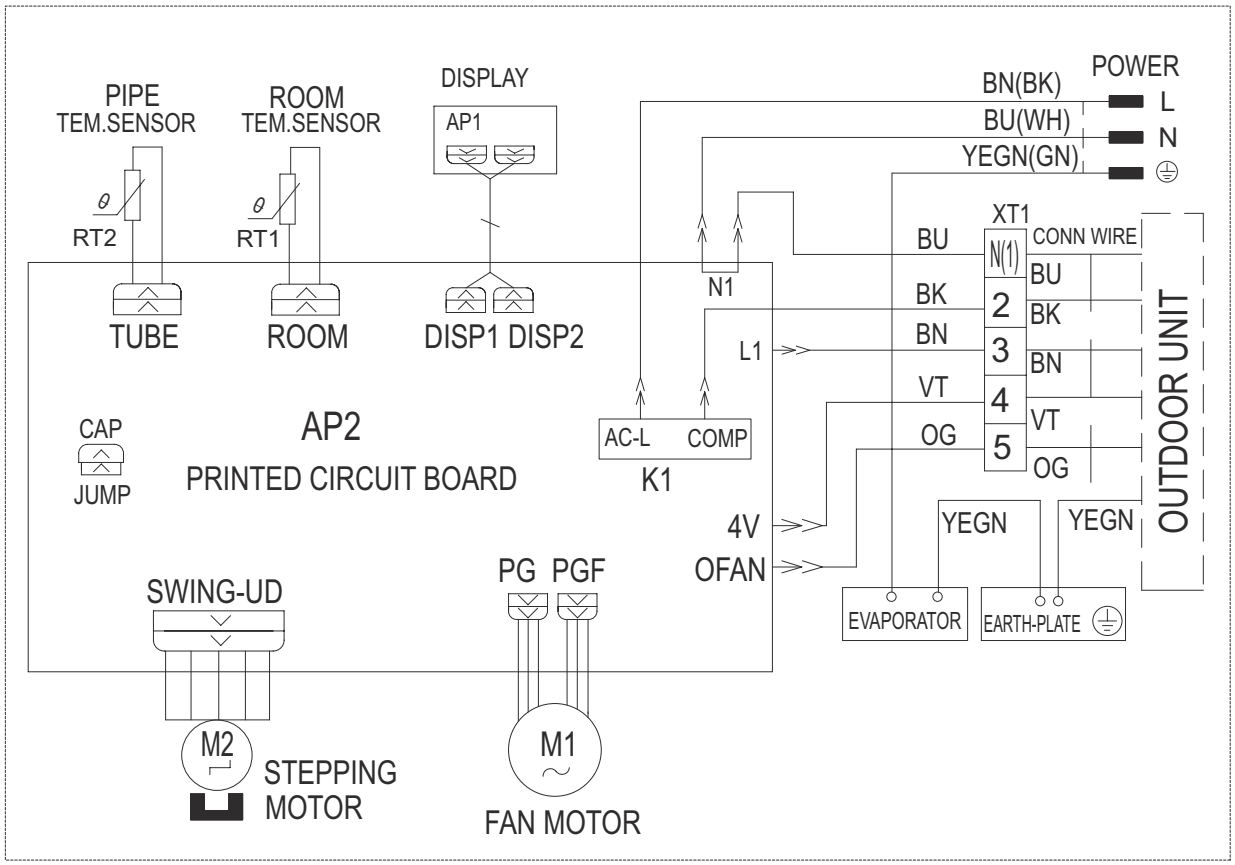
## 5.2 Electrical wiring

- **Indoor Unit**

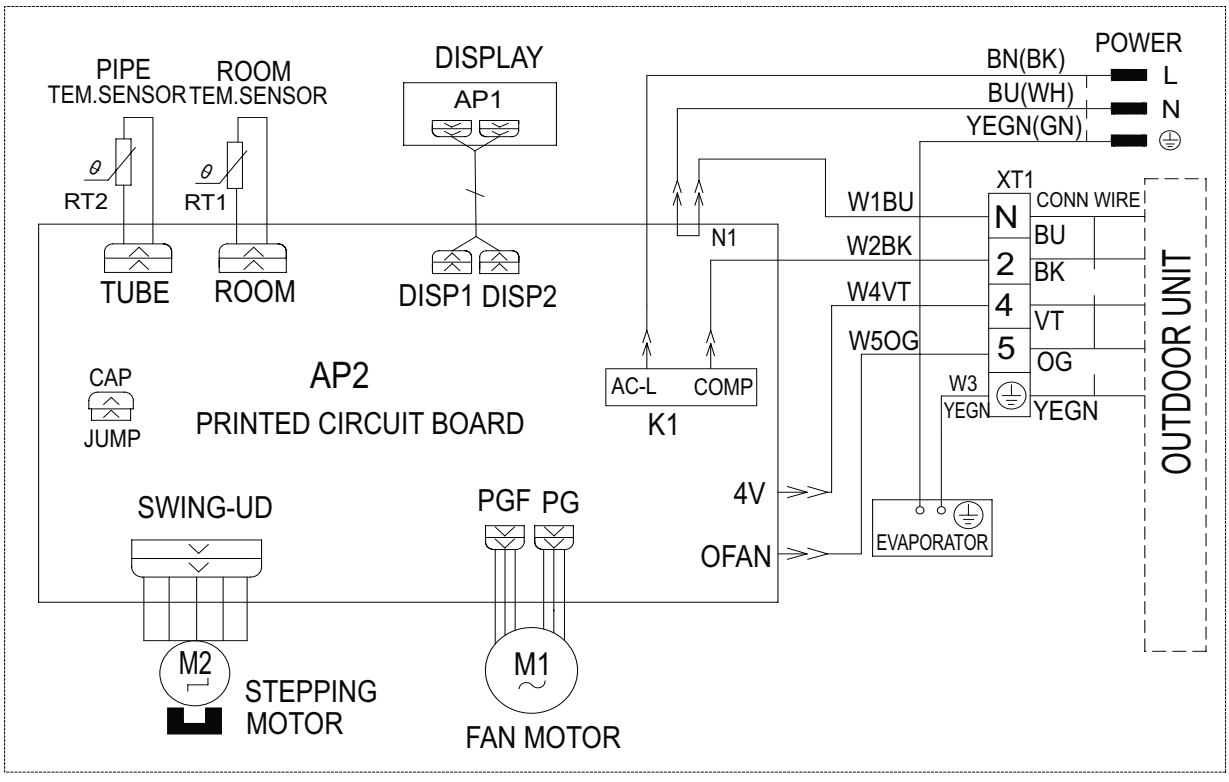
GWH09MA-K3NNC5A/I GWH09MA-K3NNC8A/I



GWH09MA-K3NNA3F/I

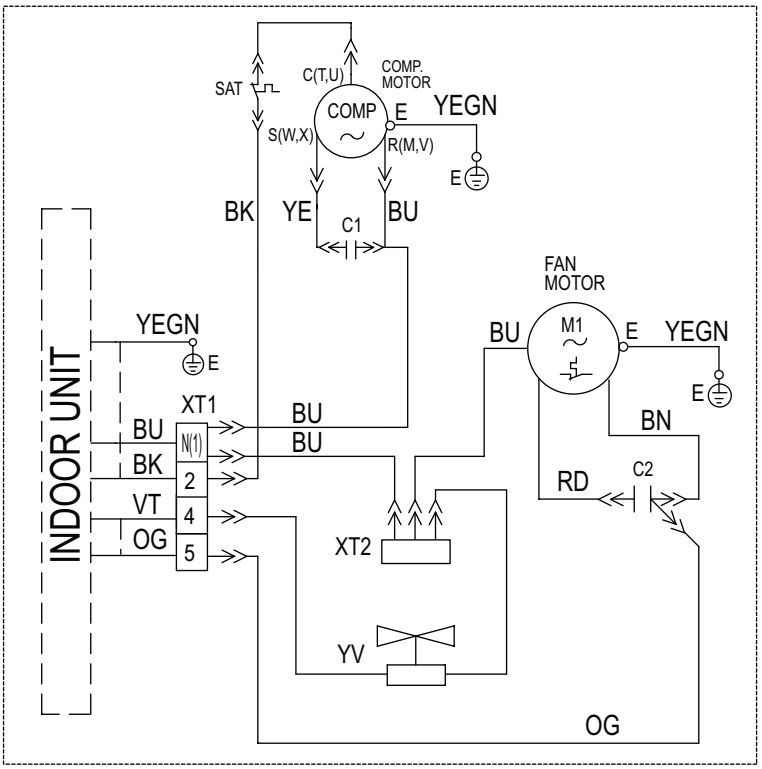



GWH09MA-K3NNA3E/I

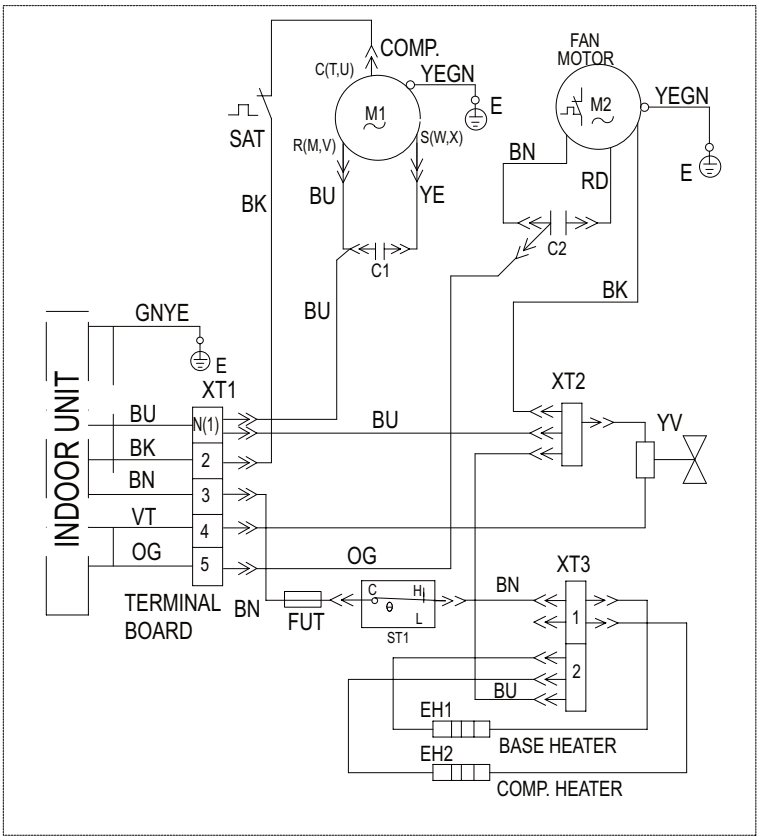


● **Outdoor Unit**

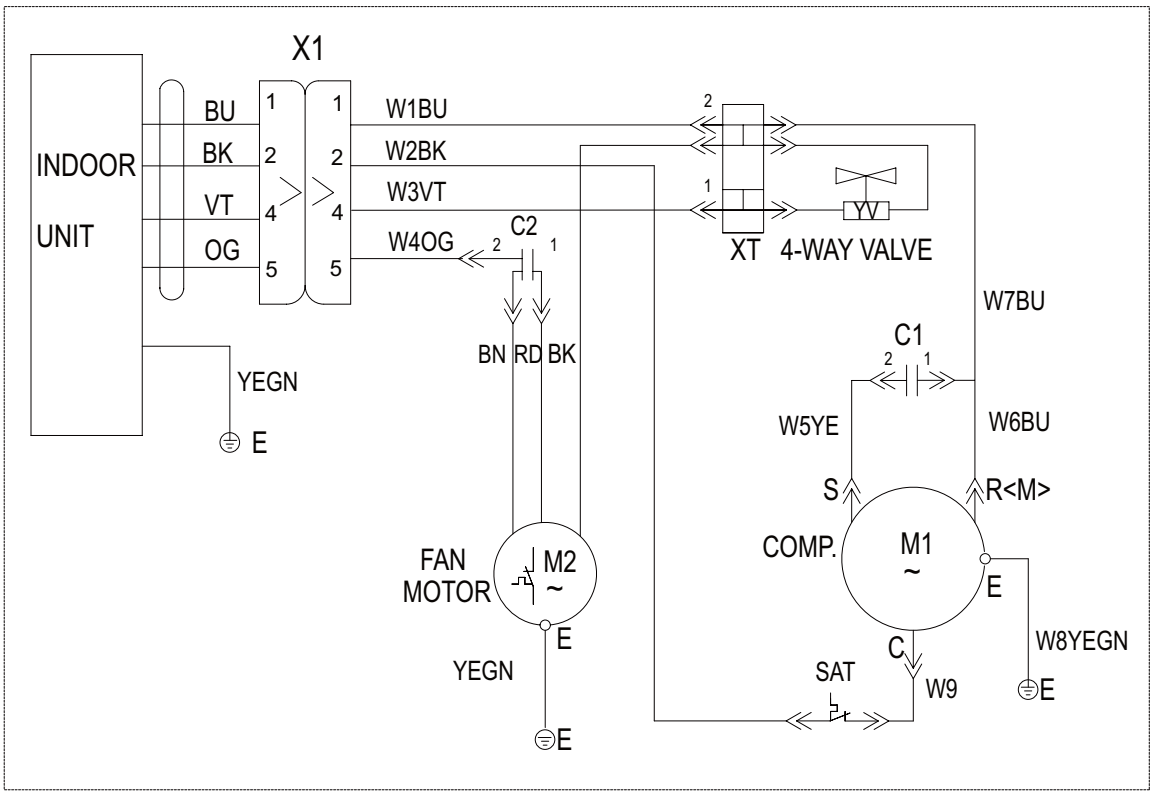
GWH09MA-K3NNA3A/O




GWH09MA-K3NNA3F/O



GWH09MA-K3NNA3E/O

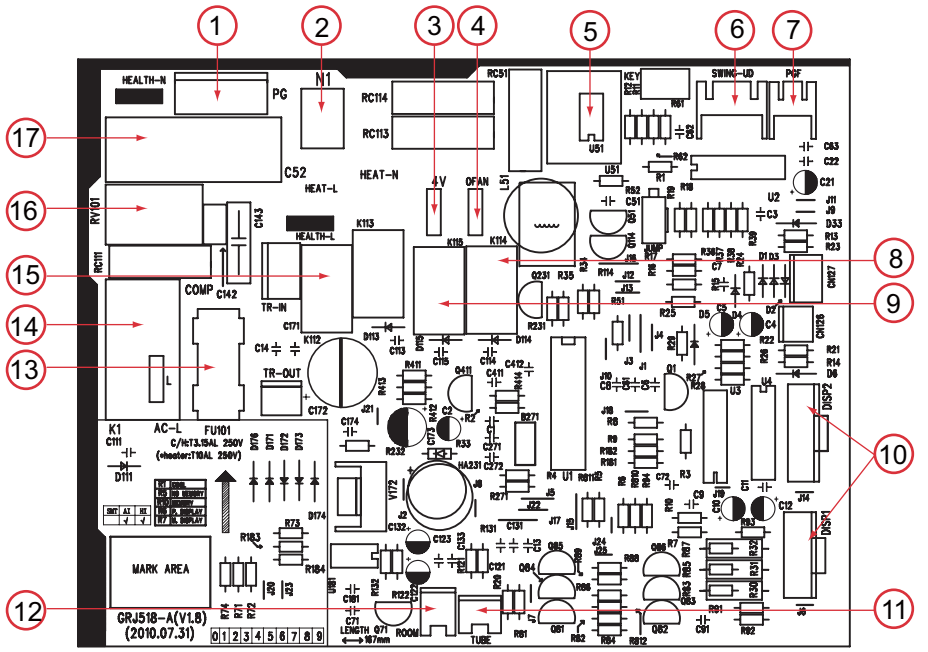



These circuit diagrams are subject to change without notice, please refer to the one supplied with the unit.

## 5.3 Printed Circuit Board

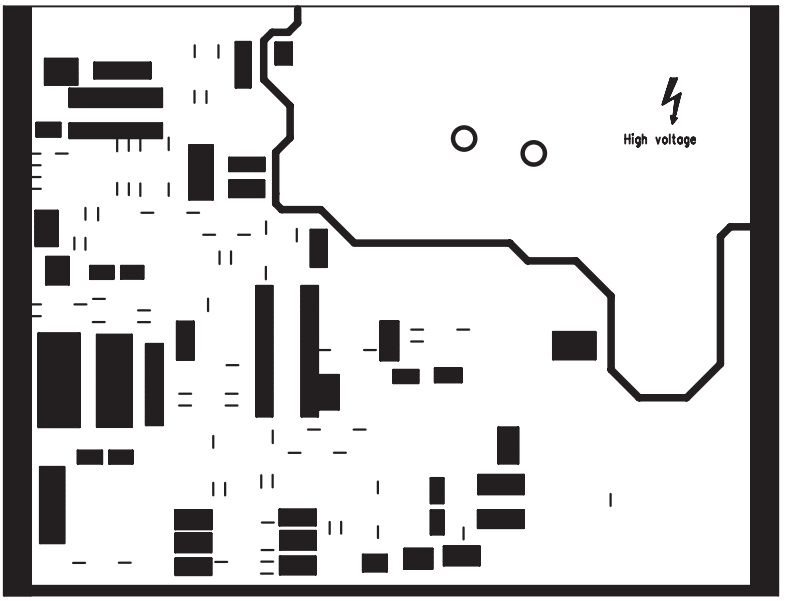
GWH09MA-K3NNC5A GWH09MA-K3NNC8A

● **TOP VIEW**



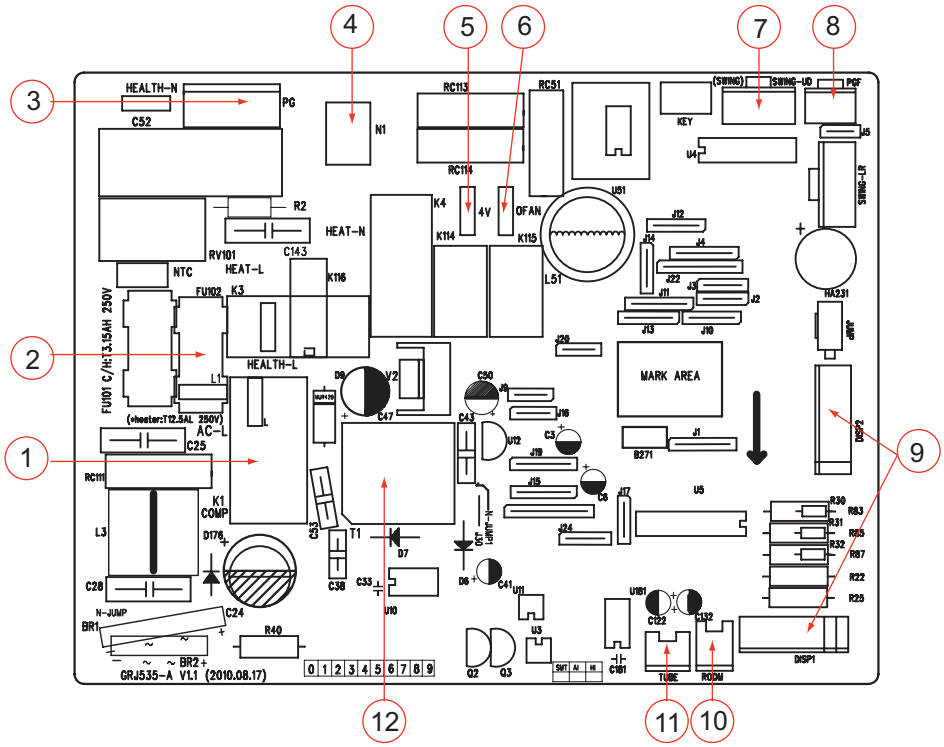

| NO. | Name | NO. | Name | NO. | Name | NO. | Name |
|---|---|---|---|---|---|---|---|
| 1 | PG motor connector | 2 | Insert of neutral wire | 3 | Insert of 4-way valve | 4 | Insert of outdoor fan |
| 5 | Solid-state relay | 6 | Up & down swing connector | 7 | PG motor feedback connector | 8 | Relay controlling fan |
| 9 | Relay for controlling 4-way valve | 10 | Connect dispaly1 & 2 | 11 | Indoor tube temperature sensor connector | 12 | Indoor ambient temperature sensor connector |
| 13 | Protective tube | 14 | Compressor relay and live wire connector | 15 | Relay controlling cold plasma | 16 | Piezoresistor |
| 17 | Fan capacitor | | | | | | |

● **BOTTOM VIEW**



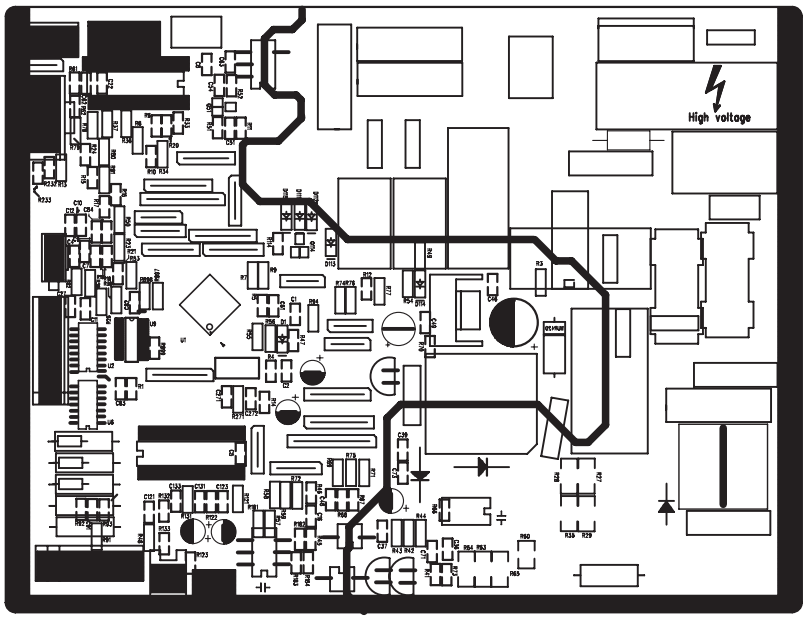
GWH09MA-K3NNA3E GWH09MA-K3NNA3F

## ● TOP VIEW




| NO. | Name |
|---|---|
| 1 | Compressor connector |
| 2 | Live wire connector of power supply |
| 3 | Indoor fan connector |
| 4 | Neutral wire connector of power supply |
| 5 | 4-way valve connector |
| 6 | Outdoor fan connector |
| 7 | Left & right swing connector |
| 8 | Indoor fan state feedback connector |
| 9 | Display connector |
| 10 | Ambient temperature sensor connector |
| 11 | Tube temperature sensor connector |
| 12 | High frequency transformer |

## ● BOTTOM VIEW



# 6. Function and Control

## 6.1 Remote Control Operations

**YB1FA**


1 ON/OFF
Press it to start or stop operation

2 MODE
Press it to select operation mode(AUTO/COOL/DRY/FAN/HEAT)

3 + :Press it to increase temperature setting

4 — : Press it to decrease temperature setting

5 FAN
Press it to set fan speed

6
Press it to set swing angle

7 TIMER ON
Press it to set auto-on timer

8 TIMER OFF
Press it to set auto-off timer

9 CLOCK
Press it to set clock

10 X-FAN(X-FAN is the alternative expression of BLOW for the purpose of understanding.)

11 TEMP

12 TURBO

13 SLEEP

14 LIGHT
Press it to turn on/off the light.

1 ON/OFF :

Press this button to start the unit operation .Press this button again to stop the unit operation.

2 MODE :

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 *

*Note:Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temp erature to make indoor room comfortable.

3 + :

Press this button to increase set temperature.Holding it down above 2 seconds rapidly increases set temperature. In AUTO mode,set temperature is not adjustable.

4 —:

Press this button to decrease set temperature.Holding it down above 2 seconds rapidly decreases set temperature. In AUTO

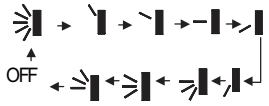
mode, set temperature is not adjustable.

5 FAN:

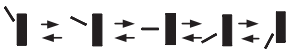
This button is used for setting fan speed in the sequence that goes from AUTO, , , to , then back to Auto.


6 :

Press this button to set up &down swing angle, which circularly changes as below:




This remote controller is universal . If any command , or is sent out,the unit will carry out the command as indicates the guide louver swings as:



7 TIMER ON

Press this button to initiate the auto-ON timer. To cancel the auto-timer program,simply press this button again.After press of this button, disappears and "ON "blinks .00:00 is displayed for ON time setting. Within 5 seconds, press + or - button to adjust the time value. Every press of either button changes the time setting by 1 minute. Holding down either button rapidly changes the time setting by 1 minute and then 10 minutes. Within 5 seonds after setting, press TIMER ON button to confirm.

8 TIMER OFF:

Press this button to initiate the auto-off timer. To cancel the auto-timer program,simply press the button again.TIMER OFF setting is the same as TIMER ON.

9 CLOCK:

Press CLOCK button, blinking. Within 5 seconds, pressing + or - button adjusts the present time.Holding down either button above 2 seconds increases or decreases the time by 1 minute every 0.5 second and then by 10 minutes every 0.5 second. During blinking after setting , press CLOCK button again to confirm the setting,and then will be constantly displayed.

10 X-FAN:

Pressing X-FAN button in COOL or DRY mode,the icon is displayed and the indoor fan will continue operation for 10 min utes in order to dry the indoor unit even though you have turned off the unit.After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO,FAN or HEAT mode.

11 TEMP:

Press this button to select displaying set temperature or ambient temperature. When the temperature display is changed from other state to " ", the ambient temperature is changed. When other signal is received, the set temperature will be displayed. If the user does not set temperature display state, it will display set temperature.

12 TURBO:

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed. (This function is not applicable for some models)

13 SLEEP:

Press this button to go into the SLEEP operation mode. Press it again to cancel. This function is available in COOL , HEAT (Only for models with heating function) or DRY mode to maintain the most comfortable temperature for you.

14 LIGHT:

Press LIGHT button to turn on the display's light and press this button again to turn off the display 's light. If the light is tunrned on , is displayed. If the light is tunrned off disappears.

3 and 4 About lock

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

2 and 4 About switch between fahrenheit and cenrigrade

At unit OFF, press "MODE" and "- " buttons simultaneously to switch between ℃ and ℉ .

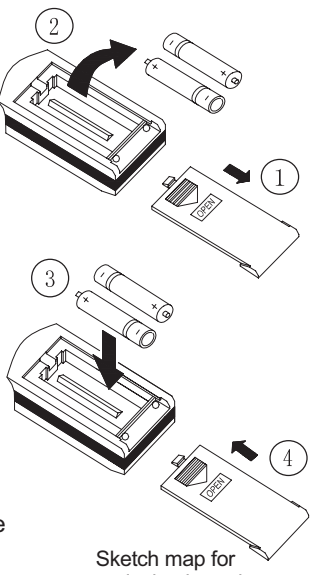
## Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller.(As shown in the figure)

2.Take out the old batteries.

3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.

4. Close the battery cover plate.

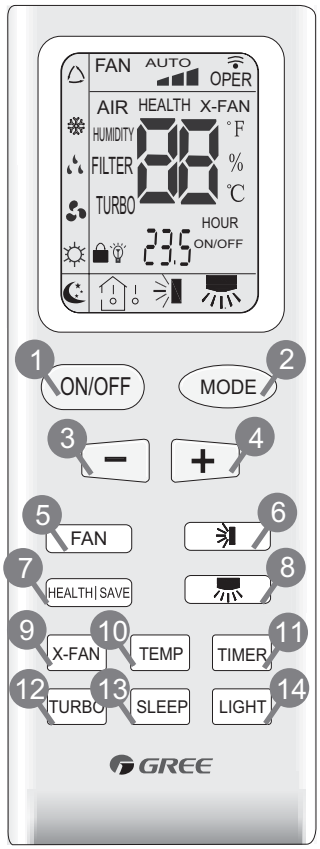


Sketch map for replacing batteries

★ Notes:

- When replacing the batteries, do not use old or different types of batteries. Otherwise, it may cause malfunction.
- If the remote controller will not be used for a long time, please remove batteries to prevent batteries from leaking.
- The operation should be performed in its receiving range.
- It should be kept 1m away from the TV set or stereo sound sets.
- If the remote controller does not operate normally, please take the batteries out and replace them after 30 seconds. If still not operating properly, replace the batteries.

**YB1F4**




1 ON/OFF
Press this button to start or stop operation.

2 MODE
Press it to select operation mode(AUTO/COOL/DRY/FAN/HEAT).

3 - : Press it to decrease temperature setting.

4 + : Press it to increase temperature setting.

5 FAN
Press it to set fan speed.

6
Press it to set up &down swing angle.

7 HEALTH|SAVE
Press it to select health mode on or off.

8
Press it to set left & right swing angle.

9 X-FAN(X-FAN is the alternative expression of BLOW for the purpose of understanding.)

10 TEMP

11 TIMER
Press it set auto-on timer/auto-off timer.

12 TURBO

13 SLEEP

14 LIGHT
Press it to turn on/off the light.

Remote controller description

1 ON/OFF :
Press this button to start the unit operation .Press this button again to stop the unit operation.

2 MODE :
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 *

*Note:Only for models with heating function.

After energization, AUTO mode is defaulted. In AUTO mode, the set temperature will not be displayed on the LCD, and the unit will automatically select the suitable operation mode in accordance with the room temp erature to make indoor room comfortable.

3 —:

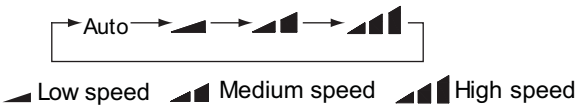
Press this button to decrease set temperature.Holding it down above 2 seconds rapidly.decreases set temperature. In AUTO mode, set temperature is not adjustable.

4 + :

Press this button to increase set temperature.Holding it down above 2 seconds rapidlyincreases set temperature. In AUTO mode, set temperature is not adjustable.

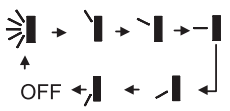
5 FAN :

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




6 :

- Press button to start or stop up & down swing function.The remote controller defaults to simple swing condition.
- Press + button and button at the same time at unit OFF to switch betweensimple swing and static swing, blinking 2 seconds.
- In static swing condition, press button, the swing angle of up & down louver changes as below:




- If the unit is turned off during swing operation,the louver will stop at present position.

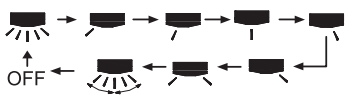
7 HEALTH | SAVE:

- HEALTH function:there is no this function for this unit. If press this key, the main unit will click, but it also runs under original status.
- Save energy function: After pressing SAVE button in cooling mode, the unit will turn to SAVE MODE. Meanwhile,remote controller and indoor unit will all display " SE ".After pressing SAVE button in heating mode, the unit will turn to 8℃ heating mode. Meanwhile, remote controller will display " SE " and indoor unit will display the setting temperature 8℃.

8 :

- Press button to start or stop left & right swing function.The remote controller defaults to simple swing condition.
- Press + button and button at the same time at unit OFF to switch betweensimple swing and static swing, blinking 2 seconds.

In static swing condition, press button, the swing angle of left & right louver changes as below:




- If the unit is turned off during swing operation,the louver will stop at present position.

9 X-FAN:

Pressing X-FAN button in COOL or DRY mode,the icon "X-FAN" is displayed and the indoor fan will continue operation for 10 minutes in order to dry the indoor unit even though youhave turned off the unit.
After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO,FAN or HEAT mode.

10 TEMP:

Pressing TEMP button, (set temperature), (indoor ambient temperature) and (outdoor ambient temperatur) is displayed circularly .The unit defaults not to display the icon. During operation of TEMP button, the set temperature is always displayed.

Note: Outdoor ambient temperature is only displayed for some models.

11 TIMER:

Press TIMER button at unit ON to set TIMER OFF, HOUR OFF blinking. Press TIMER button at unit OFF to set TIMER ON, HOUR ON blinking. In this case, pressing + or - button changes time setting. Holding down either button rapidly changes time setting (time setting range 0.5-24hours). Press TIMER button again to confirm setting, HOUR ON/OFF stopping blink. If there is not any operation of button within 5 seconds during HOUR ON/OFF blinking, TIMER setting will be canceled.

12 TURBO:

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in shortest time. In COOL mode, the unit will blow strong cooling air at super high fan speed. In HEAT mode, the unit will blow strong heating air at super high fan speed. (This function is not applicable for some models).

13 SLEEP :

Press this button to go into the SLEEP operation mode. Press it again to cancel. This function is available in COOL , HEAT (Only for models with heating function) or DRY mode to maintain the most comfortable temperature for you.

14 LIGHT:

Press LIGHT button to turn on the display's light and press this button again to turn off the display's light. If the light is tunrned on, is displayed. If the light is tunrned off disappears.

4 and 3 About lock :

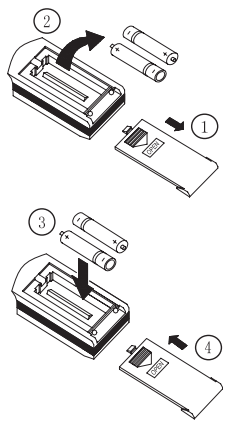
Press "+ " and "-" buttons simultaneously to lock or unlock the keypad. If the remote controller is locked, is displayed. In this case, pressing any button, blinks three times.

3 and 2 About switch between fahrenheit and cenrigrade

At unit OFF, press "MODE" and "- " buttons simultaneously to switch between ℃ and ℉.

## Replacement of Batteries

1.Remove the battery cover plate from the rear of the remote controller. (As shown in the figure).
2.Take out the old batteries.
3.Insert two new AAA1.5V dry batteries, and pay attention to the polarity.
4. Replace the battery cover plate.



Sketch map for replacing batteries

## Notes:

- When replacing the batteries, do not use old or different batteries, otherwise, it may cause malfunction.
- If the wireless remote controller will not be used for a long time, please remove batteries to prevent damage from leaking batteries.
- The operation should be performed in its receiving range.
- It should be kept 1m away from the TV set or stereo sound sets.
- If the wireless remote controller does not operate normally, please take the batteries out and replace them after 30 seconds. If still not operating properly, replace the batteries.

# 6.2 Description of Each Control Operation

**1Temperature Parameters**

◆Indoor preset temperature (Tpreset)

◆Indoor ambient temperature (Tamb.)

**2 Basic Functions** (The temperature in this manual is expressed by Centigrade. If Fahrenheit is used, the switchover between them is Tf=TcX1.8+32.)

Once the unit is energized, the compressor shall never be restarted except 3mins interval at least. For the first energization, if the unit is at off status before power failure, the compressor can be restarted without 3-min delay. But if the unit is at on status before power failure, the compressor shall be restarted with 3mins delay. Once the compressor is started up, the compressor won't stop running within 6mins with the change of room temperature.

**(1) Cooling mode**

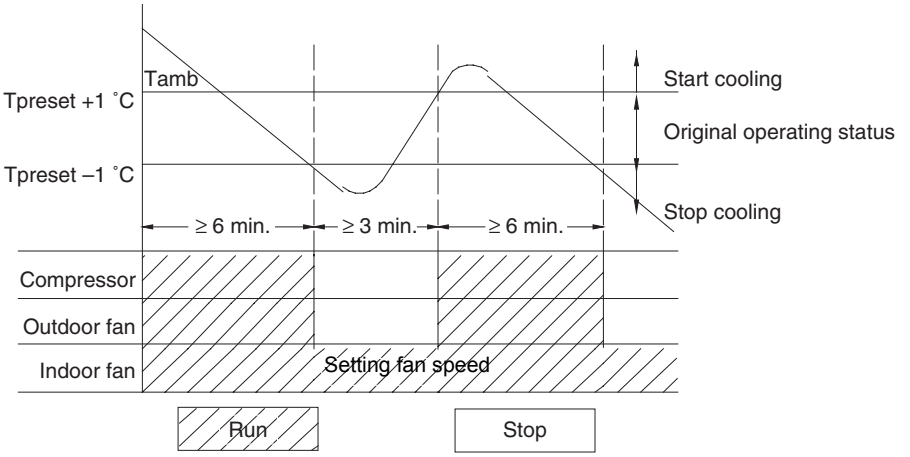
**① Cooling conditions and process**

When Tamb. ≥Tprese+1℃, the unit starts cooling operation. In this case, the compressor and the outdoor fan operate and the indoor fan operates at set speed.

When Tamb. ≤Tpreset-1℃, the compressor and the outdoor fan stop while the indoor fan operated at set speed.

When Tpreset-1℃＜Tamb. ＜Tpreset+1℃, the unit will maintain its previous operation status.

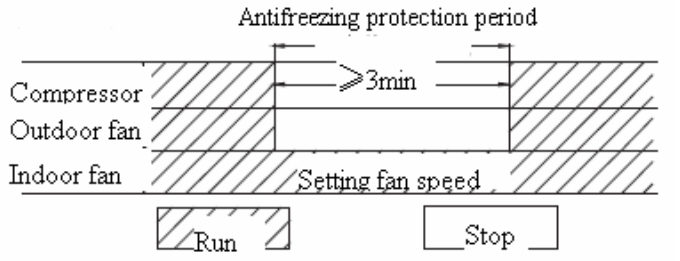
In this mode, the four-way valve is de-energizing. The temperature setting range is 16～30℃ and the indoor unit displays operation icon, cooling icon and set temperature.




**② Protection Functions**

◆Antifreezing protection

If the system is under antifreezing protection, the compressor and the outdoor fan stops operation, and the indoor fan operates at setting speed. If antifreezing protection is eliminated and the compressor has been stopped for 3 minutes, the unit will resume its previous operation status.




**(2) Dry Mode**

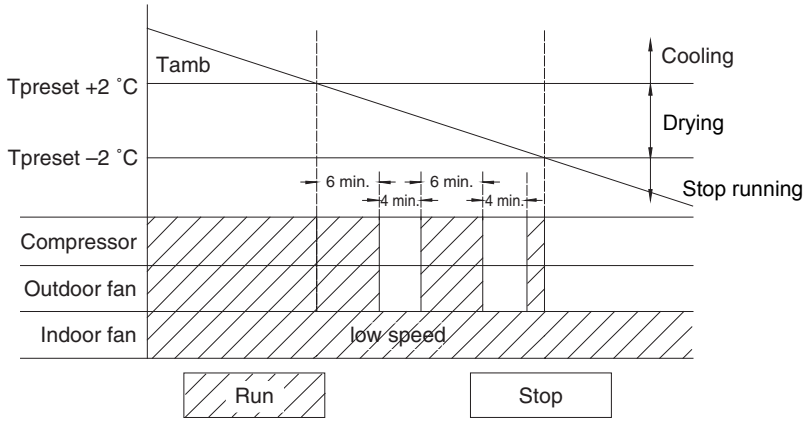
**①Dry Conditions and Process**

When Tamb. ＞Tpreset+2℃, the unit starts drying and cooling operation. In this case, the compressor and outdoor fan operates and the indoor fan operates at low speed.

When Tpreset-2℃≤Tamb. ≤Tpreset+2℃, the unit will start drying operation. In this case, the indoor fan operates at low speed, and the compressor and the outdoor fan operate 6 minutes and stop 4 minutes in cycle.

When Tamb.＜Tpreset-2℃, the compressor and the outdoor fan stops operation while the indoor fan operates at low speed.

In this mode, the four-way valve is de-energizing. The temperature setting range is 16～30℃ and the indoor unit displays operation icon, cooling icon and set temperature.




**② Protection**

**◆ Antifreezing protection**

During drying and cooling operation, if the system is under antifreezing protection, the compressor and outdoor fan stop operation while indoor fan operates at low speed. If antifreezing protection is eliminated and the compressor has been stopped for 3 minutes, the complete unit will resumes its previous operation status.

During the cycle stage of operating 6 minutes and stopping 4 minutes, if antifreezing protection is detected, the compressor and the outdoor fan will stop operation and the indoor fan will operate at low speed. When the antifreezing protection is eliminated and the compressor has been stopped for 4 minutes, the complete unit will resume its previous operation state.

**③ Other protection**

Other protections are the same as those in cooling mode.

**(3)Heating mode (not available for cooling only type)**

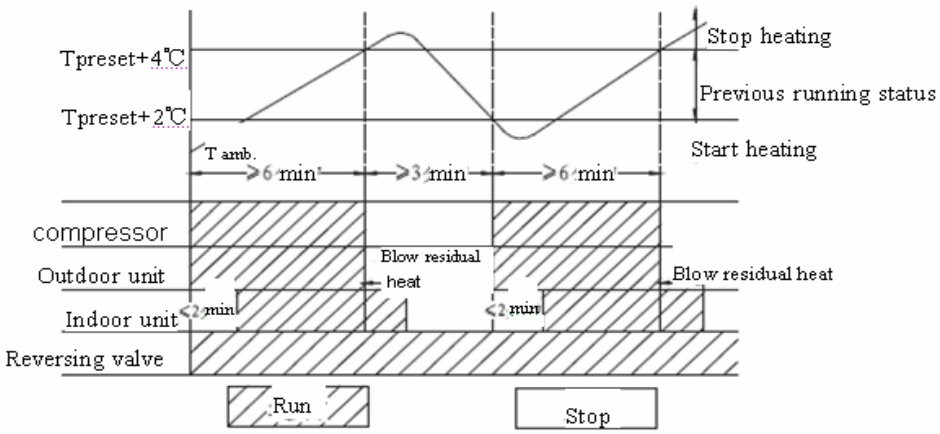
**①Heating conditions and process**

When Tamb. ≤Tpreset+2℃, the unit starts heating operation. In this case, the 4-way valve, compressor and outdoor fan operate simultaneously. The indoor fan operates after 2 minutes at most.

When Tamb≥Tpreset+4℃, the compressor and outdoor fan stop operation. The 4-way valve remains energizing and the indoor fan will stop operation after operate at setting fan speed for 60s.

When $T_{preset}$ +2℃＜$T_{amb.}$ ＜ $T_{preset}$ +4℃, the unit will maintain its previous operation status.

In this mode, the 4-way valve is energizing. The temperature setting range is 16～30℃ and the indoor unit displays operation icon, heating icon and set temperature.




**②Defrosting Conditions and Process**

With intelligent defrosting function, the unit can automatically defrost according to the actual condition. The indoor unit displays “H1”.

**③Protection Functions**

◆Overheating Prevention Protection

If the evaporator tube temperature overheats, the outdoor fan stops operation. When the tube temperature resumes normally, the outdoor fan resumes operation.

◆Noise Silencing Protection

If the unit is turned off by pressing ON/OFF button or during mode switchover, the 4-way valve stops after 2 minutes.

(4) **Fan mode**

In fan mode, indoor fan operates at setting speed while the compressor, outdoor fan, 4-way valve and electric heating tube stop operation.

In this mode, temperature setting range is 16～30℃. The indoor unit displays operation icon and setting temperature.

(5) **Auto Mode**

In AUTO mode, the unit will automatically select its operation mode (cooling, heating or fan) with the change of ambient temperature. The indoor unit displays the operation icon, operation mode icon and setting temperature. There is 30-second delay protection for mode switchover. Protection functions are the same as those in any other modes.

**3 Other Control**

**(1)Timer function**

General timer and clock timer functions are compatible by equipping different functions of remote controller.

① **General Timer**

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

② **Clock Timer**

**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 operate 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 of remote controller. You can also set the timer once again, and then the unit will operate according to the last setting.

If timer ON and timer OFF are set at the same time during operation of the unit, the unit will keep operating at current status till OFF time reaches.

If timer ON and timer OFF are set at the same time at unit OFF, the unit will keep stop till ON time reaches.

In the future's every day, the system will operate according to presetting mode till OFF time reaches and stop operation till ON time reaches. If ON time and OFF time are the same, timer OFF has the priority.

**(2) Auto Button**

If this button is pressed, the unit will operate in AUTO mode and indoor fan will operate at auto speed; meanwhile, the swing motor operates. Press this button again to turn off the unit.

**(3) Buzzer**

Upon energization or availably operating the unit or remote controller, the buzzer will give out a beep.

**(4) Sleep Function**

In this mode, the unit will select the suitable sleep curve to operate according to the setting temperature.

**(5)Turbo Function**

This function can be set in cooling or heating mode to quickly cool or heat the room.

**(6) X-Fan Function**

This function can be set in COOL or DRY mode.

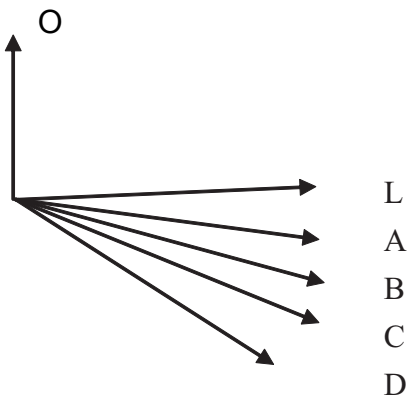
**(7) Automatic Control of Fan Speed**

In this mode, the indoor fan will automatically select high, medium or low speed with the change of ambient temperature.

**(8)Up & Down Swing**

After energization, up & down swing motor will firstly let the horizontal louver anticlockwise rotate to position 0 to close air outlet.

If swing function has not been set after startup of the unit, up & down horizontal louver will clockwise turn to position D in HEAT mode, or clockwise turn to level position L in other modes.
If setting swing function while starting up the unit, the horizontal louver will swing between L and D. There are 7 kinds of swing status of horizontal louver: Positions L, A, B, C and D, swing between Land D and stop at any position between L and D (angles between L and D are equiangular). Upon turning off the unit, the horizontal louver will close at position 0. Swing function is available only when swing function set and indoor fan is operating.
Note: If the position is set between L and B, A and C or B and D by remote controller, the horizontal louver will swing between L and D.




Upon energization, the unit will display all icons. Under standby state, operation indicator is displayed in red. If the unit is started by remote controller, the operation icon will give off light; meanwhile, the current setting running mode icon and fan mode icon will be displayed(mode LED: cooling, heating and dry mode). If the light button is turned off, all marks display will be disappeared.

**② Display of Dual-8 Nixie Tube**

For the first time of startup , the indoor unit defaults to display present set temperature (16～30℃).Then if set temperature display is set by remote controller, it will display set temperature and if room temperature display is set, it will display room temperature. After that, if you operate the remote controller for other settings, the temperature display method will keep original. If you operate the remote controller during room temperature display, the set temperature will be displayed for 5 seconds firstly and then room temperature display returns. “F1” will be displayed upon malfunction of room temperature sensor, “F2” upon malfunction of indoor unit tube temperature sensor and “C5” upon malfunction of jumper cap.
For some models, if set temperature display is set by the remote controller, present set temperature will be displayed. After that, when you set room temperature display from set temperature display or outdoor temperature by the remote controller, the room temperature will be displayed for 5 seconds firstly and then set temperature display returns.

**(10) Locked protection to PG motor**

When starting the fan, if motor’s rotational speed is slow for a period of time, the unit will display locked and stop running to avoid auto protection for motor. If the unit is at on status currently, error code H6 will be displayed on the nixie tube. If the unit is off currently, this locked malfunction information won’t be displayed.

**(11)Memory Function**

Memory content includes mode, up & down swing, light, set temperature and set fan speed, general timer (clock timer can’t be memorized), Fahrenheit/Centigrade..
Upon power failure, the unit after power recovery will automatically start operation according to memorized content. The unit, without timer setting before power failure, will operate according to the last setting after power recovery. The unit, with general timer setting which has not been fulfilled before power failure, will memorize the time setting and re-calculate the time after power recovery. If there is timer function in the last remote controller command but setting time has reached, the system will act as timer on/off setting before power failure. After power failure, the system memorizes the operation states before power failure without timer action. Clock timer can not be memorized.

# 7. Installation Manual

## 7.1 Notices for Installation

### Important Notices

1.The unit must only be installed by Authorised Service Center according to municipal or government regulations and in compliance with this manual .
2.Before installating, please contact with local authorized maintenance center. If unit is not installed by the Authorised Service Center , the malfunction may not be solved due to discommodious contacts.
3.When removing the unit to the other place, please firstly contact with the Authorized Service Center in the local area.

### ● Basic Requirements For Installation Position

**Proper installation location is vital for correct and efficient operation.Avoid the following locations where:**

- strong heat sources, vapours, flammable gas or volatile liquids are emitted.
- high-frequency electro-magnetic waves are generated by radio equipment,welders and medical equipment
- salt-laden air is a problem (such as close to coastal areas).
- the air is contaminated with industrial vapours and oils.
- the air contains sulphures gas such as in hot spring zones.
- Other environments where corrosion or air quality is a problem.

### ● Installation Location Selection of Indoor Unit

1.The air inlet and outlet vent should be away from the obstruction.Ensure the air can be blown through the whole room.
2.Select a location where the condensing water can be easily drained out, and where it is easily connected for outdoor unit.
3.Select a place where the children can not reach.
4.Select the place where the wall is strong enough to withstand the full weight and vibration of the unit, and will not increase the noise.
5.Be sure to leave enough space to allow access for routine maintenance. The height of the installed location should be 250cm or more above the floor.
6.Select a place about 1m or more away from TVset or any other electric appliances.
7.Select a place where the filter can be easily taken out.
8.Make sure that the indoor unit is installed in accord with installation dimension insturctions.
9.Do not use the unit in the laundry or the bathroom or around the swimming pool etc.

### ● Installation Loctaion Selection of Outdoor Unit

1.Select a location from which noise and outflow air emitted by unit will not inconvenience neighbors, animals and plants.
2.Select a location where there is sufficient ventilation.
3.Select a location where there is no obstructions which will cover the inlet and outlet vents
4.The location should be able to withstand the full weight and vibration of the outdoor unit and permit safe installation.
5.Select a dry place, but do not expose under the direct sunlight or strong wind.
6.Make sure that the outdoor unit is installed in accord with the installation instructions, and is convenient for maintenance and repair.
7.The height difference between indoor and outdoor units is within 5 m, and the length of the connecting tubing does not exceed 10 m.
8.Select a place where it is out of reach for the children.
9.Select a place which will not block pedestrian passage and influence the city appearance.

## ● Safety Requirements For Electric Appliances

1. A dedicated power supply circuit should be used in accordance with local electrical safety regulations.
2. Don't drag the power cord emphatically.
3.The unit should be reliably earthed and connected to the special earth device by the professionals.
The air switch must have the functions of magnetic tripping and heat tripping to prevent short circuit and overloading.
4.The min. distance between the unit and combustive surface is 1.5m.
5.The appliance shall be installed in accordance with national wiring regulations.
6.An all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.

**NOTE:**

**● Make sure the live wire ,neutral wire and earth wire in the family power socket are properlly connected. There should be reliable circuit in the diagram.**

**● Inadequate or incorrect electrical connections may cause electrocution or fire.**

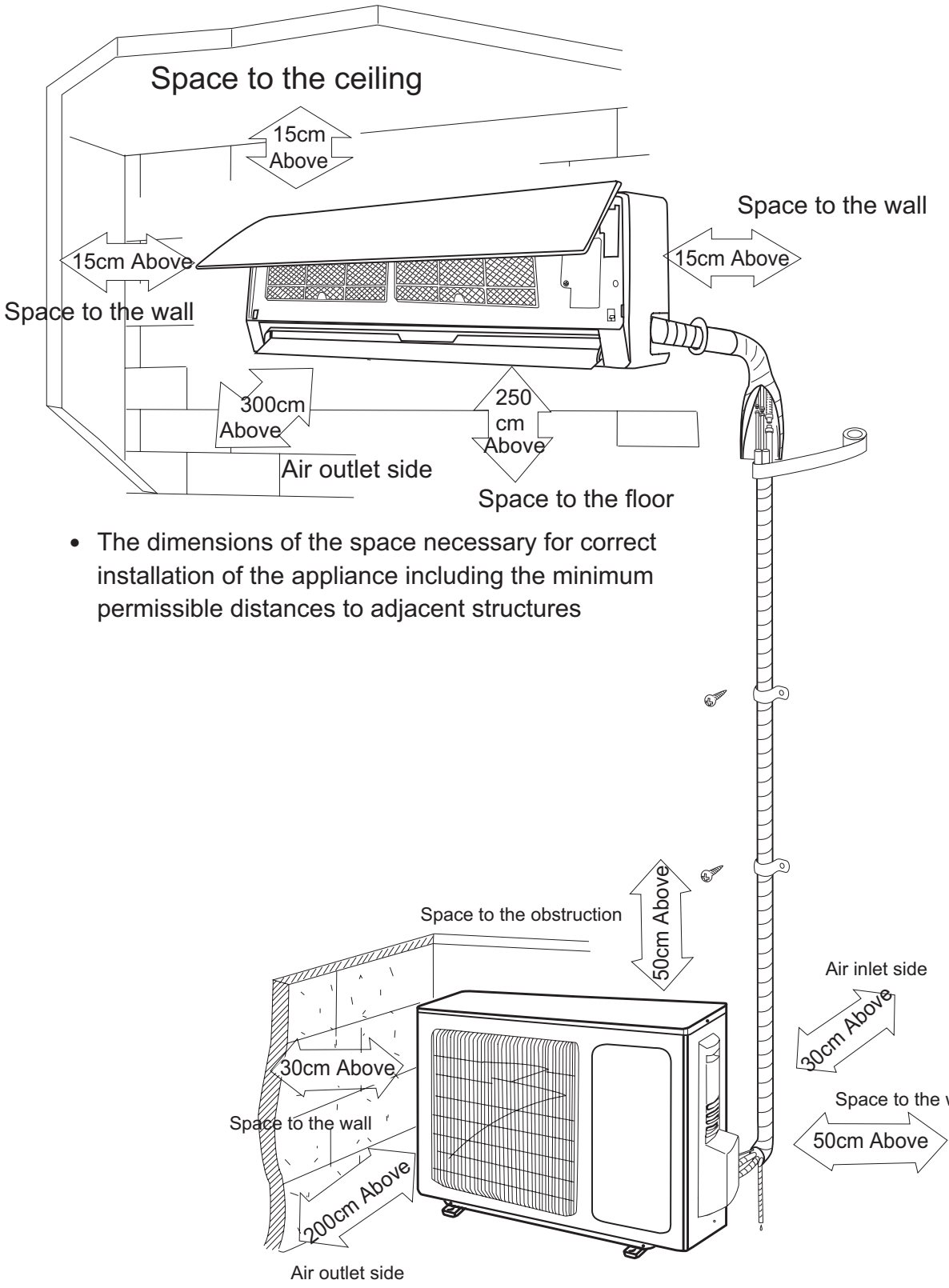
## ● Earthing requirements

1.Air conditioner is type I electric appliance. Please ensure the the unit is reliably earthed.
2. The yellow-green two-color wire in air conditioner is the earthing wire which can not be used for other proposes. Improper earthing may cause electrocution.
3. The earth resistance should accord to the National Criterion.
4. The user's power must have reliable earthing terminal. Please don't connect the earthing wire with the following :

①Tap water pipe ② Gas pipe ③ Contamination pipe
④Other places that professional personnel consider is unreliable

5. The model and rating values for fuses accord with the silk print on fuse cover or related PCB board.

## 7.2 Installation Drawing




- The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distances to adjacent structures

The above diagram is only for reference.

# 7.3 Installing Indoor Unit

## ● Installing Mounting Plate

1.Make the mounting plate completely level . As the water tray's oulet of the indoor unit is two-way type, the indoor unit during installation should slightly slant to watert tray's outlet for smooth drainage of condensing water.
2.Fix the mounting plate on the wall with screws.(Where is pre-covered with plastic granula)
3.Be sure that the mounting plate has been fixed firmly enough to withstand the weight of an adult of 60kg; further more, the weight should be evenly shared by each screw.

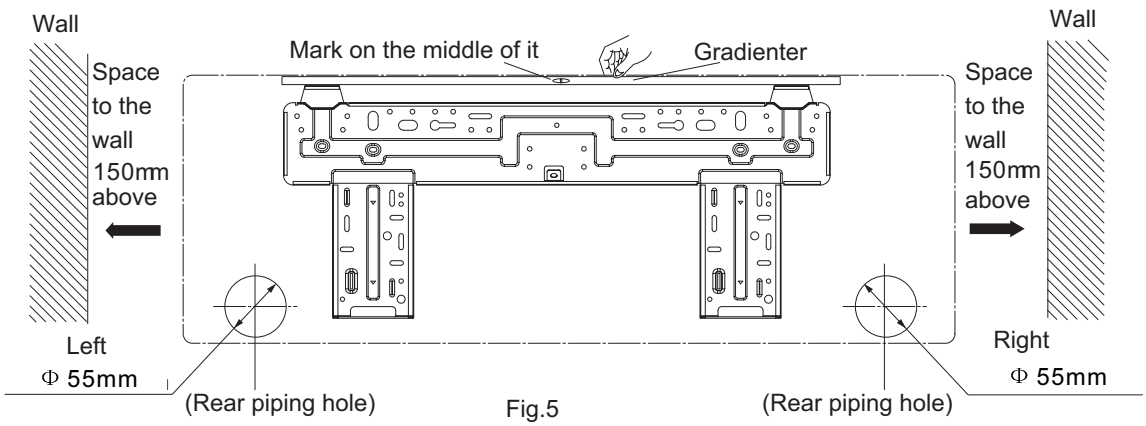
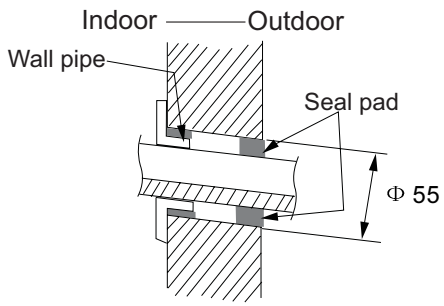



Fig.5

## ● Boring Piping Hole

1.Make the piping hole ( Φ 55 ) in the wall at a slight downward slant to the outdoor side.
2.Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

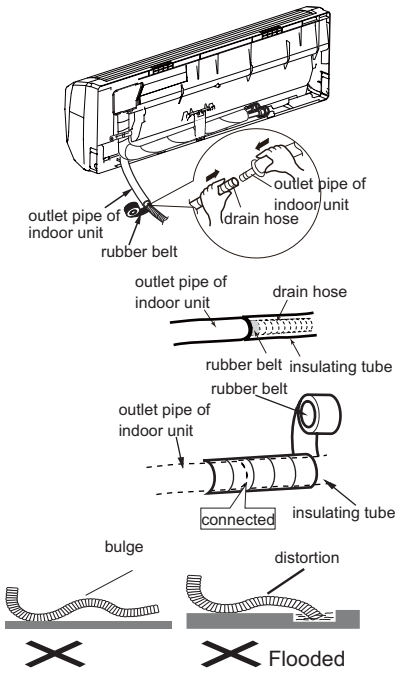



## ● Installing Drain Hose

1.Connect the drain hose to the outlet pipe of the indoor unit.
Bind the joint with rubber belt.

2.Put the drain hose into insulating tube.

3.Wrap the insulating tube with wide rubber belt from the joint of outlet pipe and insulating pipe so as to prevent shift of insulating tube. The drain hose should be placed at a downward slant for easy discharge of condensate.




**Note: the insulating tube should be connected reliably with the sleve outside the outlet pipe. The drain hose should be downward slant, without distortion, bulge or fluctuation. Do not put the water outlet in the water.**

## ● Connecting Indoor and Outdoor Electric Wires

1.Open the front panel.
2.Remove the wiring cover as shown in Fig 6.
3.Make the power connection cord and signal control wire (only for heat pump unit ) through the hole in the back of indoor unit.
4.Reinstall the clamp and wiring cover.
5.Recover the front panel.

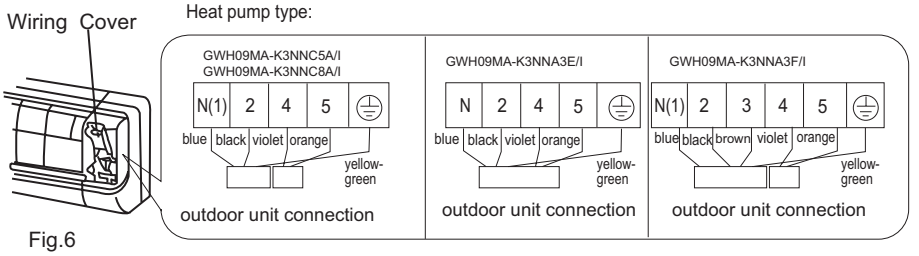


Fig.6

**NOTE:**

**All interconnecting wiring between indoor and outdoor unit must be performed by a licenced electrical contractor**

● The electric wiring must be correctly connected.Improper connection may cause spare parts malfunction.

● Tighten the terminal screws adequately to prevent loosening.

● After tightening the screws, slightly pull the wire and confirm whether it is firm or not.

● Ensure the electrical connections are properly earthed to prevent electrical shocks.

● Ensure all wiring connections are secure and the cover plates are reinstalled properly.Poor installations that allow dust or moisture incursion may cause fire or electrocution.

## ● Installing Indoor Unit

● The piping can be output from right, right rear, left or left rear.
1.When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis as necessary(As shown in Fig.7)
(1)Cut off the tailings 1 when routing the wiring only;
(2)Cut off the tailings 1 and tailings 2 when routing both the wiring and piping.
2.Take out the piping from body case, wrap the piping, power cords, drain hose with the tape and make them through the piping hole. (As shown in Fig.8)
3.Hang the mounting slots of the indoor unit on the upper hooks of the mounting plate and check if it is firm enough.(As shown in Fig.9)
4.The height of the installed location should be2m or more from the floor.

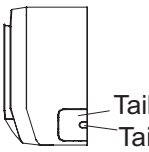
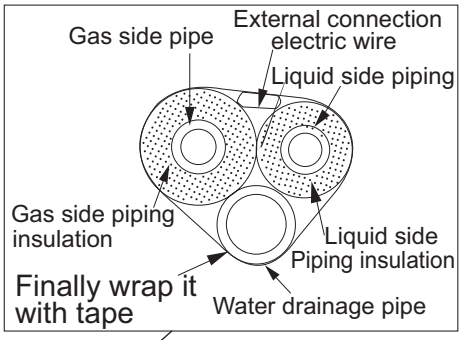


Fig.7



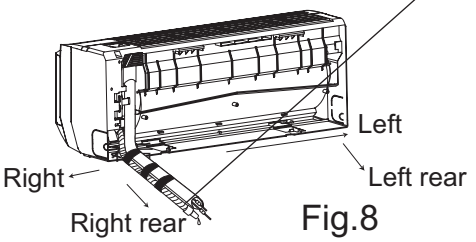



Fig.8

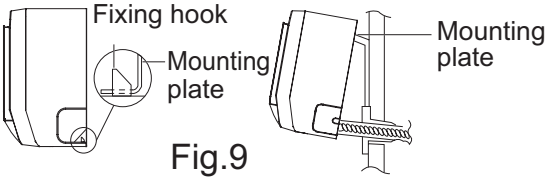
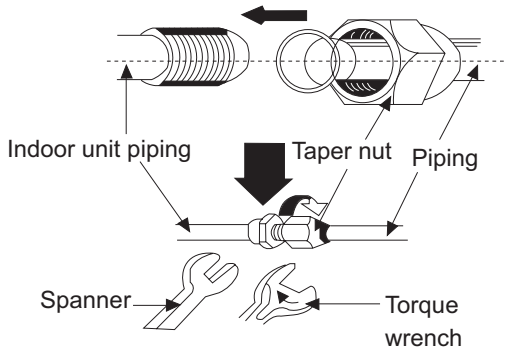


Fig.9

## ● Installing Connection Pipe

1.Align the center of the piping flare with the relevant valve.
2.Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench referring to the following:

| Hex nut diameter | Tightening torque(N·m) |
|---|---|
| Φ6 | 15~20 |
| Φ 9.52 | 31~35 |
| Φ 12 | 50~55 |
| Φ 16 | 60~65 |
| Φ 19 | 70~75 |

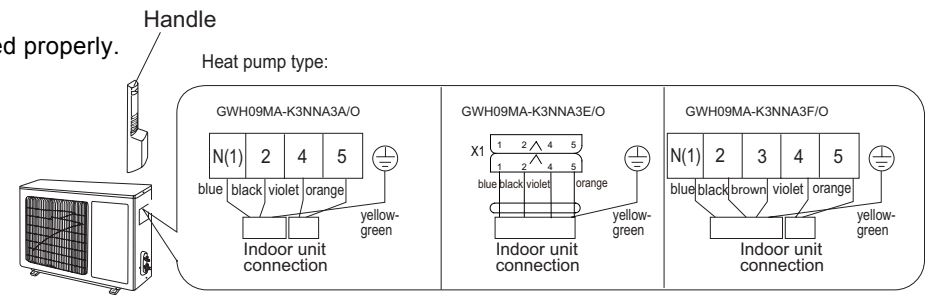



**NOTE: Firstly connect the connection pipe to indoor unit, then to outdoor unit; pay attention to the piping bending, do not damage the connection pipe; ensure the joint nut is adequately tightened, otherwise it may cause leakage.**

# 7.4 Install Outdoor Unit

## ● Electric Wiring

1.Remove the handle on the outdoor unit's right side plate.
2.Take off wire clamp. Connect and fix power connection cord and signal control wire (only for heat pump type )to the terminal board.Wiring should fit that of indoor unit.
3.Fix the power connection cord and signal control wire (only for heat pump type ) with wire clamps and then connect the corresponding connector.
4.Confirm if the wire has been fixed properly.
5.Reinstall the handle.




**NOTE:**

**● Incorrect wiring may cause spare parts malfunction.**

**● After the wire has been fixed, ensure there is free space between the connection and fixing places on the lead wire.**

## ● Air Purging and Leakage Test

1. Connect charging hose of manifold valve to charge end of low pressure valve (both high/low pressure valves must be tightly shut).
2. Connect joint of charging hose to vacuum pump.
3. Fully open the handle of Lo manifold valve.
4. Open the vacuum pump to evacuate. At the beginning, slightly loosen joint nut of low pressure valve to check if there is air coming inside. (If noise of vacuum pump has been changed, the reading of multimeter is 0) Then tighten the nut.
5. Keep evacuating for more than 15mins and make sure the reading of multi-meter is-1.0 $X10^5$ pa (-76cmHg).
6. Fully open high/low pressure valves.
7. Remove charging hose from charging end of low pressure valve.
8. Tighten bonnet of low pressure valve. (As shown in Fig.10)

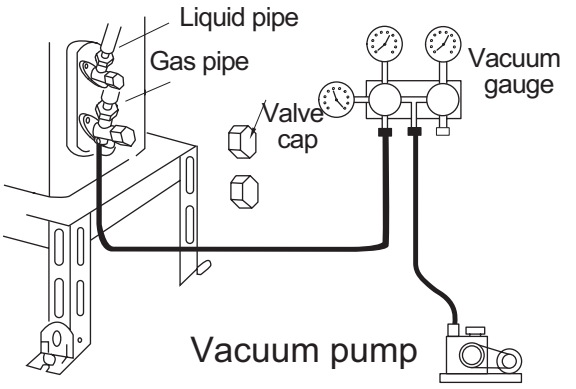
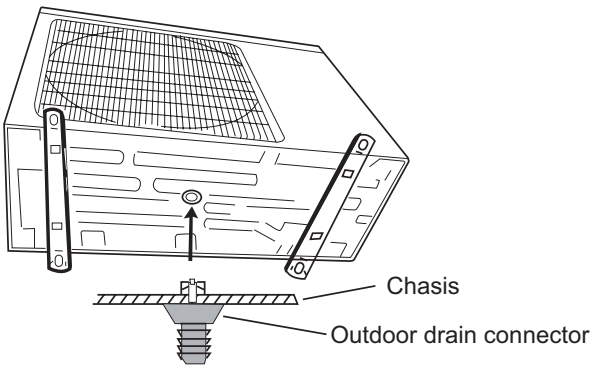


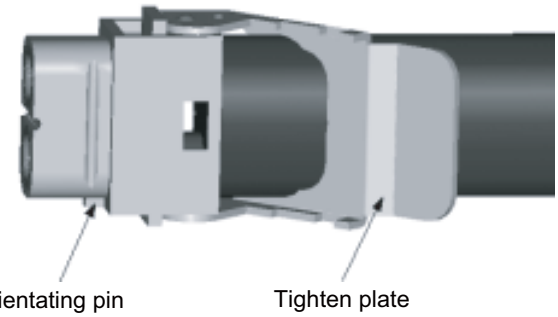
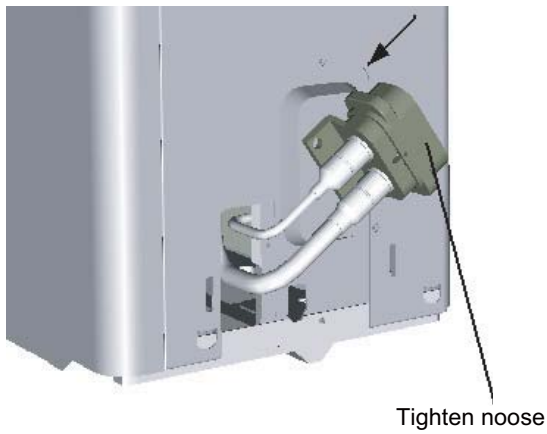

Fig.10

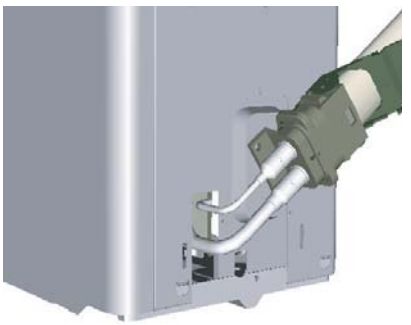
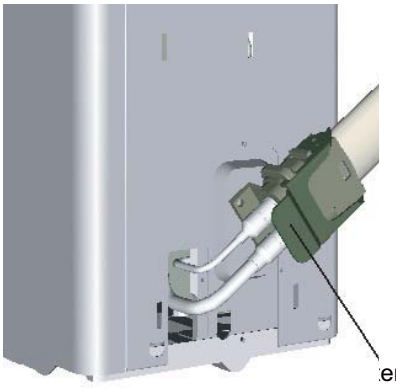
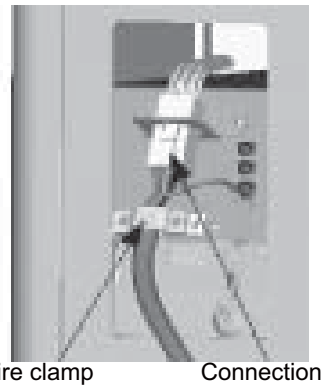
## ● Outdoor Condensation Drainage (only for Heat pump type )

During heating operation, the condensing water and defrosting water should be drained out reliably through the drain hose. Install the outdoor drain connector in a Φ 25 hole on the the base plate and attach the drain hose to the connector, so that the waste water formed in the outdoor unit can be drained out satisfactorily.



## 7.5 Install Quick Connector

| Operating Process | Photos |
|---|---|
| 1. Screw out bolt pointed byarrow. |  |
| 2. Press big handle downwardand take it off. |  |
| 3. Undo the tighten plate onquick connector (male). |  |
| 4. Pull the tighten noose inwardby the arrow direction. |  |

| Operating Process | Photos |
|---|---|
| 5. Insert quick connector(male) into root of the female one, and reposit tightening noose at the same time.<br><br>Note: Make orientating pin downward. |  |
| 6. Rotate tighten plate andpress it to bottom.<br><br>Note: It is hard to press tighten plate to bottom if tighten noose doesn't reposited thoroughly. |  <br>en plate |
| 7.Connect the wiring terminal.fix the earthing wiring with screw to the metal electric box.Install wire clamp to tighten connection wire. |  <br>Wire clamp Connection terminal |
| 8. Install big handle. |  |

## 7.6 Check after Installation and Operation Test

### ● Check after Installation

| Items to be checked | Possible malfunction |
|---|---|
| Has it been fixed firmly? | The unit may drop, shake or emit noise. |
| Have you done the refrigerant leakage test? | It may cause insufficient cooling(heating)capacity |
| Is heat insulation sufficient? | It may cause condensation and dripping. |
| Is water drainage satisfactory? | It may cause condensation and dripping. |
| Is the voltage in accordance with the rated voltage marked on the nameplate? | It may cause electric malfunctionor damage the product. |
| Is the electric wiring and piping connection installed correctly and securely? | It may cause electric malfunction or damage the part. |
| Has the unit been connected to a secure earth connection? | It may cause electrical leakage. |
| Is the power cord specified? | It may cause electric malfunctionor damage the part. |
| Are the inlet and outlet openings blocked? | It may cause insufficient cooling(heating) capacity. |
| Is the length of connection pipes and refrigerant capacity been recorded? | The refrigerant capacity is not accurate. |

### ● Operation Test

1.Before Operation Test

(1)Do not switch on power before installation is finished completely.

(2)Electric wiring must be connected correctly and securely.

(3)Cut-off valves of the connection pipes should be opened.

(4)All the impurities such as scraps and thrums must be cleared from the unit.

2.Operation Test Method

(1)Switch on power and press “ON/OFF” button on the wireless remote controllerto start the operation.

(2)Press MODE button to select the COOL, HEAT (Cooling only unit is not available), FAN to check whether the operation is normal or not.

## 7.7 Installation and Maintenance of Healthy Filter(Optional)

### ● Installation of Healthy Filter

1.Lift up the front panel from the two ends of it, as the arrow direction shown. Then pull the air filter out.(as shown Fig.a)

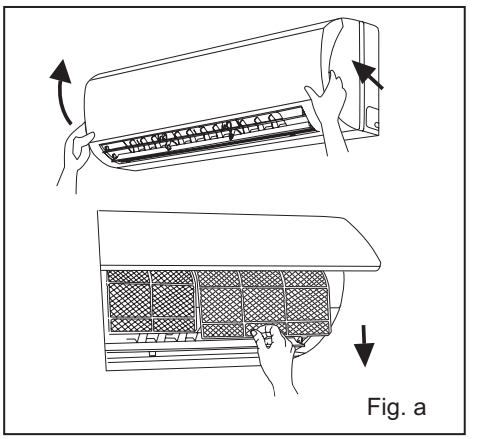


Fig. a

2.Attach the healthy filter onto the air filter, (as shown Fig.b)

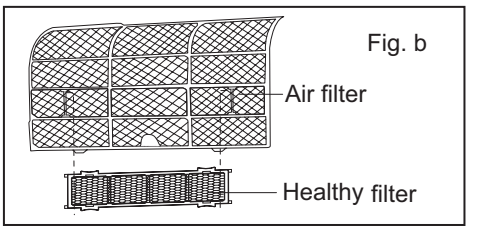



Fig. b

3.Mount the air filter properly along the arrow direction in Fig.c, and then close the panel cover.

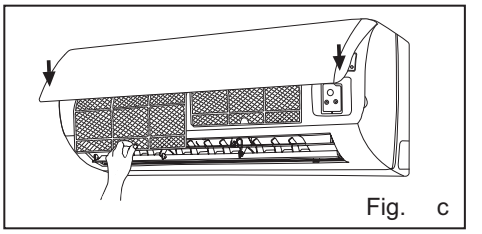


Fig. c

### ● Cleaning and Maintenance

Remove the healthy filter before cleaning and reinstall it after clean according to the installation instruction, but can't with brush or hard things. After washing, be sure to shake off remaining water and dry in the shade.

### ● Service Life

The healthy filter commonly has its usage lifetime for one year under normal condition. As for silver ion filter, it is invalid when its surface becomes black (green).

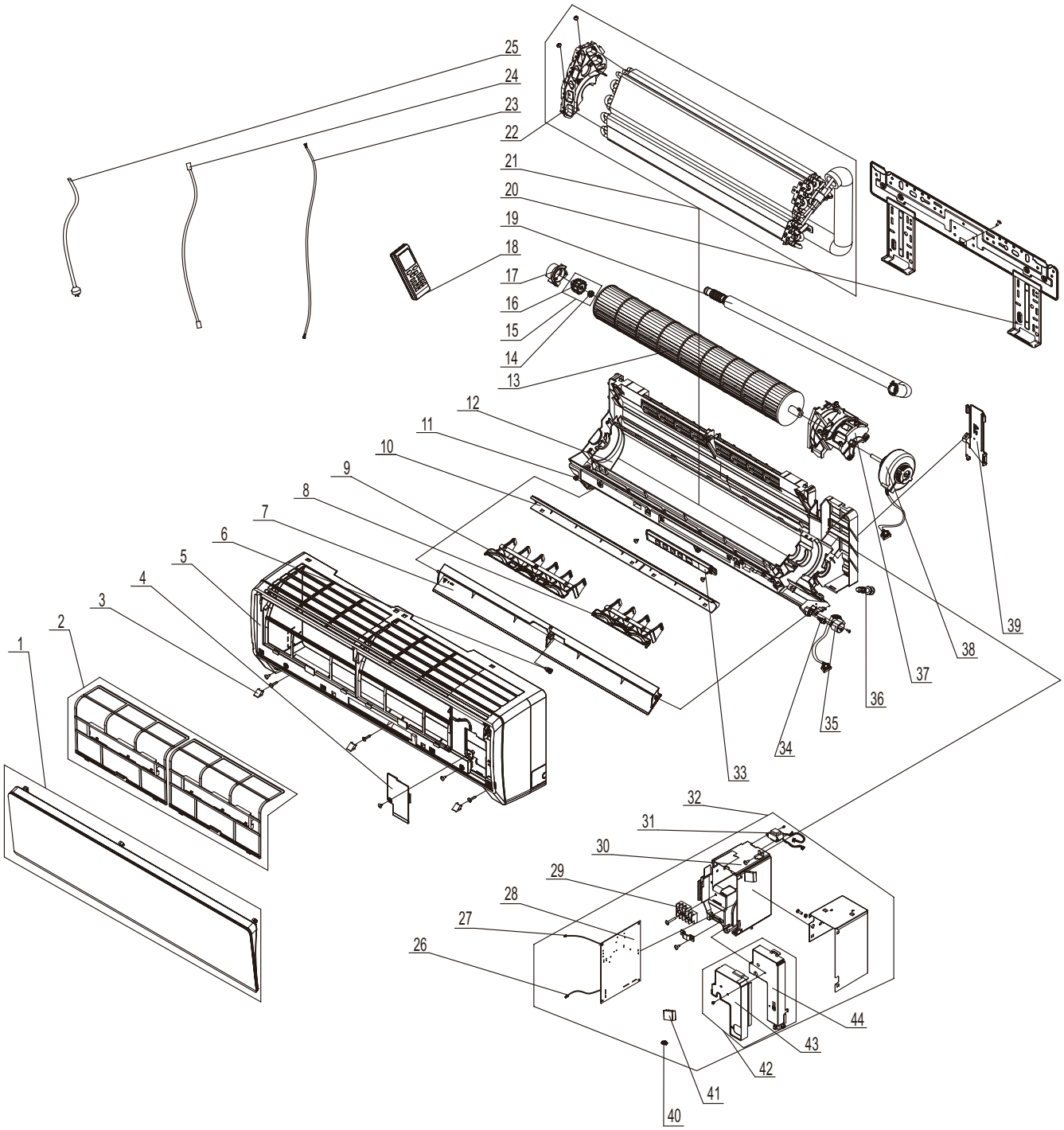
This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein is different from the physical goods, the latter one shall prevail.

The quantity of healthy filters shall be based on the actual delivery.

# 8. Exploded Views and Parts List

## 8.1 Indoor Unit

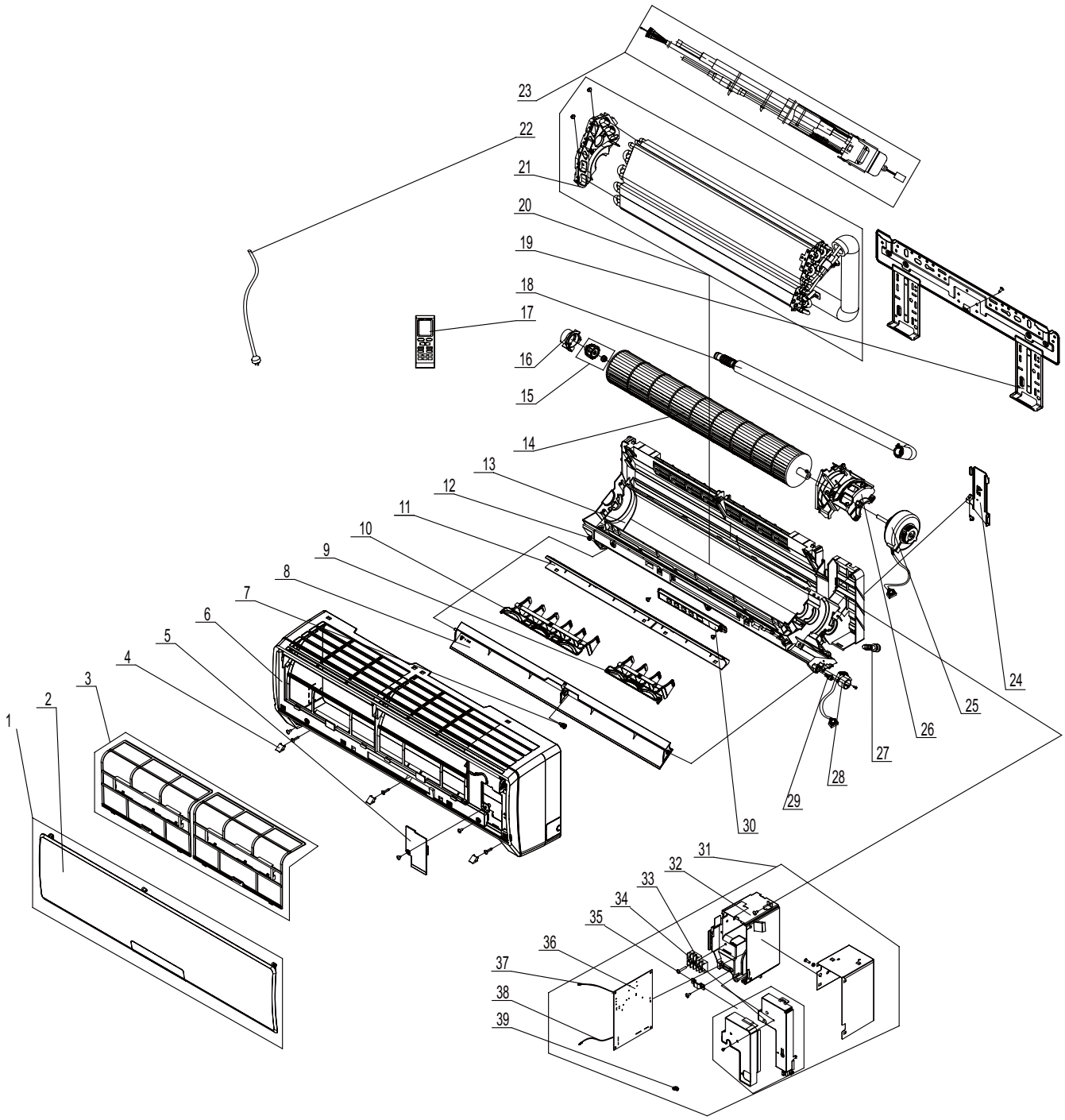
GWH09MA-K3NNC5A/I GWH09MA-K3NNC8A/I



| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH09MA-K3NNC8A/I | GWH09MA-K3NNC5A/I | |
| | Product Code | CA192N0010 | CA179N0040 | |
| 1 | Front Panel Assy | 2001235204 | 20012611 | 1 |
| 2 | Filter Sub-Assy | 11122081 | 11122081 | 2 |
| 3 | Screw Cover | 242520172 | 24252016 | 3 |
| 4 | Electric Box Cover2 | 2010249602 | 20122075 | 1 |
| 5 | Front Case | 2001212004P | 20012179 | 1 |
| 6 | Axile Bush | 10542008 | 10542008 | 1 |
| 7 | Guide Louver | 1051211102P | 10512111 | 1 |
| 8 | Air Louver 1 | 1051211301 | 10512113 | 1 |
| 9 | Air Louver 2 | 1051211401 | 10512114 | 1 |
| 10 | Helicoid tongue | 2611216201 | 26112162 | 1 |
| 11 | Axile Bush | 10542704 | 10542704 | 1 |
| 12 | Rear Case assy | 2220210108 | 2220210101 | 1 |
| 13 | Cross Flow Fan | 10352018 | 10352018 | 1 |
| 14 | Fan Bearing | 76512210 | 76512210 | 1 |
| 15 | O-Gasket sub-assy of Bearing | 76512051 | 76512051 | 1 |
| 16 | O-Gasket of Cross Fan Bearing | 76512203 | 76512203 | 1 |
| 17 | Ring of Bearing | 26152022 | 26152022 | 1 |
| 18 | Remote Controller | 30510041 | 30510041 | 1 |
| 19 | Drainage hose | 0523001406 | 0523001406 | 1 |
| 20 | Wall Mounting Frame | 01252015 | 01252015 | 1 |
| 21 | Evaporator Assy | 0100255202 | 0100255202 | 1 |
| 22 | Evaporator Support | 24212090 | 24212090 | 1 |
| 23 | Connecting Cable | 40020540 | 40020540 | 1 |
| 24 | Connecting Cable | 40020536 | 40020536 | 1 |
| 25 | Power Cord | 400220113 | 400220113 | 1 |
| 26 | Tube Sensor | 390000591 | 390000591 | 1 |
| 27 | Ambient Temperature Sensor | 390000453 | 390000453 | 1 |
| 28 | Main Board | 30035564 | 30035564 | 1 |
| 29 | Terminal Board | 42010262 | 42010262 | 1 |
| 30 | Electric Box | 20112082 | 20112082 | 1 |
| 31 | Transformer | 43110236 | 43110236 | 1 |
| 32 | Electric Box Assy | 20202532 | 2020203712 | 1 |
| 33 | Display Board | 30565083 | 3056504301 | 1 |
| 34 | Crank | 10582070 | 10582070 | 1 |
| 35 | Step Motor | 1521210801 | 1521210801 | 1 |
| 36 | Rubber Plug (Water Tray) | 76712012 | 76712012 | 1 |
| 37 | Motor Press Plate | 26112160 | 26112160 | 1 |
| 38 | Fan Motor | 15012115 | 15012115 | 1 |
| 39 | Pipe Clamp | 26112164 | 26112164 | 1 |
| 40 | Jumper | 4202300128 | 4202300128 | 1 |
| 41 | Capacitor CBB61 | 33010002 | 33010002 | 1 |
| 42 | Shield cover of Electric Box sub-assy | 0159207301 | 0159207301 | 1 |
| 43 | Shield cover of Electric Box | 0141203601 | 0141203601 | 1 |
| 44 | Electric Box Cover1 | 20122103 | 20122103 | 1 |

The above data are subject to be changed without notice.

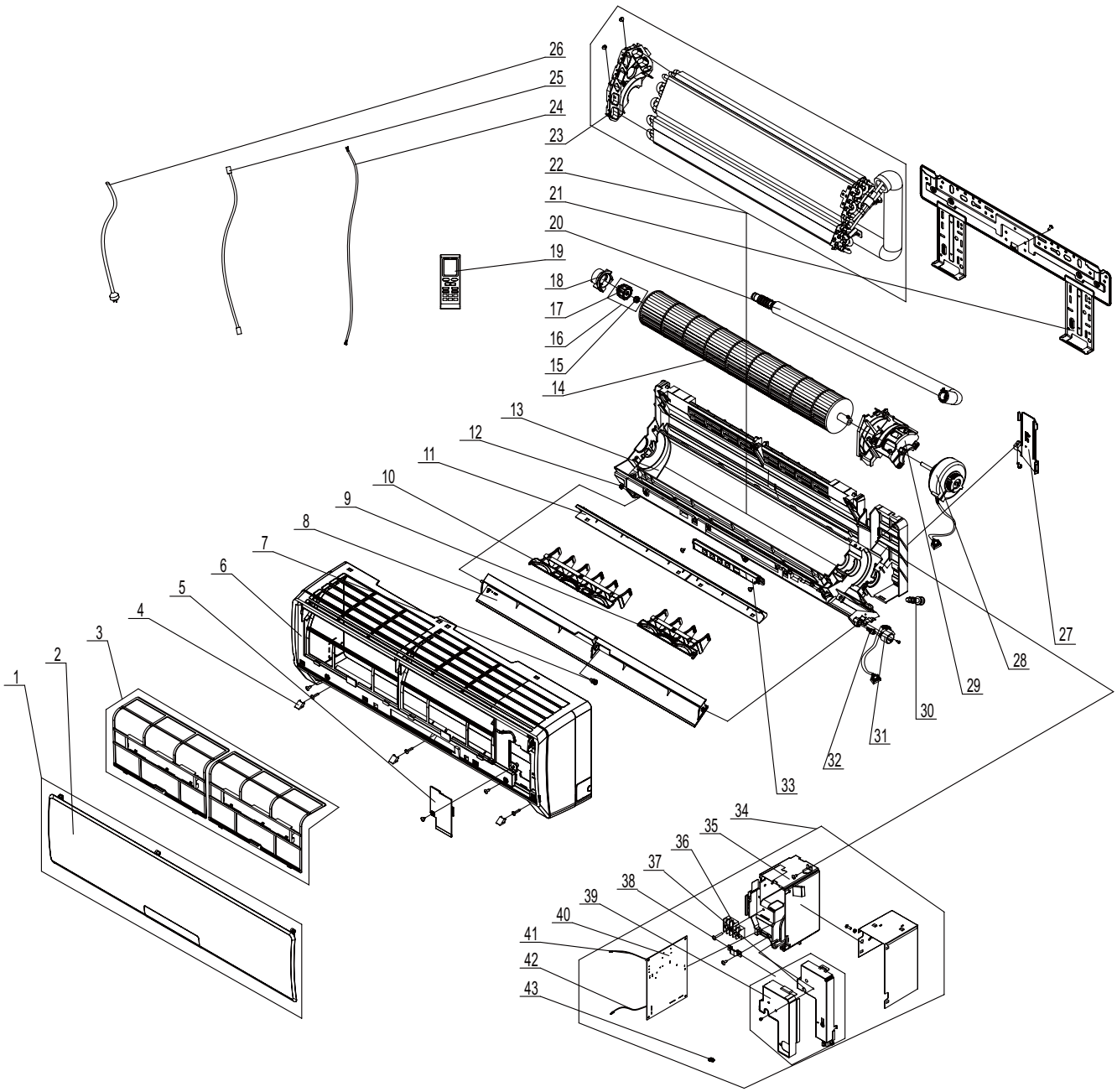
GWH09MA-K3NNA3E/I



| NO. | Description | Part Code | Qty |
|---|---|---|---|
| | | GWH09MA-K3NNA3E/I | |
| | Product Code | CA171N0800 | |
| 1 | Front Panel Assy | 20012241 | 1 |
| 2 | Front panel B1 | 20012121S | 1 |
| 3 | Filter Sub-Assy | 11122081 | 2 |
| 4 | Screw Cover | 24252016 | 3 |
| 5 | Electric Box Cover2 | 20122075 | 1 |
| 6 | Front Case | 20012120 | 1 |
| 7 | Axile Bush | 10542008 | 1 |
| 8 | Guide Louver | 10512111 | 1 |
| 9 | Air Louver 1 | 10512113 | 1 |
| 10 | Air Louver 2 | 10512114 | 1 |
| 11 | Helicoid tongue | 26112162 | 1 |
| 12 | Axile Bush | 10542704 | 1 |
| 13 | Rear Case assy | 2220210101 | 1 |
| 14 | Cross Flow Fan | 10352018 | 1 |
| 15 | O-Gasket sub-assy of Bearing | 76512051 | 1 |
| 16 | Ring of Bearing | 26152022 | 1 |
| 17 | Remote Controller | 30510091 | 1 |
| 18 | Drainage hose | 0523001406 | 1 |
| 19 | Wall Mounting Frame | 01252015 | 1 |
| 20 | Evaporator Assy | 01002611 | 1 |
| 21 | Evaporator Support | 24212090 | 1 |
| 22 | Power Cord | 400220113 | 1 |
| 23 | Soft Pipe Assy | 05232040 | 1 |
| 24 | Pipe Clamp | 26112164 | 1 |
| 25 | Fan Motor | 15012115 | 1 |
| 26 | Motor Press Plate | 26112160 | 1 |
| 27 | Rubber Plug (Water Tray) | 76712012 | 1 |
| 28 | Step Motor | 1521210801 | 1 |
| 29 | Crank | 10582070 | 1 |
| 30 | Display Board | 30565007 | 1 |
| 31 | Electric Box Assy | 20202469 | 1 |
| 32 | Electric Box | 2011210501 | 1 |
| 33 | Terminal Board | 42010262 | 1 |
| 34 | Electric Box Cover1 | 20122103 | 1 |
| 35 | Shield cover of Electric Box sub-assy | 0159207301 | 1 |
| 36 | Main Board | 30135550 | 1 |
| 37 | Tube Sensor | 390000591 | 1 |
| 38 | Ambient Temperature Sensor | 390000453 | 1 |
| 39 | Jumper | 4202300128 | 1 |

The above data are subject to be changed without notice.

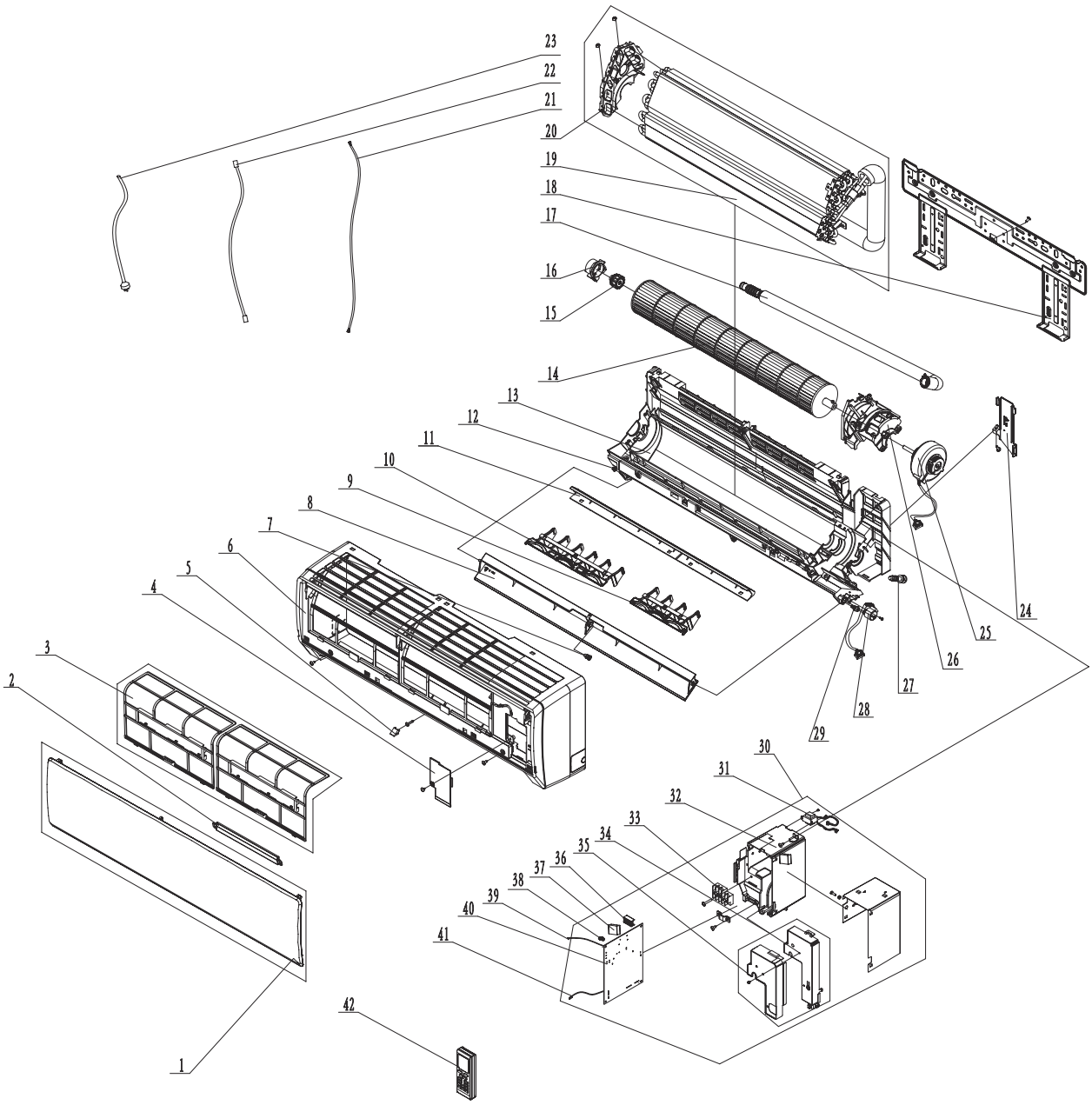
GWH09MA-K3NNA3F/I



| NO. | Description | Part Code | Qty |
|---|---|---|---|
| | | GWH09MA-K3NNA3F/I | |
| | Product Code | CA171N0680 | |
| 1 | Front Panel Assy | 20012241 | 1 |
| 2 | Front panel B1 | 20012121S | 1 |
| 3 | Filter Sub-Assy | 11122081 | 2 |
| 4 | Screw Cover | 24252016 | 3 |
| 5 | Electric Box Cover2 | 20122075 | 1 |
| 6 | Front Case | 20012120 | 1 |
| 7 | Axile Bush | 10542008 | 1 |
| 8 | Guide Louver | 10512111 | 1 |
| 9 | Air Louver 1 | 10512113 | 1 |
| 10 | Air Louver 2 | 10512114 | 1 |
| 11 | Helicoid tongue | 26112162 | 1 |
| 12 | Axile Bush | 10542704 | 1 |
| 13 | Rear Case assy | 2220210101 | 1 |
| 14 | Cross Flow Fan | 10352018 | 1 |
| 15 | Fan Bearing | 76512210 | 1 |
| 16 | O-Gasket sub-assy of Bearing | 76512051 | 1 |
| 17 | O-Gasket of Cross Fan Bearing | 76512203 | 1 |
| 18 | Ring of Bearing | 26152022 | 1 |
| 19 | Remote Controller | 30510091 | 1 |
| 20 | Drainage hose | 0523001406 | 1 |
| 21 | Wall Mounting Frame | 01252015 | 1 |
| 22 | Evaporator Assy | 0100255202 | 1 |
| 23 | Evaporator Support | 24212090 | 1 |
| 24 | Connecting Cable | 400205235 | 1 |
| 25 | Connecting Cable | 40020536 | 1 |
| 26 | Power Cord | 400220113 | 1 |
| 27 | Pipe Clamp | 26112164 | 1 |
| 28 | Fan Motor | 15012115 | 1 |
| 29 | Motor Press Plate | 26112160 | 1 |
| 30 | Rubber Plug (Water Tray) | 76712012 | 1 |
| 31 | Step Motor | 1521210801 | 1 |
| 32 | Crank | 10582070 | 1 |
| 33 | Display Board | 30565007 | 1 |
| 34 | Electric Box Assy | 20202474 | 1 |
| 35 | Electric Box | 2011210501 | 1 |
| 36 | Terminal Board | 4201026201 | 1 |
| 37 | Electric Box Cover1 | 20122103 | 1 |
| 38 | Shield cover of Electric Box sub-assy | 0159207301 | 1 |
| 39 | Shield cover of Electric Box | 0141203601 | 1 |
| 40 | Main Board | 30135550 | 1 |
| 41 | Tube Sensor | 390000591 | 1 |
| 42 | Ambient Temperature Sensor | 390000453 | 1 |
| 43 | Jumper | 4202300128 | 1 |

The above data are subject to be changed without notice.

GWH12MB-K3NNC9A/I

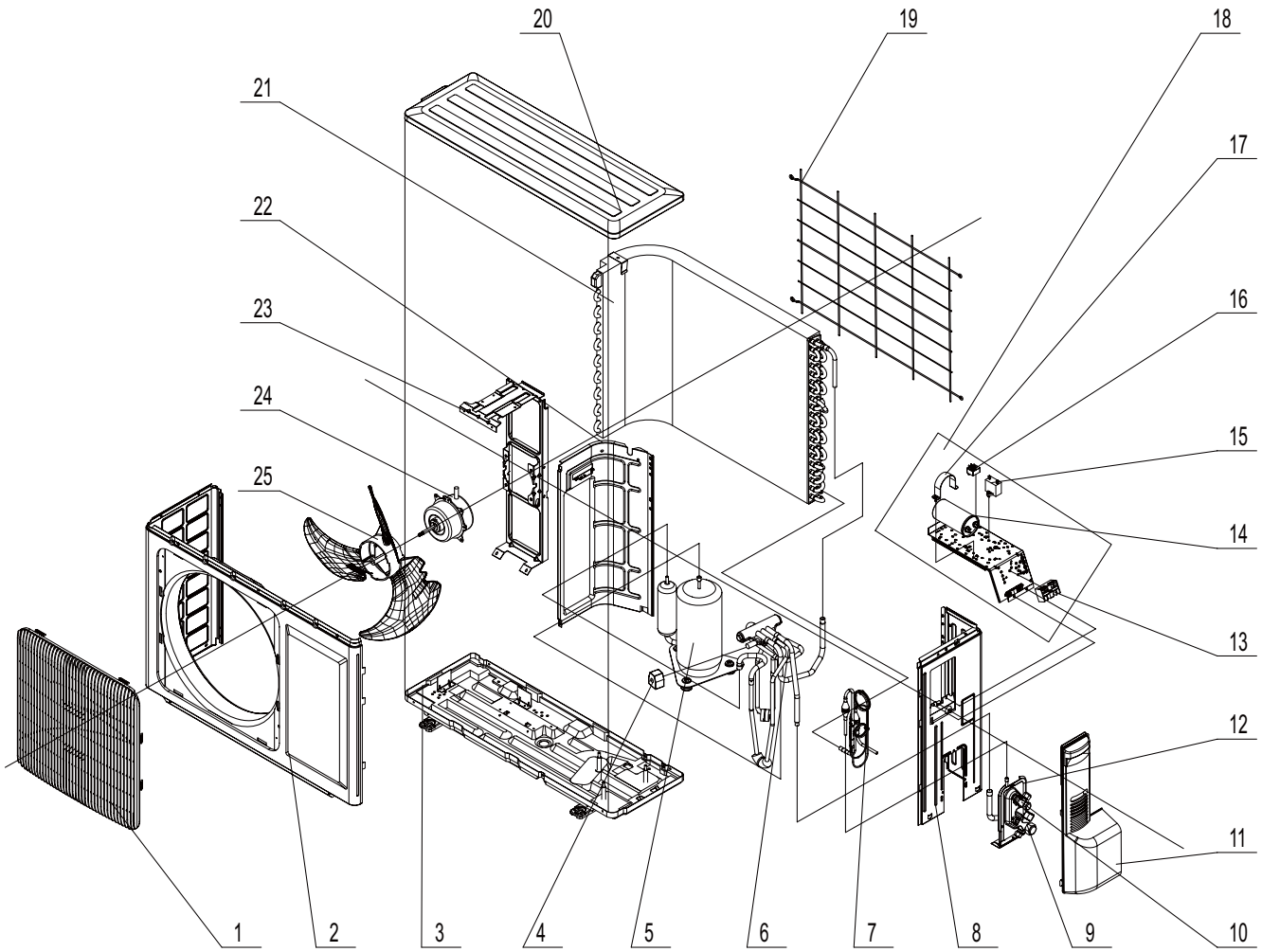


| NO. | Description | Part Code | Qty |
|---|---|---|---|
| | | GWH12MB-K3NNC9A/I | |
| | Product Code | CA145N0020 | |
| 1 | Front Panel Sub-Assy | 20012743 | 1 |
| 2 | Display Board | 30565056 | 1 |
| 3 | Filter Sub-Assy | 1112220403 | 2 |
| 4 | Electric Box Cover2 | 20122075 | 1 |
| 5 | Screw Cover | 24252016 | 1 |
| 6 | Front Case Sub-Assy | 20012139 | 1 |
| 7 | Axile Bush | 10542008 | 1 |
| 8 | Guide Louver | 10512157 | 1 |
| 9 | Air Louver 1 | 10512156 | 1 |
| 10 | Air Louver 2 | 10512155 | 1 |
| 11 | Helicoid tongue | 26112163 | 1 |
| 12 | Left Axile Bush | 10512037 | 1 |
| 13 | Rear Case assy | 2220210301 | 1 |
| 14 | Cross Flow Fan | 10352017 | 1 |
| 15 | O-Gasket sub-assy of Bearing | 76512051 | 1 |
| 16 | Ring of Bearing | 26152022 | 1 |
| 17 | Drainage hose | 0523001401 | 1 |
| 18 | Wall Mounting Frame | 01252021 | 1 |
| 19 | Evaporator Assy | 0100256401 | 1 |
| 20 | Evaporator Support | 24212091 | 1 |
| 21 | Connecting Cable | 40020536 | 1 |
| 22 | Connecting Cable | 400205401 | 1 |
| 23 | Power Cord | 400220112 | 1 |
| 24 | Pipe Clamp | 26112164 | 1 |
| 25 | Fan Motor | 150120874 | 1 |
| 26 | Motor Press Plate | 26112161 | 1 |
| 27 | Rubber Plug (Water Tray) | 76712012 | 1 |
| 28 | Step Motor | 1521210801 | 1 |
| 29 | Crank | 10582070 | 1 |
| 30 | Electric Box Assy | 2020207601 | 1 |
| 31 | Transformer | 43110236 | 1 |
| 32 | Electric Box | 20112082 | 1 |
| 33 | Terminal Board | 42010262 | 1 |
| 34 | Shield cover of Electric Box sub-assy | 0159207301 | 1 |
| 35 | Electric Box Cover1 | 20122103 | 1 |
| 36 | Radiator | 49010252 | 1 |
| 37 | Capacitor CBB61 | 33010002 | 1 |
| 38 | Jumper | 4202300130 | 1 |
| 39 | Ambient Temperature Sensor | 390000453 | 1 |
| 40 | Main Board | 30035566 | 1 |
| 41 | Tube Sensor | 390000591 | 1 |
| 42 | Remote Controller | 30510041 | 1 |

The above data are subject to be changed without notice.

## 8.2 Outdoor Unit

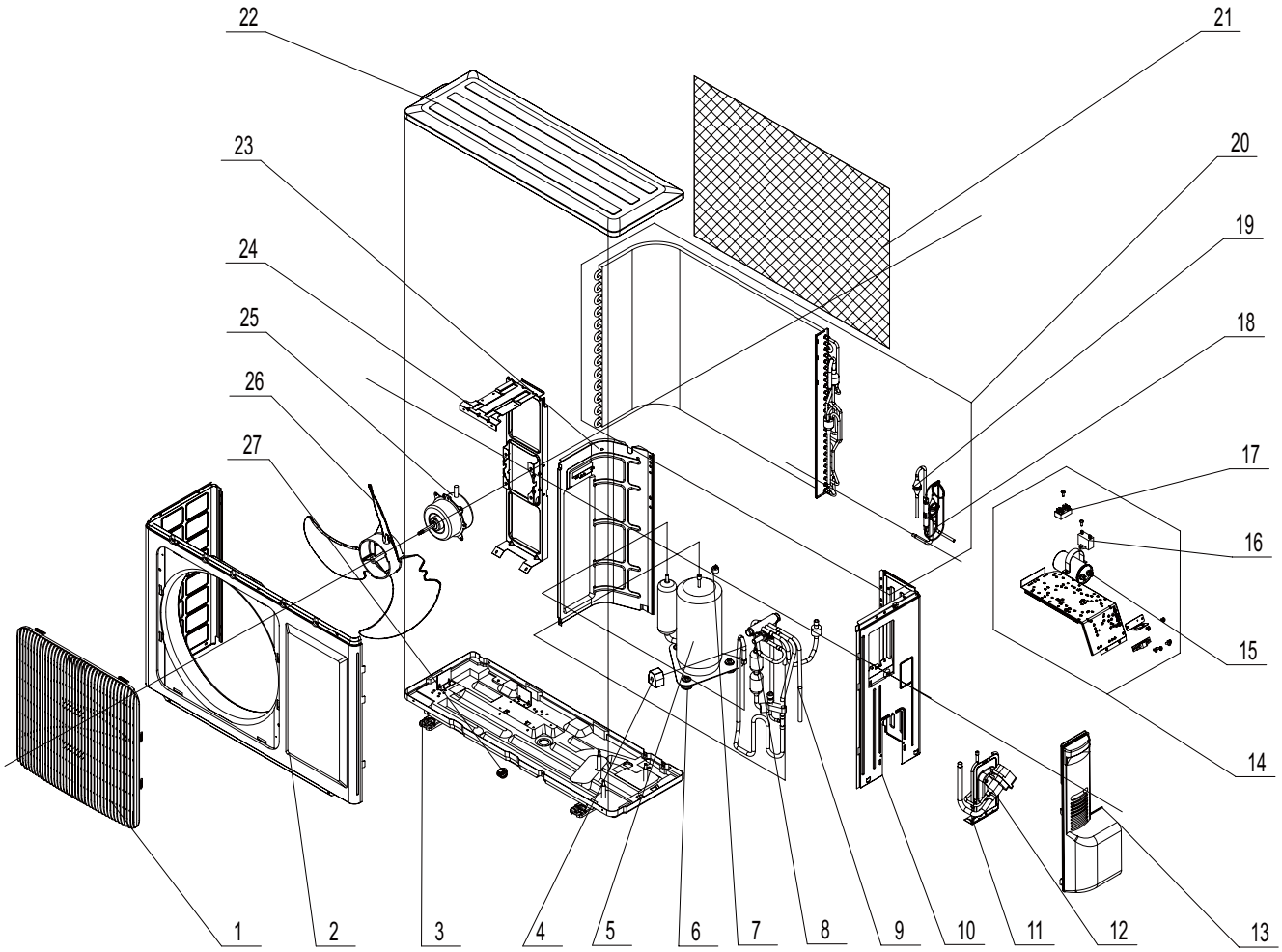
GWH09MA-K3NNA3A/O GWH12MB-K3NNA4A/O



| NO. | Description | Part Code | | Qty |
|---|---|---|---|---|
| | | GWH09MA-K3NNA3A/O | GWH12MB-K3NNA4A/O | |
| | Product Code | CA155W0070 | CA155W0030 | |
| 1 | Front grill | 22413433 | 22413433 | 1 |
| 2 | Front Panel | 015330124 | 015330124 | 1 |
| 3 | Chassis Sub-assy | 01203659P | 0120322910 | 1 |
| 4 | Magnet Coil | 43000400 | 43000400 | 1 |
| 5 | Compressor and fittings | 00103082 | 00120223 | 1 |
| 6 | 4-way Valve Assy | 03123018 | 03023959 | 1 |
| 7 | Capillary Sub-Assy | 0310349702 | 03003946 | 1 |
| 8 | Right Side Plate Assy | 0130200403 | 0130200404 | 1 |
| 9 | Valve | 07100005 | 07100006 | 1 |
| 10 | Valve | 07100003 | 07100003 | 1 |
| 11 | Big Handle | 26233433 | 26233433 | 1 |
| 12 | Valve Support | 01713041 | 01713041 | 1 |
| 13 | Terminal Board | 42010265 | 42010265 | 1 |
| 14 | Capacitor CBB65 | 33000018 | 33000018 | 1 |
| 15 | Capacitor CBB61 | 33010025 | 33010025 | 1 |
| 16 | Terminal Board | 42011147 | 42011147 | 1 |
| 17 | capacitor clamp sub | 02143401 | 02143401 | 1 |
| 18 | Electric Box Assy | 0140386101 | 0140314501 | 1 |
| 19 | Rear grill | 11123205 | 11123205 | 1 |
| 20 | Top Cover Plate | 1253443 | 01253443 | 1 |
| 21 | Condenser Assy | 0110395702 | 0110348418 | 1 |
| 22 | Clapboard Sub-Assy | 012334172 | 012334172 | 1 |
| 23 | Motor Support Sub-Assy | 01703053 | 017030511 | 1 |
| 24 | Fan Motor | 150130671 | 15013067 | 1 |
| 25 | Axial Flow Fan | 10333004 | 10333004 | 1 |

The above data are subject to be changed without notice.

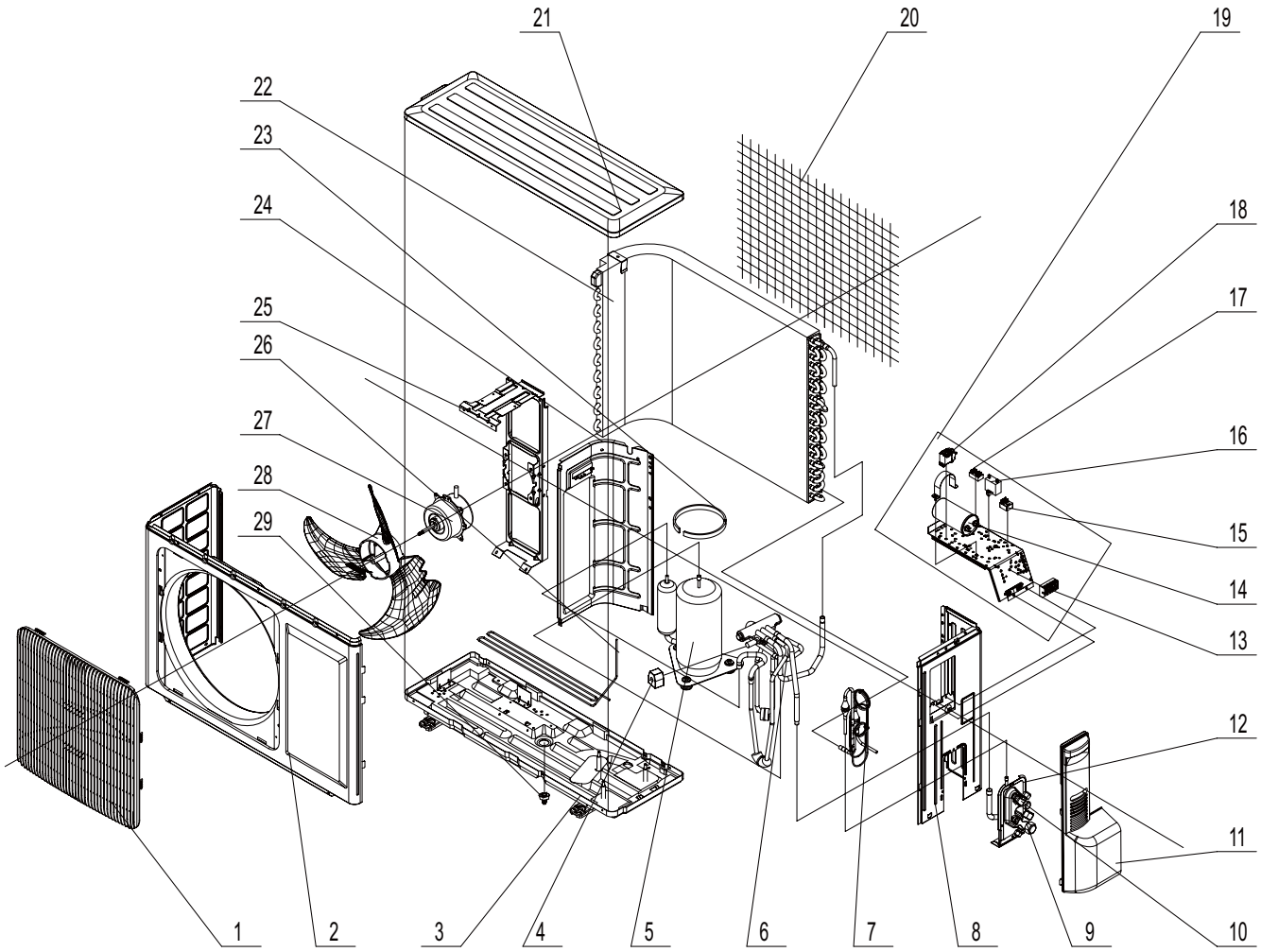
GWH09MA-K3NNA3E/O



| NO. | Description | Part Code | Qty |
|---|---|---|---|
| | | GWH09MA-K3NNA3E/O | |
| | Product Code | CA171W0800 | |
| 1 | Front grill | 22413431 | 1 |
| 2 | Front Panel | 015330124 | 1 |
| 3 | Chassis Sub-assy | 01203945P | 1 |
| 4 | Magnet Coil | 43000400 | 1 |
| 5 | Compressor and fittings | 00103082 | 1 |
| 6 | Compressor Gasket | 76711004 | 3 |
| 7 | Overload Protector | 00183009 | 1 |
| 8 | 4-way Valve | 430004022 | 1 |
| 9 | 4-way Valve Assy | 03123398 | 1 |
| 10 | Right Side Plate Assy | 0130308601 | 1 |
| 11 | Valve Support | 01703081 | 1 |
| 12 | Quick Connector Assy | 06393026 | 1 |
| 13 | Big Handle | 26233433 | 1 |
| 14 | Electric Box Assy | 02603361 | 1 |
| 15 | Capacitor CBB65 | 33000018 | 1 |
| 16 | Capacitor CBB61 | 33010025 | 1 |
| 17 | Terminal Board | 42011103 | 1 |
| 18 | Capillary Sub-Assy | 0310349702 | 1 |
| 19 | Filter | 07210022 | 1 |
| 20 | Condenser Assy | 0110395702 | 1 |
| 21 | Rear grill | 11123205 | 1 |
| 22 | Top Cover Plate | 01253443 | 1 |
| 23 | Clapboard Sub-Assy | 012334172 | 1 |
| 24 | Motor Support Sub-Assy | 01703053 | 1 |
| 25 | Fan Motor | 150130671 | 1 |
| 26 | Axial Flow Fan | 10333004 | 1 |
| 27 | Drainage Connecter | 06123401 | 1 |

The above data are subject to be changed without notice.

GWH09MA-K3NNA3F/O



| NO. | Description | Part Code | Qty |
|---|---|---|---|
| | | GWH09MA-K3NNA3F/O | |
| | Product Code | CA171W0680 | |
| 1 | Front grill | 22413433 | 1 |
| 2 | Front Panel | 015330124 | 1 |
| 3 | Chassis Sub-assy | 01203945P | 1 |
| 4 | Magnet Coil | 43000400 | 1 |
| 5 | Compressor and fittings | 00103082 | 1 |
| 6 | 4-way Valve Assy | 03123018 | 1 |
| 7 | Capillary Sub-Assy | 0310349702 | 1 |
| 8 | Right Side Plate Assy | 0130200403 | 1 |
| 9 | Valve | 07100005 | 1 |
| 10 | Valve | 07100003 | 1 |
| 11 | Big Handle | 26233433 | 1 |
| 12 | Valve Support | 01713041 | 1 |
| 13 | Terminal Board | 420101941 | 1 |
| 14 | Capacitor CBB65 | 33000018 | 1 |
| 15 | Terminal Board | 42011147 | 1 |
| 16 | Capacitor CBB61 | 33010025 | 1 |
| 17 | Terminal Board | 42011103 | 1 |
| 18 | Thermostat | 45040026 | 1 |
| 19 | Electric Box Assy | 02603376 | 1 |
| 20 | Rear grill | 11123205 | 1 |
| 21 | Top Cover Plate | 01253443 | 1 |
| 22 | Condenser Assy | 0110395702 | 1 |
| 23 | electrical heater | 76513502 | 1 |
| 24 | Clapboard Sub-Assy | 012334172 | 1 |
| 25 | Motor Support Sub-Assy | 01703053 | 1 |
| 26 | Electrical heater (Chassis) | 76510005 | 1 |
| 27 | Fan Motor | 150130671 | 1 |
| 28 | Axial Flow Fan | 10333004 | 1 |
| 29 | Drainage Connecter | 06123401 | 1 |

The above data are subject to be changed without notice.

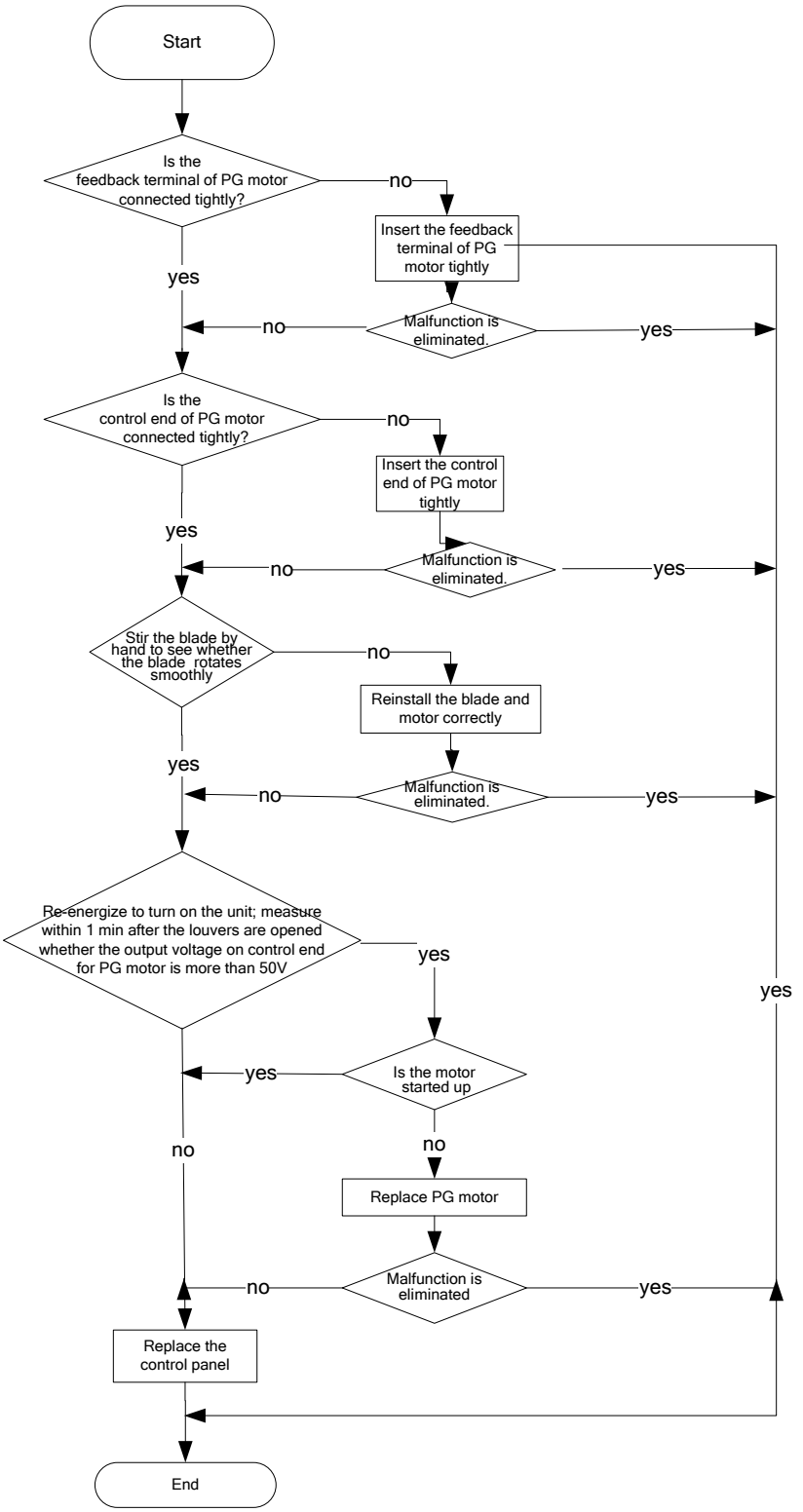
# 9. Troubleshooting

## 9.1 Malfunction Codes

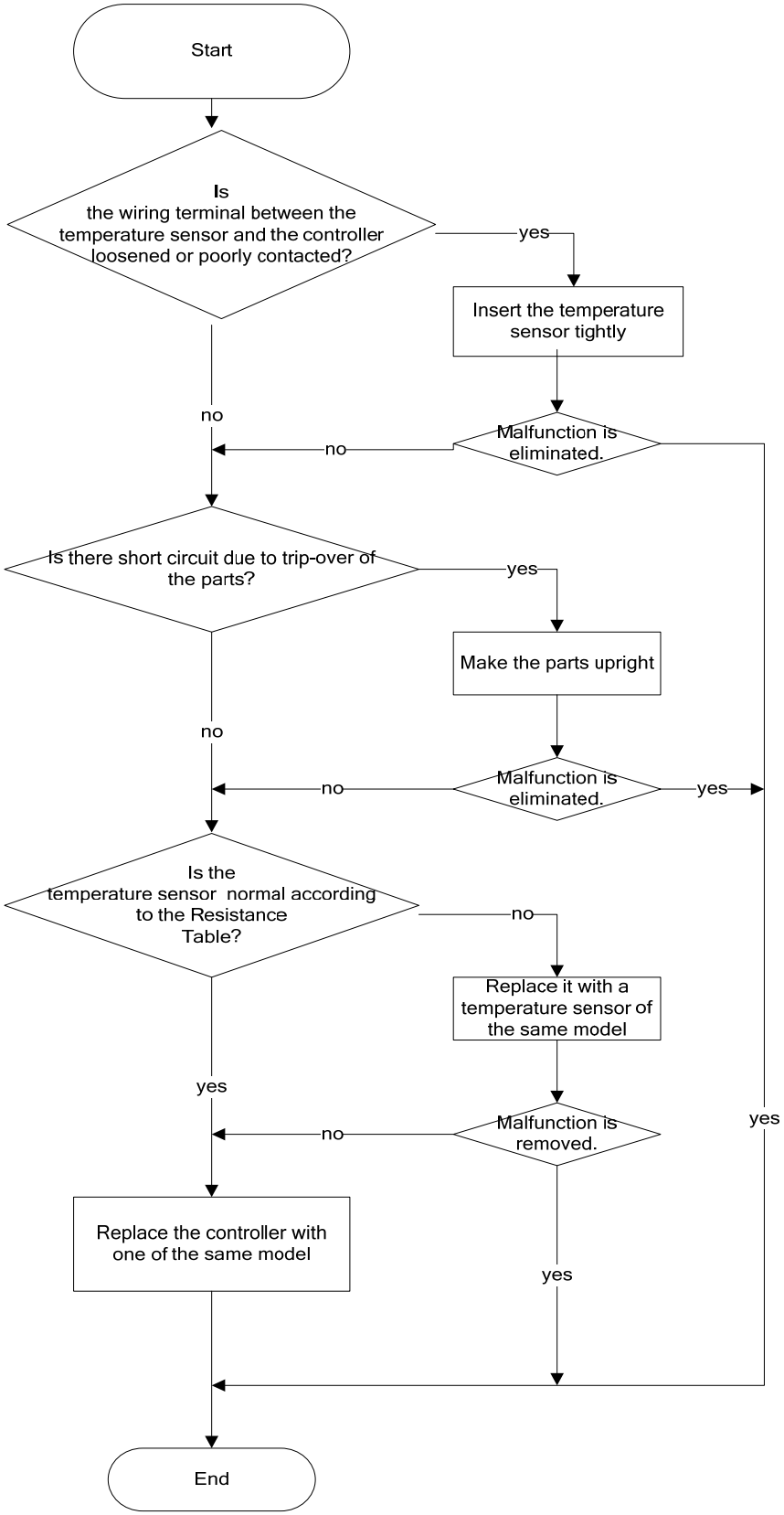
| No. | Malfunction Name | Display Method of Indoor Unit | | | | A/C Status | Possible Causes |
|---|---|---|---|---|---|---|---|
| | | Error Code | Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S) | | | | |
| | | | Operation Lamp | COOL Lamp | HEAT Lamp | | |
| 1 | Indoor ambient temperature sensor is open/short-circuited | F1 | | OFF 3S and blinks once | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads （such as compressor, outdoor fan, 4-way valve） stop operation; During heating operation, the complete unit stops operation. | 1. The wiring terminal between indoor ambient temperature sensor and controller 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 | | OFF 3S and blinks twice | | The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation. | 1. The wiring terminal between indoor evaporator temperature sensor and controller 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 | PG motor (indoor fan motor) does not operate | H6 | OFF 3S and blinks 11 times | | | Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; 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 due to improper installation.<br>4. Motor is not installed properly and tightly.<br>5. Motor is damaged.<br>6. Controller is damaged. |
| 4 | Malfunction protection of jumper cap | C5 | OFF 3S and blinks 15 times | | | Operation of remote controller or control panel is available, but the unit won't act. | 1. There's not jumper cap on the controller.<br>2. Jumper cap is not inserted properly and tightly.<br>3. Jumper cap is damaged.<br>4. Controller is damaged. |
| 5 | PG motor (indoor fan) circuit malfunction by zero cross detection | U8 | OFF 3S and blinks 17 times | | | Operation of remote controller or control panel is available, but the unit won't act. | 1. Controller is damaged. |

## 9.2 How to Check simply the main part

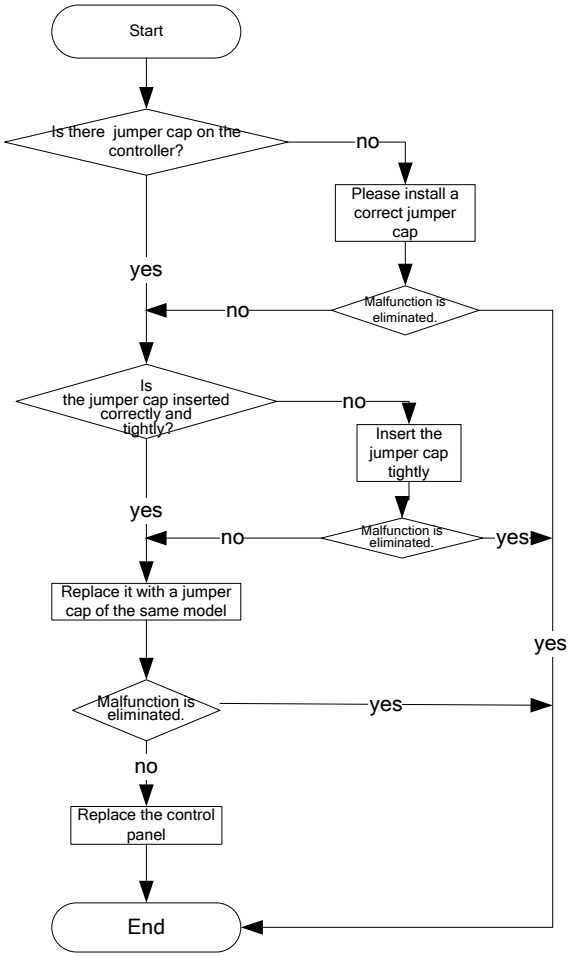
(1) PG motor (indoor fan) does not operate (H6)



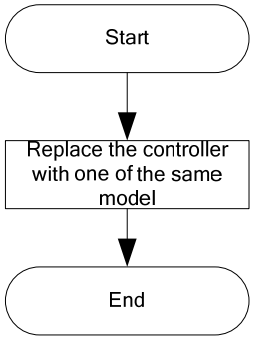
(2)Open circuit, short circuit of temperature sensor (F1, F2)



(3) Jumper cap malfunction (C5)



(4) PG motor (indoor fan) circuit detection by zero crossing detection (U8)

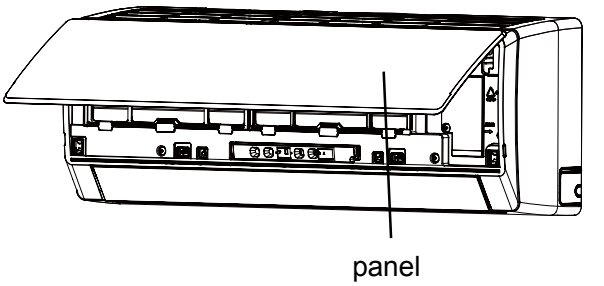
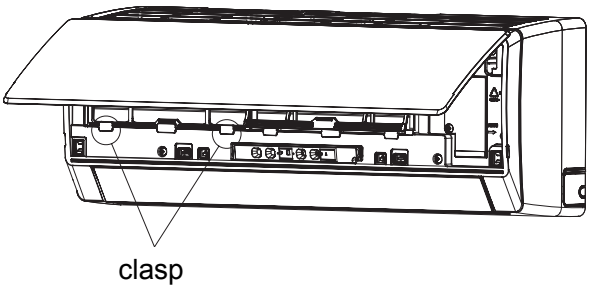
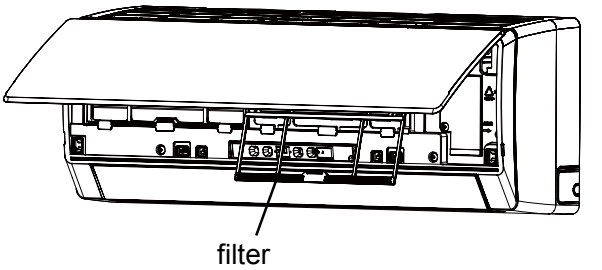
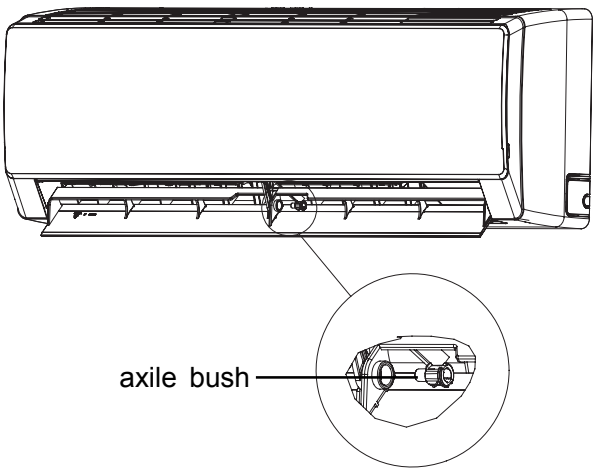


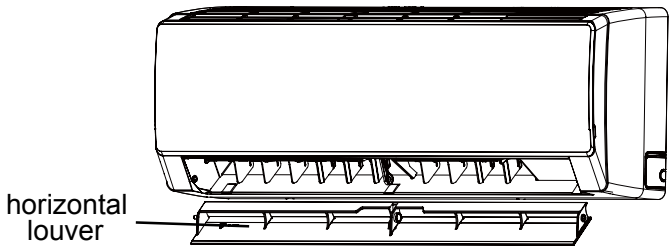
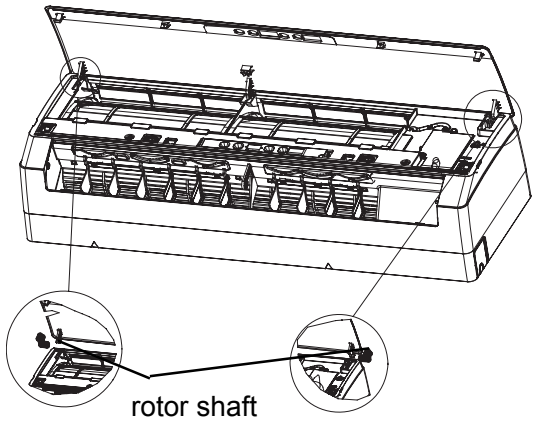
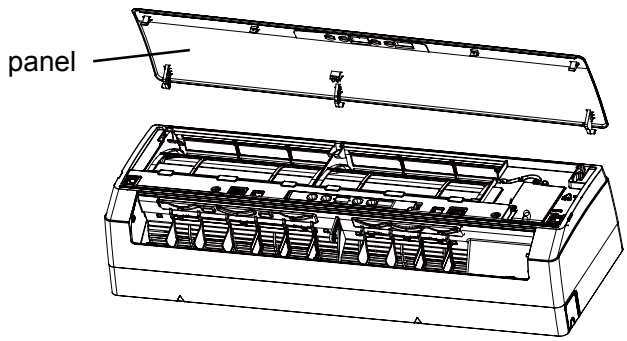
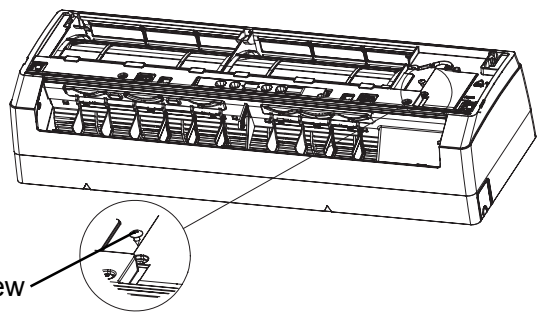

The above information is only for refrence.

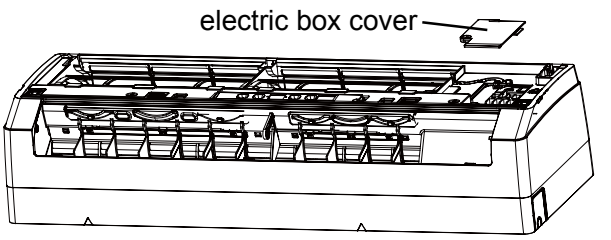
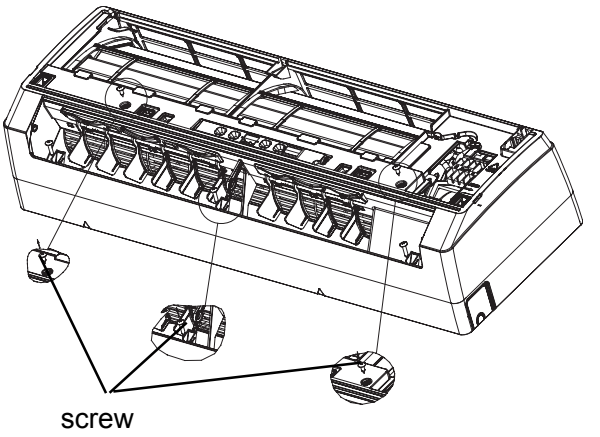
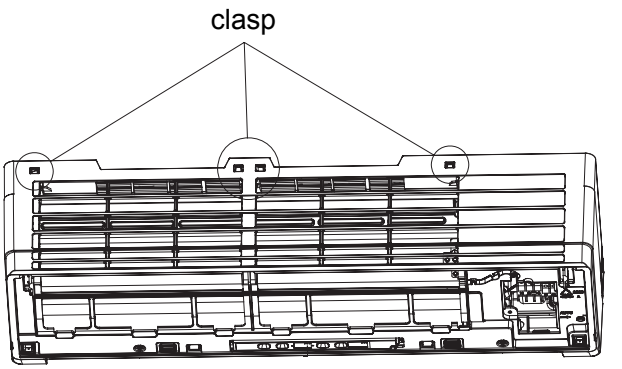
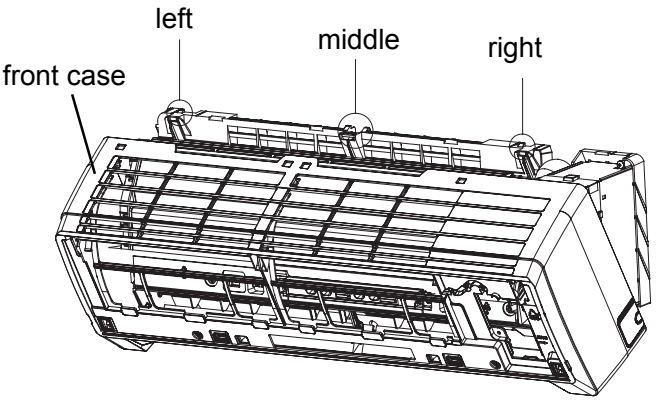
# 10. Removal Procedure

## 10.1 Removal Procedure of Indoor Unit

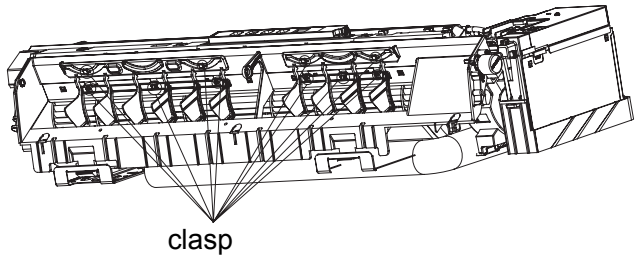
**⚠ Warning** **Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.**

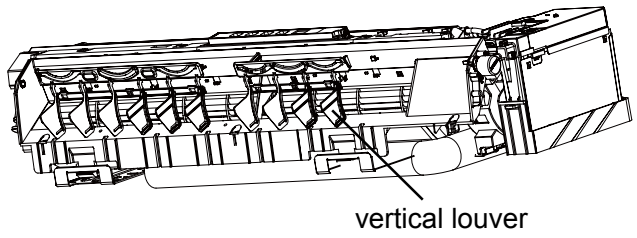
| Step | Procedure | |
|---|---|---|
| 1. Remove the filter | | |
| a | Open the front panel. |  |
| b | Loosen the clasp of the filter. |  |
| c | Take out the filter. |  |
| 2. Remove the horizontal louver | | |
| a | Remove the axile bush on the horizontal louver. |  |

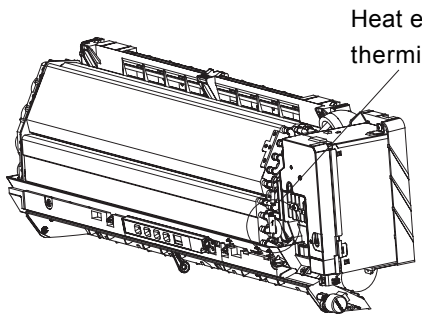
| Step | Procedure | |
|---|---|---|
| b | Pull the horizontal louver outward to remove it. |  |
| 3. Remove the panel | | |
| a | Push the rotor shaft on both sides of the panel to make it separate from the groove. Remove the panel. |  <br>  |
| 4．Remove the electric box cover | | |
| a | Loosen the 2 screws of the electric box cover. |  |

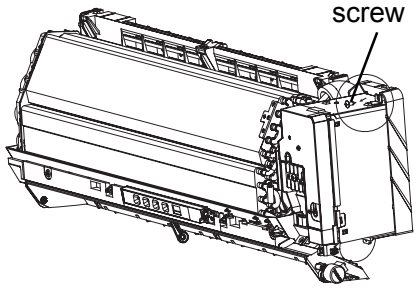
| Step | Procedure | |
|---|---|---|
| b | Remove the electric box cover. |  |
| 5. Remove the front case | | |
| a | Open the screw cap on the front case.<br>Remove the screws fixing the front case. |  |
| b | Loosen the clasps of the front case. |  |
| c | Remove the front case. |  |

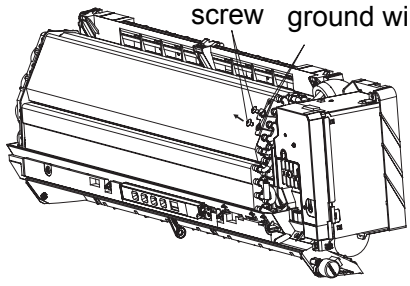
| Step | Procedure |
|---|---|
| 6. Remove the vertical louver | |
| a | Loosen the clasp connecting the vertical louver and bottom case subassembly. |
| b | Remove the vertical louver. |
| 7. Remove the electric box cover | |
| a | Disconnect the indoor tube temperature sensor. |
| b | Remove the screws of the electric box. |
| c | Remove the screws at the joint of the ground wire and evaporator. |

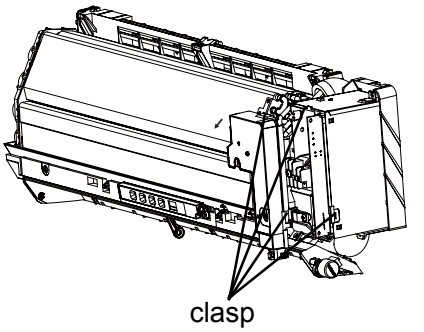
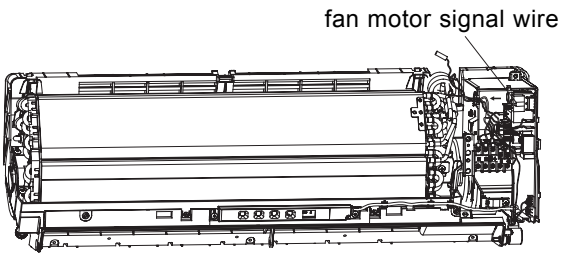
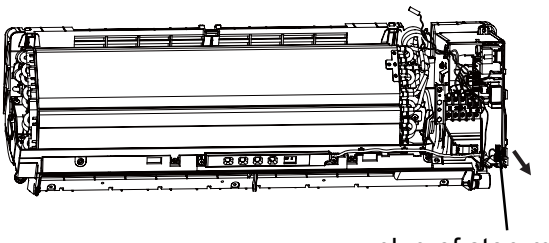
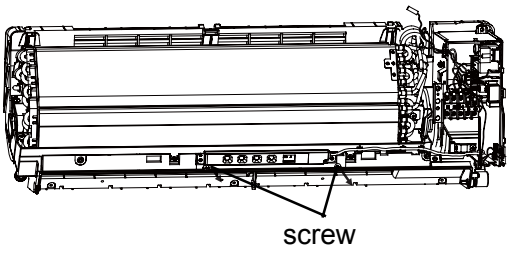
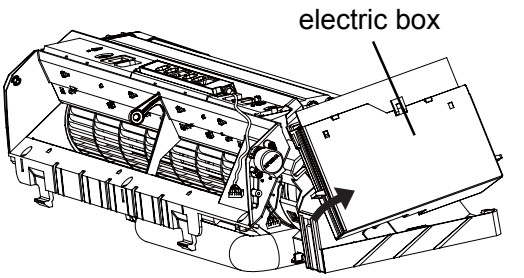


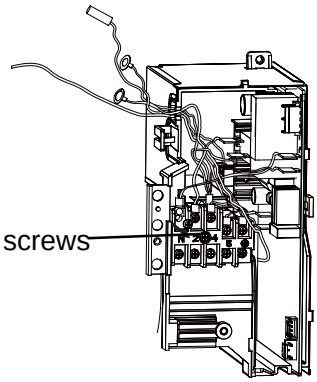
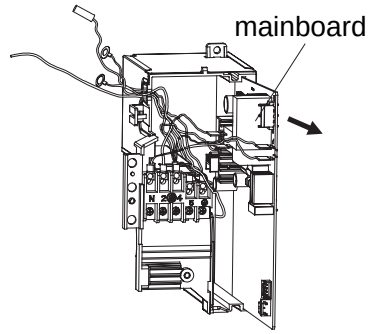
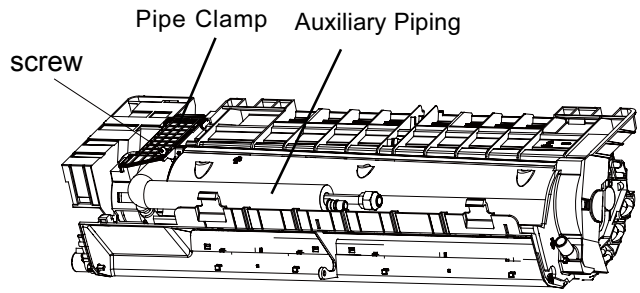
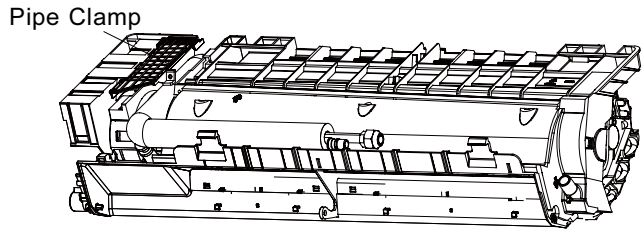



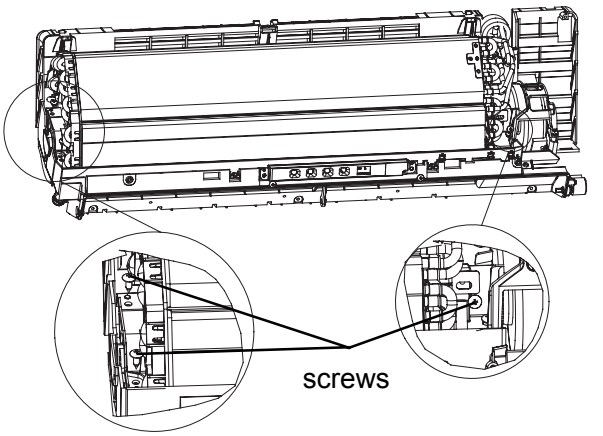



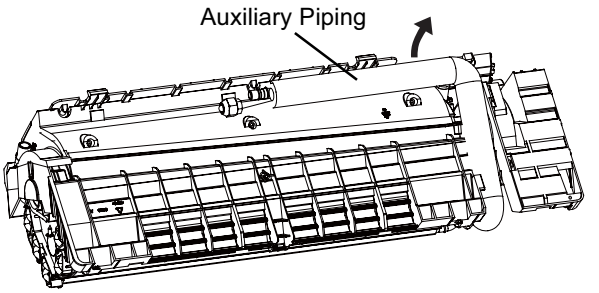



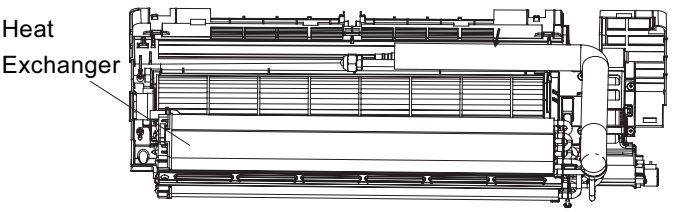
| Step | Procedure | |
|---|---|---|
| d | Loosen the clasp at the joint of the electric box cover and the electric box. |  |
| e | Disconnect the plug of the motor. |  |
| f | Disconnect the plug of step motor. |  |
| g | Remove the 2 screws of the display. |  |
| h | Remove the electric box. |  |

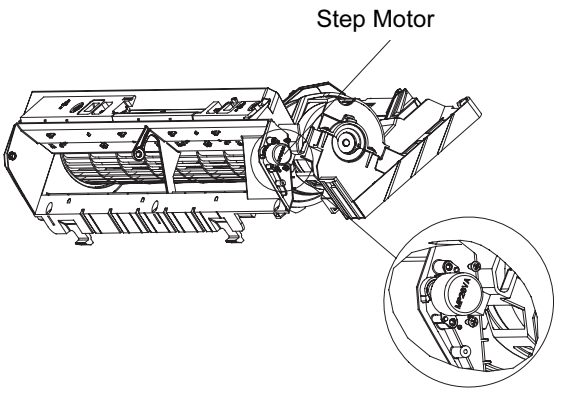
| Step | Procedure |
|---|---|
| 8. Remove the mainboard |  |
| a Loosen the screws on the wiring board. Pull out the connecting wire. | |
| b Take out the mainboard from the electric box. |  |
| 9. Remove press plate of connecting pipe |  |
| a Remove the screws of the press plate of connecting pipe. | |
| b Remove press plate of connecting pipe. |  |

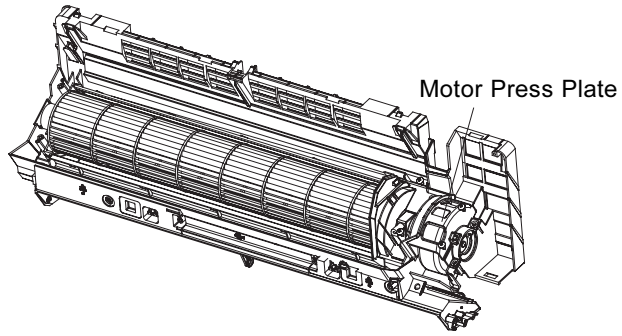
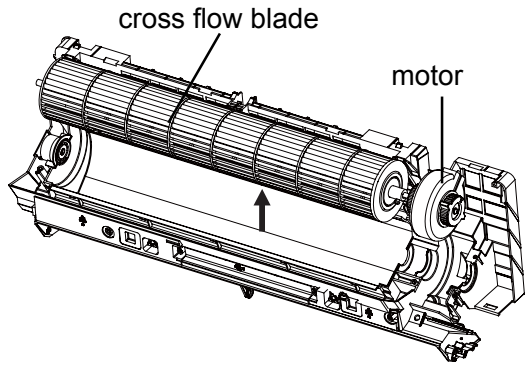
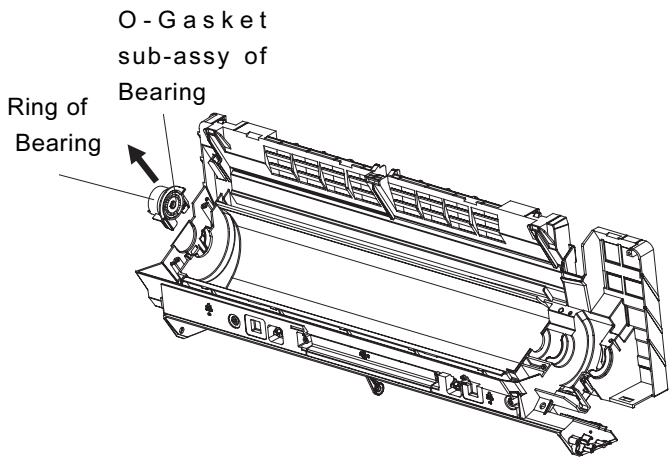
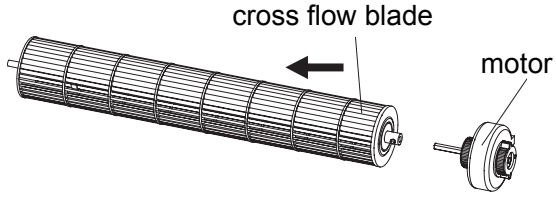
| Step | Procedure |
|---|---|
| 10. Remove the evaporator | |
| a | Remove the screws at the joint of the evaporator and bottom case. |
| b | Adjust the pipe slightly to separate the connecting pipe and the evaporator. |
| c | Remove the evaporator. |
| 11. Remove motor and cross flow fan | |
| a | Remove the screw of the step motor and remove the step motor. |



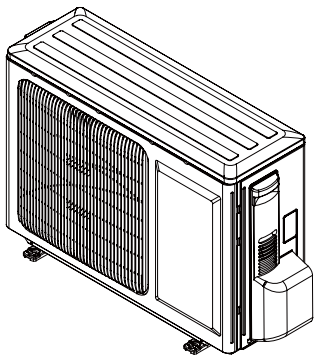
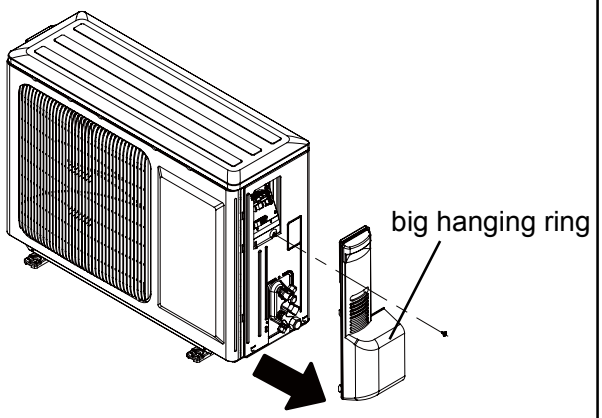
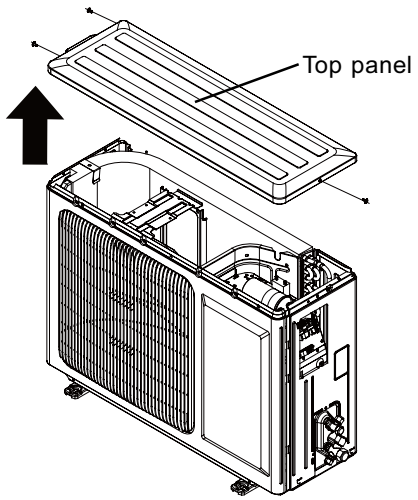



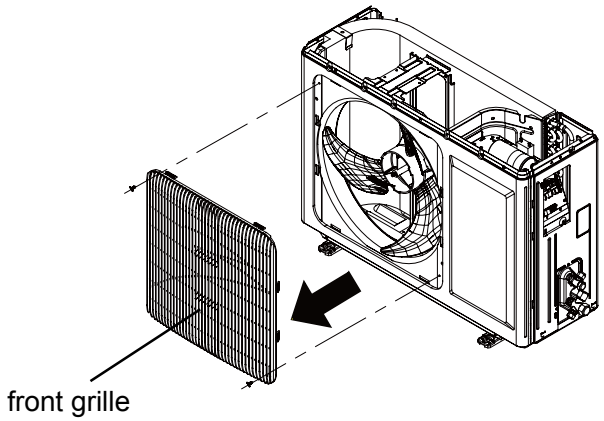
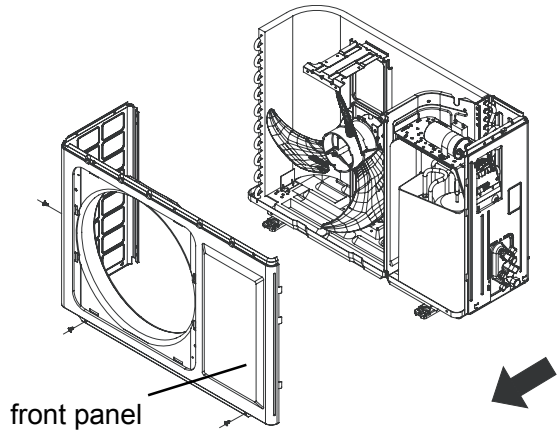
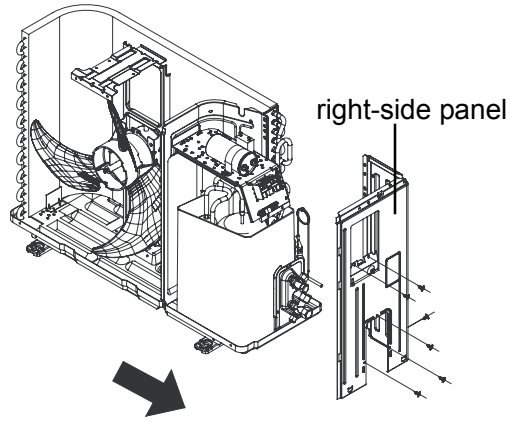
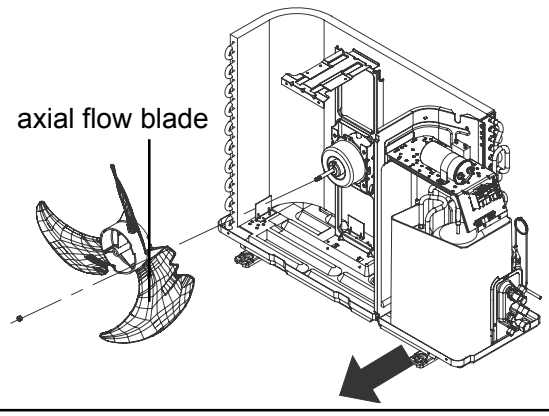



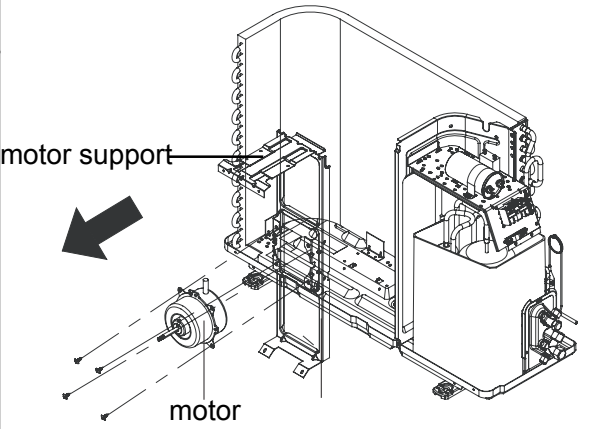
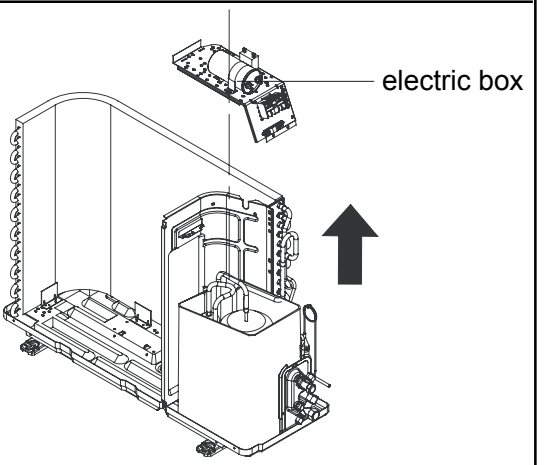
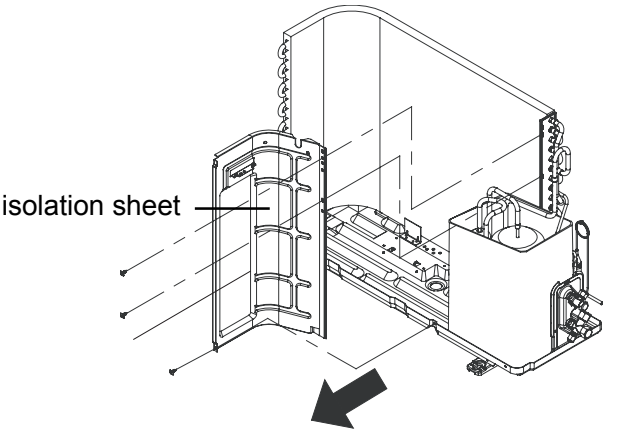
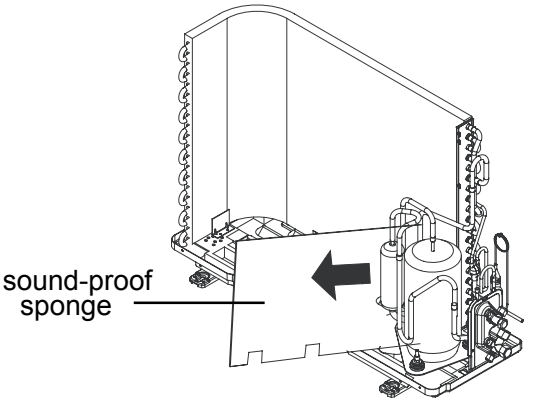
| Step | Procedure | |
|---|---|---|
| b | Remove the screw of the motor press plate. Remove the press plate. |  |
| c | Remove the cross flow blade and motor. |  |
| d | Remove the rubber cushion of the bearing. |  |
| e | Remove the screws at the joint of the cross flow blade and the motor. Take down the motor. |  |

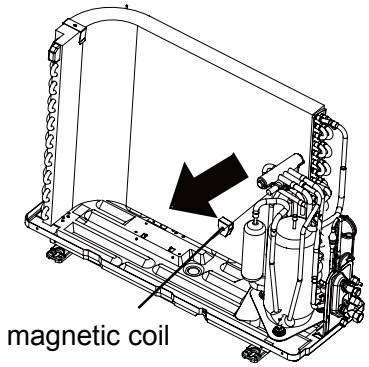
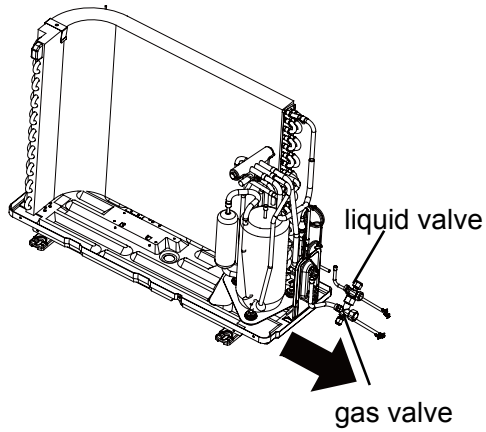
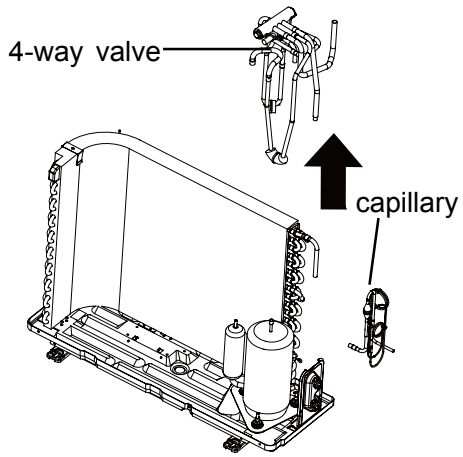
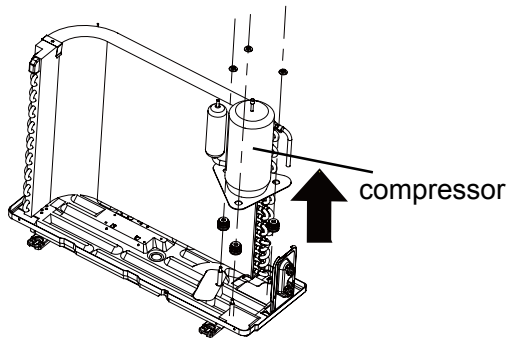
## 10.2 Removal Procedure of Outdoor Unit

**⚠ Warning** **Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.**

| Step | Procedure | |
|---|---|---|
| 1. Before disassembly | | |
| | Before disassembly |  |
| 2. Remove big hanging ring | | |
| | Loosen the screw fixing the hanging ring.<br>Remove the hanging ring. |  |
| 3. Remove top cover | | |
| | Loosen the screw fixing connecting the top cover, panel and right-side panel. |  |

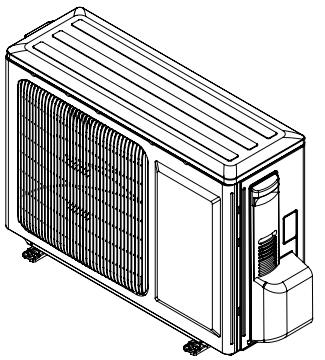
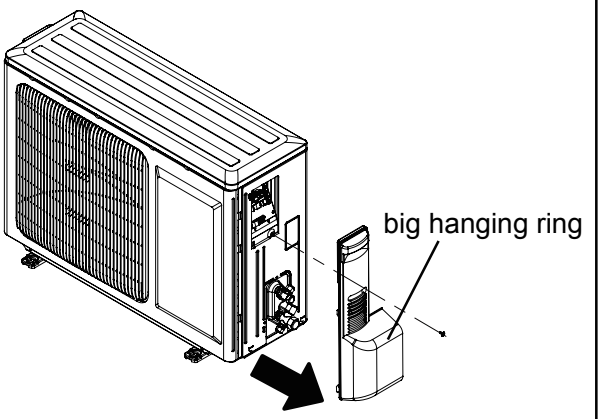
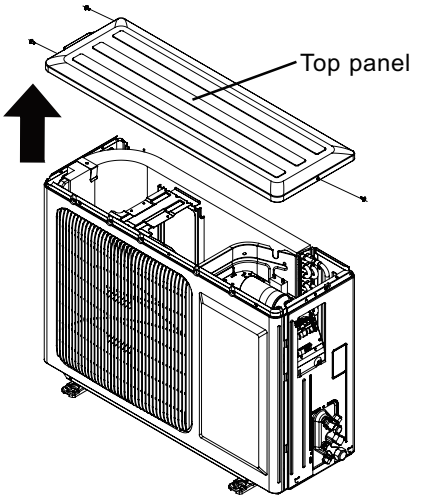
| Step | Procedure |
|---|---|
| 4. Remove front grille |  |
| Loosen the screw fixing the front grille and panel. Remove the front grille. | |
| 5. Remove the front panel |  |
| Loosen the screw fixing the front panel, chassis and motor support. Remove the front panel. | |
| 6. Remove the right-side panel |  |
| Remove the screw fixing the right-side panel, chassis, valve support and electric box. Remove the right-side panel. | |
| 7. Remove the axial flow blade |  |
| Loosen the screw fixing the blade. Remove the axial flow blade. | |

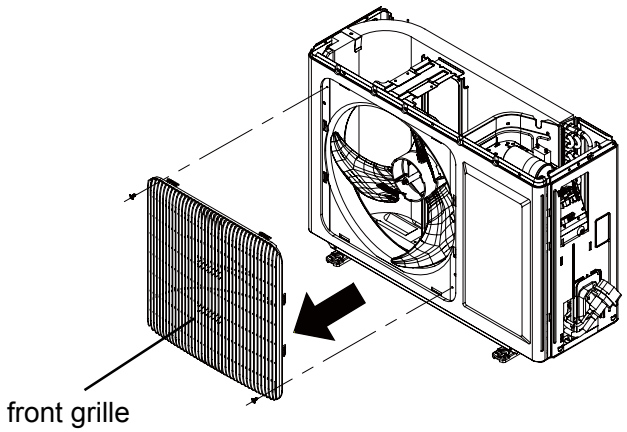
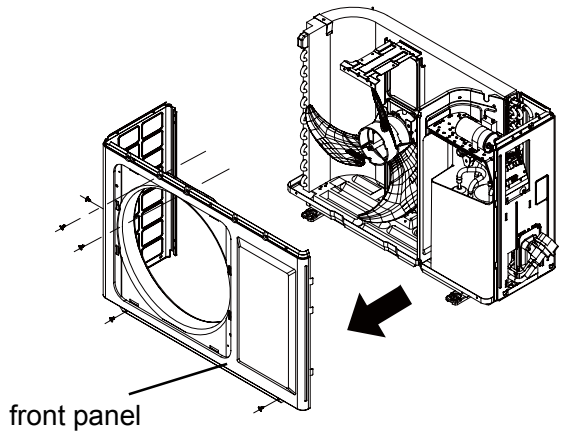
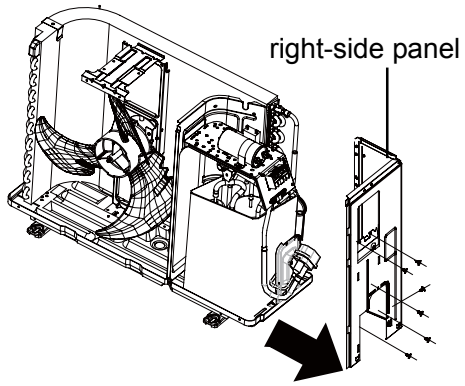
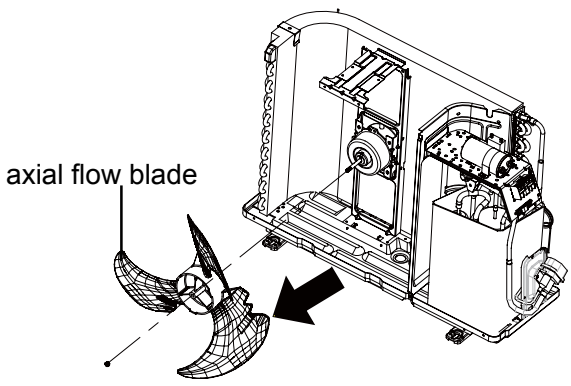
| Step | Procedure |
|---|---|
| 8. Remove motor and motor support |  |
| Loosen the tapping screws fixing the motor. Disconnect the leading wire of motor. Remove the motor. Loosen the tapping screws fixing the motor support. Raise the support to remove it. | |
| 9. Remove electric box subassembly |  |
| Loosen the screws fixing the electric box subassembly. Loosen the binding line and disconnect the wiring terminal. Raise the electric box to remove it. | |
| 10. Remove isolation sheet |  |
| Loosen the 3 screws fixing the isolation sheet. | |
| 11. Remove sound-proof sponge |  |
| Remove the sound-proof sponge wrapping the compressor. | |

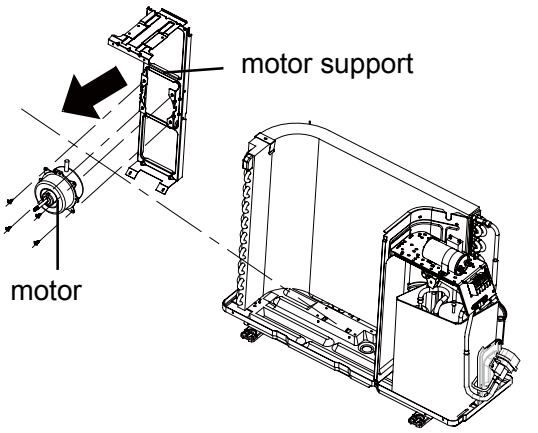
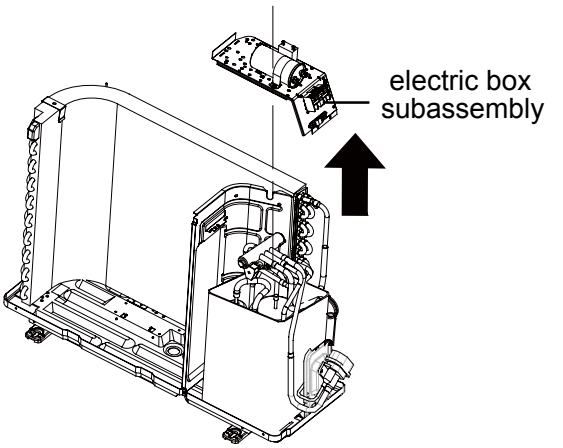
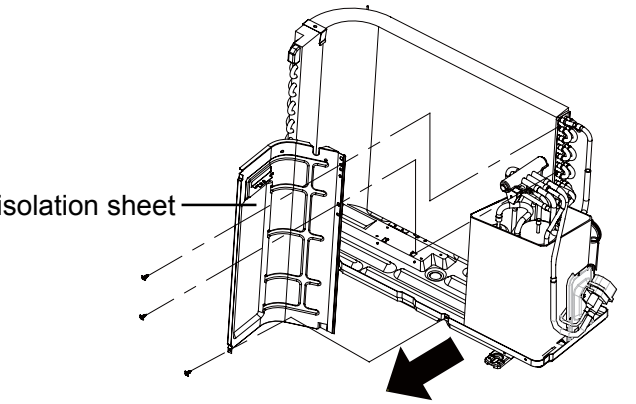
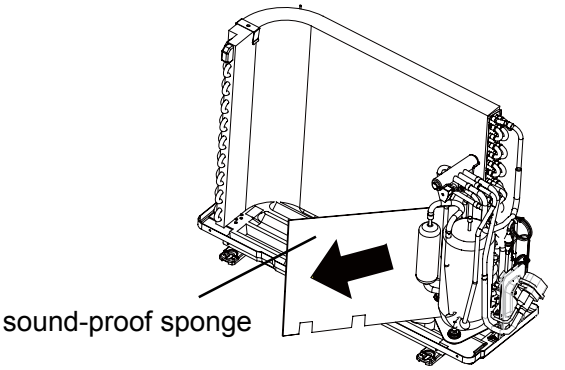
| Step | Procedure | |
|---|---|---|
| 12. Remove magnetic coil | |  |
| | Remove the screw of the magnetic coil. Remove the magnetic coil. | |
| 13. Remove the gas valve and liquid valve | |  |
| | Solder off the capillary, the valve and condensate outlet pipe. Do not block the capillary when replacing it. Loosen the 2 screws fixing the gas valve. Solder off the gas valve and return air duct. (note: when soldering off the gas valve, wrap it with wet cloth to avoid damage by high temperature.) Loosen the 2 screws fixing the liquid valve. Solder off the liquid valve. | |
| 14. Remove compressor | |  |
| a | Discharge the refrigerant. Solder off the pipe connecting the compressor (including 4-way valve, compressor, condenser, capillary.) Do not block the capillary during soldering. | |
| b | Loosen the ground bolts fixing the compressor. Then remove the compressor. |  |

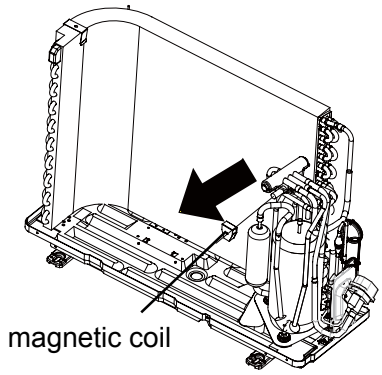
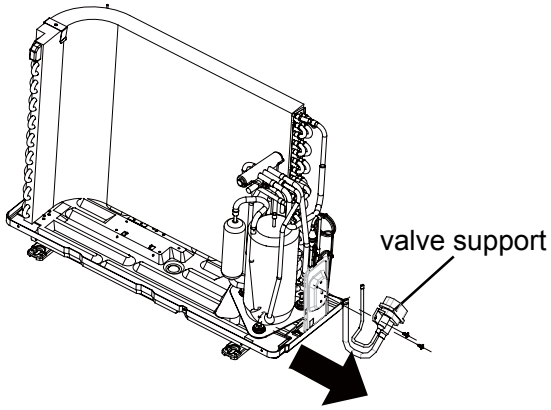
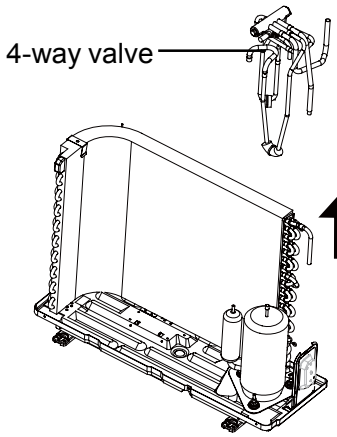
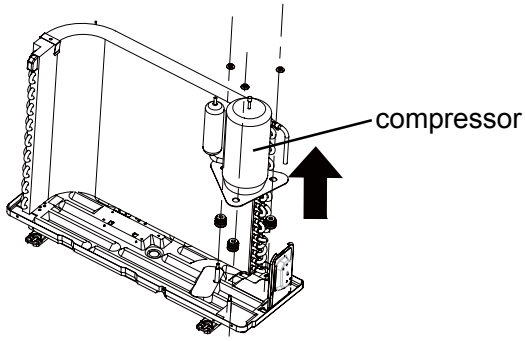
## 10.3 Removal Procedure of Outdoor Unit (Quick Coupler)

**⚠ Warning** **Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.**

| Step | Procedure | |
|---|---|---|
| 1. Before disassembly | | |
| | Before disassembly |  |
| 2. Remove big hanging ring | | |
| | Loosen the screw fixing the hanging ring.<br>Remove the hanging ring. |  |
| 3. Remove top cover | | |
| | Loosen the screw fixing the top cover, panel and right-side panel.<br>Remove the top cover. |  |

| Step | Procedure |
|---|---|
| 4. Remove front grille |  |
| Loosen the screw fixing the front grille and panel. Remove the front grille. | |
| 5. Remove the front panel |  |
| Loosen the screw fixing the front panel, chassis and motor support. Remove the front panel. | |
| 6. Remove the right-side panel |  |
| Remove the screw fixing the right-side panel, chassis, valve support and electric box. Remove the right-side panel. | |
| 7. Remove the axial flow blade |  |
| Loosen the screw fixing the blade. Remove the axial flow blade. | |

| Step | Procedure |
|---|---|
| 8. Remove motor and motor support |  |
| Loosen the tapping screws fixing the motor. Disconnect the leading wire of motor. Remove the motor. Loosen the tapping screws fixing the motor support. Raise the support to remove it. | |
| 9. Remove electric box subassembly |  |
| Loosen the screws fixing the electric box subassembly. Loosen the binding line and disconnect the wiring terminal. Raise the electric box to remove it. | |
| 10. Remove isolation sheet |  |
| Loosen the screws fixing the isolation sheet. Remove the isolation sheet. | |
| 11. Remove sound-proof sponge |  |
| Remove the sound-proof sponge wrapping the compressor. | |

| Step | Procedure | |
|---|---|---|
| 12. Remove magnetic coil | |  |
| | Remove the screw of the magnetic coil. Remove the magnetic coil. | |
| 13. Remove valve support subassembly | |  |
| | Loosen the 2 bolts fixing the quick coupler. Solder off the quick connector, return air pipe and connecting pipe (capillary). Remove the valve support. (Note: discharge the refrigerant before soldering. Wrap the quick coupler with wet cloth to avoid damage from high temperature.) | |
| 14. Remove compressor | |  |
| a | Discharge the refrigerant. Solder off the pipe connecting the compressor (including 4-way valve, compressor, condenser, capillary.) Do not block the capillary during soldering. | |
| b | Loosen the ground bolts fixing the compressor. Then remove the compressor. |  |

**GREE ELECTRIC APPLIANCES,INC.OF ZHUHAI**

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