



FREE MATCH SERVICE MANUAL

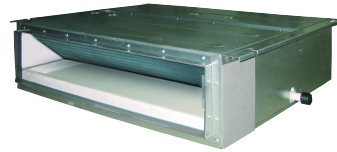
**T1/R410A/60Hz
(GC201112-I)**

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Summary and features

GFH(09)EA-D3DNA1A/I
GFH(12)EA-D3DNA1A/I
GFH(18)EA-D3DNA1A/I
GFH(21)EA-D3DNA1A/I
GFH(24)EA-D3DNA1A/I



GKH(12)BA-D3DNA2A/I
GKH(18)BA-D3DNA2A/I



GKH(24)BA-D3DNA1A/I



GTH(09)BA-D3DNA1A/I
GTH(12)BA-D3DNA1A/I
GTH(18)BA-D3DNA1A/I
GTH(24)BA-D3DNA1A/I



Remote Controller
YT1F



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.

- 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.

 **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.

 **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

Duct Type

| Model | | GFH(09)EA-D3DNA1A/I | GFH(12)EA-D3DNA1A/I | GFH(18)EA-D3DNA1A/I |
|---|-------------------|---------------------|---------------------|---------------------|
| Product code | | CN210N0070 | CN210N0060 | CN210N0080 |
| Cooling capacity | kW | 2.491 | 3.488 | 4.484 |
| | Btu/h | 8500 | 11900 | 15300 |
| Heating capacity | kW | 2.784 | 3.839 | 5.481 |
| | Btu/h | 9500 | 13100 | 18700 |
| Air flow volume(H) | m ³ /h | 450 | 500 | 700 |
| | CFM | 265 | 294 | 412 |
| Sound pressure level (H/L) | dB(A) | 37/31 | 39/32 | 41/33 |
| Sound power level (H/L) | dB(A) | 47/41 | 49/42 | 50/43 |
| Rated voltage | V | 208/230 | 208/230 | 208/230 |
| Frequency | Hz | 60 | 60 | 60 |
| Phases | | 1 | 1 | 1 |
| Fan Type | | Centrifugal | Centrifugal | Centrifugal |
| Fan Motor Full Load Amp(FLA) | A | 0.28 | 0.31 | 0.41 |
| Fan Motor Speed | rpm | 1230/970/760/640 | 1130/960/830/700 | 1000/920/780/720 |
| Fan motor output | W | 40 | 49 | 75 |
| Input of fan motor | W | 80 | 80 | 100 |
| Fan motor running current | A | 0.35 | 0.35 | 0.43 |
| Fan Motor Capacitor | μF | 1.5 | 3 | 3 |
| Gas Pipe(to indoor unit) | mm | Φ9.52 | Φ9.52 | Φ12.7 |
| | inch | 3/8" | 3/8" | 1/2" |
| Liquid pipe | mm | Φ6.35 | Φ6.35 | Φ6.35 |
| | inch | 1/4" | 1/4" | 1/4" |
| Connection method | | Flare Connection | Flare Connection | Flare Connection |
| Drain pipes(external dia) | mm | 26 | 26 | 26 |
| Drain pipes(thickness) | mm | 1.0 | 1.0 | 1.0 |
| Unit dimensions(main body) (W×D×H) | mm | 700×615×200 | 700×615×200 | 900×615×200 |
| Package dimensions (main body)(W×D×H) | mm | 893×743×305 | 893×743×305 | 1123×743×305 |
| Net weight(main body) | kg | 22.0 | 23.0 | 27.0 |
| Gross weight(main body) | kg | 27.0 | 29.0 | 36.0 |
| Loading Quantity (20' Container) | unit | 108 | 108 | 90 |
| Loading Quantity (40' Container) | unit | 234 | 234 | 192 |
| Loading Quantity (40' High Cube Container) | unit | 234 | 234 | 192 |

| Model | | GFH(21)EA-D3DNA1A/I | GFH(24)EA-D3DNA1A/I |
|--|-------------------|---------------------|---------------------|
| Product code | | CN210N0090 | CN210N0100 |
| Cooling capacity | kW | 5.979 | 6.975 |
| | Btu/h | 20400 | 23800 |
| Heating capacity | kW | 6.624 | 8.03 |
| | Btu/h | 22600 | 27400 |
| Air flow volume(H) | m ³ /h | 1000 | 1000 |
| | CFM | 589 | 589 |
| Sound pressure level (H/L) | dB(A) | 42/34 | 42/34 |
| Sound power level (H/L) | dB(A) | 52/44 | 52/44 |
| Rated voltage | V | 208/230 | 208/230 |
| Frequency | Hz | 60 | 60 |
| Phases | | 1 | 1 |
| Fan Type | | Centrifugal | Centrifugal |
| Fan Motor Full Load Amp(FLA) | A | 0.5 | 0.5 |
| Fan Motor Speed | rpm | 1160/985/800/680 | 1160/985/800/680 |
| Fan motor output | W | 22.5 | 22.5 |
| Input of fan motor | W | 124 | 124 |
| Fan motor running current | A | 0.54 | 0.54 |
| Fan Motor Capacitor | μF | 3 | 3 |
| Gas Pipe(to indoor unit) | mm | Φ15.9 | Φ15.9 |
| | inch | 5/8" | 5/8" |
| Liquid pipe | mm | Φ9.52 | Φ9.52 |
| | inch | 3/8" | 3/8" |
| Connection method | | Flare Connection | Flare Connection |
| Drain pipes(external dia) | mm | 26 | 26 |
| Drain pipes(thickness) | mm | 1.0 | 1.0 |
| Unit dimensions(main body)(W×D×H) | mm | 1100×615×200 | 1100×615×200 |
| Package dimensions(main body)(W×D×H) | mm | 1323×743×305 | 1323×743×305 |
| Net weight(main body) | kg | 31.0 | 31.0 |
| Gross weight(main body) | kg | 41.0 | 41.0 |
| Loading Quantity(20' Container) | unit | 72 | 72 |
| Loading Quantity(40' Container) | unit | 162 | 162 |
| Loading Quantity (40' High Cube Container) | unit | 162 | 162 |

Cassette type

| Model | | GKH(12)BA-D3DNA2A/I | GKH(18)BA-D3DNA2A/I | GKH(24)BA-D3DNA1A/I |
|--|-------------------|---------------------|---------------------|---------------------|
| Product Code | | CN510N0060 | CN510N0070 | CN510N0080 |
| Cooling Capacity | kW | 3.50 | 4.50 | 6.682 |
| | Btu/h | 12000 | 14400 | 22800 |
| Heating Capacity | kW | 4.00 | 5.00 | 8.03 |
| | Btu/h | 13000 | 16000 | 27400 |
| Air flow volume(H) | m ³ /h | 600 | 600 | 1180 |
| | CFM | 353 | 353 | 694 |
| Sound Pressure Level (H) | dB(A) | 46 | 46 | 39 |
| Sound Power Level (H) | dB(A) | 56 | 56 | 49 |
| Rated Voltage | V | 208/230 | 208/230 | 208/230 |
| Rated Frequency | Hz | 60 | 60 | 60 |
| Phases | | 1 | 1 | 1 |
| Fan Type | | Axial-flow | Axial-flow | Centrifugal |
| Motor Full Load Amp(FLA) | A | 0.18 | 0.18 | 0.43 |
| Fan Motor Speed | rpm | 845/700/600/515 | 845/700/600/515 | 620/570/520/280 |
| Fan Motor Power Output | W | 11 | 11 | 50 |
| Fan Motor Power Input | W | 50 | 50 | 100 |
| Fan motor running current | A | 0.23 | 0.23 | 0.43 |
| Fan Motor Capacitor | μF | 1 | 1 | 3 |
| Gas Pipe(to indoor unit) | mm | Φ9.52 | Φ12.7 | Φ15.9 |
| | inch | 3/8" | 1/2" | 5/8" |
| Liquid pipe | mm | Φ6.35 | Φ6.35 | Φ9.52 |
| | inch | 1/4" | 1/4" | 3/8" |
| Connection method | | Flare Connection | Flare Connection | Flare Connection |
| Drain Connection (outer diameter) | mm | 31 | 31 | 31 |
| Drain Connection (outer diameter) | inch | 1.220 | 1.220 | 1.220 |
| Dimension of Outline (W×D×H) | | 570×570×230 | 570×570×230 | 840×840×240 |
| Dimension of Carton Box (L×W×H) | | 848×728×310 | 848×728×310 | 960×960×310 |
| Dimension of Package (L×W×H) | | 851×731×325 | 851×731×325 | 963×963×325 |
| Net/Gross Weight | | 18.0/23.0 | 18.0/23.0 | 30.0/38.0 |
| Indoor Unit Loading Quantity(20' Container) | | 102 | 102 | 72 |
| Indoor Unit Loading Quantity(40' Container) | | 209 | 209 | 144 |
| Indoor Unit Loading Quantity (40' High Cube Container) | | 246 | 246 | 144 |
| Panel Outline Dimension (W×D×H) | | 650×650×50 | 650×650×50 | 950×950×60 |
| Panel Dimension of Carton Box (L×W×H) | | 730×670×102 | 730×670×102 | 1040×1025×115 |
| Panel Package Dimension (L×W×H) | | 733×673×117 | 733×673×117 | 1043×1028×130 |
| Panel Net/Gross Weight | | 2.50/3.65 | 2.50/3.65 | 6.5/10.0 |

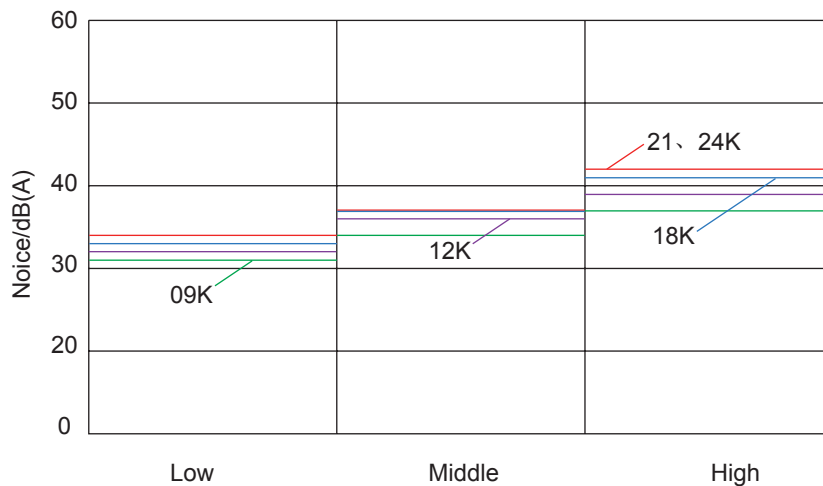
Floor ceiling type

| Model | | GTH(09)BA-D3DNA1A/I | GTH(12)BA-D3DNA1A/I |
|---|-------------------|---------------------------------|---------------------------------|
| Product Code | | CN610N0060 | CN610N0070 |
| Cooling Capacity | kW | 2.50 | 3.50 |
| Cooling Capacity | Btu/h | 8500 | 11900 |
| Heating Capacity | kW | 2.80 | 3.85 |
| Heating Capacity | Btu/h | 9500 | 13100 |
| Air flow volume(H) | m ³ /h | 650 | 650 |
| Air flow volume(H) | CFM | 383 | 383 |
| Sound Pressure Level (H/L) | dB(A) | 40/36 | 40/36 |
| Sound Power Level (H) | dB(A) | 50/46 | 50/46 |
| Rated Voltage | V | 208/230 | 208/230 |
| Rated Frequency | Hz | 60 | 60 |
| Phases | | 1 | 1 |
| Fan Type | | Centrifugal | Centrifugal |
| Motor Full Load Amp(FLA) | A | 0.3 | 0.3 |
| Fan Motor Speed | rpm | 790±30/690±30/ 610±40/480±40 | 790±30/690±30/ 610±40/480±40 |
| Fan Motor Power Output | W | 15 | 15 |
| Fan Motor Power Input | W | 55 | 55 |
| Fan motor running current | A | 0.28 | 0.28 |
| Fan Motor Capacitor | μF | 1 | 1 |
| Gas Pipe(to indoor unit) | mm | Φ9.52 | Φ9.52 |
| | inch | 3/8" | 3/8" |
| Liquid pipe | mm | Φ6.35 | Φ6.35 |
| | inch | 1/4" | 1/4" |
| Connection method | | Flare Connection | Flare Connection |
| Drain Connection (outer diameter) | mm | 17 | 17 |
| Drain Connection (outer diameter) | inch | 0.669 | 0.669 |
| Dimension of Outline(W×D×H) | mm | 1220×700×225 | 1220×700×225 |
| Dimension of Carton Box(L×W×H) | mm | 1340×820×300 | 1340×820×300 |
| Dimension of Package(L×W×H) | mm | 1343×823×315 | 1343×823×315 |
| Net/Gross Weight | kg | 40.0/50.0 | 40.0/50.0 |
| Indoor Unit Loading Quantity(20' Container) | unit | 66 | 66 |
| Indoor Unit Loading Quantity(40' Container) | unit | 132 | 132 |
| Indoor Unit Loading Quantity (40' High Cube Container) | unit | 132 | 132 |

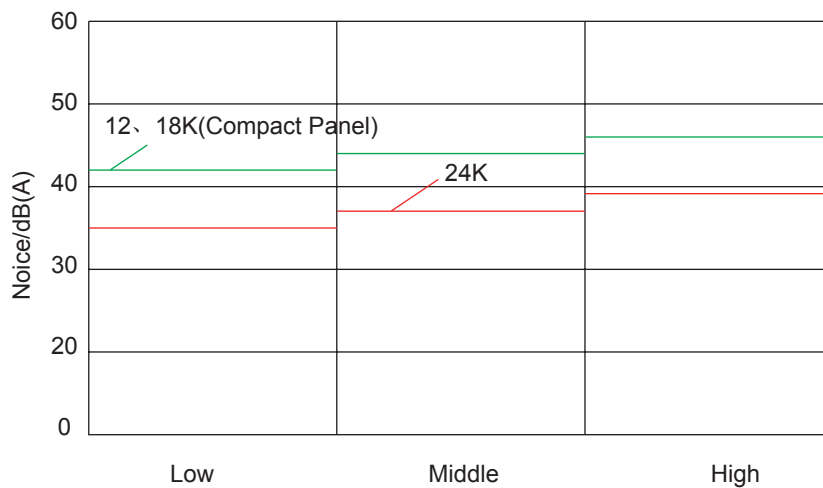
| Model | | GTH(18)BA-D3DNA1A/I | GTH(24)BA-D3DNA1A/I |
|---|-------------------|----------------------------------|----------------------------------|
| Product Code | | CN610N0050 | CN610N0080 |
| Cooling Capacity | kW | 5.00 | 6.68 |
| Cooling Capacity | Btu/h | 17000 | 22800 |
| Heating Capacity | kW | 5.50 | 8.03 |
| Heating Capacity | Btu/h | 18700 | 27400 |
| Air flow volume(H) | m ³ /h | 950 | 1250 |
| Air flow volume(H) | CFM | 559 | 736 |
| Sound Pressure Level (H/L) | dB(A) | 45/40 | 48/44 |
| Sound Power Level (H) | dB(A) | 55/50 | 58/50 |
| Rated Voltage | V | 208/230 | 208/230 |
| Rated Frequency | Hz | 60 | 60 |
| Phases | | 1 | 1 |
| Fan Type | | Centrifugal | Centrifugal |
| Motor Full Load Amp(FLA) | A | 0.5 | 0.5 |
| Fan Motor Speed | rpm | 1160±30/985±30/ 800±35/680±35 | 1160±30/985±30/ 800±35/680±35 |
| Fan Motor Power Output | W | 20 | 40 |
| Fan Motor Power Input | W | 110 | 145 |
| Fan motor running current | A | 0.56 | 0.63 |
| Fan Motor Capacitor | μF | 2.5 | 3 |
| Gas Pipe(to indoor unit) | mm | Φ12.7 | Φ15.9 |
| | inch | 1/2" | 5/8" |
| Liquid pipe | mm | Φ6.35 | Φ9.52 |
| | inch | 1/4" | 3/8" |
| Connection method | | Flare Connection | Flare Connection |
| Drain Connection (outer diameter) | mm | 17 | 17 |
| Drain Connection (outer diameter) | inch | 0.669 | 0.669 |
| Dimension of Outline(W×D×H) | mm | 1220×700×225 | 1220×700×225 |
| Dimension of Carton Box(L×W×H) | mm | 1340×820×300 | 1340×820×300 |
| Dimension of Package(L×W×H) | mm | 1343×823×315 | 1343×823×315 |
| Net/Gross Weight | kg | 40.0/50.0 | 45.0/54.0 |
| Indoor Unit Loading Quantity(20' Container) | unit | 66 | 66 |
| Indoor Unit Loading Quantity(40' Container) | unit | 132 | 132 |
| Indoor Unit Loading Quantity (40' High Cube Container) | unit | 132 | 132 |

2.2 Noise Criteria Curve Tables for Both Models

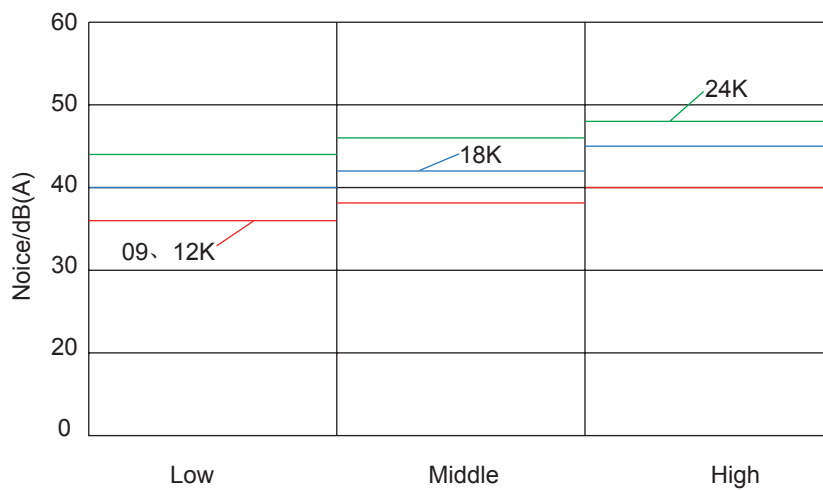
Duct Type



Cassette type



Floor ceiling type



3 Construction Views

Duct Type

GFH(09)EA-D3DNA1A/I, GFH(12)EA-D3DNA1A/I, GFH(18)EA-D3DNA1A/I, GFH(21)EA-D3DNA1A/I, GFH(24)EA-D3DNA1A/I:

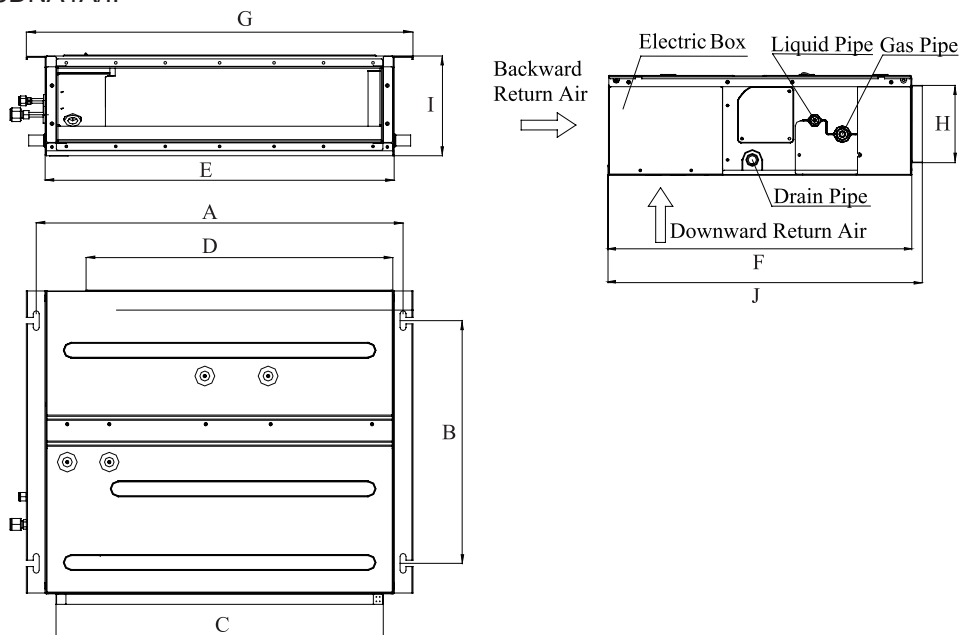
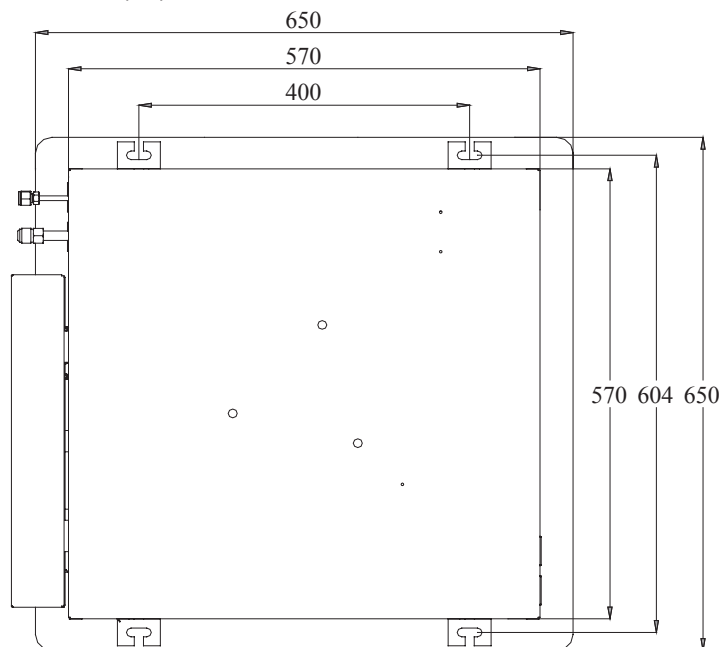


Table Outline Dimensions:

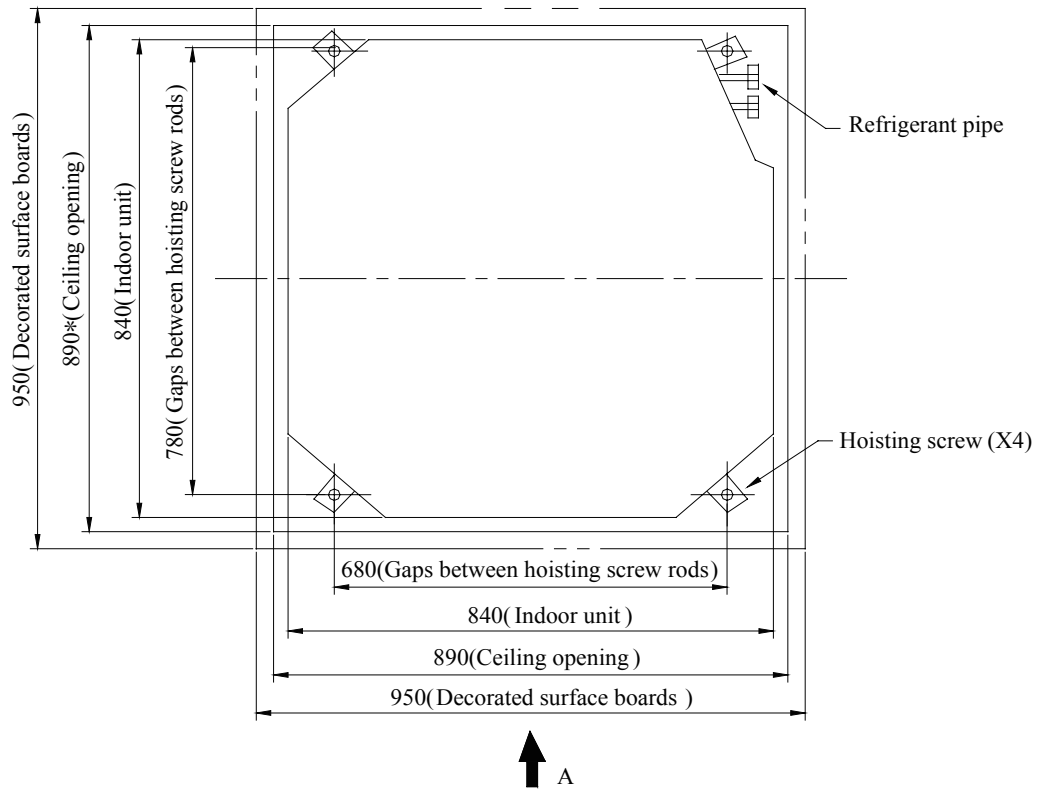
| Model \ Item | A | B | C | D | E | F | G | H | I | J |
|---------------------|------|-----|------|------|------|-----|------|-----|-----|-----|
| GFH(09)EA-D3DNA1A/I | 742 | 491 | 662 | 620 | 700 | 615 | 782 | 156 | 200 | 635 |
| GFH(12)EA-D3DNA1A/I | | | | | | | | | | |
| GFH(18)EA-D3DNA1A/I | 942 | 491 | 862 | 820 | 900 | 615 | 982 | 156 | 200 | 635 |
| GFH(21)EA-D3DNA1A/I | 1142 | 491 | 1062 | 1020 | 1100 | 615 | 1182 | 156 | 200 | 635 |
| GFH(24)EA-D3DNA1A/I | | | | | | | | | | |

Cassette type

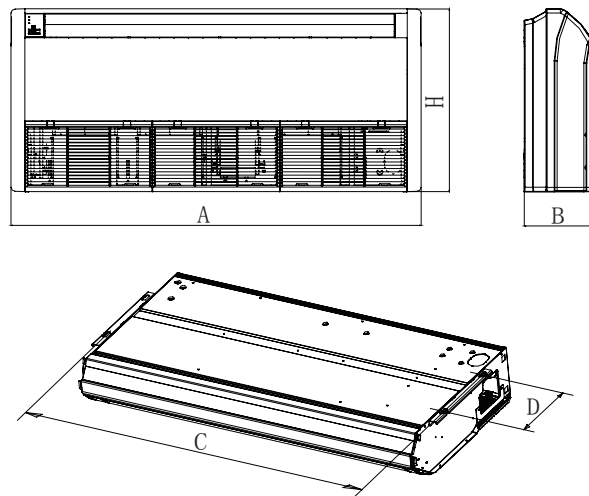
GKH(12)BA-D3DNA2A/I, GKH(18)BA-D3DNA2A/I



GKH(24)BA-D3DNA1A/I



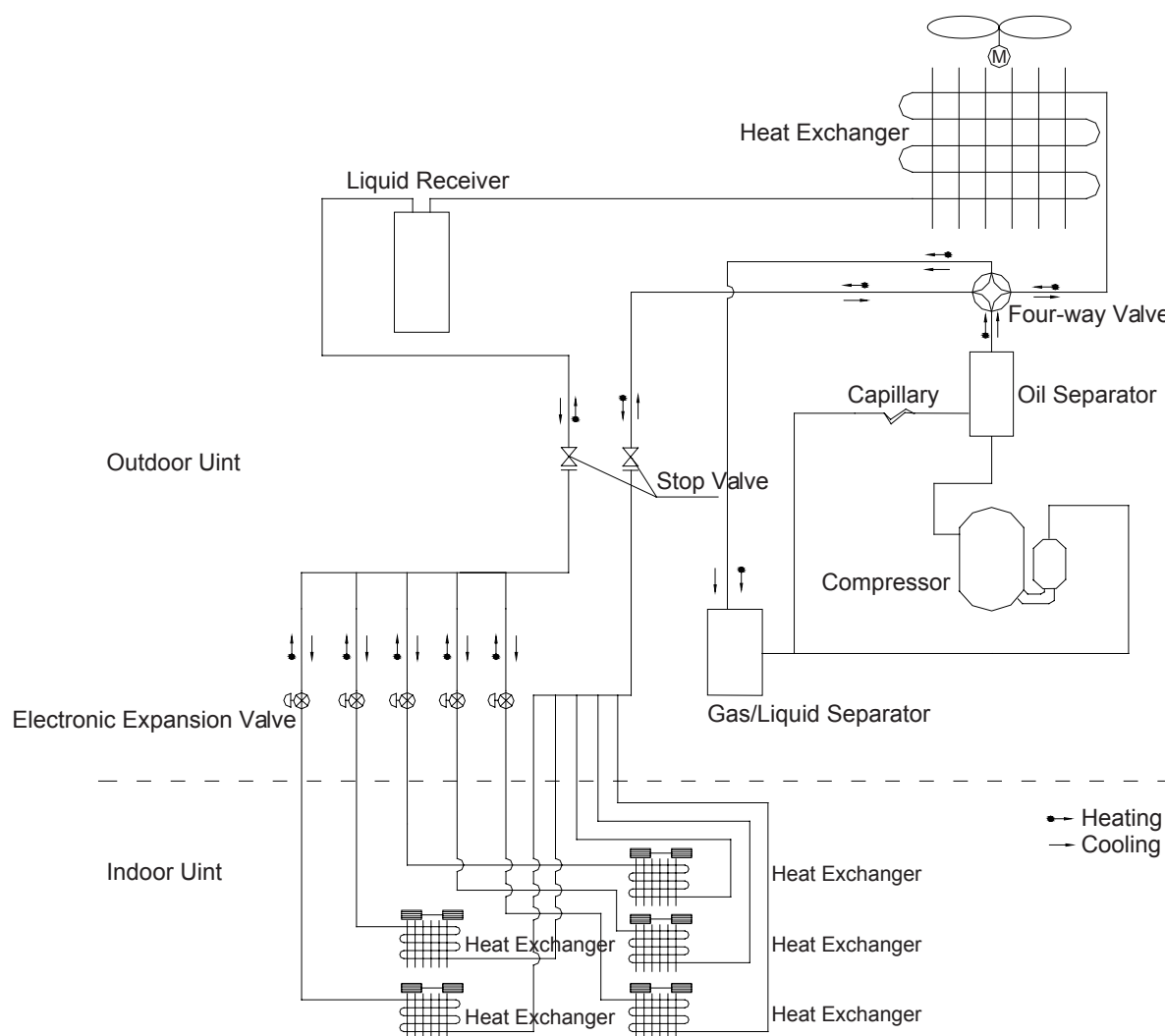
Floor ceiling type



| Model | A | B | H | C | D |
|---------------------|------|-----|-----|------|-----|
| GTH(09)BA-D3DNA1A/I | 1220 | 225 | 700 | 1158 | 280 |
| GTH(12)BA-D3DNA1A/I | | | | | |
| GTH(18)BA-D3DNA1A/I | | | | | |
| GTH(24)BA-D3DNA1A/I | | | | | |

4 Refrigerant System Diagram

Schematic Diagram of Free Match Series Inverter Heat Pump Multi VRF System




Schematic Diagram of Free Match Series Inverter Heat Pump Multi VRF System

The outdoor and indoor units start to work once the power is switched on. During the cooling operation, the low temperature, low pressure refrigerant gas from the heat exchanger of each indoor unit gets together and then is taken into the compressor to be compressed into high temperature, high pressure gas, which will soon go to the heat exchanger of the outdoor unit to exchange heat with the outdoor air and then is turned into refrigerant liquid. After passing through the throttling device, the temperature and pressure of the refrigerant liquid will further decrease and then go the main valve. After that, it will be divided and go to the heat exchanger of each indoor unit to exchange heat with the air which needs to be conditioned. Consequently, the refrigerant liquid become low temperature, low pressure refrigerant gas again. Such a refrigeration cycle goes round and round to achieve the desired refrigeration purpose. During the heating operation, the four-way valve is involved to make the refrigeration cycle run reversely. The refrigerant radiates heat in the heat exchanger of the indoor unit (so do the electric heating devices) and absorb heat in the heat exchanger of the outdoor unit for a heat pump heating cycle so as to achieve the desired heating purpose.

5 Schematic Diagram

5.1 Electrical Data

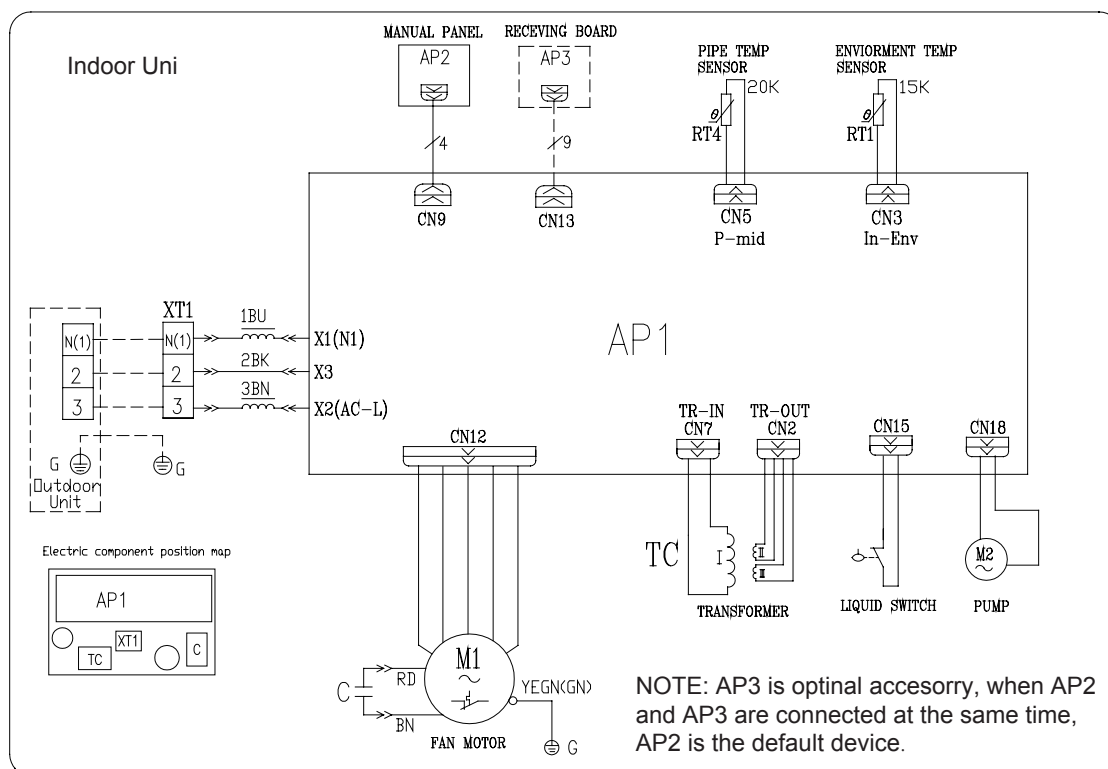
Meaning of marks

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

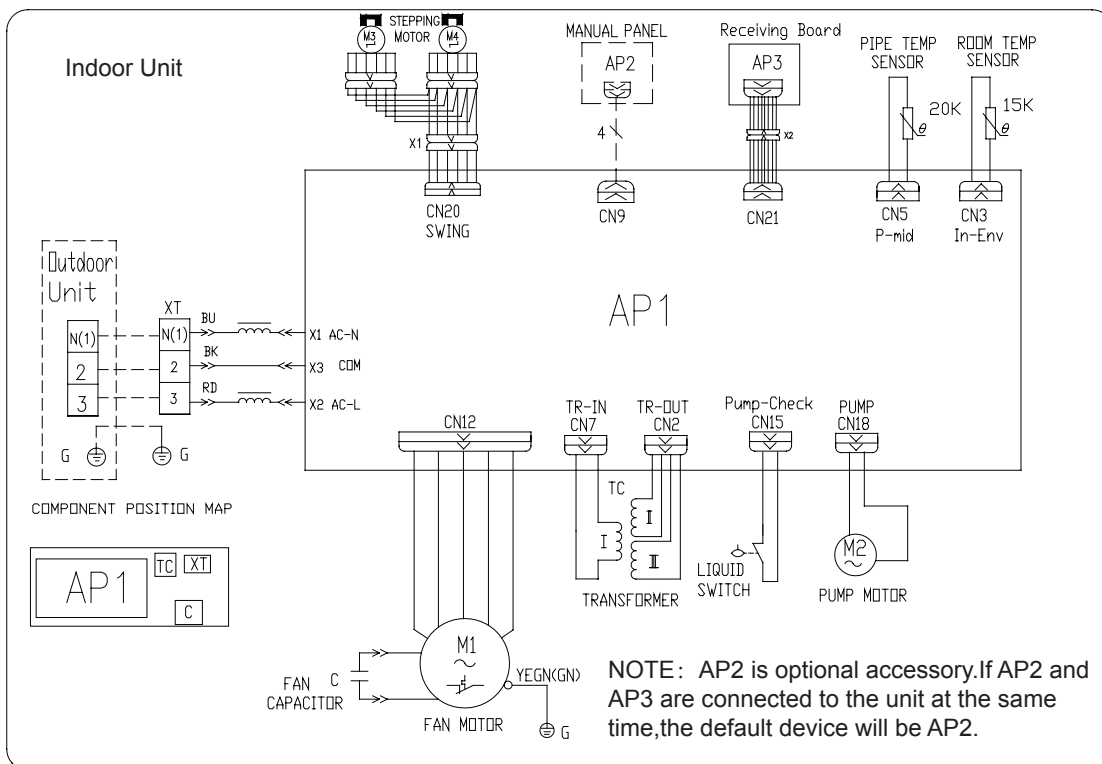
5.2 Electrical Wiring

Duct Type

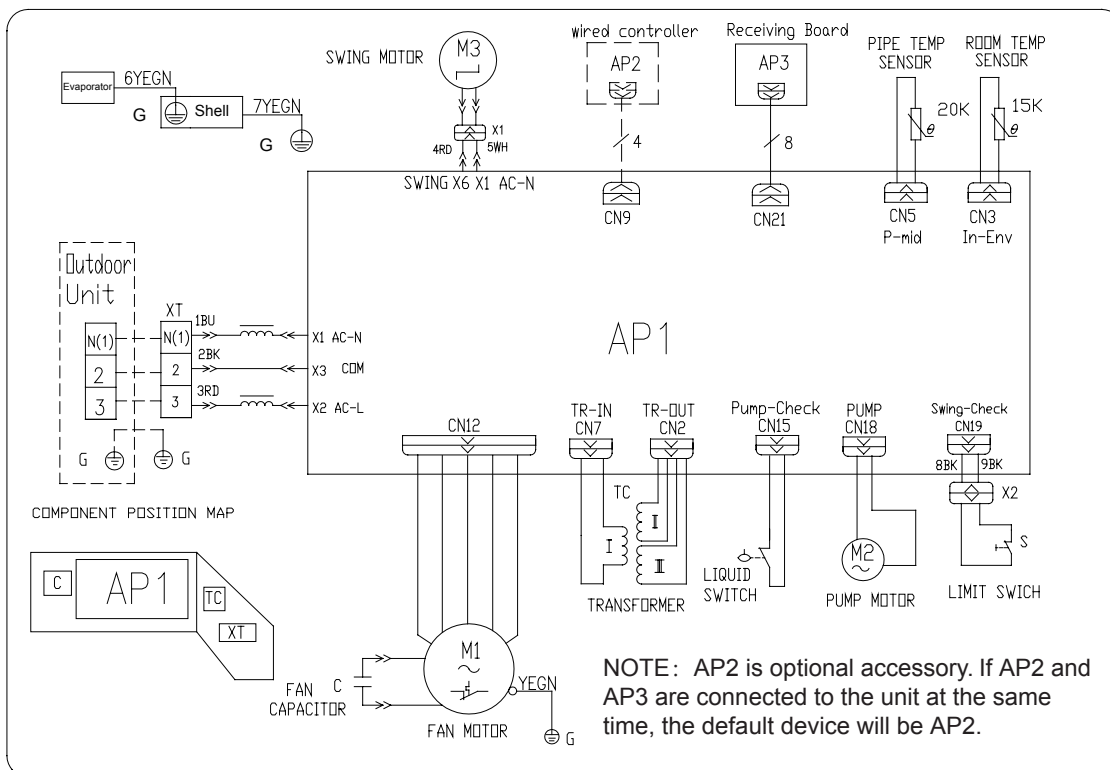
For GFH(09)EA-D3DNA1A/I, GFH(12)EA-D3DNA1A/I, GFH(18)EA-D3DNA1A/I, GFH(21)EA-D3DNA1A/I, GFH(24)EA-D3DNA1A/I Unit



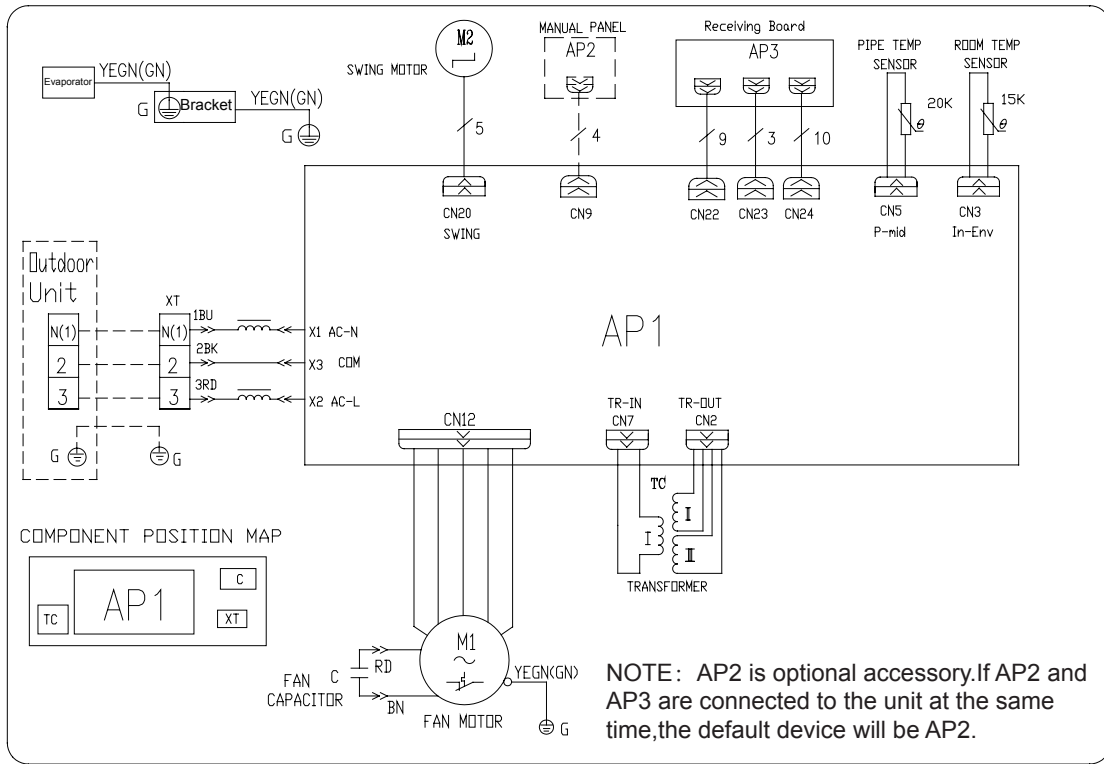
Cassette type
For GKH(12)BA-D3DNA2A/I, GKH(18)BA-D3DNA2A/I Unit



For GKH(24)BA-D3DNA1A/I Unit



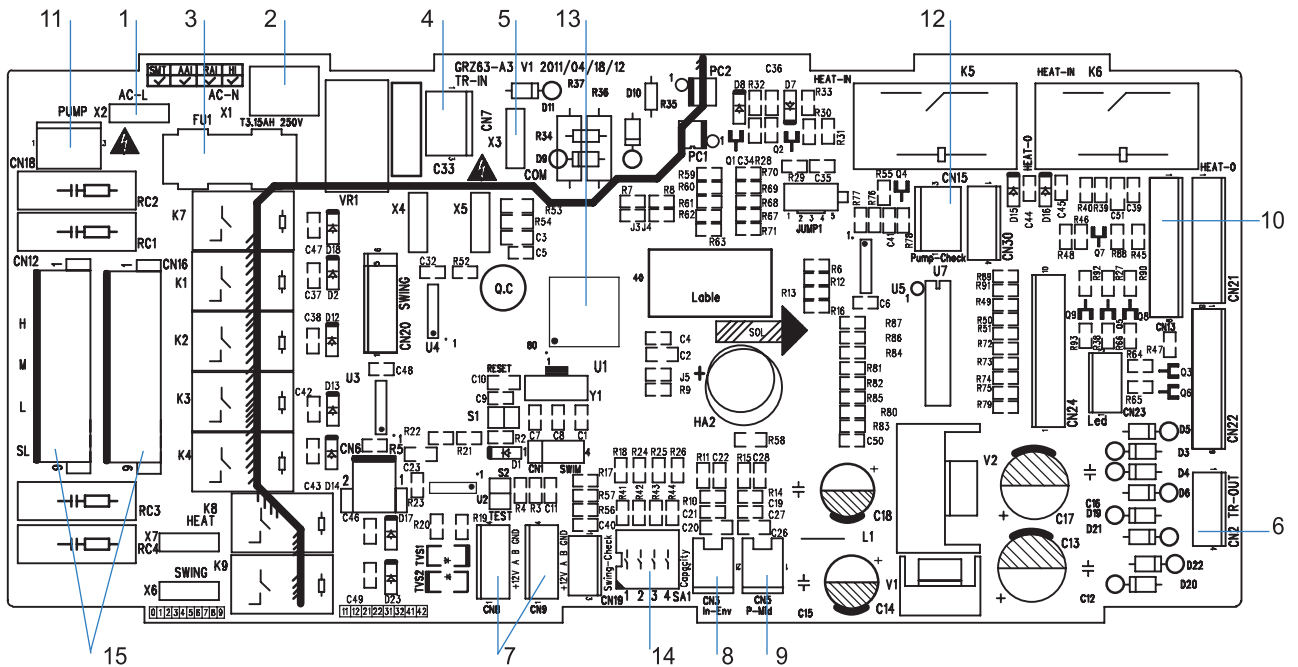
Floor ceiling type
For GTH(09)BA-D3DNA1A/I, GTH(12)BA-D3DNA1A/I, GTH(18)BA-D3DNA1A/I, GTH(24)BA-D3DNA1A/I
Unit



5.3 Printed Circuit Board

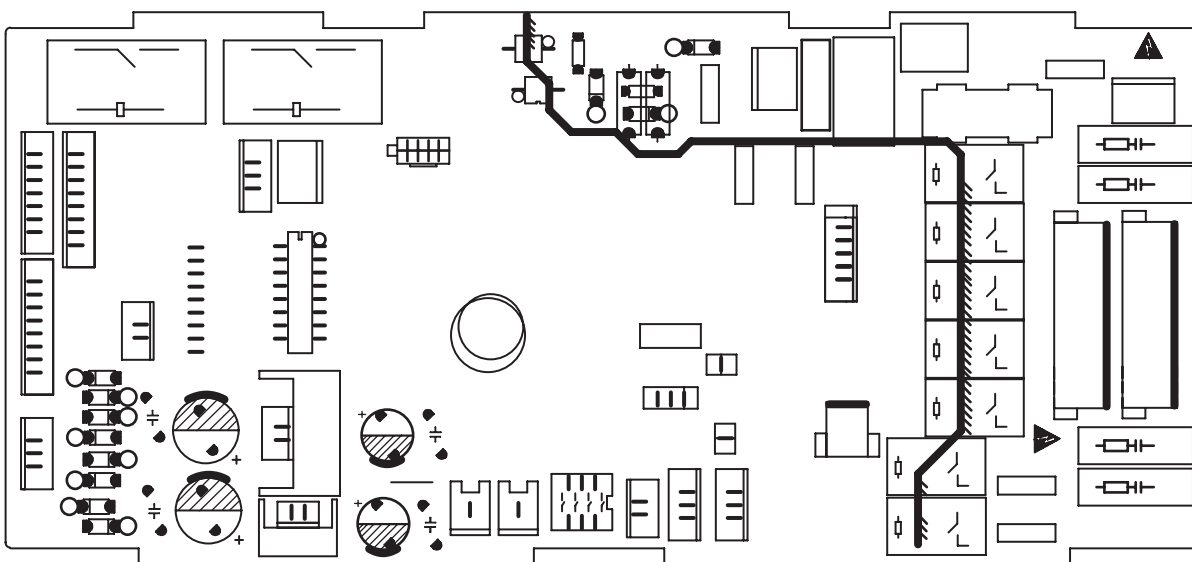
Duct Type for GFH(09)EA-D3DNA1A/I, GFH(12)EA-D3DNA1A/I, GFH(18)EA-D3DNA1A/I, GFH(21)EA-D3DNA1A/I, GFH(24)EA-D3DNA1A/I Unit

- Top view



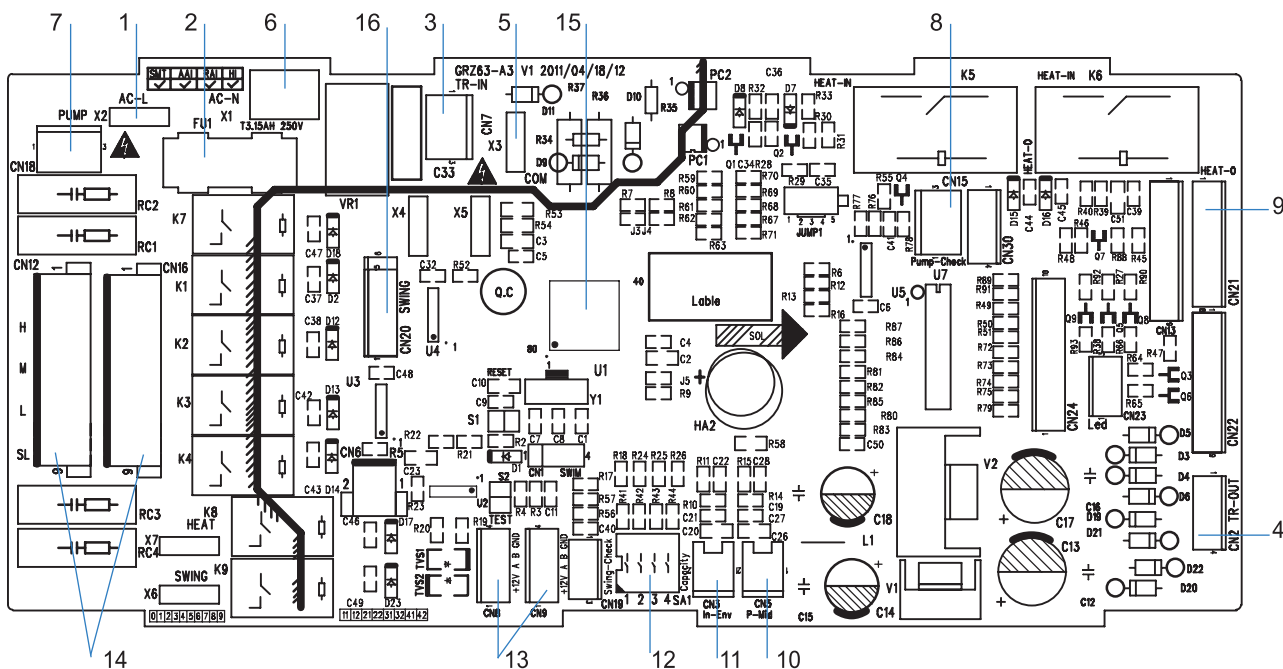
| | | | |
|---|----------------------------|----|--|
| 1 | Live Line | 9 | Evaporator Mid-Tube Temperature Sensor |
| 2 | Neutral Line | 10 | Control Panel |
| 3 | Fuse | 11 | Water Pump |
| 4 | Transformer (High Voltage) | 12 | Water Level Indicator |
| 5 | Communication Line | 13 | MCU |
| 6 | Transformer (Low Voltage) | 14 | DIP Switch |
| 7 | Wired Controller | 15 | Fan |
| 8 | Indoor Temperature Sensor | | |

● Bottom view



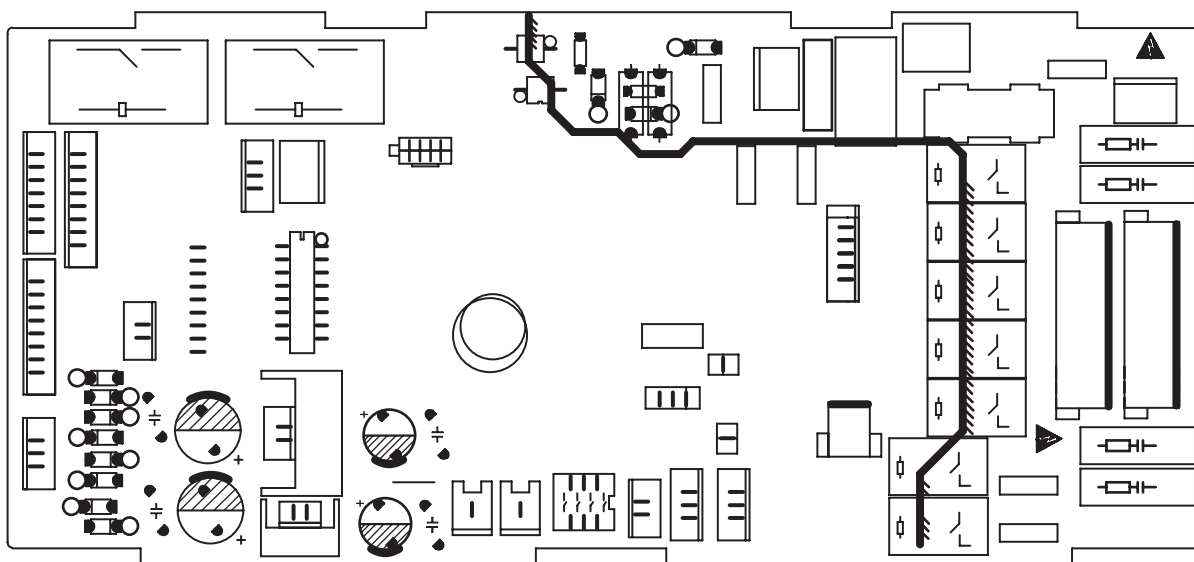
Cassette type for GKH(12)BA-D3DNA2A/I, GKH(18)BA-D3DNA2A/I Unit

● Top view



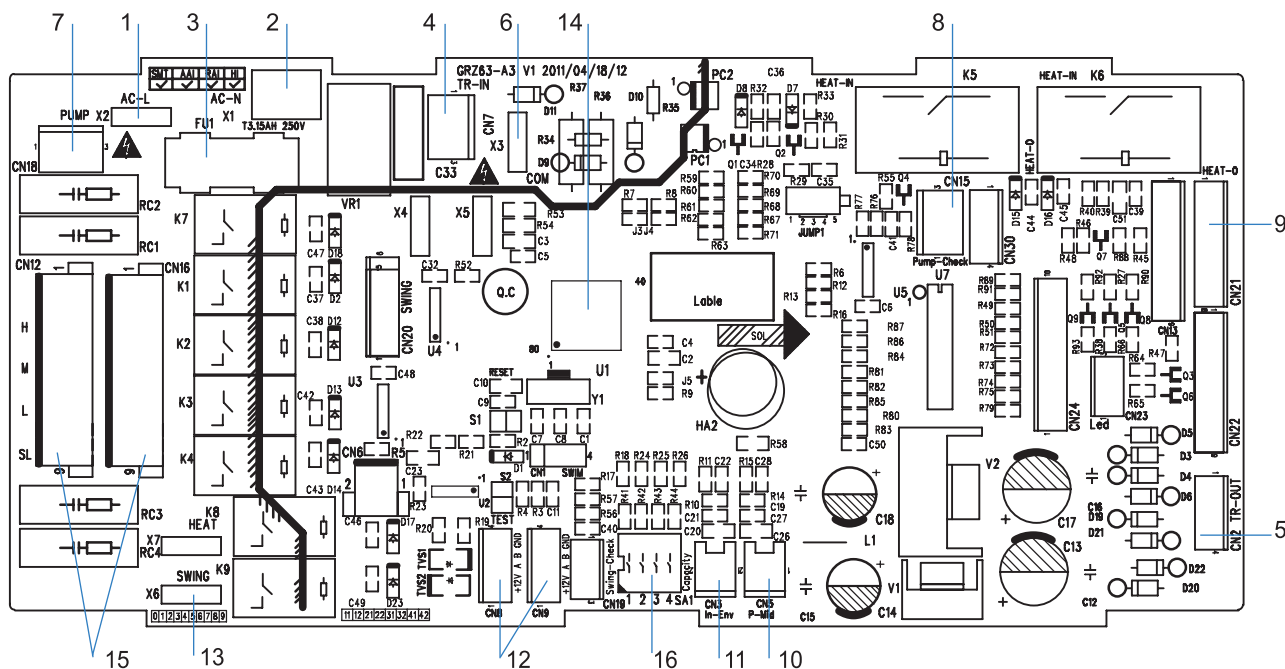
| | | | |
|---|----------------------------|----|--|
| 1 | Live Line | 9 | Control Panel |
| 2 | Fuse | 10 | Evaporator Mid-Tube Temperature Sensor |
| 3 | Transformer (High Voltage) | 11 | Indoor Temperature Sensor |
| 4 | Transformer (Low Voltage) | 12 | DIP Switch |
| 5 | Communication Line | 13 | Wired Controller |
| 6 | Neutral Line | 14 | Fan |
| 7 | Water Pump | 15 | MCU |
| 8 | Water Level Indicator | 16 | Fan Motor |

• Bottom view



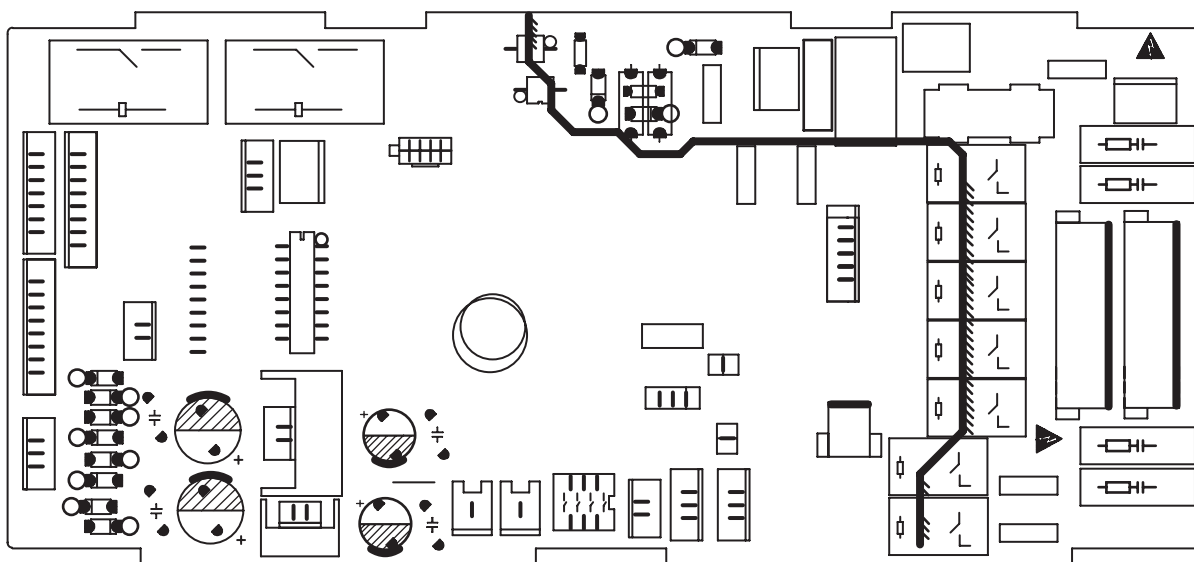
Cassette type for GKH(24)BA-D3DNA1A/I Unit

• Top view



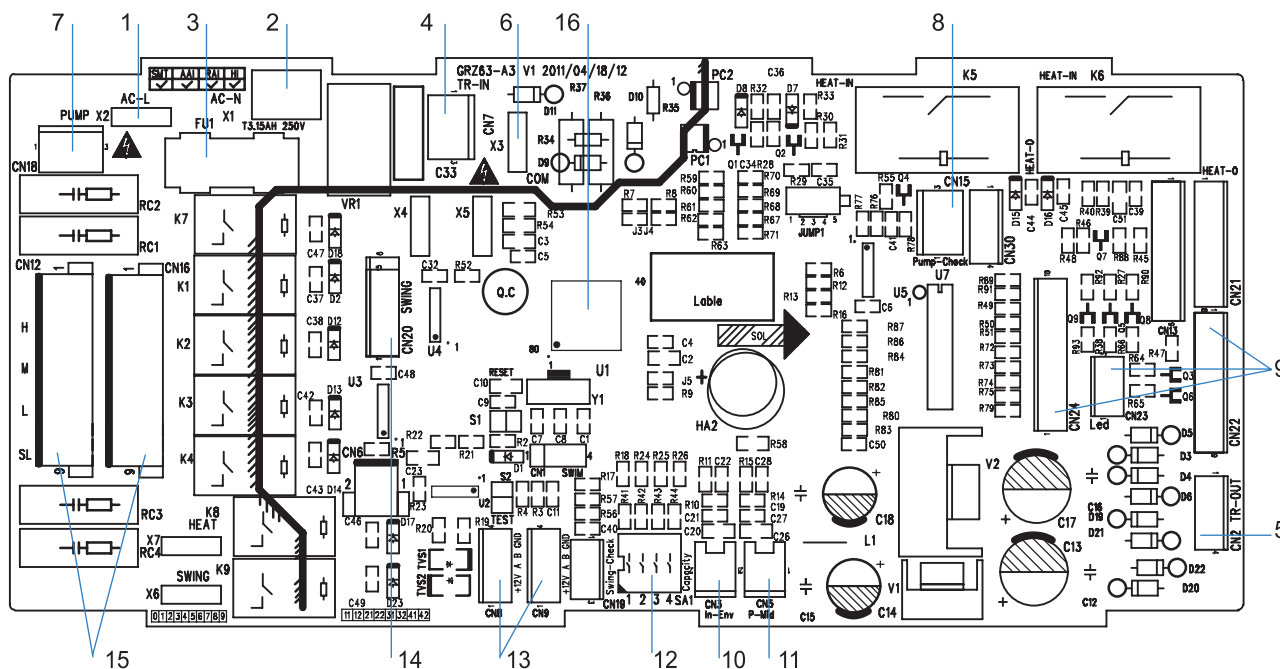
| | | | |
|---|----------------------------|----|--|
| 1 | Live Line | 9 | Control Panel |
| 2 | Neutral Line | 10 | Evaporator Mid-Tube Temperature Sensor |
| 3 | Fuse | 11 | Indoor Temperature Sensor |
| 4 | Transformer (High Voltage) | 12 | Wired Controller |
| 5 | Transformer (Low Voltage) | 13 | Fan Motor |
| 6 | Communication Line | 14 | MCU |
| 7 | Water Pump | 15 | Fan |
| 8 | Water Level Indicator | 16 | DIP Switch |

• Bottom view



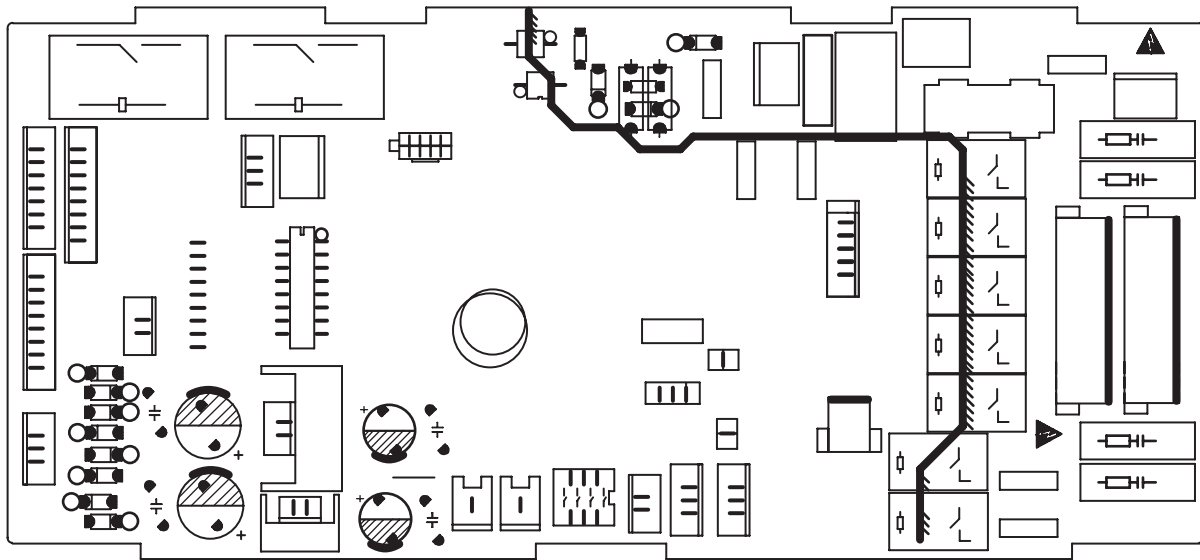
Floor ceiling type for GTH(09)BA-D3DNA1A/I, GTH(12)BA-D3DNA1A/I, GTH(18)BA-D3DNA1A/I, GTH(24)BA-D3DNA1A/I Unit

• Top view



| | | | |
|---|----------------------------|----|--|
| 1 | Live Line | 9 | Control Panel |
| 2 | Neutral Line | 10 | Indoor Temperature Sensor |
| 3 | Fuse | 11 | Evaporator Mid-Tube Temperature Sensor |
| 4 | Transformer (High Voltage) | 12 | DIP Switch |
| 5 | Transformer (Low Voltage) | 13 | Wired Controller |
| 6 | Communication Line | 14 | Fan Motor |
| 7 | Water Pump | 15 | Fan |
| 8 | Water Level Indicator | 16 | MCU |

• Bottom view

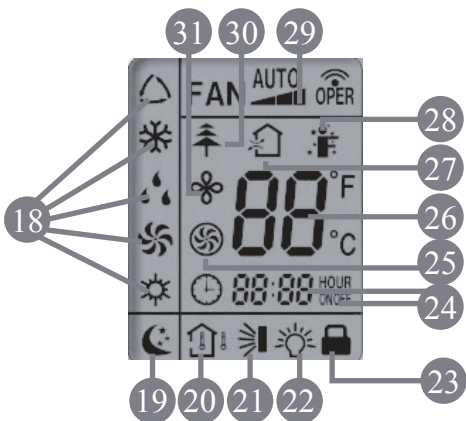


6 Function and Control









6.1 Remote Control Operations






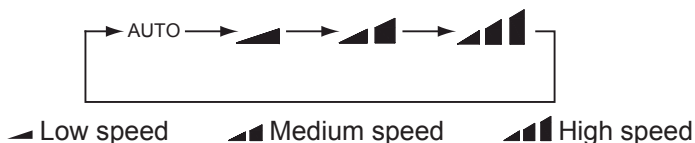
- 1** ON/OFF
Press it to start or stop operation.
- 2** - :
Press it to decrease temperature setting.
- 3** + :
Press it to increase temperature setting.
- 4** FAN
Press it to set fan speed.
- 5** MODE
Press it to select operation mode (AUTO/COOL/DRY/FAN/HEAT).
- 6** I FEEL
- 7** Press it to set HEALTH function
- 8** Press it to set AIR function.
- 9** CLOCK
Press it set clock.
- 10** TIMER ON
Press it to set auto-on timer.
- 11** Press it set swing angle.
- 12** X-FAN (X-FAN is the alternative expression of BLOW for the purpose of understanding.)
- 13** TEMP
- 14** TIMER OFF
Press it to set auto-off timer
- 15** TURBO
- 16** SLEEP
- 17** LIGHT
Press it to turn on/off the light.



- 18** MODE icon:
If MODE button is pressed, current operation mode icon (AUTO), (COOL), (DRY), (FAN) or (HEAT only for heat pump models) will show.
- 19** SLEEP icon :
 is displayed by pressing the SLEEP button. Press this button again to clear the display.
- 20** TEMP icon:
Pressing TEMP button, (set temperature), (ambient temperature), (outdoor ambient temperature) and blank is displayed circularly.

- 21 Up & down swing icon:
 is displayed when pressing the up & down swing button. Press this button again to clear the display.
- 22 LIGHT icon:
 is displayed by pressing the LIGHT button. Press LIGHT button again to clear the display.
- 23 LOCK icon:
 is displayed by pressing "+" and "-" buttons simultaneously. Press them again to clear the display.
- 24 SET TIME display:
 After pressing TIMER button, ON or OFF will blink. This area will show the set time.
- 25 TURBO icon:
 is displayed when pressing the TURBO button. Press this button again to clear the display.
- 26 DIGITAL display:
 This area will show the set temperature. In SAVE mode, "SE" will be displayed. During defrosting operation, "H1" will be displayed.
- 27 AIR icon:
 is displayed when pressing the AIR button. Press this button again to clear the display.
- 28 I FEEL icon:
 is displayed when pressing the I FEEL button. Press this button again to clear the display.
- 29 FAN SPEED display:
 Press FAN button to select the desired fan speed setting (AUTO Low-Med-High). Your selection will be displayed in the LCD windows, except the AUTO fan speed.
- 30 HEALTH icon:
 is displayed when pressing the HEALTH button. Press this button again to clear the display.
- 31 X-FAN icon:
 is displayed when pressing the X-FAN button. Press this button again to clear the display.

- 1 ON/OFF:
 Press this button to turn on the unit. Press this button again to turn off the unit.
- 2 -:
 Press this button to decrease set temperature. Hold it down for above 2 seconds to rapidly decrease set temperature. In AUTO mode, set temperature is not adjustable.
- 3 +:
 Press this button to increase set temperature. Hold it down for above 2 seconds to rapidly increase set temperature. In AUTO mode, set temperature is not adjustable.
- 4 FAN :
 This button is used for setting Fan Speed in the sequence that goes from AUTO, , , , to then back to Auto.



- 5 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:



*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 temperature to make indoor room comfortable.

6 I FEEL:

Press this button to turn on I FEEL function. The unit automatically adjust temperature according to the sensed temperature. Press this button again to cancel I FEEL function.



7 :

Press this button to set HEALTH function ON or OFF. After the unit is turned on, it defaults to HEALTH function ON.

8 :


Press this button to select AIR function ON or OFF.

9 CLOCK :

Pressing CLOCK button,  links. 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.

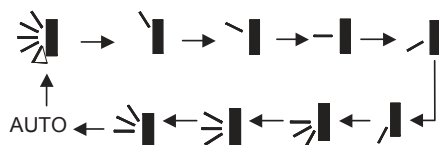
10 TIMER ON :











Press this button to initiate the auto-ON timer. To cancel the auto-timer program, simply press this button again.

After pressing this button,  disappear and " ON " blink s . 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 seconds after setting, press TIMER ON button to confirm.


11 :

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: , , , , , 

12 X-FAN:

Pressing X -FAN button in COOL or DRY mode, the icon  is displayed and the indoor fan will continue operation for 10 minutes 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.

13 TEMP:

Press this button, could select displaying the indoor setting temperature or indoor ambient temperature. When the indoor unit firstly power on it will display the setting temperature, if the temperature's displaying status is changed from other status to "  ",displays the ambient temperature, 5s later or within 5s, it receives other remote control signal that will return to display the setting temperature. if the users haven't set up the temperature displaying status,that will display the setting temperature.

14 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.



15 TURBO:

Press this button to activate / deactivate the Turbo function which enables the unit to reach the preset temperature in the 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.



16 SLEEP:

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

17 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 turned on,  is displayed. If the light is turned off,  disappears.

18 Combination of "+" and "-" buttons: 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.

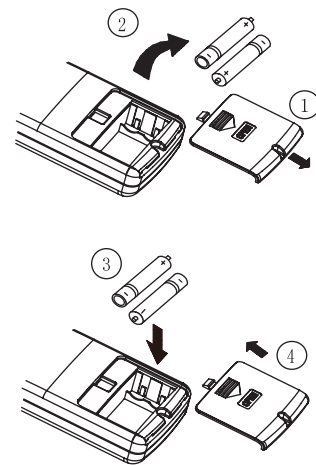
19 Combination of "MODE" and "-" buttons: About switch between Fahrenheit and Centigrade At unit OFF, press "MODE" and "-" buttons simultaneously to switch between °C and °F .

Replacement of Batteries

- 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) Reinstall the battery cover plate.

Notes:

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



Sketch map for replacing batteries

6.2 Description of Each Control Operation

Protection Function

1) Mode Conflict Protection of indoor unit

When the setting mode is different of different indoor unit, the unit runs in below status:

a. The mode of the first operating indoor unit is the basic mode, then compare the mode of the other indoor units to see if there is a conflict. Cooling mode (dry mode) is in conflict with heating mode.

b. Fan mode is in conflict with heating mode and the heating mode is the basic mode. No matter which indoor unit operates first, the unit will run in heating mode.

2) Communication malfunction

Detection of the quantity of installed indoor units: After 3min of energizing, if the outdoor unit does not receive the communication data of certain indoor unit, the outdoor unit will judge that indoor unit is not installed and will treat it as it is not installed. If the outdoor unit receives the communication data of that indoor unit later, the outdoor unit will treat that unit as it is installed.

Control Function of Indoor Unit

1) Running Mode

1.COOL 2.DRY 3.HEAT 4.AUTO 5.FAN

2) Basic Functions of the System

a. COOL Mode

Under this mode, the fan and swing function goes as the set conditions, and the set temperature range is 16°C ~30°C .

b. DRY Mode

Under this mode, the fan will run at the low speed and the swing function is performed under the set conditions. The set temperature range is 16~30°C .

c. FAN Mode

Under this mode, only the fan of the indoor unit runs. And if the auto speed is set, the fan will run under the same condition as the COOL mode.

d. HEAT Mode

a) Under this mode, the set temperature rang is 16°C ~30°C .

b) The defrosting symbol "H1" will be displayed when the defrosting signal is received from the outdoor unit.

e. AUTO Mode

a) When the ambient temperature is higher than 25°C , the unit will run as the COOL mode.

b) For the cooling and heating unit, if the ambient temperature is or lower than 22°C , the unit will run as the HEAT mode.

c) When the indoor ambient temperature is higher than 22°C but lower than 26°C , the system will run at the FAN mode, and the set temperature is 24 °C . In this case, if other indoor unit runs at the HEAT mode, a mode conflict alarm will be raised.

3) Other Control

a. Beeper Control

When the controller is powered on or it receives a valid either press button signal or remote control signal, the beeper will utter a warning tone.

b. Auto Speed Control

a) Under the HEAT Mode: (Ambient temperature herein is the temperature without temperature compensation)

When the ambient temperature is or lower than the set temperature, the indoor unit runs at the high speed.

When the ambient temperature is higher than the set temperature but lower than the set temperature plus 2°C , the indoor unit fan runs at the medium speed.

When the ambient temperature is or lower than the set temperature plus 2 °C , the fan runs at the low speed.

b) Under the COOL and FAN Modes

When the ambient temperature is or higher than the set temperature plus 3°C , the indoor unit runs at high speed.

When the ambient temperature is higher than the set temperature plus 1 °C but lower than the set temperature plus 3°C , the indoor unit fan runs at the medium speed.

When the ambient temperature is or lower than the set temperature plus 1 °C , the fan runs at the low

speed.

c) Once the fan starts at a certain speed, it will keep running at this speed for no less than 30 seconds prior to any changeover stated above.

c. AUTO Press Button

The whole unit will run under the AUTO mode by pressing this button when the unit is off. In this condition, the fan of the indoor unit will run at the auto speed with the swing function activated. When the unit is on, it will be turned off by pressing this button. This button is unavailable to the floor/ceiling unit.

d. Sleep

Under this mode, the proper sleep curve will be adopted in accordance with different set temperatures.

Under the COOL mode or the DRY mode, the temperature will go up by 1°C after one hour and by another 1°C after another hour, after that, the temperature will be kept on.

Under the HEAT mode, the temperature will go down by 1 °C after one hour and by another 1 °C after another hour, after that, the temperature will be kept on.

e. Timer

a)Timer On

When the unit is powered on but in the idle condition, it is available to set when to start the unit. Then, when the unit starts, it will run as the previously set mod. The set range of the timer is 0.5 ~ 24 hours with an interval of 0.5 hour.

b) Timer Off

When the unit is on, it is available to set when to stop the unit. The set range of timer is 0.5 ~ 24 hours with an interval of 0.5 hour.

f. Memory

a) Memorizing Objects: modes (AUTO, COO, DRY, FAN, HEAT), swing, set temperature, set fan speed, etc.

b) When the indoor unit works without the wired controller, it will resume the working condition as the power failure occurs after it is powered on again. When the indoor unit is with the wired controller, it is available to set the memory function by pressing the corresponding buttons of the wired controller.

c) When the indoor unit works without the wired controller, if the timer is not set for the last remote control instruction, the system will memorize this last instruction and works following it; if the timer is set, it will be canceled as the power failure occurs and will have to be reset.

d) When the indoor unit works with the wired controller, it will wok as the message sent by the wired controller after it is powered on again.

g. Selection of the Indoor Temperature Sensor

a) when the indoor unit works with the Control Panel (receiver device) :

① For the duct type indoor unit: Under the COOL, HEAT, DRY, or FAN mode, the return air temperature sensor is adopted; while under the HEAT mode, it is the receiver temperature sensor. Under the AUTO mode, the receiver temperature sensor is adopted. However, if this temperature sensor fails, the sensor located at the return air inlet will take the place.

② For the cassette type, floor/ceiling type indoor unit: Under all modes, the return air temperature sensor is adopted.

b) When the duct type, cassette type, or the floor/ceiling type indoor unit works with the wired controller, the ambient temperature sensor can be set in the following four ways:

① 01:The indoor temperature sensor is set for the return air.

② 02:The indoor temperature sensor is set for the wired controller.

③ 03:The indoor temperature sensor is set for the wired controller under the HEAT mode, and for the return air under any other mode.

④ 04:The indoor temperature sensor is set for the return air under the HEAT mode, and for the wired controller under any other mode.

c) Setting of the Ambient Temperature Sensor of the Wired Controller XK19.

When the unit is off, it is available to go to the debugging status by pressing the “Function” and “Timer” buttons for five seconds, and the corresponding code will be displayed on the temperature area of the wired controller. There are four kinds of codes which can be adjusted through the “▼” / “▲” button.

The third one is the default code. The setting of the ambient temperature sensor of the wired controller should be memorized.

The “Enter/Cancel” button shall be pressed to confirm and leave the setting. If there is no response to the last button press within 20 seconds, then the system will quit the setting and go to the normal “Off” status but with the setting still saved.

h. Switchover of the Defrosting Mode

On condition that the unit is off, if “H1” is not displayed on the wireless controller, then the unit will go to the

setting status of the “Defrosting Mode 1” as it is turned on through the wired controller. Then, once the indoor unit receives this signal, it will soon send it to the outdoor unit. In contrast, if “H1” is displayed, the unit will go the setting status of the “Defrosting Mode 2”, and the indoor unit also will send this signal to the outdoor unit as soon as it receives it.

On condition that the unit is off, it is available to switch over the “Defrosting Mode 1” and “Defrosting Mode 2” by pressing the “MODE” and “BLOW” buttons simultaneously.

i. Turbo

As soon as the controller receives the “Turbo” instruction, the fan of the indoor unit will run at the high speed .

j. Blow

Blow Function: It is a function to automatically blow off the moist inside the exchanger of the indoor unit to prevent mould growing after the unit is shut off.

a) On condition that this function is activated, when the “On/Off” press button is operated, the fan of the indoor unit will still run for ten minutes (with the symbol “BLOW” displayed). At this time, the fan will stop as this function is deactivated.

b) This function is unavailable under the AUTO, FAN, and HEAT modes.





7 Installation Manual

7.1 Precautions for Installation

7.1.1 Precautions for Installation

Before installation, please ensure if the installing site, power ratings, possible operating range (pipe distance, height difference between indoor and outdoor unit, power voltage) and installing space are correct and suitable. The outdoor unit is general to all models according to its power.

◆ To ensure correct installation, please make sure to read the Safety Considerations thoroughly before starting the installation works.

◆ The considerations stated below are classified into WARNING and CAUTION. Those that might cause death or severe injury in case of wrong installation are identified in WARNING. However, those that are stated in CAUTION may also cause severe accidents sometimes. Therefore, both of them relate to important safety considerations and must be strictly followed.

◆ After completing the installation and test run and confirming that all are normal, please introduce to the client on how to use and repair the machine according to the Operating Instructions. Besides, please deliver the considerations herein to the clients together with the Operating Instructions, and ask them to keep properly.

WARNING!

◆ The installation shall be performed by the vendor or professional dealer from which you buy the machine. If you install by yourself, any improper installation might cause water leakage, electric shock or fire accident.

◆ The installation shall be done correctly according to installation instructions. Improper installation may cause water leakage, electric shock or fire.

◆ To install a large air-conditioning system in a small room, please make sure to take measures to prevent that the refrigerant will not exceed the limit concentration in case of leakage. For the measures to prevent the refrigerant from exceeding the limit concentration, please consult your dealer. If no proper measures, it might cause human suffocation in case of refrigerant leakage.

◆ Please install at a position that is strong enough to support the weight of machine. If the installing position is of low strength, the machine may drop down and thus cause human injury.

◆ Please carry out installation in accordance with the rules for preventing the typhoon or earthquake. The machine may tip over if the installation does not comply with the requirements.

◆ The electrical cabling shall be carried out by qualified electricians in accordance with the Safety Code for Electrical Equipment, relevant local rules and the installation instructions. Make sure to use the special-purpose circuit. If the power circuit capacity is low or the construction is improper, it might cause electric shock or fire accidents.

◆ Please use suitable cables and connect them securely. Please fix the terminal joints securely. The terminal connection shall not be affected due to any external force applied onto the cable. Improper connection and fixing may cause heating and fire accidents.

◆ Keep the cables in correct shape and prevent them from protruding upward. Please protect them securely with repair board. Improper installation may cause heating and fire accidents.

◆ When erecting or relocating the air conditioner, do not let any air enter into cooling circulation system except the specified refrigerant. If any air is mixed, abnormal high pressure will occur in the cooling circulation system, thus causing crack or human injury accidents.

◆ During installation, please always use the attached parts or designated parts. Failure to use the designated parts may cause water leakage, electric shock, fire or refrigerant leakage.

CAUTION:

◆ Please earth securely. Do not connect the earth wires to gas pipe, water pipe, lightning rod or telephone line. Improper earthing might cause electric shock.

◆ Leakage circuit breaker must be installed at some place. No installation of leakage circuit breaker might cause electric shock.

◆ Do not install at a place where inflammable gas might leak. Gas leakage and despot around the machine might cause fire accidents.

◆ To ensure correct drainage of water, the drainage pipe shall be installed according to the installation instructions. Also the heat insulation shall be provided to avoid condensing. Improper installation of the pipe might result in water leakage and lead to possible wetting of the articles in the room.

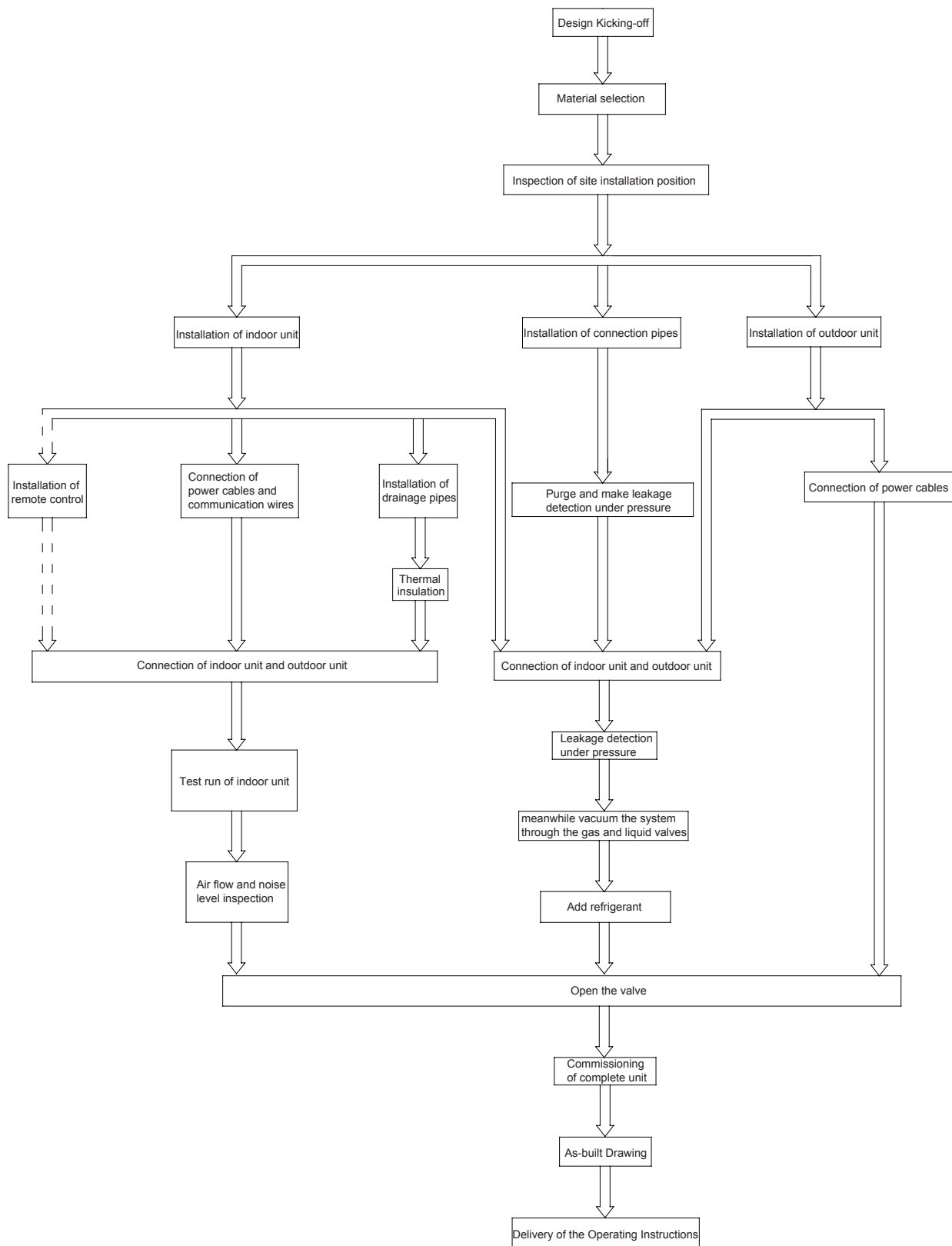
7.1.2 Key Points of Installation

| Installation Procedures | | Description and Acceptance Criteria |
|--|---|--|
| Material Selection and Equipment Inspection | | The materials specified on the engineering drawing shall be purchased as specified (e.g. copper tube, thermal insulation tube, PVC pipe, power cables, air switch, etc). The materials not specified on the engineering drawing shall be purchased according to the actual quantity of works (e.g. hanger frame, cable duct, etc). Check if the outdoor unit, indoor unit, communication wires and accessories are complete. |
| Installation of indoor unit | Communication wire | Connection The power cables shall be separated from communication wires at a least distance of 10cm. To avoid breaking the communication wires, please do not use strong force. For multiple units, please mark them properly. Switch on indoor and outdoor unit, and ensure there is no display of "Communication Wire Error E6". |
| | | Address dial code Each indoor unit under the same system has a unique address dial code. The wired controller and its corresponding indoor unit have the same address dial code. |
| | Remote Control Select the remote control mode. The centralized controller and communication module shall be installed free from the source of interference. | |
| | Power cord The power cable must meet the specifications. The indoor units under the same system must be arranged under unified power supply. | |
| | Drainage Pipe | Installation The PVC pipes must meet the specifications. A specific gradient must be provided along the water flow direction. Carry out water detection after installation. Carry out thermal insulation to the drainage pipe only after the water detection is accepted. |
| | | Thermal insulation The thermal insulation tube must meet the specifications. Seal between the thermal insulation pipes to avoid air entry. |
| | Installation of Air Duct (when with high static pressure duct-type unit) Design the length of air duct according to static pressure; The air inlet shall be optimally designed to avoid too small size | |
| Installation of connection pipes | Welding The copper tube must meet the specifications. Ensure it is dry and clean inside the tube. Make sure to charge nitrogen as required for protection when welding the tubes. Please keep to the welding process and ensure the system free of leakage. Add a dual-way filter on liquid pipe side For multiple systems, please mark them properly. Carry out leakage detection under pressure after welding. | |
| | Purge and make leakage detection under pressure Purge the system clean. Keep the pressure for 24 hours Except for the influence by temperature, it is deemed acceptable if pressure drop is within 0.02MPa. (With the temperature change by 1 °C , the pressure will change by approx. 0.01MPa) | |
| | Thermal insulation The thermal insulation tube must meet the specifications. Seal between the thermal insulation pipes to avoid air entry. | |
| Installation of outdoor unit Select the installing position correctly. Build the foundation according to the anchor bolt position and the dimension of outdoor unit Build the damping device properly. Avoid sharp knock when handling the outdoor unit. The inclination angle shall not be higher than 15°. | | |
| Connection of indoor unit and outdoor unit Tighten the nuts. Provide proper protection to the outdoor connection pipe, communication wires and power supply. | | |
| Leakage detection under pressure Keep the pressure for 24 hours. Except for the influence by temperature, it is deemed acceptable if pressure drop is within 0.02MPa. (With the temperature change by 1°C , the pressure will change by approx. 0.01MPa). | | |
| Vacuuming Establish vacuum simultaneously in the gas pipe and liquid pipe; The vacuuming time shall be long enough. Put still for 1 hour after vacuuming. It is deemed acceptable if the pressure will not rise. | | |
| Add refrigerant Add refrigerant according to the volume as specified on the engineering drawing. | | |
| Open the valve of outdoor unit | | |
| Commissioning of complete unit | | |

Remarks:

- a. Described above are general working procedures. The procedures might vary with the site conditions.
- b. For detailed installation rules, please see the description in each chapter.

7.2 Flow Chart of Installation



7.3 Install Indoor Unit

7.3.1 Installation of Duct Type

1) Before Installation

Check if there is any damage to the indoor unit, and the wireless controller and other part and components are prepared completely.

2) Installation Site

- The selection of the installation place of the air conditioner unit

The installation must accord with the national and local safe criterion.

Since the quality of installation would affect the operation directly, user should contact the seller and have the conditioner installed and tested by the professional install personnel according to the install instruction instead of install by himself/herself.

Only connect the power after all the installation works are finished.

- The selection of the installation place of the indoor unit
 - ◆ Prevent direct sun burn.
 - ◆ Make sure that the top steeve, ceiling, and the structure of the construction etc. is strong enough to bear the weight of the unit.
 - ◆ The drainage pipe is easy to drain.
 - ◆ The air flow is not blocked at the outlet and intake vents.
 - ◆ The connecting pipe indoor and outdoor can by lead to outside conveniently.
 - ◆ The unit cannot be installed in the place where stored the flammability, easy exploded thing or the place where would have leakage of flammability and exploded gas.
 - ◆ The unit cannot be installed in the place where has the corrupt gas and serious dust, saline fog, lampblack and huge humidity.

Note:

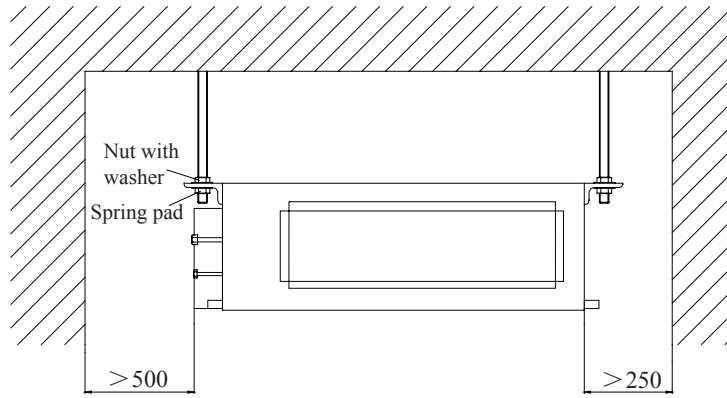
The air conditioner unit installed in the following place may have malfunction, if the malfunction cannot prevent, please contact the Nominated Repair Center Of Gree Electric Appliances, Inc. Of Zhuhai.

- a. The place with greasy all around.
- b. The seashore place with salinity and alkali.
- c. The place with vulcanized gas(such as vulcanized hot spring).
- d. The place with high frequency equipment (such as wireless equipment, electric welding machine and medical treatment equipment).
- e. The place with special environment.

3) Caution for Installation

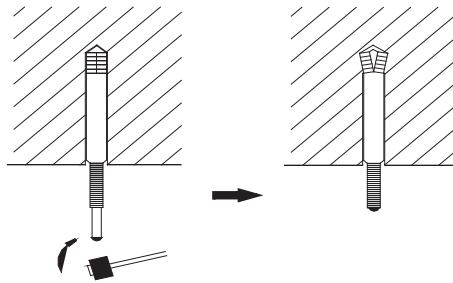
- ◆ Ensure the hanger is strong enough to withstand the weight of the unit.
- ◆ The drainage of the drain pipe is easy.
- ◆ No obstacle is in the inlet/outlet and the air circulation is in good condition.
- ◆ Ensure the installation space is left for the access to maintenance.
- ◆ It should be far away from where there is heat source, leakage of inflammable, explosive substances, or smog.
 - ◆ It is the ceiling type unit (concealed in the ceiling).
 - ◆ The power cords and connection lines of the indoor and outdoor units must be at least 1m away from the TV set or radio to avoid the image interference and noise (even if 1m is kept, the noise may be produced due to the strong electric wave).

4) Installation Clearance Data

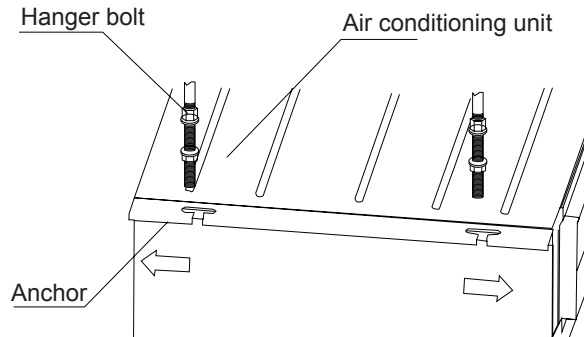


Installation of the Indoor Unit

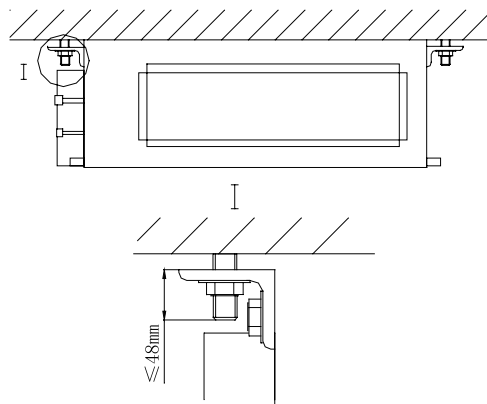
Insert the M10 expansion bolt into the hole, and then knock the nail into the bolt. Refer to the Outline Dimension Drawings of the Indoor Unit for the distance between holes and see Fig.3 for the installation of the expansion bolt.



Install the hanger on the indoor unit:



Install the indoor unit on the ceiling:



 CAUTION:

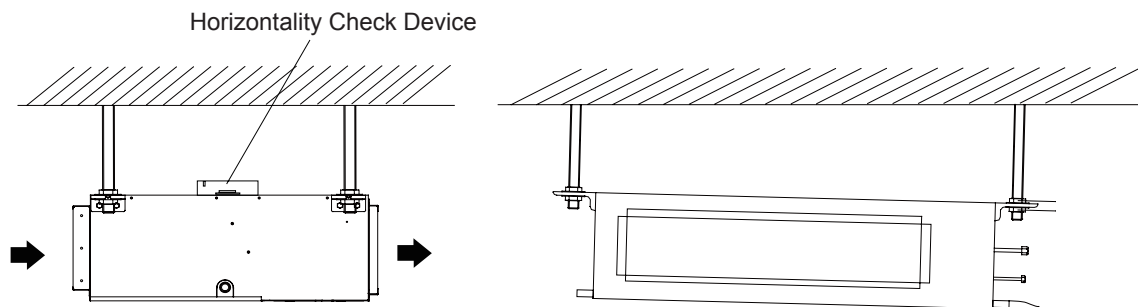
- a. Prior to the installation, please make a good preparation for all piping (refrigerant pipe, drain pipe) and wiring (wires of the wired controller, wires between the indoor and outdoor unit) of the indoor unit to make the further installation much easier.
- b. If there is an opening in the ceiling, it is better to reinforce it to keep it flat and prevent it vibrating. Consult the user and builder for more details.
- c. If the strength of the ceiling is not strong enough, a beam made of angle iron can be used and then fix

the unit on it.

d. If the indoor unit is not installed in the air conditioning area, please use sponge around the unit to prevent condensing. The thickness of the sponge depends on the actual installation environment.

4) Horizontality Check of the Indoor Unit

After the installation of the indoor unit, its horizontality must be checked to make sure the unit keep horizontal fore and aft and keep an inclination of 5° toward the drain pipe right and left.



7.3.2 Installation of Cassette Type

1) Before Installation

Check if there is any damage to the indoor unit, and the wireless controller and other part and components are prepared completely.

2) Installation Site

Select install location of the indoor unit

a. Obstruct should put away from the intake or outlet vent of the indoor unit so that the airflow can be blown though all the room.

b. Make sure that the installation had accord with the requirement of the schematic diagram of installation spaces.

c. Select the place where can stand 4 times of the weight of the indoor unit and would not increase the operating noise and oscillate.

d. The horizontality of the installation place should be guaranteed.

e. Select the place where easy drain condensated coagulated water, and easy connect with outdoor unit.

f. Make sure that there are enough space for care and maintenance. Make sure that the weight between the indoor unit and ground is above 1800mm.

g. When installing the steeve bolt, check if the install place can stand the weight 4 times of the unit's. If not, reinforce before installation. (Refer to the install cardboard and find where should be reinforced)

⚠️ Note!

There will be lots of lampblack and dust stick on the acentric, heat exchanger and water pump in dining room and kitchen, which would reduce the capacity of heat exchanger, lead water leakage and abnormal operation of the water pump.

The following treatment should be taken under this circumstance:

a. Ensure that the smoke trap above cooker has enough capacity to obviate lampblack to prevent the indraft of the lampblack by the air conditioner.

b. Keep the air conditioner far from the kitchen so that the lampblack would not be indraft by the air conditioner.

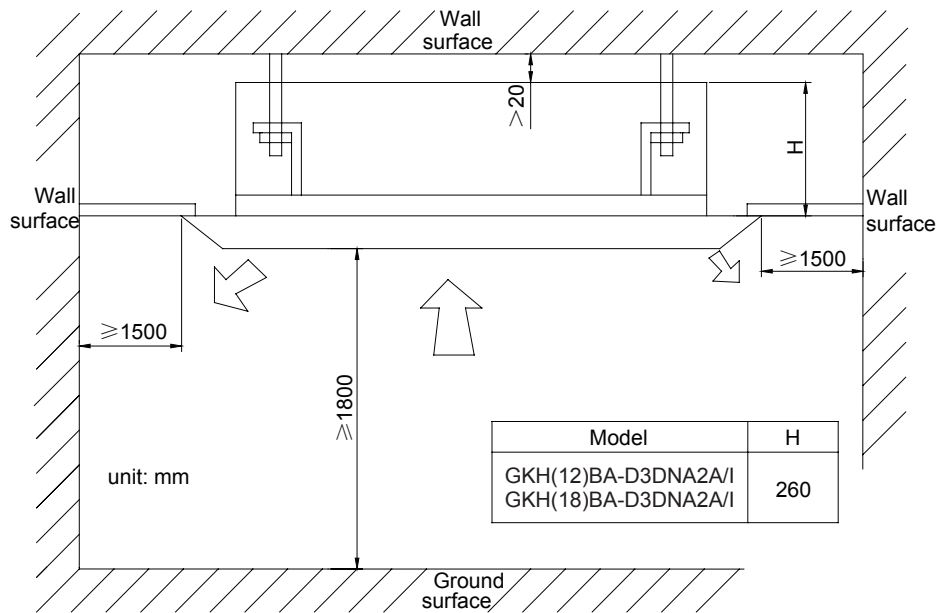
★ Important notice:

◆ To guarantee the good performance, the unit must be installed by professional personnel according with this instruction.

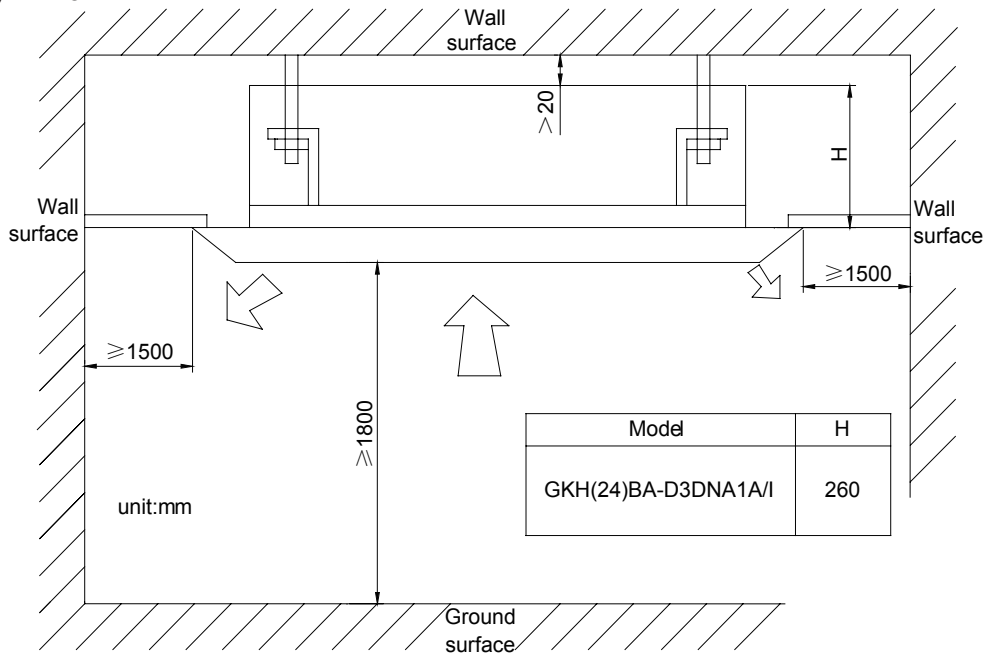
◆ Please contact the local Gree special nominated repair department before installation. Any malfunction caused by the unit that is installed by the department that is not special nominated by GREE would not deal with on time by the inconvenience of the business contact.

3) Installation Clearance Data

GKH(12)BA-D3DNA2A/I; GKH(18)BA-D3DNA2A/I



GKH(24)BA-D3DNA1A/I



★ Main body of hoisting air conditioner

a. The primary step for install the indoor unit.

◆ When attach the hoisting stand on hoisting screw, do use nut and gasket individually at the upper and lower of the hoisting stand to fix it. The use of gasket anchor board can prevent gasket break off.

b. Use install cardboard

◆ Please refer to the install cardboard about the dimension of ceiling opening.

◆ The central mark of the ceiling opening is marked on the install cardboard.

◆ Install the install cardboard on the unit by bolt (3 piece), and fix the angle of the drainage pipe at the outlet vent by bolt.

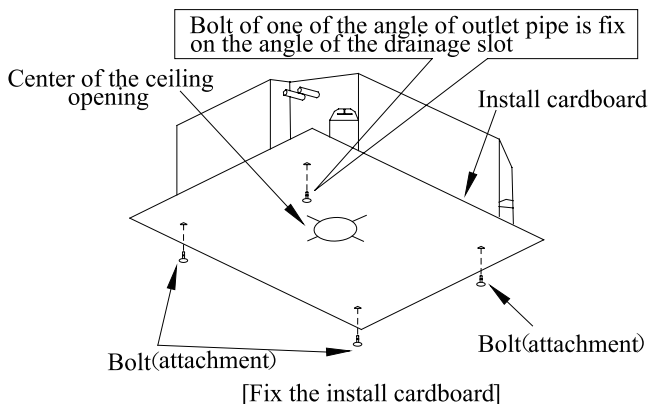
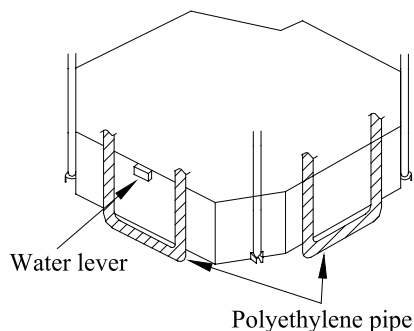
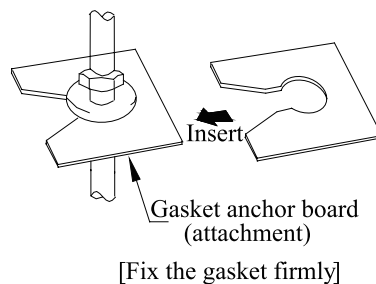
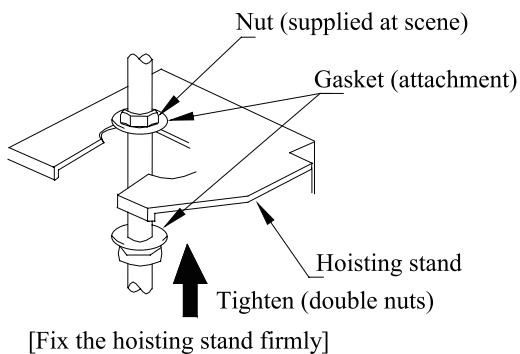
c. Adjust the unit to the suitable install place.

d. Check if the unit is horizontal.

◆ Inner drainage pump and bobber switch are included in the indoor unit, check if 4 angle of every unit are horizontal by water lever. (If the unit is slant toward the opposite of the coagulate water flow, there may be malfunction of the bobber switch and lead water drop.)

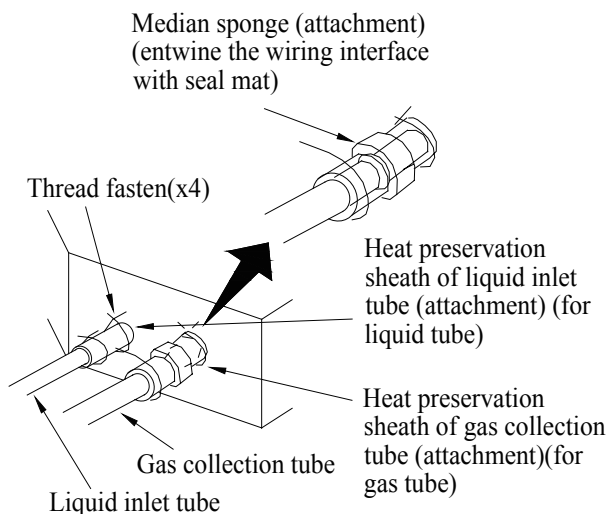
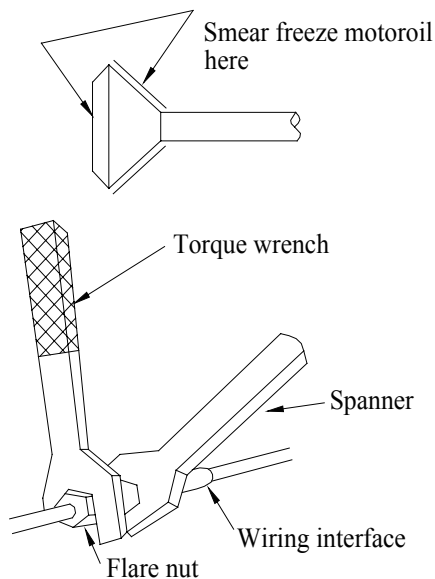
e. Backout the gasket anchor board used to prevent gasket break off and tighten the nut on it.

f. Backout the install cardboard.



⚠ Note!

- Please do not tighten the nuts and bolts to prevent air conditioner break off.
- ★ Connection of the refrigerant pipe
- ◆ When connect the pipe to the unit or backout it from the unit, please do use both spanner and torque wrench.
- ◆ When connect, smear both inside and outside of the flare nut with freeze motor oil, screw it by hand and then tighten it with spanner.
- ◆ Refer to form 1 to check if the wrench had been tightened (too tight would mangle the nut and lead leakage).
- ◆ Examine the connection pipe to see if it had gas leakage, then take the treatment of heat insulation.
- ◆ Only use median sponge to entwine the wiring interface of the gas pipe and heat preservation sheath of the gas collection tube.



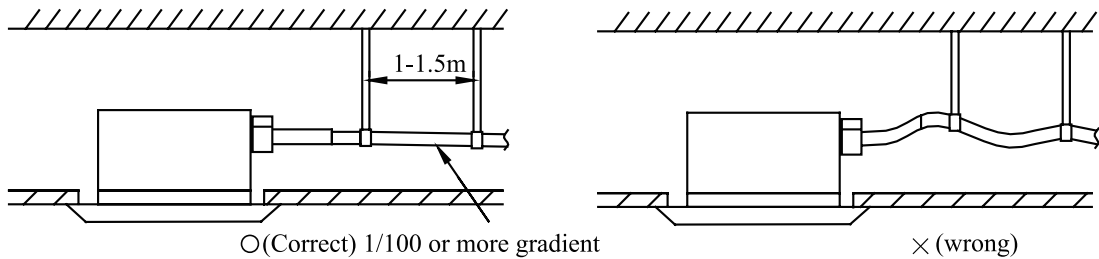
Form 1: The tightening torque needed for tightening nut

| Diameter(Inch) | Surface thickness(mm) | Tightening torque (N·m) |
|----------------|-----------------------|-------------------------|
| φ1/4" | ≥ 0.5 | 15-30 (N·m) |
| φ3/8" | ≥ 0.71 | 30-40 (N·m) |
| φ1/2" | ≥ 1 | 45-50 (N·m) |
| φ5/8" | ≥ 1 | 60-65 (N·m) |
| φ3/4" | ≥ 1 | 70-75 (N·m) |

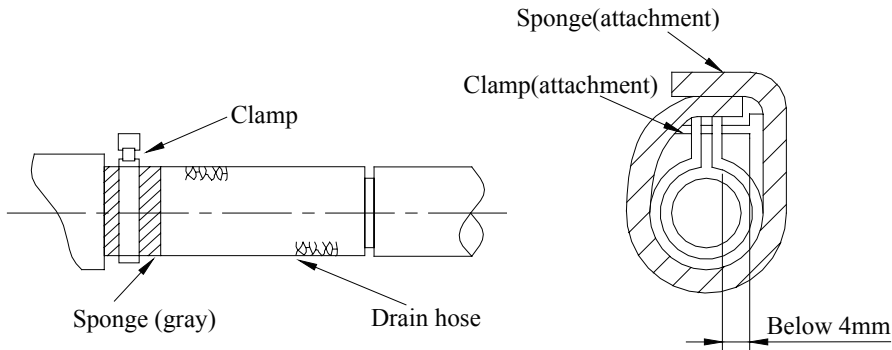
★ Drainage hose

a. Install the drain hose

- ◆ The diameter of the drain hose should be equal or bigger than the connection pipe's. (The diameter of polythene pipe: Outer diameter 25mm Surface thickness ≥ 1.5mm)
- ◆ Drain hose should be short and drooping gradient should at less 1/100 to prevent the formation of air bubble.
- ◆ If drain hose cannot has enough drooping gradient, drain raising pipe should be added.
- ◆ To prevent bent of the drain hose, the distance between hoisting stand should is 1 to 1.5m.

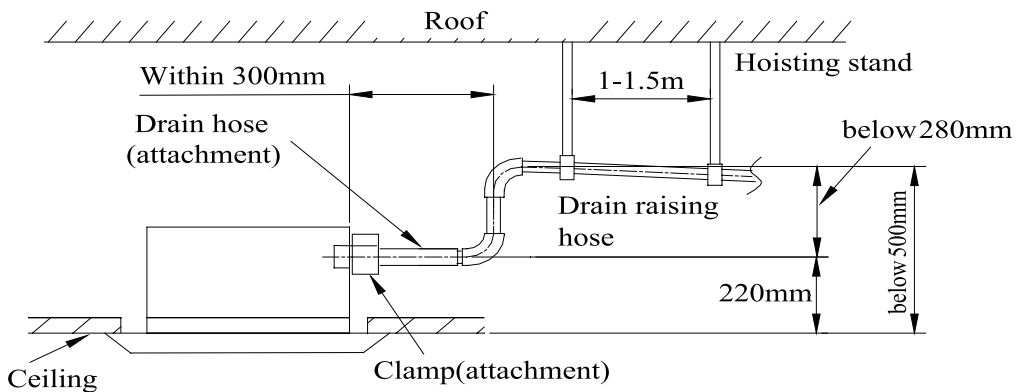


- ◆ Use the drain hose and clamp attached. Insert the drain hose to the drain vent, and then tighten the clamp.
- ◆ Entwine the big sponge on the clamp of drain hose to insulate heat.
- ◆ Heat insulation should be done to indoor drain hose.



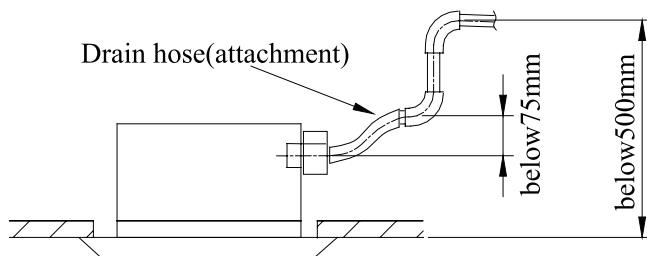
Drain stepup pipe note

- ◆ The install height of the drain raising pipe should less than 280mm.
- ◆ The drain raising pipe should form a right angle with the unit, and distance to unit should not beyond 300mm.

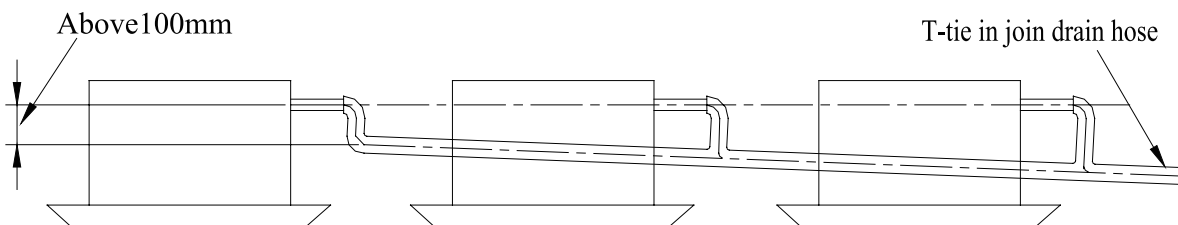


Instruction

- ◆ The slant gradient of the attached drain hose should be within 75mm so that the drain hole doesn't have to endure the unnecessary outside force.

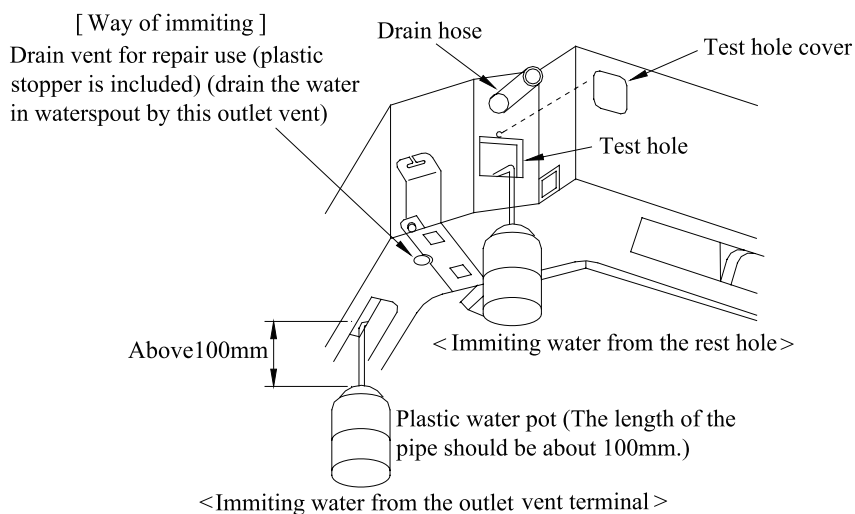


- ◆ Please install the drain hose according to the following process if several drain hoses join together.



The specs of the selected join drain hose should fit the running capacity of the unit.

- Check the smoothness of drain after installation.
- ◆ Check the drain state by immitting 600cc water slowly from the outlet vent or test hole.
 - ◆ Check the drain in the state of refrigerating after installation of the electric circuit.



7.3.3 Installation of Floor Ceiling Type

1) Before Installation

Check if there is any damage to the indoor unit, and the wireless controller and other part and components are prepared completely.

2) Installation Site

Selection of Installation Location for Air Conditioner Unit

The installation of air conditioner unit must be in accordance with national and local safety codes.

Installation quality will directly affect the normal use of air conditioner unit. The user is prohibited from installation by himself. Please contact your dealer after buying this machine. Professional installation workers will provide installation and test services according to installation manual.

Do not connect to power until all installation work is completed.

Selection of Installation Location

- ◆ Such a place where cool air can be distributed throughout the room.
- ◆ Such a place where is condensation water is easily drained out.
- ◆ Such a place that can handle the weight of indoor unit.
- ◆ Such a place, which has easy access for maintenance.
- ◆ Such a place where is permitting easy connection with the outdoor unit.
- ◆ Such a place where is 1m or more away from other electric appliances such as television, audio device,

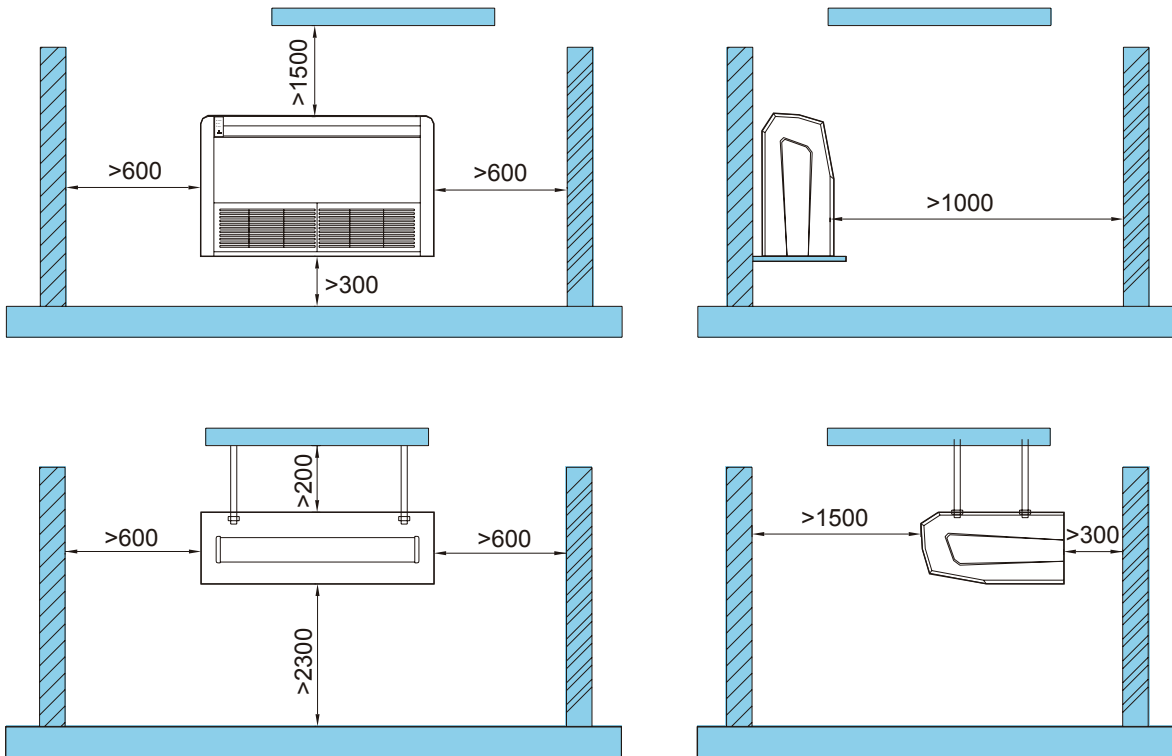
etc.

- ◆ Avoid a location where there is heat source, high humidity or inflammable gas.
- ◆ Do not use the unit in the immediate surroundings of a laundry, a bath, a shower or a swimming pool.
- ◆ Be sure that the installation conforms to the installation dimension diagram.

3) Installation Clearance Data

a. Space dimension for installation of the unit

The space around the unit is adequate for ventilation .



b. Important Notice

◆ The unit must be installed by the professional personnel according to this install instruction to ensure the well use.

Please contact the local Gree special nominated repair department before installation. Any malfunction caused by the unit that is installed by the department that is not special nominated by Gree would not deal with on time by the inconvenience of the business contact.

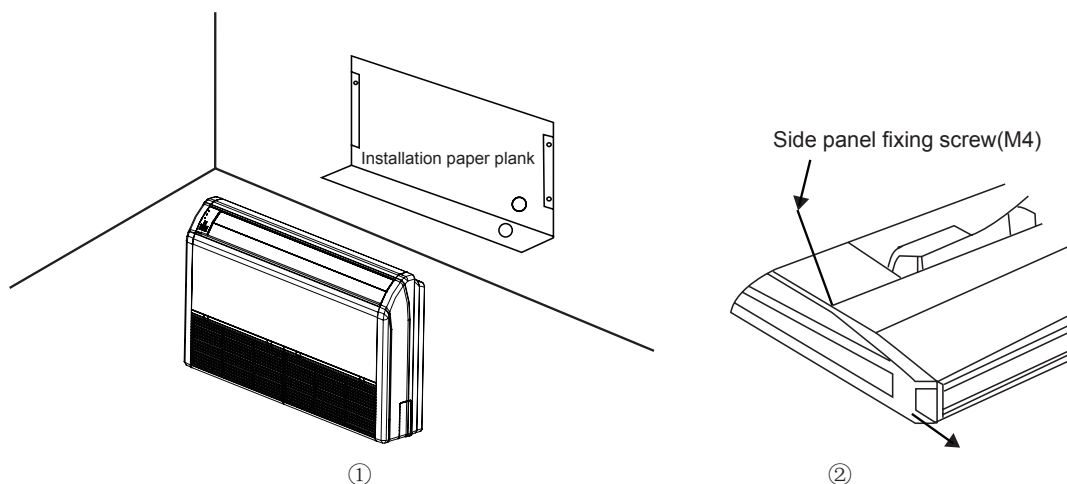
◆ It should be done by professional personnel when the air conditioner unit is moved to other place.

c. There are 2 styles of installation

- * Ceiling type
- * Floor type

(1) Each type is similar to the other as follows:

Determine the mounting position on ceiling or wall by using paper pattern to indicate indoor frame. Mark the pattern and pull out the paper pattern. (Refer to ①)



(2) Remove the return grill, the side panel and the hanger bracket from the indoor unit as per procedure below.

- ◆ Press the fixing knob of the air intake grills, the grilles will be opened wider and then pull them out from the indoor.

- ◆ Remove the side panel fixing screw and pull to the front direction (arrow direction) to remove. Side panel fixing screw (Refer to ②).

- ◆ Loosen two hanger bracket setting bolts (M8) on each side for less than 10mm. Remove two hanger bracket fixing bolts (M6) on the rear side. Detach the hanger bracket by pulling it backward (Refer to ④).

(3) Set the suspension bolt. (Use W3/8 or M10 size suspension bolts)

Adjust the distance from the unit to the ceiling slab beforehand. (Refer to ③)

(4) Fix the hanger bracket to the suspension bolt.

⚠ Warning!

- ◆ Make sure that extended suspension bolt from the ceiling stays inside the arrowed position. Readjust the hanger bracket when it is outside the arrowed position. (Refer to ⑤)

- ◆ Suspension bolt stays inside the cap of indoor unit. Never remove the cap.

(5) Lift the unit and slide forward unit the dent. (Refer to ⑥)

(6) Screw tightly both hanger bracket-setting bolts (M8). (Refer to ④)

(7) Screw tightly both hanger bracket-fixing bolts (M6) to prevent the movement of the indoor unit. (Refer to ④)

(8) Adjust the height so that rear side of the drainpipe slightly inclines to improve drainage.

⚠ Caution!

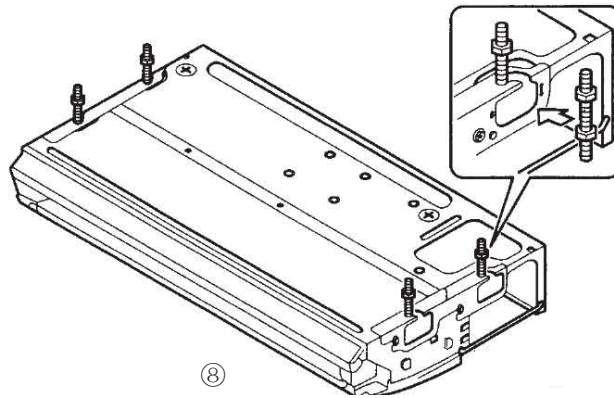
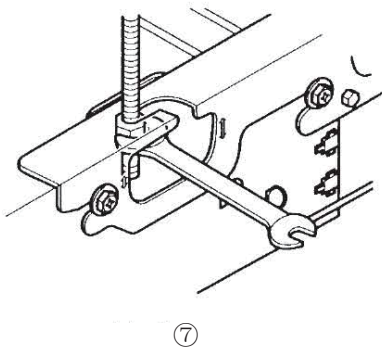
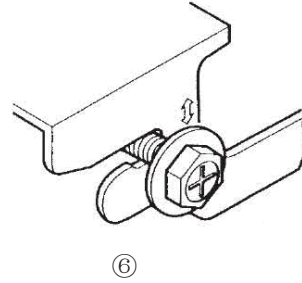
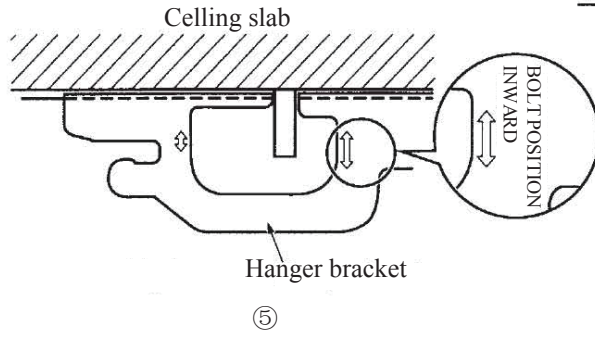
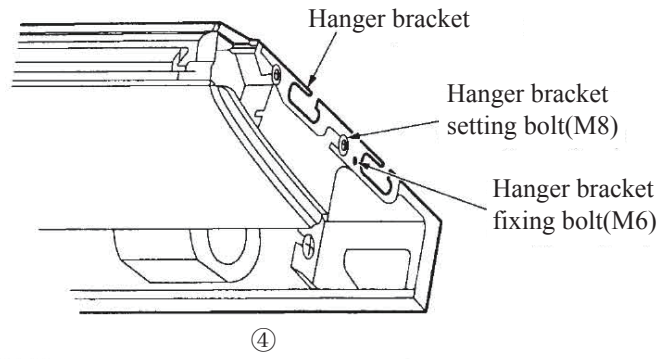
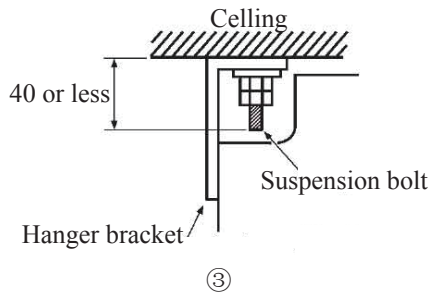
- ◆ Adjust the height by turning the nut with a spanner.

- ◆ Insert the spanner from the hanger bracket opening. (Refer to ⑦)

In case of hanging

It is possible to install using inward facing hanger brackets by not removing the brackets from the indoor unit. (Refer to ⑧)

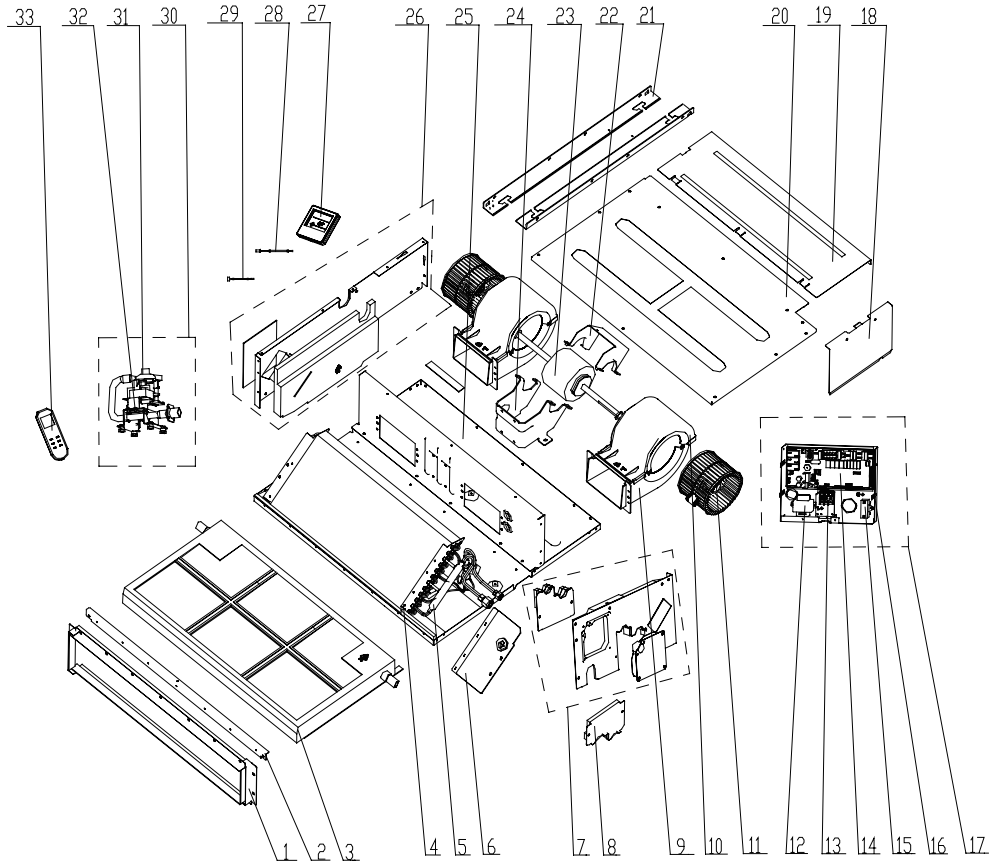
Be sure to use only the specified accessories and parts for installation work.



8 Exploded Views and Parts List

Duct Type

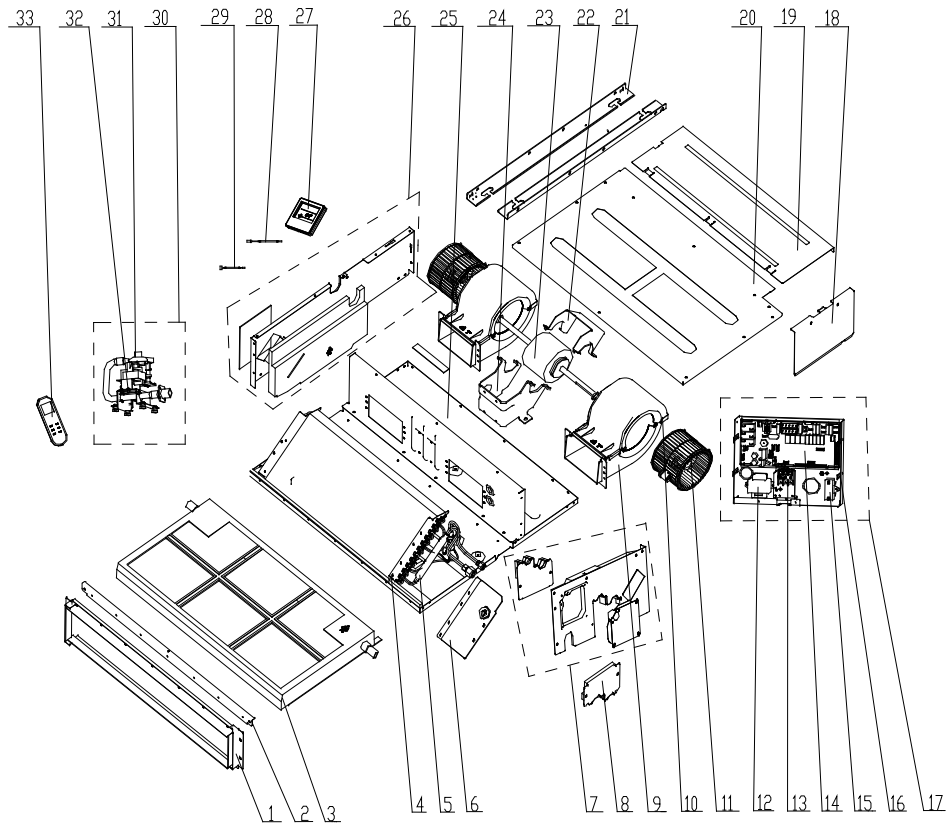
Model: GFH(09)EA-D3DNA1A/I



Part list: GFH(09)EA-D3DNA1A/I for CN210N0070

| NO. | Description | GFH(09)EA-D3DNA1A/I | |
|-----|----------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Air outlet frame assy | 01865216 | 1 |
| 2 | Cover of air outlet | 01265298 | 1 |
| 3 | Water Tray Assy | 01285332 | 1 |
| 4 | Top Cover Board Assy | 01265325 | 1 |
| 5 | Evaporator Assy | 01024266 | 1 |
| 6 | Plate of the Evaporator Sub-Assy | 01495317 | 1 |
| 7 | Left Side Plate Assy | 01315334 | 1 |
| 8 | Plate of the Exit Tube Sub-Assy | 01495316 | 1 |
| 9 | Front volute casing | 26905205 | 2 |
| 10 | Rear volute casing | 26905206 | 2 |
| 11 | Centrifugal fan | 10425200 | 2 |
| 12 | Transformer | 43110233 | 1 |
| 13 | Terminal Board | 420111041 | 1 |
| 14 | Main Board | 30226339 | 1 |
| 15 | Capacitor | 33010020 | 1 |
| 16 | Electric Box Sub-Assy | 01395100 | 1 |
| 17 | Electric Box assy | 01395980 | 1 |
| 18 | Electric Box Cover | 01424253 | 1 |
| 19 | Cover Plate of the Fan | 01265300 | 1 |
| 20 | Bottom Cover Plate | 01265299 | 1 |
| 21 | Supporter | 01895225 | 1 |
| 22 | Bar Clasp | 70818405 | 1 |
| 23 | Fan Motor | 1570520102 | 1 |
| 24 | Supporter | 01805288 | 1 |
| 25 | Fan Mounting Plate Assy | 01325312 | 1 |
| 26 | Right Side Plate Assy | 01315335 | 1 |
| 27 | Display Board | 30296317 | 1 |
| 28 | Ambient Temperature Sensor | 39000206 | 1 |
| 29 | Temperature Sensor | 390001982G | 1 |
| 30 | Water Pump Assy | 15405241 | 1 |
| 31 | Water Level Switch | 45010201 | 1 |
| 32 | Water Pump | 43130324 | 1 |
| 33 | Remote Controller | 305100492 | 1 |

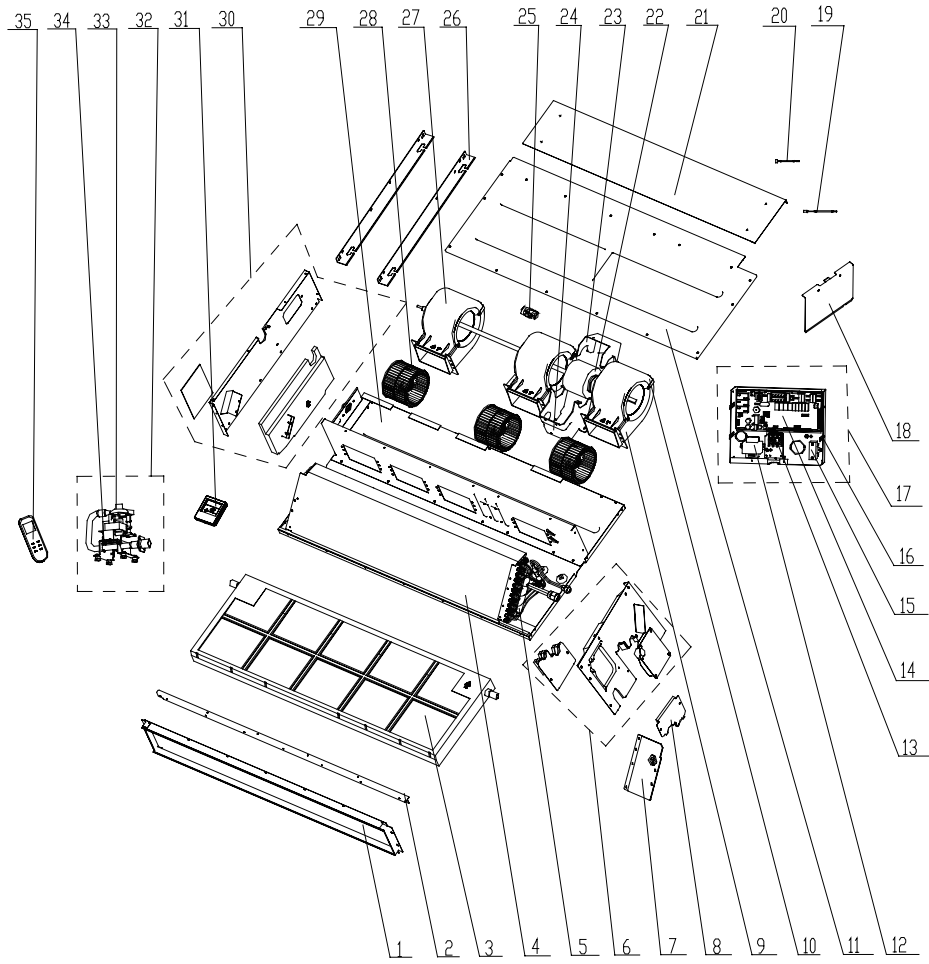
Model: GFH(12)EA-D3DNA1A/I



Part list: GFH(12)EA-D3DNA1A/I for CN210N0060

| NO. | Description | GFH(12)EA-D3DNA1A/I | |
|-----|----------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Air outlet frame assy | 01865216 | 1 |
| 2 | Cover of air outlet | 01265298 | 1 |
| 3 | Water Tray Assy | 01285332 | 1 |
| 4 | Top Cover Board Assy | 01265325 | 1 |
| 5 | Evaporator Assy | 01024905 | 1 |
| 6 | Plate of the Evaporator Sub-Assy | 01495317 | 1 |
| 7 | Left Side Plate Assy | 01315334 | 1 |
| 8 | Plate of the Exit Tube Sub-Assy | 01495316 | 1 |
| 9 | Front volute casing | 26905205 | 2 |
| 10 | Rear volute casing | 26905206 | 2 |
| 11 | Centrifugal fan | 10425200 | 2 |
| 12 | Transformer | 43110233 | 1 |
| 13 | Terminal Board | 420111041 | 1 |
| 14 | Main Board | 30226338 | 1 |
| 15 | Capacitor | 33010027 | 1 |
| 16 | Electric Box Sub-Assy | 01395100 | 1 |
| 17 | Electric Box assy | 01395983 | 1 |
| 18 | Electric Box Cover | 01424253 | 1 |
| 19 | Cover Plate of the Fan | 01265300 | 1 |
| 20 | Bottom Cover Plate | 01265299 | 1 |
| 21 | Supporter | 01895225 | 1 |
| 22 | Bar Clasp | 70818405 | 1 |
| 23 | Fan Motor | 1570520104 | 1 |
| 24 | Supporter | 01805288 | 1 |
| 25 | Fan Mounting Plate Assy | 0132531201 | 1 |
| 26 | Right Side Plate Assy | 01315335 | 1 |
| 27 | Display Board | 30296317 | 1 |
| 28 | Ambient Temperature Sensor | 39000206 | 1 |
| 29 | Temperature Sensor | 390001982G | 1 |
| 30 | Water Pump Assy | 15405241 | 1 |
| 31 | Water Level Switch | 45010201 | 1 |
| 32 | Water Pump | 43130324 | 1 |
| 33 | Remote Controller | 305100492 | 1 |

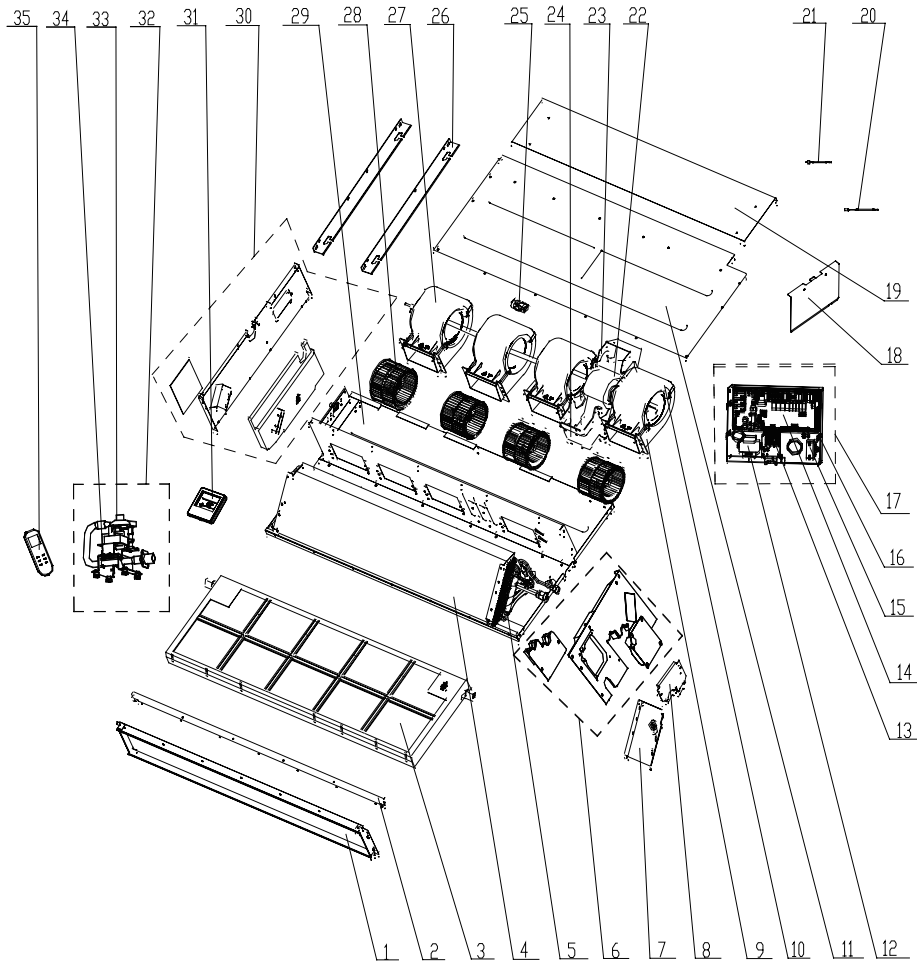
Model: GFH(18)EA-D3DNA1A/I



Part list: GFH(18)EA-D3DNA1A/I for CN210N0080

| NO. | Description | GFH(18)EA-D3DNA1A/I | |
|-----|----------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Air outlet frame assy | 01865217 | 1 |
| 2 | Cover of air outlet | 01265331 | 1 |
| 3 | Water Tray Assy | 01285333 | 1 |
| 4 | Evaporator Assy | 01024268 | 1 |
| 5 | Lower Cover Plate Sub-Assy | 01265328 | 1 |
| 6 | Left Side Plate Assy | 01315334 | 1 |
| 7 | Plate of the Evaporator Sub-Assy | 01495317 | 1 |
| 8 | Plate of the Exit Tube Sub-Assy | 01495316 | 1 |
| 9 | Front volute casing | 26905205 | 3 |
| 10 | Rear volute casing | 26905206 | 3 |
| 11 | Bottom Cover Plate | 80050053 | 1 |
| 12 | Transformer | 43110233 | 1 |
| 13 | Terminal Board | 420111041 | 1 |
| 14 | Main Board | 30226338 | 1 |
| 15 | Capacitor | 33010027 | 1 |
| 16 | Electric Box Sub-Assy | 01395100 | 1 |
| 17 | Electric Box assy | 01395984 | 1 |
| 18 | Electric Box Cover | 01424253 | 1 |
| 19 | Temperature Sensor | 39000206 | 1 |
| 20 | Ambient Temperature Sensor | 39000206 | 1 |
| 21 | Cover Plate of the Fan | 01265333 | 1 |
| 22 | Fan Motor | 15705218 | 1 |
| 23 | Bar Clasp | 70818405 | 1 |
| 24 | Supporter | 01805288 | 1 |
| 25 | Joint Slack | 73018731 | 1 |
| 26 | Supporter | 01895225 | 1 |
| 27 | Rotary Axis Sub-Assy | 73018731 | 1 |
| 28 | Centrifugal fan | 10425200 | 3 |
| 29 | Fan Mounting Plate Assy | 01325314 | 1 |
| 30 | Right Side Plate Assy | 01305263 | 1 |
| 31 | Display Board | 30296317 | 1 |
| 32 | Water Pump Assy | 15405241 | 1 |
| 33 | Water Level Switch | 45010201 | 1 |
| 34 | Water Pump | 43130324 | 1 |
| 35 | Remote Controller | 305100492 | 1 |

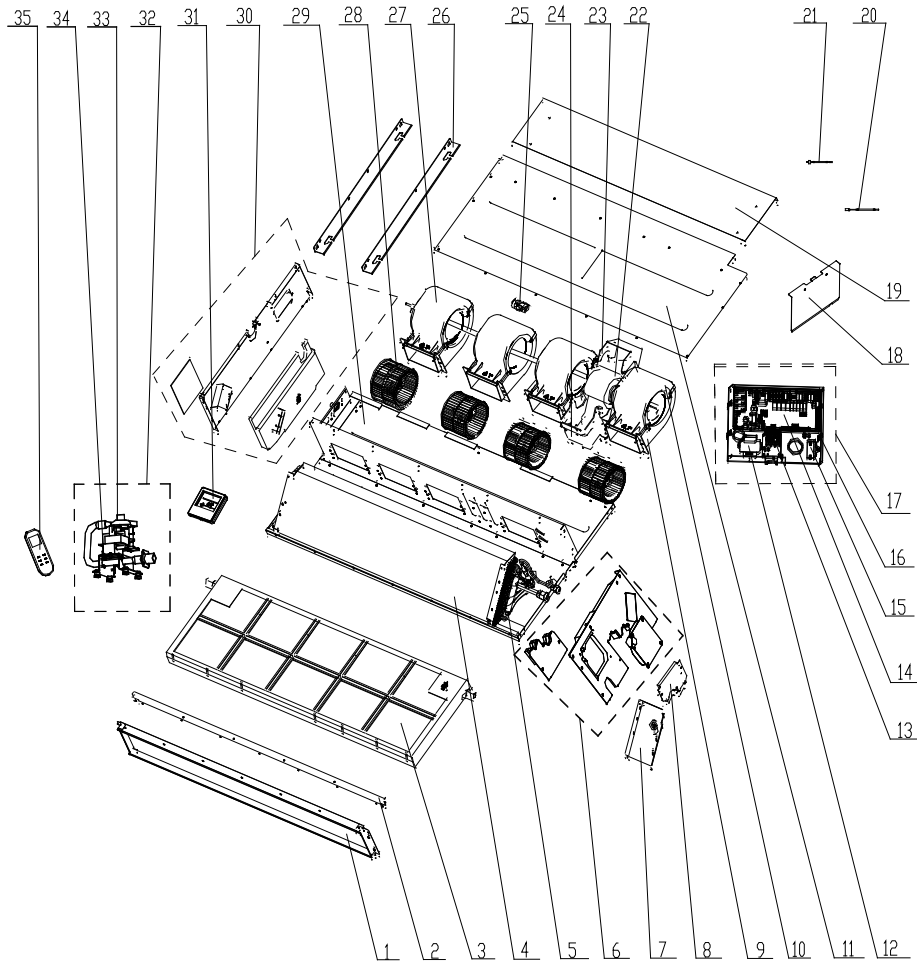
Model: GFH(21)EA-D3DNA1A/I



Part list: GFH(21)EA-D3DNA1A/I for CN210N0090

| NO. | Description | GFH(21)EA-D3DNA1A/I | |
|-----|----------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Air outlet frame assy | 01375224 | 1 |
| 2 | Cover of air outlet | 01265335 | 1 |
| 3 | Water Tray Assy | 01285334 | 1 |
| 4 | Evaporator Assy | 01024269 | 1 |
| 5 | Lower Cover Plate Sub-Assy | 01265339 | 1 |
| 6 | Left Side Plate Assy | 01315334 | 1 |
| 7 | Plate of the Evaporator Sub-Assy | 01495317 | 1 |
| 8 | Plate of the Exit Tube Sub-Assy | 01495316 | 1 |
| 9 | Front volute casing | 26905205 | 3 |
| 10 | Rear volute casing | 26905206 | 3 |
| 11 | Bottom Cover Plate | 01265337 | 1 |
| 12 | Transformer | 43110233 | 1 |
| 13 | Terminal Board | 420111041 | 1 |
| 14 | Main Board | 30226338 | 1 |
| 15 | Capacitor | 33010027 | 1 |
| 16 | Electric Box Sub-Assy | 01395100 | 1 |
| 17 | Electric Box assy | 01395985 | 1 |
| 18 | Electric Box Cover | 01424253 | 1 |
| 19 | Cover Plate of the Fan | 01265338 | 1 |
| 20 | Temperature Sensor | 39000206 | 1 |
| 21 | Ambient Temperature Sensor | 390001982G | 1 |
| 22 | Fan Motor | 1570411102 | 1 |
| 23 | Bar Clasp | 70818405 | 1 |
| 24 | Supporter | 01805288 | 1 |
| 25 | Joint Slack | 73018731 | 1 |
| 26 | Supporter | 01895225 | 1 |
| 27 | Rotary Axis Sub-Assy | 73018022 | 1 |
| 28 | Centrifugal fan | 10425200 | 3 |
| 29 | Fan Mounting Plate Assy | 01325316 | 1 |
| 30 | Right Side Plate Assy | 01305263 | 1 |
| 31 | Display Board | 30296317 | 1 |
| 32 | Water Pump Assy | 15405241 | 1 |
| 33 | Water Level Switch | 45010201 | 1 |
| 34 | Water Pump | 43130324 | 1 |
| 35 | Remote Controller | 305100492 | 1 |

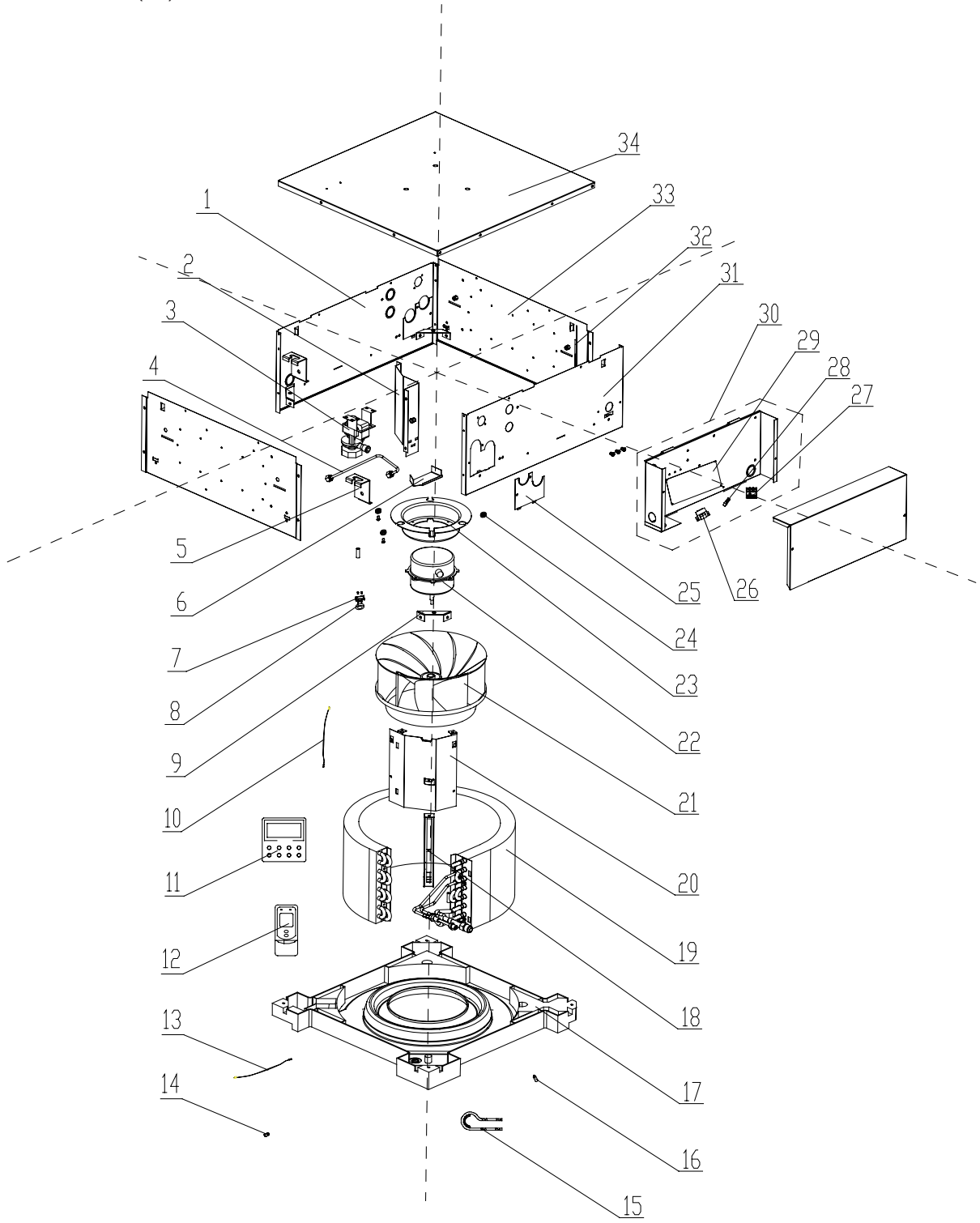
Model: GFH(24)EA-D3DNA1A/I



Part list: GFH(24)EA-D3DNA1A/I for CN210N0100

| NO. | Description | GFH(21)EA-D3DNA1A/I | |
|-----|----------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Air outlet frame assy | 01375224 | 1 |
| 2 | Cover of air outlet | 01265335 | 1 |
| 3 | Water Tray Assy | 01285334 | 1 |
| 4 | Evaporator Assy | 01024269 | 1 |
| 5 | Lower Cover Plate Sub-Assy | 01265339 | 1 |
| 6 | Left Side Plate Assy | 01315334 | 1 |
| 7 | Plate of the Evaporator Sub-Assy | 01495317 | 1 |
| 8 | Plate of the Exit Tube Sub-Assy | 01495316 | 1 |
| 9 | Front volute casing | 26905205 | 3 |
| 10 | Rear volute casing | 26905206 | 3 |
| 11 | Bottom Cover Plate | 01265337 | 1 |
| 12 | Transformer | 43110233 | 1 |
| 13 | Terminal Board | 420111041 | 1 |
| 14 | Main Board | 30226338 | 1 |
| 15 | Capacitor | 33010027 | 1 |
| 16 | Electric Box Sub-Assy | 01395100 | 1 |
| 17 | Electric Box assy | 01395985 | 1 |
| 18 | Electric Box Cover | 01424253 | 1 |
| 19 | Cover Plate of the Fan | 01265338 | 1 |
| 20 | Temperature Sensor | 39000206 | 1 |
| 21 | Ambient Temperature Sensor | 390001982G | 1 |
| 22 | Fan Motor | 1570411102 | 1 |
| 23 | Bar Clasp | 70818405 | 1 |
| 24 | Supporter | 01805288 | 1 |
| 25 | Joint Slack | 73018731 | 1 |
| 26 | Supporter | 01895225 | 1 |
| 27 | Rotary Axis Sub-Assy | 73018022 | 1 |
| 28 | Centrifugal fan | 10425200 | 3 |
| 29 | Fan Mounting Plate Assy | 01325316 | 1 |
| 30 | Right Side Plate Assy | 01305263 | 1 |
| 31 | Display Board | 30296317 | 1 |
| 32 | Water Pump Assy | 15405241 | 1 |
| 33 | Water Level Switch | 45010201 | 1 |
| 34 | Water Pump | 43130324 | 1 |
| 35 | Remote Controller | 305100492 | 1 |

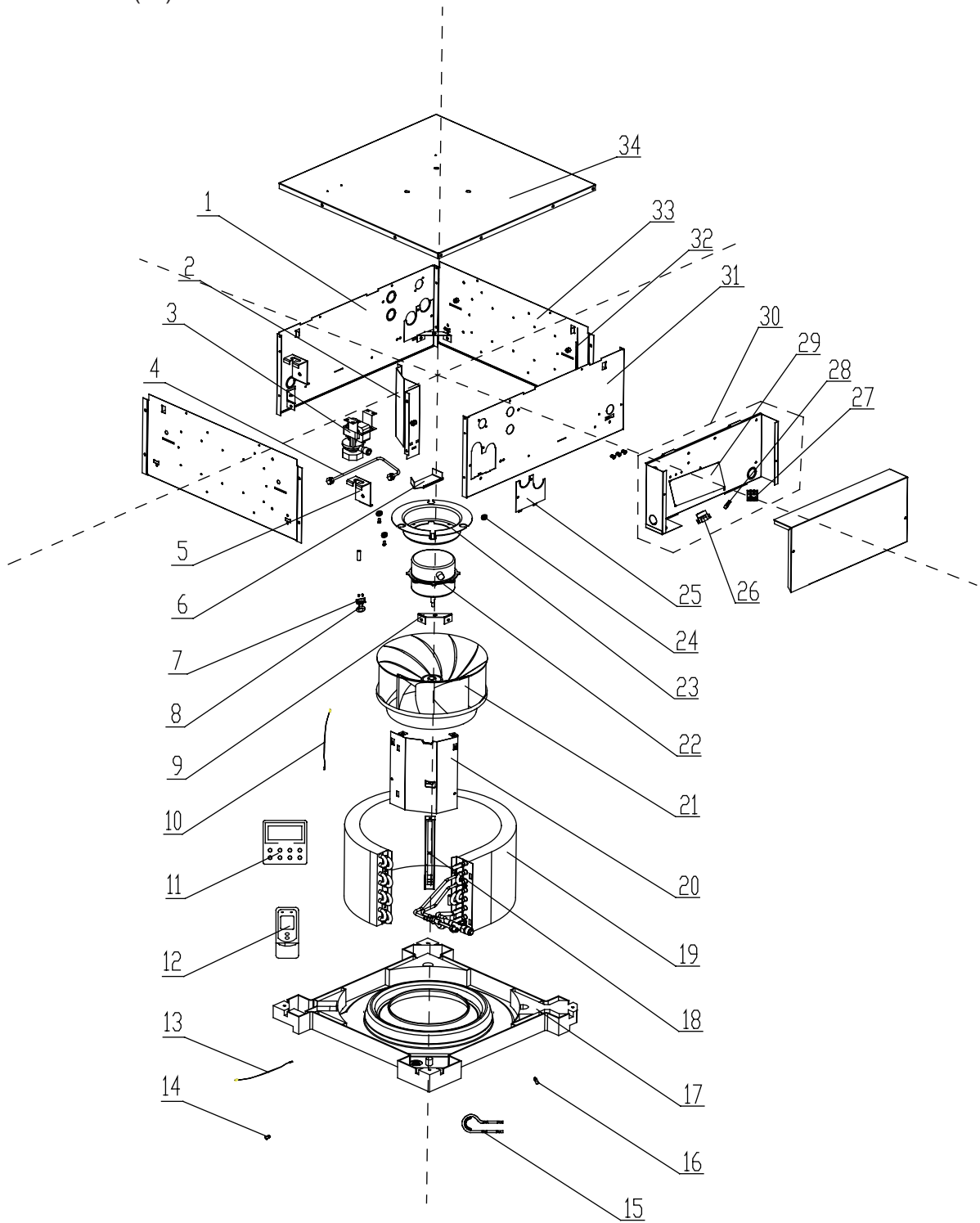
Cassette type
Models: GKH(12)BA-D3DNA2A/I



Part list: GKH(12)BA-D3DNA2A/I for CN510N0060

| NO. | Description | GKH(12)BA-D3DNA2A/I | |
|-----|-----------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Front Side Plate | 01302741 | 1 |
| 2 | Right Baffle Assy | 01362704 | 1 |
| 3 | Water Pump | 43130320 | 1 |
| 4 | Pump Drainpipe | 05232722 | 1 |
| 5 | Body Installing Support | 01332705 | 4 |
| 6 | Pump Support Assy | 01332708 | 1 |
| 7 | Water Level Switch Support | 24212705 | 1 |
| 8 | Water Level Switch | 450127011 | 1 |
| 9 | Water Tray Support | 01332706 | 4 |
| 10 | Temperature Sensor | 390001982G | 1 |
| 11 | Display Board | 30296317 | 1 |
| 12 | Remote Controller | 305100492 | 1 |
| 13 | Ambient Temperature Sensor | 3900019813 | 1 |
| 14 | Filter Sub-Assy | 11120011 | 1 |
| 15 | Clamp (power cord) | 71010105 | 1 |
| 16 | Filter Sub-Assy | 11120012 | 1 |
| 17 | Water Tray Assy | 20182704 | 1 |
| 18 | Evaporator Support | 01072714 | 1 |
| 19 | Evaporator Assy | 01024307 | 1 |
| 20 | Evaporator Connection Board | 01072713 | 1 |
| 21 | Centrifugal Fan | 10312702 | 1 |
| 22 | Fan Motor | 1570411401 | 1 |
| 23 | Motor Support | 01702702 | 1 |
| 24 | Motor Gasket | 76712705 | 3 |
| 25 | Tube Exit Plate Assy | 01382719 | 1 |
| 26 | Transformer | 43118007 | 1 |
| 27 | Terminal Board | 420111041 | 1 |
| 28 | Capacitor CBB61 | 33010089 | 1 |
| 29 | Main Board | 30226354 | 1 |
| 30 | Electric Box Assy | 01399536 | 1 |
| 31 | Front Side Plate | 01314211 | 1 |
| 32 | Pass WirePlate | 01362701 | 1 |
| 33 | Right Side Plate Sub-Assy | 01302743 | 2 |
| 34 | Seat Board Sub-Assy | 01222712 | 1 |

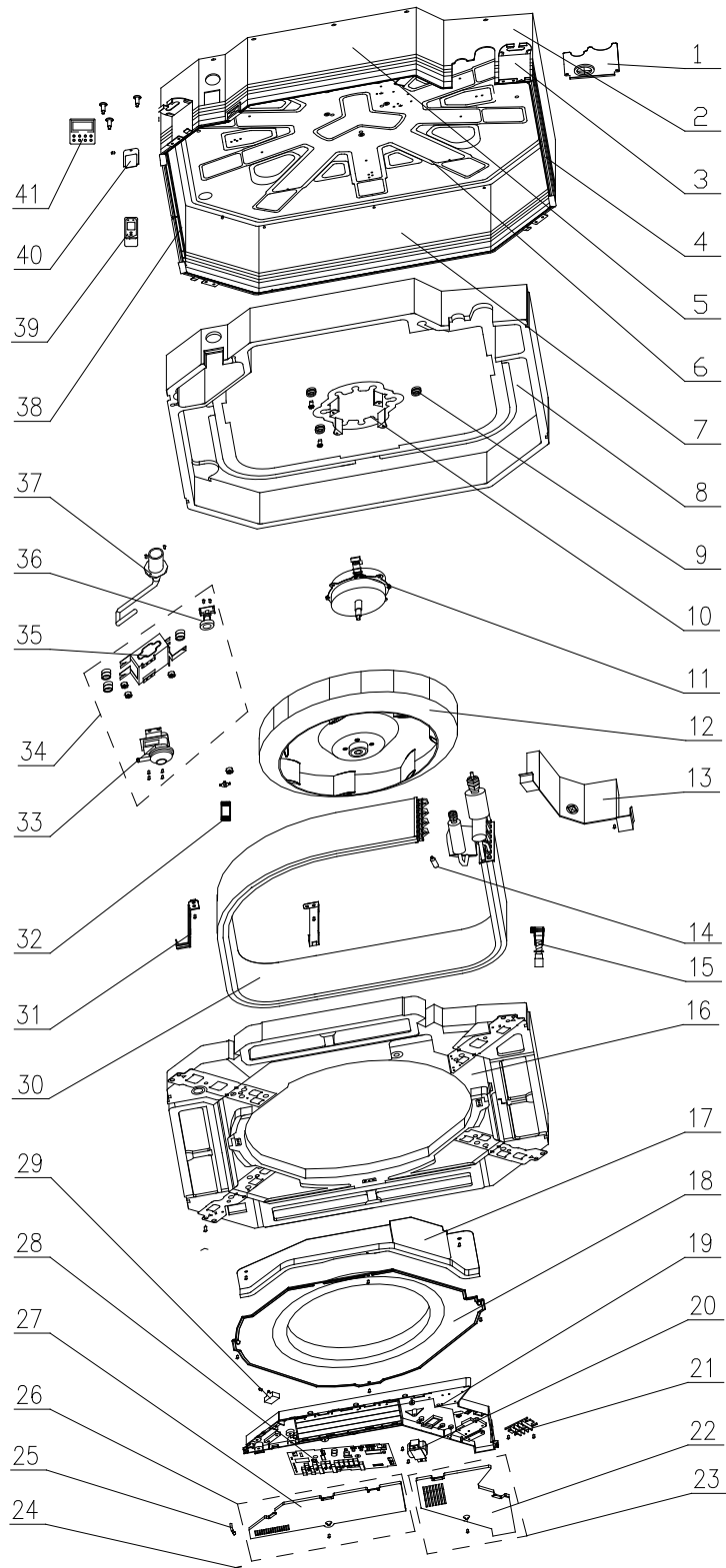
Models: GKH(18)BA-D3DNA2A/I



Part list: GKH(18)BA-D3DNA2A/I for CN510N0070

| NO. | Description | GKH(18)BA-D3DNA2A/I | |
|-----|-----------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Front Side Plate | 01302741 | 1 |
| 2 | Right Baffle Assy | 01362704 | 1 |
| 3 | Water Pump | 43130320 | 1 |
| 4 | Pump Drainpipe | 05232722 | 1 |
| 5 | Body Installing Support | 01332705 | 4 |
| 6 | Water Level Switch Support | 24212705 | 1 |
| 7 | Pump Support Assy | 01332708 | 1 |
| 8 | Water Level Switch | 450127011 | 1 |
| 9 | Water Tray Support | 01332706 | 4 |
| 10 | Temperature Sensor | 390001982G | 1 |
| 11 | Display Board | 30296317 | 1 |
| 12 | Remote Controller | 305100492 | 1 |
| 13 | Ambient Temperature Sensor | 3900019813 | 1 |
| 14 | Filter Sub-Assy | 11120011 | 1 |
| 15 | Clamp (power cord) | 71010105 | 1 |
| 16 | Filter Sub-Assy | 11128633 | 1 |
| 17 | Water Tray Assy | 20182704 | 1 |
| 18 | Evaporator Support | 01072714 | 1 |
| 19 | Evaporator Assy | 0102430701 | 1 |
| 20 | Evaporator Connection Board | 01072713 | 1 |
| 21 | Centrifugal Fan | 10312702 | 1 |
| 22 | Fan Motor | 1570411401 | 1 |
| 23 | Motor Support | 01702702 | 1 |
| 24 | Motor Gasket | 76712705 | 3 |
| 25 | Tube Exit Plate Assy | 01382719 | 1 |
| 26 | Transformer | 43118007 | 1 |
| 27 | Terminal Board | 420111041 | 1 |
| 28 | Capacitor CBB61 | 33010089 | 1 |
| 29 | Main Board | 30226354 | 1 |
| 30 | Electric Box Assy | 01399536 | 1 |
| 31 | Front Side Plate | 01314211 | 1 |
| 32 | Pass WirePlate | 01362701 | 1 |
| 33 | Right Side Plate Sub-Assy | 01302743 | 2 |
| 34 | Seat Board Sub-Assy | 01222712 | 1 |

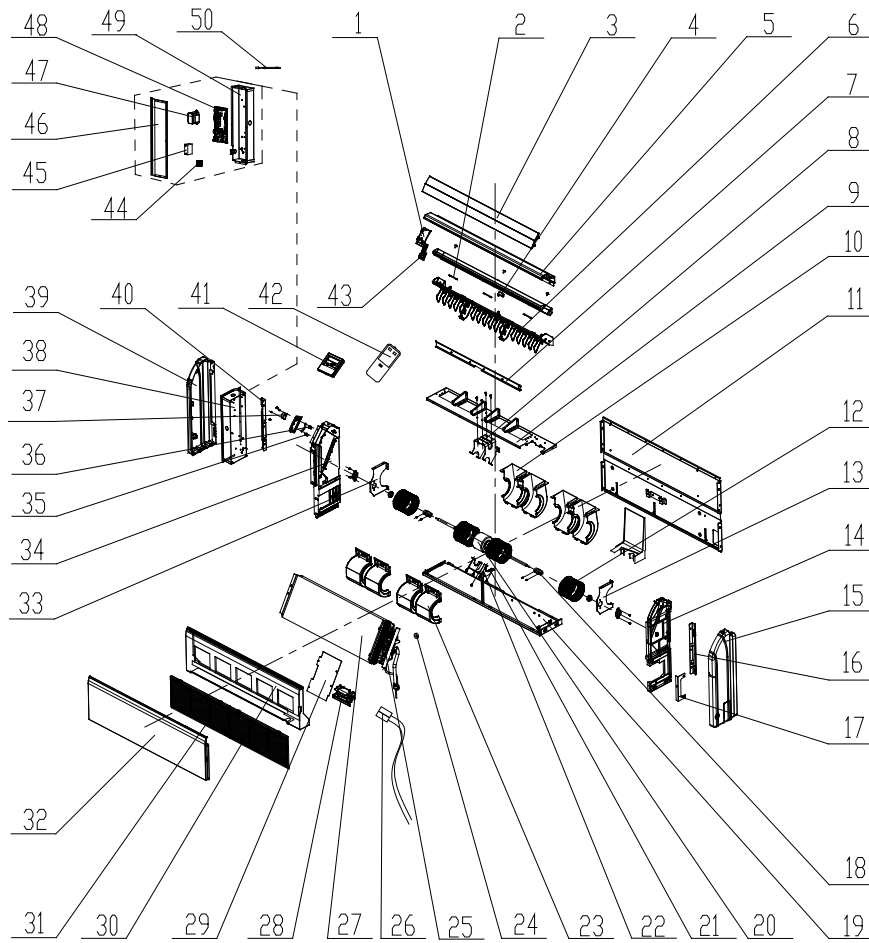
Model: GKH(24)BA-D3DNA1A/I



Part list: GKH(24)BA-D3DNA1A/I for CN510N0080

| NO. | Description | GKH(24)BA-D3DNA1A/I | |
|-----|------------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Tube Exit Plate Assy | 01382715 | 1 |
| 2 | Shell Assy | 01432704 | 1 |
| 3 | Body Installing Plate | 01332701 | 1 |
| 4 | Front Side Plate Assy | 01302718 | 1 |
| 5 | Left Side Plate Assy | 01302715 | 1 |
| 6 | Base Plate Assy | 01222701 | 1 |
| 7 | Rear Side Plate Assy | 01302714 | 1 |
| 8 | Bottom Foam Assy | 52012722 | 1 |
| 9 | Motor Gasket | 76712711 | 4 |
| 10 | Motor support | 01702701 | 1 |
| 11 | Fan Motor | 15704102 | 1 |
| 12 | Centrifugal Fan | 10312705 | 1 |
| 24 | Temperature Sensor | 390001982G | 1 |
| 37 | Pump Drainpipe | 05230026 | 1 |
| 38 | Right Side Plate Assy | 01302716 | 1 |
| 39 | Remote Controller | 305125063 | 1 |
| 13 | Connected Board Assy Of Evaporator | 01074042 | 1 |
| 14 | Filter Sub-Assy | 07210028 | 1 |
| 15 | Drain Hose Sub-Assy | 05232702 | 1 |
| 16 | Water Tray Assy | 20182701 | 1 |
| 17 | Electric Base Plate | 01412721 | 1 |
| 18 | Diversion Circle | 10372701 | 1 |
| 19 | Electric Box Assy | 01399520 | 1 |
| 20 | Transformer | 43110233 | 1 |
| 21 | Terminal Board | 42011222 | 1 |
| 22 | Electric Box Cover I | 20102702 | 1 |
| 23 | Electric Box Cover Sub-Assy1 | 20122054 | 1 |
| 25 | Ambient Temperature Sensor | 390000453 | 1 |
| 26 | Electric Box Cover Sub-Assy2 | 20122055 | 1 |
| 27 | Electric Box Cover II | 20102703 | 1 |
| 28 | Main Board | 30226340 | 1 |
| 29 | Capacitor CBB61 | 33010027 | 1 |
| 30 | Evaporator Assy | 01004641 | 1 |
| 31 | Evaporator Support Assy | 01072703 | 2 |
| 32 | Magnetic Ring | 49010104 | 1 |
| 33 | Water Pump | 43130324 | 1 |
| 34 | Water Pump Assy | 01332752 | 1 |
| 35 | Pump Support | 01332702 | 1 |
| 36 | Water Level Switch | 45010201 | 1 |
| 40 | Pump Cover Board Assy | 01252713 | 1 |
| 41 | Display Board | 30296317 | 1 |

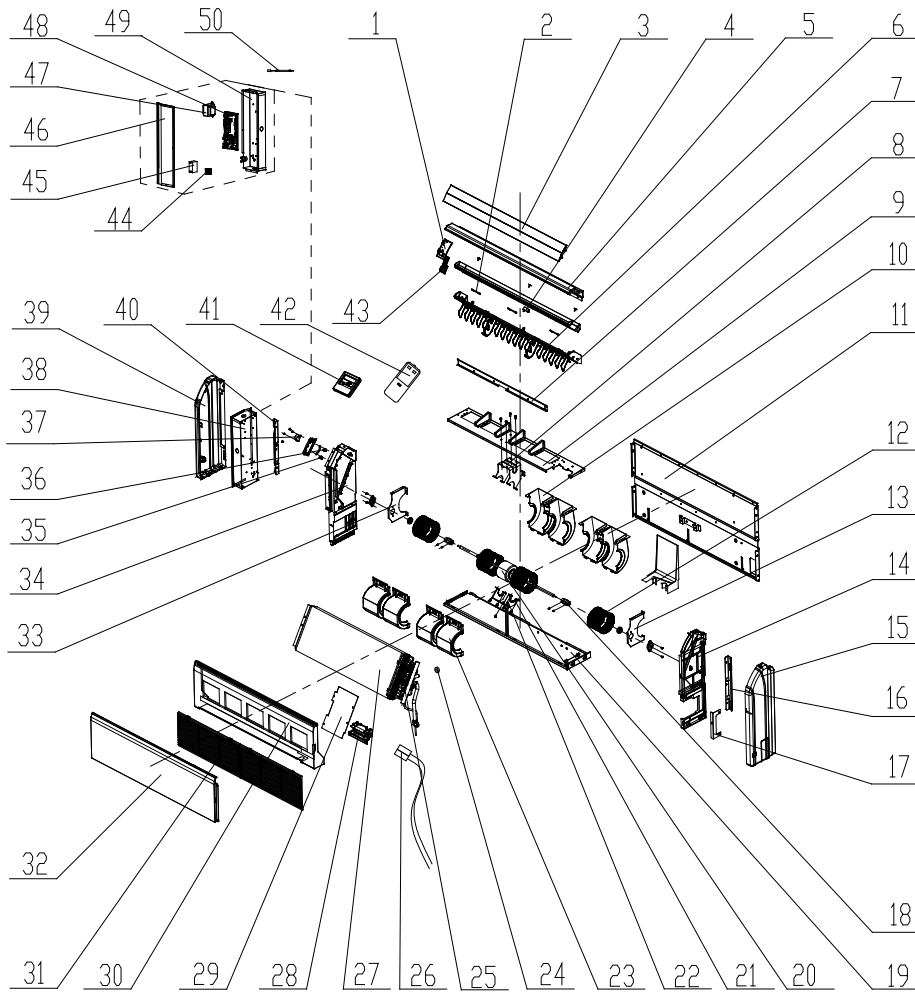
Floor ceiling type
Models: GTH(09)BA-D3DNA1A/I



Part list: GTH(09)BA-D3DNA1A/I for CN610N0060

| NO. | Description | GTH(09)BA-D3DNA1A/I | |
|-----|---------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Fixed Mount | 26909426R | 1 |
| 2 | Louver Clamp | 26112127 | 2 |
| 3 | Guide Louver | 10619403 | 1 |
| 4 | Rotating Shaft | 26909430 | 4 |
| 5 | Front Connecting Plate | 01349414P | 1 |
| 6 | Base Frame | 26909448 | 1 |
| 7 | Air Lead Plate sub-assy | 02229418 | 1 |
| 8 | Supporter | 01805288 | 1 |
| 9 | Mid-clapboard sub-assy | 01249416 | 1 |
| 10 | Front volute casing | 26905205 | 4 |
| 11 | Rear side plate assy | 01319430 | 1 |
| 12 | Centrifugal fan | 10425200 | 4 |
| 13 | Support 1 | 01809417 | 1 |
| 14 | Right Side Plate Sub-Assy | 01319429 | 1 |
| 15 | Right Cover Plate | 26909444 | 1 |
| 16 | Installation Supporting Frame | 01809402 | 1 |
| 17 | Connection Board | 02229406 | 1 |
| 18 | Joint Slack | 73018731 | 2 |
| 19 | Rear Connecting Plate | 01349416 | 1 |
| 20 | Fan Motor | 1570940901 | 1 |
| 21 | Bar Clasp | 70818405 | 1 |
| 22 | Bar Clasp Sub-assy | 70815201 | 1 |
| 23 | Rear volute casing | 26905206 | 4 |
| 24 | Cable-Cross Loop | 76510021 | 1 |
| 25 | Filter 2 | 07216221 | 1 |
| 26 | Sensor | 3900020723 | 1 |
| 27 | Evaporator Assy | 01029482 | 1 |
| 28 | Press Plate of Water Lead flume | 26909442 | 1 |
| 29 | Connection Board | 01344115 | 1 |
| 30 | Water Tray Assy | 01289404 | 1 |
| 31 | Front Grill sub-assy | 01579403 | 1 |
| 32 | Top Cover Board Sub-assy | 01269409 | 1 |
| 33 | Support 2 | 01809418 | 1 |
| 34 | Left Side Plate Sub-Assy | 0131942801 | 1 |
| 35 | Rotating Shaft | 26909412 | 1 |
| 36 | Rotating Shaft | 26909413 | 1 |
| 37 | Step Motor | 1521240206 | 1 |
| 38 | Electric Box Assy | 01399517 | 1 |
| 39 | Left Cover Plate | 26909443 | 1 |
| 40 | Installation Supporting Frame | 01809401 | 1 |
| 41 | Display Board | 30296317 | 1 |
| 42 | Remote Controller | 305100492 | 1 |
| 43 | Display Board | 30294220 | 1 |
| 44 | Terminal Board | 42010178 | 1 |
| 45 | Capacitor CBB61 | 33010089 | 1 |
| 46 | Electric Box Cover | 01429420 | 1 |
| 47 | Transformer | 4311023701 | 1 |
| 48 | Main Board | 30226350 | 1 |
| 49 | Electric Box | 01429419 | 1 |
| 50 | Room Sensor | 39000191 | 1 |

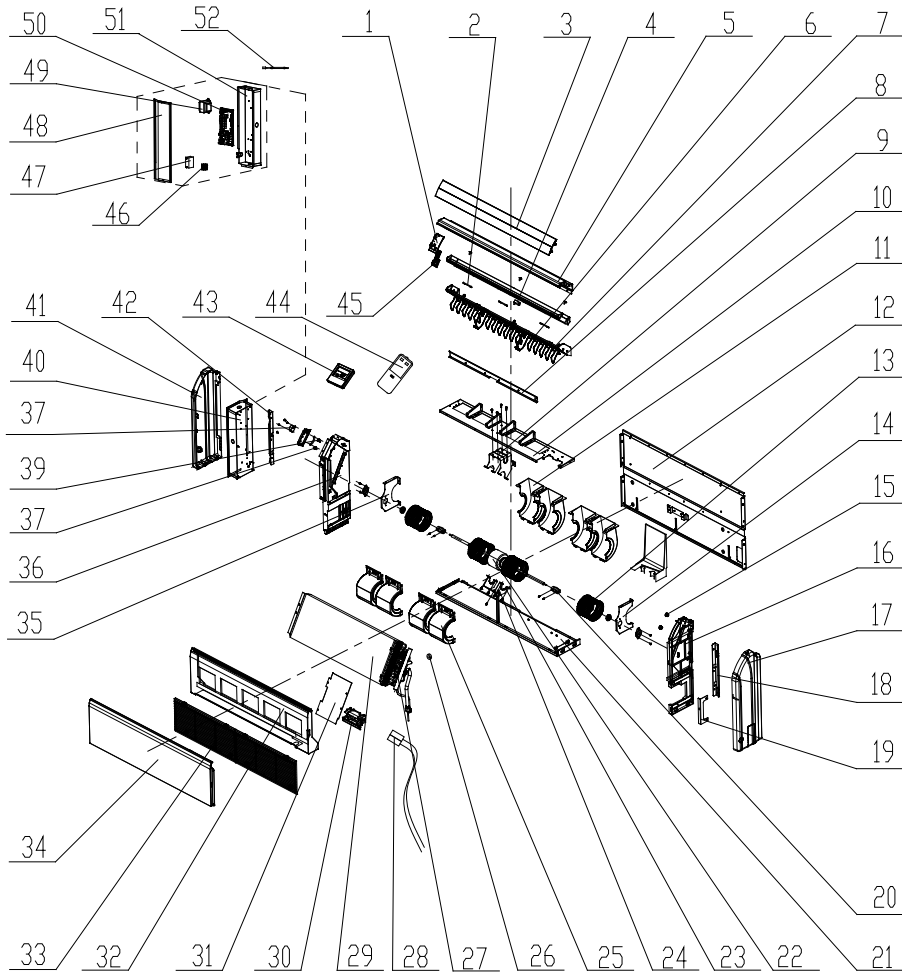
Models: GTH(12)BA-D3DNA1A/I



Part list: GTH(12)BA-D3DNA1A/I for CN610N0070

| NO. | Description | GTH(12)BA-D3DNA1A/I | |
|-----|---------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Fixed Mount | 26909426R | 1 |
| 2 | Louver Clamp | 26112127 | 2 |
| 3 | Guide Louver | 10619403 | 1 |
| 4 | Rotating Shaft | 26909430 | 4 |
| 5 | Front Connecting Plate | 01349414P | 1 |
| 6 | Base Frame | 26909448 | 1 |
| 7 | Air Lead Plate sub-assy | 02229418 | 1 |
| 8 | Supporter | 01805288 | 1 |
| 9 | Mid-clapboard sub-assy | 01249416 | 1 |
| 10 | Front volute casing | 26905205 | 4 |
| 11 | Rear side plate assy | 01319430 | 1 |
| 12 | Centrifugal fan | 10425200 | 4 |
| 13 | Support 1 | 01809417 | 1 |
| 14 | Right Side Plate Sub-Assy | 01319429 | 1 |
| 15 | Right Cover Plate | 26909444 | 1 |
| 16 | Installation Supporting Frame | 01809402 | 1 |
| 17 | Connection Board | 02229406 | 1 |
| 18 | Joint Slack | 73018731 | 2 |
| 19 | Rear Connecting Plate | 01349416 | 1 |
| 20 | Fan Motor | 1570940901 | 1 |
| 21 | Bar Clasp | 70818405 | 1 |
| 22 | Bar Clasp Sub-assy | 70815201 | 1 |
| 23 | Rear volute casing | 26905206 | 4 |
| 24 | Cable-Cross Loop | 76510021 | 1 |
| 25 | Filter 2 | 07216221 | 1 |
| 26 | Sensor | 3900020723 | 1 |
| 27 | Evaporator Assy | 01029475 | 1 |
| 28 | Press Plate of Water Lead flume | 26909442 | 1 |
| 29 | Connection Board | 01344115 | 1 |
| 30 | Water Tray Assy | 01289404 | 1 |
| 31 | Front Grill sub-assy | 01579403 | 1 |
| 32 | Top Cover Board Sub-assy | 01269409 | 1 |
| 33 | Support 2 | 01809418 | 1 |
| 34 | Left Side Plate Sub-Assy | 0131942801 | 1 |
| 35 | Rotating Shaft | 26909412 | 1 |
| 36 | Rotating Shaft | 26909413 | 1 |
| 37 | Step Motor | 1521240206 | 1 |
| 38 | Electric Box Assy | 01399517 | 1 |
| 39 | Left Cover Plate | 26909443 | 1 |
| 40 | Installation Supporting Frame | 01809401 | 1 |
| 41 | Display Board | 30296317 | 1 |
| 42 | Remote Controller | 305100492 | 1 |
| 43 | Display Board | 30294220 | 1 |
| 44 | Terminal Board | 42010178 | 1 |
| 45 | Capacitor CBB61 | 33010089 | 1 |
| 46 | Electric Box Cover | 01429420 | 1 |
| 47 | Transformer | 4311023701 | 1 |
| 48 | Main Board | 30226350 | 1 |
| 49 | Electric Box | 01429419 | 1 |
| 50 | Room Sensor | 39000191 | 1 |

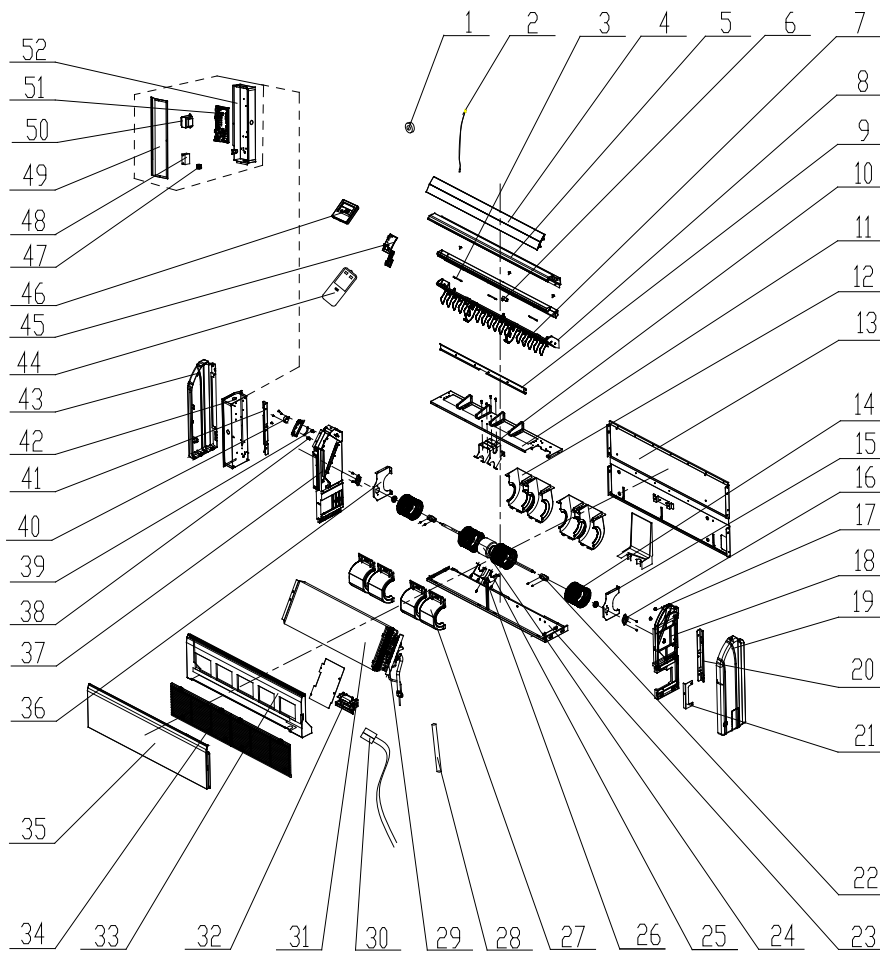
Models: GTH(18)BA-D3DNA1A/I



Part list: GTH(18)BA-D3DNA1A/I for CN610N0050

| NO. | Description | GTH(18)BA-D3DNA1A/I | |
|-----|---------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Fixed Mount | 26909426R | 1 |
| 2 | Louver Clamp | 26112127 | 2 |
| 3 | Guide Louver | 10619403 | 1 |
| 4 | Rotating Shaft | 26909430 | 4 |
| 5 | Front Connecting Plate | 01349414P | 1 |
| 6 | Air Louver | 10619404 | 16 |
| 7 | Base Frame | 26909448 | 1 |
| 8 | Air Lead Plate sub-assy | 02229418 | 1 |
| 9 | Supporter | 01805288 | 1 |
| 10 | Mid-clapboard sub-assy | 01249416 | 1 |
| 11 | Front volute casing | 26905205 | 4 |
| 12 | Rear side plate assy | 01319430 | 1 |
| 13 | Centrifugal fan | 10425200 | 4 |
| 14 | Support 1 | 01809417 | 1 |
| 15 | Axile Bush | 10542704 | 2 |
| 16 | Right Side Plate Sub-Assy | 01319429 | 1 |
| 17 | Right Cover Plate | 26909444 | 1 |
| 18 | Installation Supporting Frame | 01809402 | 1 |
| 19 | Connection Board | 02229406 | 1 |
| 20 | Joint Slack | 73018731 | 2 |
| 21 | Rear Connecting Plate | 01349416 | 1 |
| 22 | Fan Motor | 1570940901 | 1 |
| 23 | Bar Clasp | 70818405 | 1 |
| 24 | Bar Clasp Sub-assy | 70815201 | 1 |
| 25 | Rear volute casing | 26905206 | 4 |
| 26 | Cable-Cross Loop | 76510021 | 1 |
| 27 | Filter 2 | 07216221 | 1 |
| 28 | Sensor | 3900020723 | 1 |
| 29 | Evaporator Assy | 01029469 | 1 |
| 30 | Press Plate of Water Lead flume | 26909442 | 1 |
| 31 | Connection Board | 01344115 | 1 |
| 32 | Water Tray Assy | 01289404 | 1 |
| 33 | Front Grill sub-assy | 01579403 | 1 |
| 34 | Top Cover Board Sub-assy | 01269409 | 1 |
| 35 | Support 2 | 01809418 | 1 |
| 36 | Left Side Plate Sub-Assy | 0131942801 | 1 |
| 37 | Rotating Shaft | 26909412 | 1 |
| 38 | Rotating Shaft | 26909413 | 1 |
| 39 | Step Motor | 1521240206 | 1 |
| 40 | Electric Box Assy | 01399511 | 1 |
| 41 | Left Cover Plate | 26909443 | 1 |
| 42 | Installation Supporting Frame | 01809401 | 1 |
| 43 | Display Board | 30296317 | 1 |
| 44 | Remote Controller | 305100492 | 1 |
| 45 | Display Board | 30294220 | 1 |
| 46 | Terminal Board | 42010178 | 1 |
| 47 | Capacitor CBB61 | 33010026 | 1 |
| 48 | Electric Box Cover | 01429420 | 1 |
| 49 | Transformer | 4311023701 | 1 |
| 50 | Main Board | 30226350 | 1 |
| 51 | Electric Box | 01429419 | 1 |
| 52 | Room Sensor | 39000191 | 1 |

Model: GTH(24)BA-D3DNA1A/I



Part list: GTH(18)BA-D3DNA1A/I for CN610N0080

| NO. | Description | GTH(24)BA-D3DNA1A/I | |
|-----|---------------------------------|---------------------|-----|
| | | Code | Qty |
| 1 | Cable-Cross Loop | 76510021 | 4 |
| 2 | Room Sensor | 39000191 | 1 |
| 3 | Louver Clamp | 26112127 | 2 |
| 4 | Guide Louver | 10619403 | 2 |
| 5 | Front Connecting Plate | 01349414P | 1 |
| 6 | Rotating Shaft | 26909340 | 4 |
| 7 | Air Louver | 10699404 | 16 |
| 8 | Base Frame | 26909448 | 1 |
| 9 | Induced air plate subassembly | 02229418 | 1 |
| 10 | Supporter | 01805288 | 1 |
| 11 | Mid-clapboard sub-assy | 01249416 | 1 |
| 12 | Front volute casing | 26905205 | 4 |
| 13 | Rear side plate assy | 01319430 | 1 |
| 14 | Centrifugal fan | 10425200 | 4 |
| 15 | Supporter | 01809417 | 1 |
| 16 | Support Of Motor Bearing | 01792408 | 2 |
| 17 | Axile Bush | 10542704 | 2 |
| 18 | Right Side Plate Sub-Assy | 01319429 | 1 |
| 19 | Right Cover Plate | 26909444 | 1 |
| 20 | Installation Supporting Frame | 01809402 | 1 |
| 21 | Connection Board | 02229406 | 1 |
| 22 | Joint Slack | 73018731 | 2 |
| 23 | Rear Connecting Plate | 01349416 | 1 |
| 24 | Fan Motor | 15709409 | 1 |
| 25 | Bar Clasp | 70818405 | 1 |
| 26 | Hoop subassembly | 70815201 | 1 |
| 27 | Rear volute casing | 26905205 | 4 |
| 28 | Drainage Pipe Sub-assy | 05235434 | 1 |
| 29 | Filter | 07212001 | 1 |
| 30 | Temperature Sensor | 3900020723 | 1 |
| 31 | Evaporator Assy | 01029474 | 1 |
| 32 | Press Plate of Water Lead flume | 26909442 | 1 |
| 33 | Water Tray Assy | 01289404 | 1 |
| 34 | Front Grill sub-assy | 01579403 | 2 |
| 35 | Top Cover Board Sub-assy | 01269409 | 1 |
| 36 | Supporter | 01809418 | 1 |
| 37 | Left Side Plate Sub-Assy | 0131942801 | 1 |
| 38 | Rotating Shaft | 296909412 | 1 |
| 39 | Rotating Shaft | 12690941 | 3 |
| 40 | Step Motor | 1152124020 | 6 |
| 41 | Installation Supporting Frame | 01809401 | 1 |
| 42 | Electric Box Assy | 01399518 | 1 |
| 43 | Left Cover Plate | 26909443 | 1 |
| 44 | Remote Controller | 305100492 | 1 |
| 45 | Display Board | 30294220 | 1 |
| 46 | Display Board | 30296317 | 1 |
| 47 | Terminal Board | 42010178 | 1 |
| 48 | Capacitor CBB61 | 33010027 | 1 |
| 49 | Electric Box Cover | 01429420 | 1 |
| 50 | Transformer | 4311023701 | 1 |
| 51 | Main Board | 30226350 | 1 |
| 52 | Electric Box | 01429419 | 1 |

9 Troubleshooting

9.1 Trouble Table

⚠ WARNING!

a. In the event of abnormal conditions (like, stinky smell), please shut off the main power supply immediately and then contact the GREE appointed service center; otherwise the continuous abnormal running would damage the air conditioning unit and also would cause electric shock or fire hazard etc.

b. Do not repair the air conditioning personally but instead contact the professionally skilled personnel at the GREE appointed service center, as the incorrect repair would cause electric shock or fire hazard etc.

1) Please check the following items before contact the maintenance serviceman

| Conditions | Causes | Corrective Actions |
|-------------------------------------|---|---|
| The unit does not run | Broken fuse or opened breaker | Change the fuse or close the breaker |
| | Power off | Restart the unit when power on |
| | Loosened power supply plug. | Plug the power supply properly. |
| | Insufficient batteries voltage of the remote controller | Change new batteries |
| | Remoter controller out of the control scope | Keep the control distance within 8 meters. |
| The unit stops soon after it starts | Clogged inlet/outlet of the indoor/outdoor unit | Clear the obstacle |
| Cooling/Heating is abnormal | Clogged inlet/outlet of the indoor/outdoor unit | Clear the obstacle |
| | Improperly set temperature | Adjust the setting of the remote or wired controller. |
| | Too low set fan speed | Adjust the setting of the remote or wired controller. |
| | Incorrect air direction | Adjust the setting of the remote or wired controller. |
| | Opened door and window | Close the door and window |
| | Direct sunlight | Hang a curtain or blinds over the window. |
| | Too much people in the room | |
| | Too much heat sources in the room | Reduce the heat sources |
| | Dirty filter screen | Clean the filter screen |

Note:

If the air conditioner still runs abnormally after the above check and handling, please contact the maintenance serviceman at the local appointed service center and also give a description of the error occurred as well as the model of the unit

2) The conditions listed below are not classified into errors

| Conditions | Causes | |
|--------------------------|--|--|
| The unit does not run | When restart the unit soon after it is stopped. | The overload protection switch of the unit let the startup delayed for three minutes. |
| | As soon as power is on. | The unit will stand by for approximate one minute. |
| The unit blows out mist | When the cooling operation starts. | The hi-humidity air indoor is cooled quickly. |
| The unit generates noise | The unit "clatters" as soon as it starts running. | It is the sound generated during the initialization of the electronic expansion valve. |
| | The unit "swishes" during the cooling operation. | It the sound when the refrigerant gas runs inside the unit. |
| | The unit "swishes" when it is started or stopped. | It is the sound when the refrigerant gas stops running. |
| | The unit "swishes" when in it is and after the running. | It is the sound when the draining system is operating. |
| | The unit "squeaks" when it is in and after the running. | It is the sound of frication generated by the skin plate etc which swells due to the temperature change. |
| The unit blows out dust. | When the unit restarts after it is not used for a long time. | The dust inside the unit is blown out again. |
| The unit emits odors. | When the unit is running. | The odors absorbed in are blown out again. |

3) Error description

If some error occurs when the unit is running, the error code will be displayed on the wired controller and the main board of the outdoor unit. See the table below for more details about the meaning of each error.

| Error & Status Display List | | | | | | Indoor Unit (Floor/Ceiling) 88 Display | Wired Controller Display | Indoor and/or Outdoor Unit Error |
|--|--|-------------------------|-------------------------------|----------------|----------------|--|--------------------------|----------------------------------|
| Errors of Residential Air Conditioners | Errors of Commercial Air Conditioners | Outdoor Unit 88 Display | Indicating LED Flashing Times | | | | | |
| | | | Running LED | Cooling LED | Heating LED | | | |
| / | Defrosting Mode 1 | 08 | / | / | / | / | / | Outdoor |
| / | Defrosting Mode 2 | 0A | / | / | / | / | / | Outdoor |
| / | Whole Unit Running Normally | ON | / | / | / | / | / | Outdoor |
| Short/open circuit of the liquid valve temperature sensor | (Liquid Valve) Inlet Tube Temp Sensor Error | See Table 2 | / | Flash 19 times | / | b5 | B5 | Outdoor |
| Short/open circuit of the gas valve temperature sensor | (Air Valve) Outlet Tube Temp Sensor Error | See Table 2 | / | Flash 22 times | / | b7 | B7 | Outdoor |
| Refrigerant insufficiency or blockage protection (available for the residential outdoor unit) | / | F0 | / | Flash 10 times | / | F0 | F0 | Outdoor |
| Short/open circuit of the indoor ambient temperature sensor | Indoor Ambient Temp. Sensor Short/Open-Circuit | See Table 2 | / | Flash once | / | F1 | F1 | Indoor |
| Short/open circuit of the indoor evaporator | Indoor Evaporator Temp Sensor Short/Open-Circuit | See Table 2 | / | Flash twice | / | F2 | F2 | Indoor |
| Short/open circuit of the outdoor ambient temperature sensor | Outdoor Ambient Temp Sensor Error | F3 | / | Flash 3 times | / | F3 | F3 | Outdoor |
| Short/open circuit of the temperature sensor at the midway of the condenser coil (for the commercial unit) | Outdoor Mid-Coil Temp Sensor Error | F4 | / | Flash 4 times | / | F4 | F4 | Outdoor |
| Short/open circuit of the outdoor discharge temperature sensor | Outdoor Discharge Air Temp Sensor Error | F5 | / | Flash 5 times | / | F5 | F5 | Outdoor |
| Oil returning in cooling | Oil Return for Cooling | F7 | / | / | / | / | / | Outdoor |
| System high pressure protection | High Pressure Protection | E1 | Flash once | / | / | E1 | E1 | Outdoor |
| Anti-freezing protection | Shutdown for Whole Unit Anti-Freeze Protection | E2 | Flash twice | / | / | E2 | E2 | Indoor |
| System low pressure protection (reserved) | Low Pressure Protection | E3 | Flash 3 times | / | / | E3 | E3 | Outdoor |
| Compressor discharge high temperature protection | High Discharge Temp Protection | E4 | Flash 4 times | / | / | E4 | E4 | Outdoor |
| Communication error between the indoor and outdoor units | Communication Error | See Table 2 | Flash 6 times | / | / | E6 | E6 | Outdoor & Indoor |
| Mode conflict | Mode Conflict | See Table 2 | Flash 7 times | / | / | E7 | E7 | Indoor |
| Overload protection | Overload Protection | E8 | Flash 8 times | / | / | E8 | E8 | Outdoor |
| Anti cold blow protection | / | E9 | / | / | / | / | / | Indoor |
| | Indoor Unit Water Full Error | | / | Flashing | Flashing | E9 | E9 | Indoor |
| Trial run/trial operation | Trial Run | dd | Quick Flashing | Quick Flashing | Quick Flashing | dd | dd | Outdoor |
| Refrigerant recovery mode | Refrigerant Recovery Mode | Fo | Quick Flashing | Quick Flashing | / | Fo | Fo | Outdoor |
| Drive module resetting(for the commercial unit) | IPM Reset | P0 | Flash 3 times | Flash 3 times | Flash 3 times | P0 | P0 | Outdoor |
| Phase over-current protection | Compressor Current Protection | P5 | / | / | Flash 15 times | P5 | P5 | Outdoor |

| | | | | | | | | |
|---|--|----|----------------|---------------|----------------|----|---|---------|
| Drive board communication error(for the commercial unit) | Communication Error between the Inverter Drive and the Main Controller | P6 | Flash 16 times | / | / | P6 | P6 | Outdoor |
| Short/open circuit of the of the module temperature sensor | Radiator Temp Sensor Error | P7 | / | / | Flash 18 times | P7 | P7 | Outdoor |
| Module temperature protection | Radiator Overheat Protection | P8 | / | / | Flash 19 times | P8 | P8 | Outdoor |
| AC contact protection (for the commercial unit) | AC Contactor Protection | P9 | Flash 3 times | Flash 3 times | Flash 3 times | P9 | P9 | Outdoor |
| Circuit sensor error | Current Sensor Error | Pc | Flash 3 times | Flash 3 times | Flash 3 times | Pc | Pc | Outdoor |
| Transducer connection protection (for the commercial unit) | Sensor Connection Protection | Pd | Flash 3 times | Flash 3 times | Flash 3 times | Pd | Pd | Outdoor |
| AC current protection(input side) | AC Current Protection (Input Side) | PA | Flash 3 times | Flash 3 times | Flash 3 times | PA | PA | Outdoor |
| Temperature drift protection (for the commercial unit) | Temp Drift Protection | PE | Flash 3 times | Flash 3 times | Flash 3 times | PE | PE | Outdoor |
| Drive board ambient temperature sensor error (for the commercial unit) | Drive Board Ambient Temp Sensor Error | PF | Flash 3 times | Flash 3 times | Flash 3 times | PF | PF | Outdoor |
| DC link high voltage protection | Low Voltage Protection | PL | Flash 3 times | Flash 3 times | Flash 3 times | PL | PL | Outdoor |
| DC link low voltage protection | Over Voltage Protection | PH | Flash 3 times | Flash 3 times | Flash 3 times | PH | PH | Outdoor |
| / | AC Input Voltage Anomaly | PP | Flash 3 times | Flash 3 times | Flash 3 times | PP | PP | Outdoor |
| Capacitor charging error | Charging Circuit Error | PU | / | / | Flash 17 times | PU | PU | Outdoor |
| Defrosting or oil returning in heating | Oil Return for Heating or Defrosting | H1 | / | / | Flash once | H1 |  | Outdoor |
| / | Forced Defrosting | H1 | Quick Flashing | / | / | H1 | H1 | Outdoor |
| Compressor thermal overload protection. | Compressor Overheat Protection | H3 | / | / | Flash 3 times | H3 | H3 | Outdoor |
| Module current protection (namely IPM protection) | IPM Protection | H5 | / | / | Flash 5 times | H5 | H5 | Outdoor |
| Compressor desynchronizing | Motor Desynchronizing | H7 | / | / | Flash 7 times | H7 | H7 | Outdoor |
| PFC Protection | PFC Error | Hc | / | / | Flash 6 times | Hc | Hc | Outdoor |
| Too high power protection (available for the residential outdoor unit) | / | L9 | Flash 20 times | / | / | L9 | L9 | Outdoor |
| Compressor startup failure | Startup Failure | Lc | / | / | Flash 11 times | Lc | Lc | Outdoor |
| Compressor phase failure/ reverse protection | Phase Loss | Ld | Flash 3 times | Flash 3 times | Flash 3 times | Ld | Ld | Outdoor |
| Compressor rotation failure(for the commercial unit) | Compressor Stalling | LE | Flash 3 times | Flash 3 times | Flash 3 times | LE | LE | Outdoor |
| Over speed (for the commercial unit) | Over-Speed | LF | Flash 3 times | Flash 3 times | Flash 3 times | LF | LF | Outdoor |
| Short/open circuit of the temperature sensor at the inlet of the condenser coil (for the commercial unit) | / | A5 | Flash 3 times | Flash 3 times | Flash 3 times | oE | A5 | Outdoor |
| Short/open circuit of the temperature sensor at the outlet of the condenser coil (for the commercial unit) | / | A7 | Flash 3 times | Flash 3 times | Flash 3 times | oE | A7 | Outdoor |
| Memory card error | / | EE | / | / | / | / | / | Outdoor |

| | | | | | | | | |
|---|--|----|----------------|---------------|----------------|----|----|------------------|
| Frequency limitation/ degradation for module circuit protection (for phase circuit) | / | En | Flash 3 times | Flash 3 times | Flash 3 times | En | En | Outdoor |
| Frequency limitation/ degradation for module temperature protection | / | EU | / | Flash 6 times | Flash 6 times | EU | EU | Outdoor |
| Frequency limitation/ degradation for overload | / | F6 | / | Flash 6 times | / | F6 | F6 | Outdoor |
| Frequency limitation / degradation for circuit protection of the whole unit | / | F8 | / | Flash 8 times | / | F8 | F8 | Outdoor |
| Frequency limitation/ degradation for module circuit protection (for phase circuit) | / | F9 | / | Flash 9 times | / | F9 | F9 | Outdoor |
| Frequency limitation/ degradation for anti-freezing protection | / | FH | / | Flash twice | Flash twice | FH | FH | Outdoor |
| Compressor demagnetizing protection | / | HE | / | / | Flash 14 times | HE | HE | Outdoor |
| Indoor and outdoor units unmatched | / | LP | Flash 19 times | / | / | LP | LP | Outdoor & Indoor |
| Compressor phase circuit detection error | / | U1 | / | / | Flash 12 times | U1 | U1 | Outdoor |
| DC link voltage drop error | / | U3 | / | / | Flash 20 times | / | / | Outdoor |
| Communication Line Misconnected or Expansion Valve Error | Communication Line Misconnected or Expansion Valve Error | dn | Flash 3 times | Flash 3 times | Flash 3 times | dn | dn | Outdoor |

The words in gray means the corresponding function is unavailable.

Table 2

| Code | Error | Code | Error |
|------|---|------|---|
| 11 | Unit A Communication Error | 35 | Indoor Unit C Ambient Temp Sensor Error |
| 12 | Indoor Unit A Mid-Tube Temp Sensor Error | 36 | Unit C Mode Conflict |
| 13 | Indoor Unit A Outlet Tube Temp Sensor Error | 37 | Unit C Freeze Protection |
| 14 | Indoor Unit A Inlet Tube Temp Sensor Error | 41 | Unit D Communication Error |
| 15 | Indoor Unit A Ambient Temp Sensor Error | 42 | Indoor Unit D Mid-Tube Temp Sensor Error |
| 16 | Unit A Mode Conflict | 43 | Indoor Unit D Outlet Tube Temp Sensor Error |
| 17 | Unit A Freeze Protection | 44 | Indoor Unit D Inlet Tube Temp Sensor Error |
| 21 | Unit B Communication Error | 45 | Indoor Unit D Ambient Temp Sensor Error |
| 22 | Indoor Unit B Mid-Tube Temp Sensor Error | 46 | Unit D Mode Conflict |
| 23 | Indoor Unit B Outlet Tube Temp Sensor Error | 47 | Unit D Freeze Protection |
| 24 | Indoor Unit B Inlet Tube Temp Sensor Error | 51 | Unit E Communication Error |
| 25 | Indoor Unit B Ambient Temp Sensor Error | 52 | Indoor Unit E Mid-Tube Temp Sensor Error |
| 26 | Unit B Mode Conflict | 53 | Indoor Unit E Outlet Tube Temp Sensor Error |
| 27 | Unit B Freeze Protection | 54 | Indoor Unit E Inlet Tube Temp Sensor Error |
| 32 | Indoor Unit C Mid-Tube Temp Sensor Error | 55 | Indoor Unit E Ambient Temp Sensor Error |
| 33 | Indoor Unit C Outlet Tube Temp Sensor Error | 56 | Unit E Mode Conflict |
| 34 | Indoor Unit C Inlet Tube Temp Sensor Error | 57 | Unit E Freeze Protection |

9.2 Flow Chart of Troubleshooting

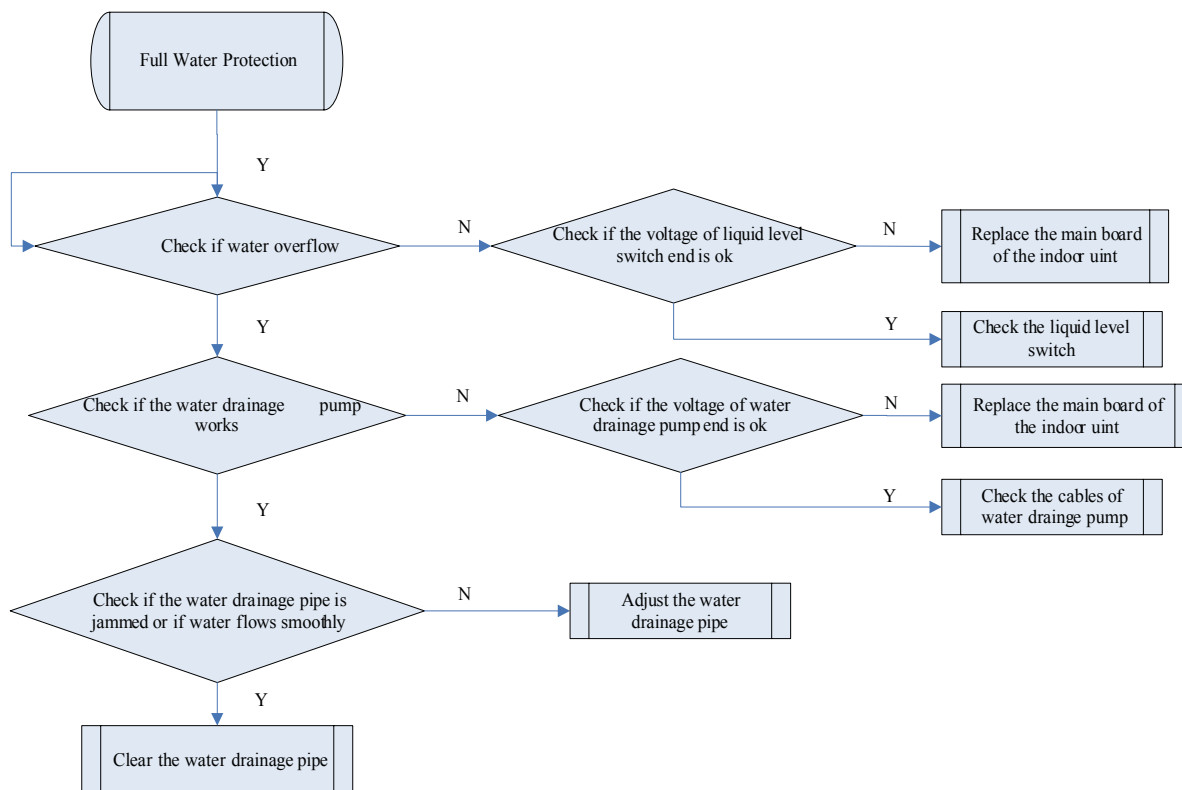
Service personnel shall collect the malfunction information as much as possible and research them thoroughly, list these electrical parts which may cause malfunction, service personnel shall be able to determine the specific reason and solve the faulted parts.

Observe the status of the complete device and do not observe the partial

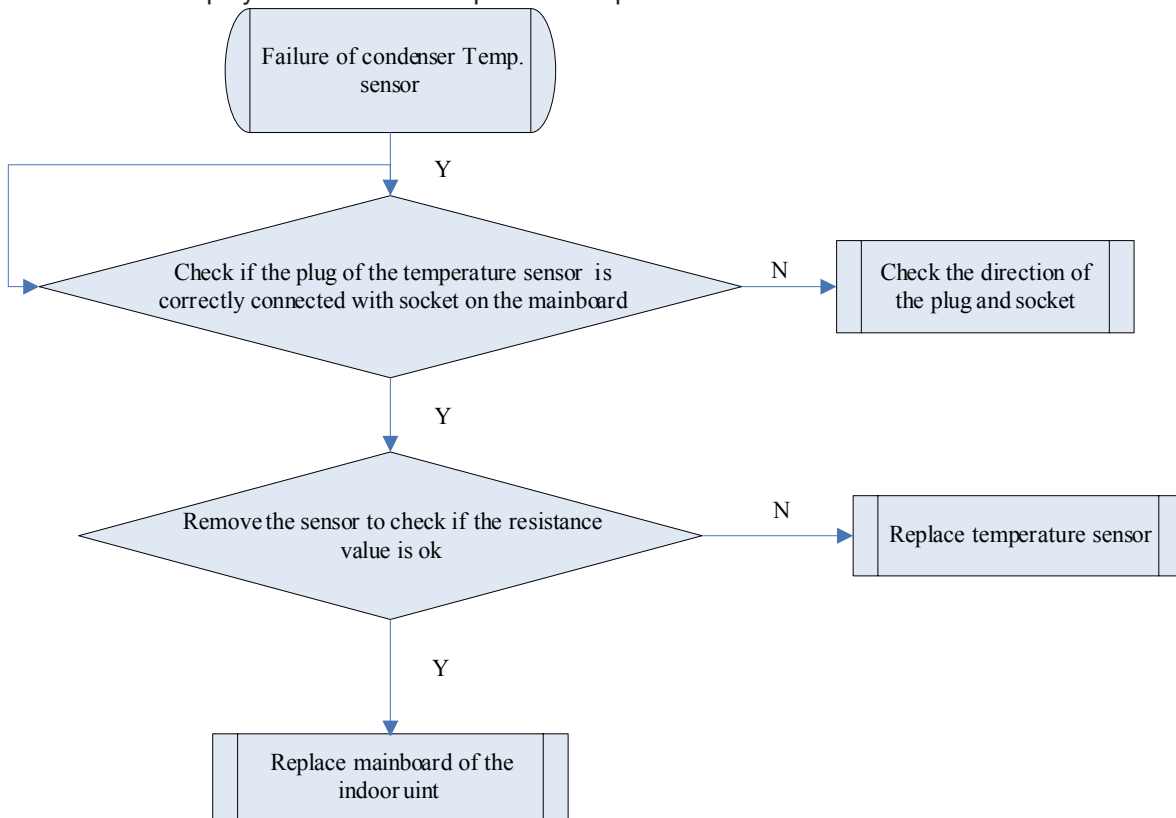
It is advised to start from the simple operation during analyzing, judging and confirming malfunction reason, then conduct the complicated operations such removal of device, part replacement and refrigerant filling.

Find the malfunction reason carefully as unit may occur several malfunction at the same time and one malfunction may develop into several malfunction, so entire system analysis shall be established to make the judged result exact and credible.

◆ Malfunction display: E9 Full Water Protection

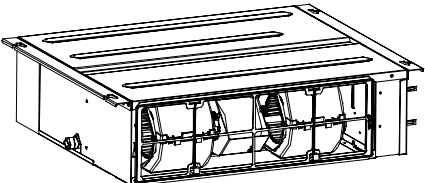
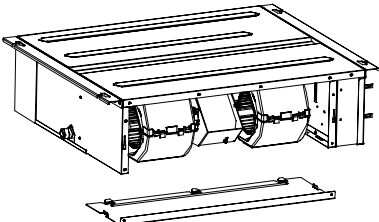
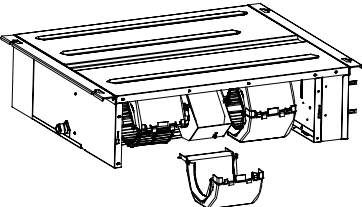
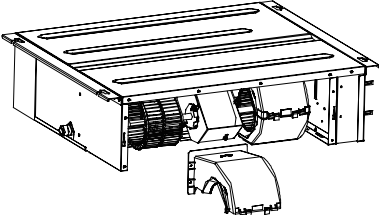
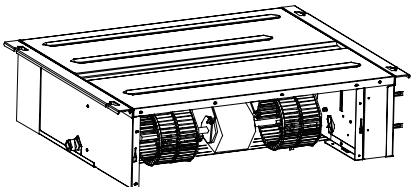
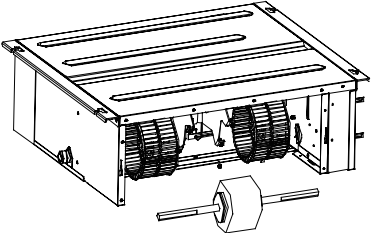
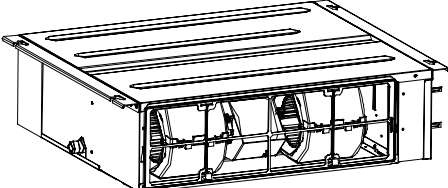


◆ Malfunction display: F2 Failure of Evaporator Temp. Sensor

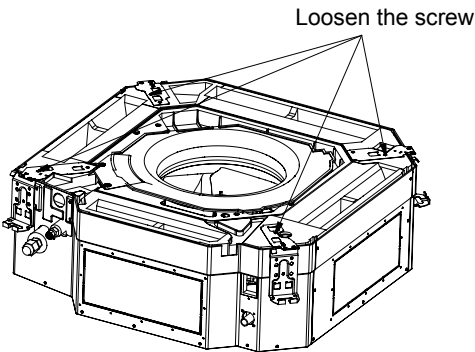
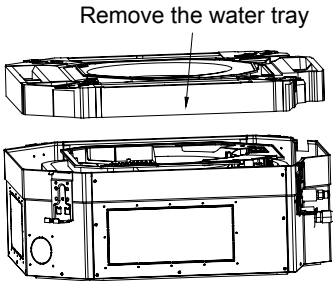
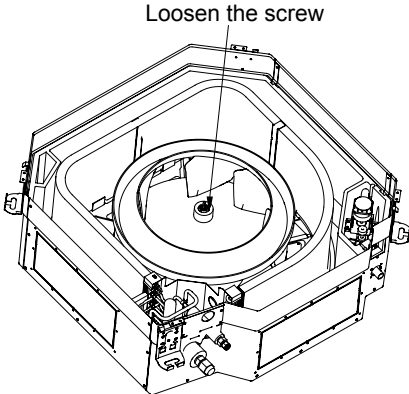
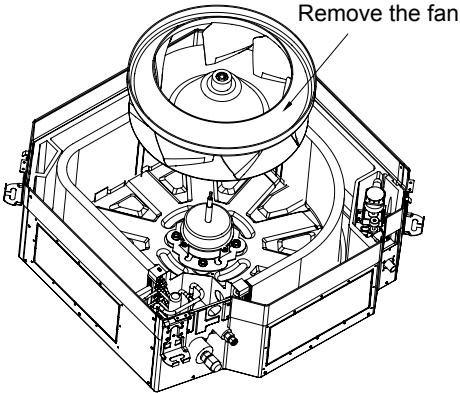


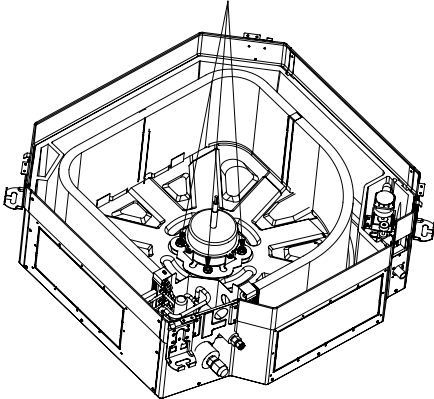
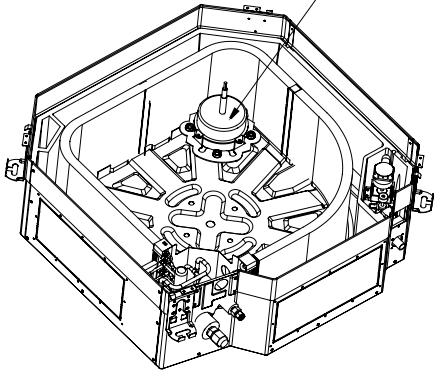
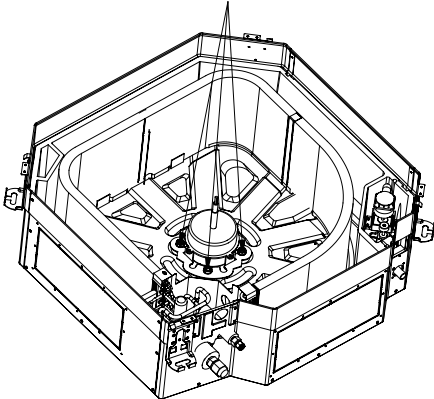
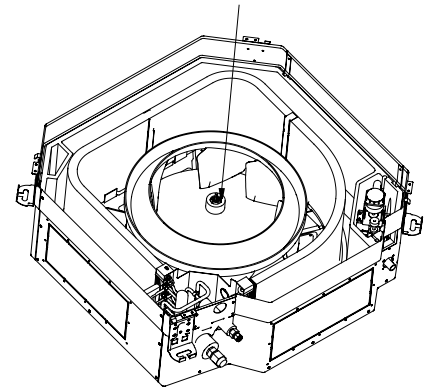
10 Removal Procedure

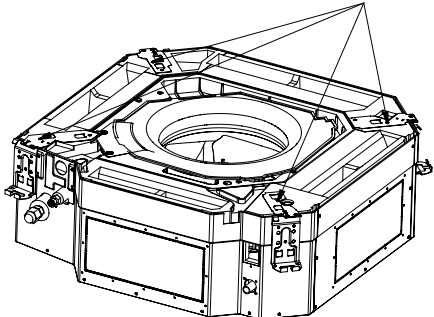
Duct type

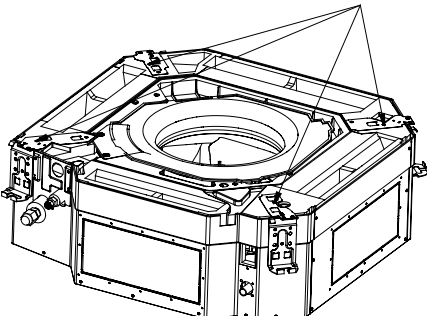
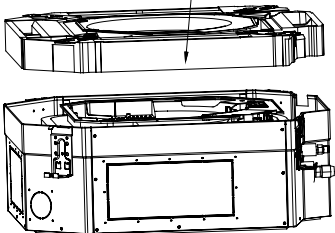
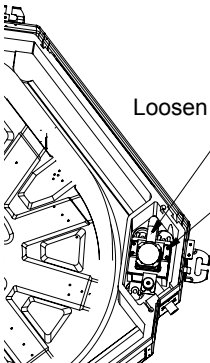
| Assembly and Disassembly of the Electric Fan | | |
|--|--|---|
| Remarks: Prior to the assembly and disassembly, make sure the power supply is cut off. | | |
| Steps | Illustrations | Operation Instructions |
| 1. Pull out the electric wire of the motor. |  | <ul style="list-style-type: none"> ● Cut off the power supply of the indoor unit, open the cover plate of the electric box and then pull out the electric wire inside the box. |
| 2. Remove the cover plate for return air. |  | <ul style="list-style-type: none"> ● Loosen the screws used to fix the cover plate for return air with a screwdriver. |
| 3. Remove the rear volute |  | <ul style="list-style-type: none"> ● Undo the buckle of the rear and front volutes and then remove the rear volute away. |
| 4. Remove the front volute |  | <ul style="list-style-type: none"> ● Loosen the screws used to fix the front volute and then remove it away. |
| 5. Loosen the fan blade and fan motor |  | <ul style="list-style-type: none"> ● Loosen the screws used to fix the fan blades and then undo the buckle used to fix the motor. |
| 6. Remove the motor away. |  | <ul style="list-style-type: none"> ● Separate the motor always from the motor frame, remove the fan blade, and lastly take the motor out from the return air frame. As for the motor |
| 7. Replace the motor. |  | <ul style="list-style-type: none"> ● Assemble the fan as the reverse disassembly order and then take a power-on test. |

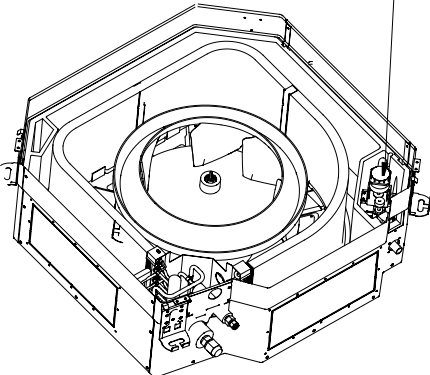
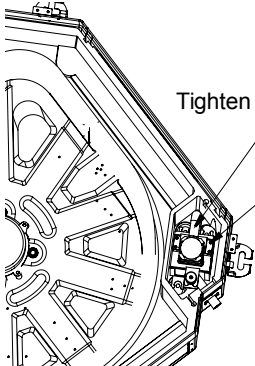
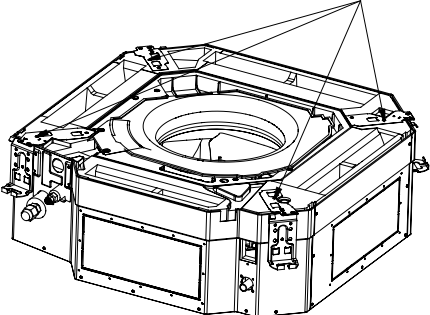
Cassette type

| Removal and Assembly of Fan Motor | | |
|--|--|---|
| Step | Illustration | Handling Instruction |
| 1. Loosen the screws fixing the water tray |  | <ul style="list-style-type: none"> ●Use screwdriver to loosen the screws fixing the water tray |
| 2. Remove the water tray |  | <ul style="list-style-type: none"> ●Remove the water tray |
| 3. Loosen the bolts fixing the fan |  | <ul style="list-style-type: none"> ●Use spanner to loosen the bolts fixing the fan. |
| 4. Remove the fan |  | <ul style="list-style-type: none"> ●Remove the fan |

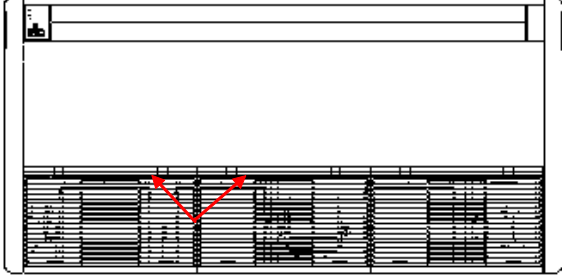
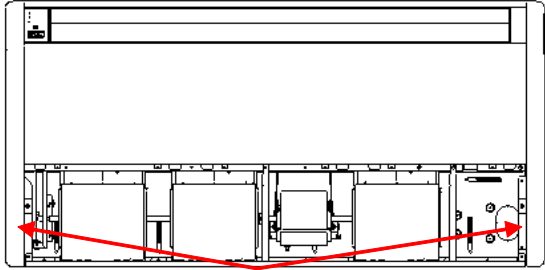
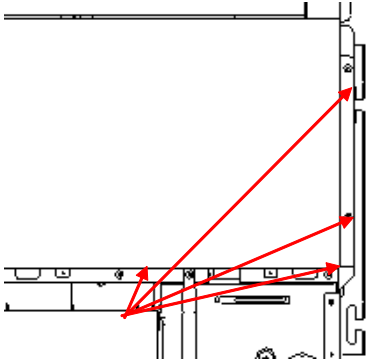
| | | |
|--|---|---|
| <p>5. Loosen the screws fixing the motor</p> | <p>Loosen the screws fixing the motor</p>  | <ul style="list-style-type: none"> ●Use screwdriver to loosen the screws fixing the motor |
| <p>6. Remove the motor and replace it</p> | <p>Remove the motor</p>  | <ul style="list-style-type: none"> ●Remove the motor and replace it |
| <p>7. Tighten the screws fixing the motor</p> | <p>Tighten the screws fixing the motor</p>  | <ul style="list-style-type: none"> ●Use screwdriver to tighten the screws fixing the motor. |
| <p>8. Mount the fan and tighten the fixing bolts</p> | <p>Fix the screw</p>  | <ul style="list-style-type: none"> ●Mount the fan and use spanner to tighten the bolts fixing the fan. |

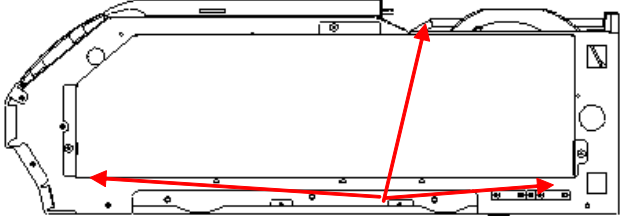
| | | |
|---|--|---|
| <p>9. Mount the water tray and tighten the screws</p> | <p>Tighten the screws</p>  | <ul style="list-style-type: none"> ●Use screwdriver to loosen the screws fixing the water tray |
|---|--|---|

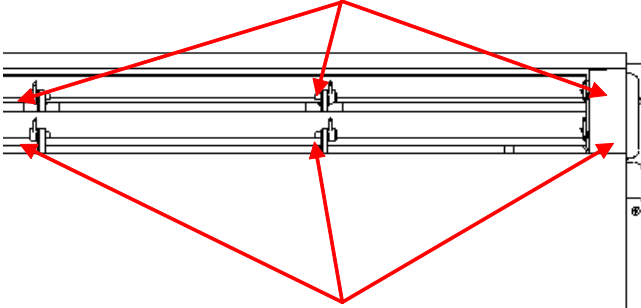
| Removal and Installation of Drainage Pump | | |
|---|--|---|
| Step | Illustration | Handling Instruction |
| <p>1. Loosen the screws fixing the water tray</p> | <p>Loosen the screw</p>  | <ul style="list-style-type: none"> ●Use screwdriver to loosen the screws fixing the water tray |
| <p>2. Remove the water tray</p> | <p>Remove the water tray</p>  | <ul style="list-style-type: none"> ●Remove the water pump and replace it. |
| <p>3. Pull out the water outlet pipe and loosen the screws fixing the water pump.</p> | <p>Loosen the drainpipe</p> <p>Loosen the screws fixing the water pump</p>  | <ul style="list-style-type: none"> ●Pull out the water outlet pipe and use screwdriver to loosen the screws fixing the water pump. |

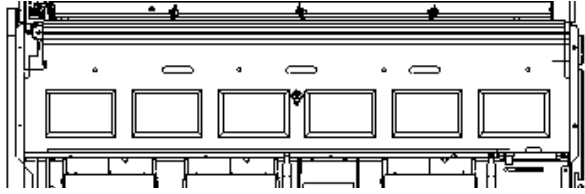
| | | |
|---|---|--|
| <p>4. Take out the pump and replace it</p> | <p>Remove the water pump</p>  | <ul style="list-style-type: none"> ● Take out the pump and replace it |
| <p>5. Connect the drainage pipe and tighten the screws fixing the water pump.</p> | <p>Tighten the drainpipe</p> <p>Tighten water pump and fix the screw</p>  | <ul style="list-style-type: none"> ● Connect the drainage pipe and use screwdriver to tighten the screws to tighten the screws fixing the water pump. |
| <p>6. Mount the water tray and tighten the screws</p> | <p>Tighten the screws</p>  | <ul style="list-style-type: none"> ● Use screwdriver to loosen the screws fixing the water tray |

Floor ceiling type

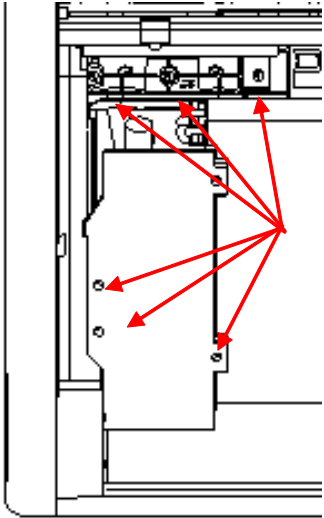
| Remove panel grating module | | |
|--|--|---|
| <p>Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly. Do not put filter screen near the high temperature heat source.</p> | | |
| Step | Illustration | Handling Instruction |
| Remove sub-assy of front grill |  | <ul style="list-style-type: none"> ● Move down the clip of the sub-assy of front grill until the front grill is open. (As is shown in the graph, arrow represents the position of bottoms. There are two clips for each grating.) |
| Remove right and left finishing plates | | |
| <p>Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. Do not scratch the outer parts.</p> | | |
| Step | Illustration | Handling Instruction |
| Remove right and left finishing plates |  | <ul style="list-style-type: none"> ● Remove the screws as shown in the graph with screwdriver and then push upward to remove the right and left finishing plates. (As is shown in the graph, arrow represents the position of screws.) |
| Remove panel parts | | |
| <p>Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. Do not scratch the outer parts.</p> | | |
| Step | Illustration | Handling Instruction |
| Remove panel parts |  | <ul style="list-style-type: none"> ● Remove the screws shown by the arrow in the graph with screwdriver (two on both right and left and 4 in the front) and then remove the panel parts. |

| Remove sub-assy of electric box | | |
|--|--|---|
| Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the components inside the box in case of water and hit. | | |
| Step | Illustration | Handling Instruction |
| 1. Remove electric box cover |  | <ul style="list-style-type: none"> Remove 3 screws as shown by the arrow in the graph on left and remove the electric box cover. |

| Remove air deflecting plate modules | | |
|---|---|--|
| Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly, especially the joints of the air deflecting plate. | | |
| Step | Illustration | Handling Instruction |
| Remove sub-assy of air deflecting plate |  | <ul style="list-style-type: none"> Remove the air deflecting plates from the air deflecting plate support assembly, and then remove both ends from the air sweeping motor joint. (As is shown in the graph, arrow represents the support assembly and circle the air sweeping motor joint.) |

| Remove water-containing plate modules | | |
|--|--|--|
| Remark: Make sure the power supply is cut off before disassembling and protect all the parts during disassembly. | | |
| Step | Illustration | Handling Instruction |
| Remove water-containing plate modules |  | <ul style="list-style-type: none"> Remove the water-containing plate modules. |
| Remove evaporator components | | |

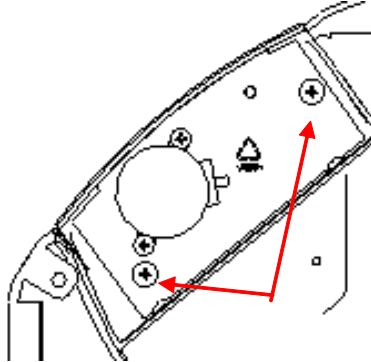
Remark: Make sure that the power supply is cut off and protect the copper tube and aluminum fin. If the time for disassembly shall be long, seal the copper tube.

| Step | Illustration | Handling Instruction |
|------------------------------|---|---|
| Remove evaporator components |  | <ul style="list-style-type: none">●Remove the screws as shown by the arrow in the graph with screwdriver. (There are 6 screws on left and right of the evaporator and 5 on evaporator outlet press plate modules) |

Remove fixing plate sub-assy for air sweeping fans

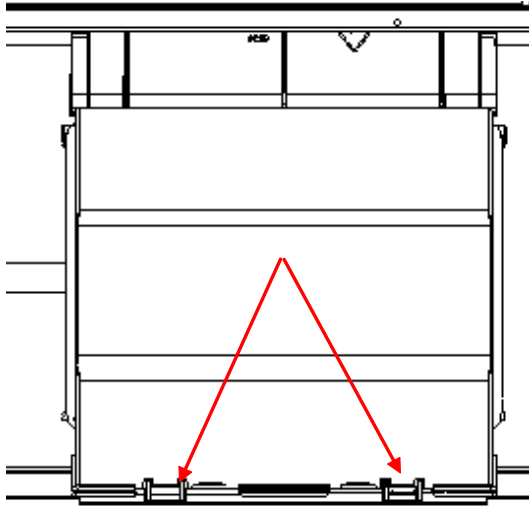
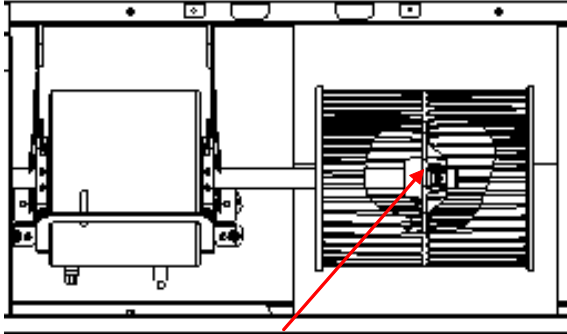
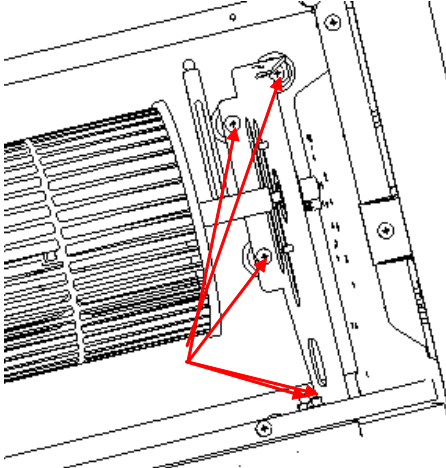
Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.


Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly.

| Step | Illustration | Handling Instruction |
|--|---|---|
| Remove fixing plate sub-assy for air sweeping fans |  | <ul style="list-style-type: none">●Remove the screws shown in the graph with screwdriver. |

Remove fan and motor components

Remark: Make sure that the power supply is cut off before disassembling and protect all the parts during disassembly, especially the fastening screws for fans.

| Step | Illustration | Handling Instruction |
|---------------------------------------|--|---|
| 1. Remove front and back scroll cases |  | <ul style="list-style-type: none">● Press the buckle at the joints of front and back scroll cases with hands and pull upward to remove the front scroll case. Then remove the screws on the back scroll case. Lift the buckle of back scroll case with hands and remove it. (As is shown in the graph, circle represents 2 screws on left and right.) |
| 2. Remove fans |  | <ul style="list-style-type: none">● Remove the fixing screws of fan wheel with inner hexagonal and remove the wheel. The inner hexagonal and its direction of effect are shown by the arrow in the graph. |
| 3. Remove bearing fixing plates |  | <ul style="list-style-type: none">● Remove 4 screws on the bearing fixing plates with screwdriver. (As shown in the box in the graph) |



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