



# **Owner's Manual**

## **Original Instructions**

Commercial Air Conditioners

Multi Variable Air Conditioners  
Compact Cassette Type Indoor Unit

Models:

GMV-ND05T/E-T(U)

GMV-ND07T/E-T(U)

GMV-ND09T/E-T(U)

GMV-ND12T/E-T(U)

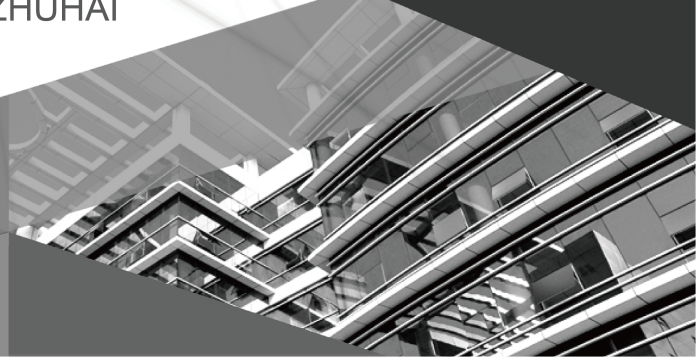
GMV-ND15T/E-T(U)

GMV-ND18T/E-T(U)

Thank you for choosing commercial air conditioners. Please read this Owner's Manual carefully before operation and retain it for future reference.

If you have lost the Owner's Manual, please contact the local agent or visit [www.gree.com](http://www.gree.com) or send an email to [global@gree.com.cn](mailto:global@gree.com.cn) for the electronic version.

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI



## Preface

For correct installation and operation, please read all instructions carefully. Before reading the instructions, please be aware of the following items:

|                  |   |
|------------------|---|
| <b>▲ DANGER</b>  | If not abide them strictly, it may cause severe damage to the unit or the people.                                     |
| <b>▲ WARNING</b> | If not abide them strictly, it may cause slight or medium damage to the unit or the people.                           |
| <b>▲ CAUTION</b> | This sign indicates that the items must be prohibited. Improper operation may cause severe damage or death to people. |
| <b>NOTICE</b>    | This sign indicates that the items must be observed. Improper operation may cause damage to people or property.       |

| <b>▲ WARNING</b> |  |
|------------------|--|
| (1)              | Instructions for installation and use of this product are provided by the manufacturer.  |
| (2)              | Installation must be performed in accordance with the requirements of NEC and CEC by authorized personnel only.  |
| (3)              | For the safe operation of this unit, please read and follow the instructions carefully.  |
| (4)              | During operation, total capacity of indoor units should not exceed the total capacity of outdoor units. Otherwise, poor effect of cooling or heating may result.   |
| (5)              | Direct operators or maintainers should well keep this manual.  |
| (6)              | If this unit fails to operate normally, please contact our service center as soon as possible and provide the following information:<br>1) Content on the nameplate (model number, cooling capacity, production code, ex-factory date.)<br>2) Malfunction details (before and after the malfunction occurs.)   |
| (7)              | Each unit has been strictly tested and proved to be qualified before ex-factory. In order to prevent units from being damaged or operating normally because of improper disassembly, please do not disassemble the unit by yourself. If you need to disassemble and check units, please contact our service center. We will send specialists to guide the disassembly. |
| (8)              | Installation must be performed in accordance with the requirements of NEC and CEC by authorized personnel only.  |

## User Notice

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards



involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

**DISPOSAL:** Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

## Exception Clauses

Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons:

- (1) Damage the product due to improper use or misuse of the product;
- (2) Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer;
- (3) After verification, the defect of product is directly caused by corrosive gas;
- (4) After verification, defects are due to improper operation during transportation of product;
- (5) Operate, repair, maintain the unit without abiding by instruction manual or related regulations;
- (6) After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers;
- (7) The damage is caused by natural calamities, bad using environment or force majeure.

## Contents

|   |    |
|---|----|
| 1 Safety Precautions .....  | 1  |
| 2 Product Introduction .....  | 2  |
| 2.1 Names of Key Components .....   | 2  |
| 2.2 Rated Working Condition .....   | 2  |
| 3 Preparations for Installation .....   | 2  |
| 3.1 Standard Fittings .....   | 3  |
| 3.2 Installation Position Selection .....   | 3  |
| 3.3 Requirements for Communication Line .....   | 4  |
| 3.4 Wiring Requirement .....  | 5  |
| 4 Installation Instructions .....   | 6  |
| 4.1 Installation of Indoor Unit .....   | 6  |
| 4.2 Refrigerant Pipe Connection .....   | 8  |
| 4.3 Drainage Pipe Installation and Drainage System Testing .....                                    | 9  |
| 4.4 Locking Joint Installation .....  | 13 |
| 4.5 Panel Installation .....  | 14 |
| 4.6 Installation of Wired Controller .....  | 16 |
| 5 Wiring Work .....   | 16 |
| 5.1 Connection of Wire and Patch Board Terminal .....   | 16 |
| 5.2 Power Cord Connection .....   | 17 |
| 5.3 Connection of Communication Wire between Indoor Unit and Outdoor Unit (or Indoor Unit)<br>..... | 18 |
| 5.4 Connect Communication Wire of Wired Controller .....  | 18 |
| 5.5 Illuminate for Connection of Wired Controller and Indoor Units Network .....                    | 19 |
| 6 Routine Maintenance .....   | 20 |
| 6.1 Cleaning of Filter .....  | 20 |
| 6.2 Maintenance before the Seasonal Use .....   | 20 |
| 6.3 Maintenance after the Seasonal Use .....  | 21 |
| 7 Table of Error Codes for Indoor Unit .....  | 21 |
| 8 Troubleshooting .....   | 22 |

# 1 Safety Precautions

## WARNING

- (1) This product can't be installed at corrosive, inflammable or explosive environment or the place with special requirements, such as kitchen. Otherwise, it will affect the normal operation or shorten the service life of the unit, or even cause fire hazard or serious injury. As for above special places, please adopt special air conditioner with anti-corrosive or anti-explosion function.
- (2) Follow this instruction to complete the installation work. Please read this manual carefully before turning on or repairing the unit.
- (3) Installation should be conducted by the dealer or qualified personnel. Please do not attempt to install the air conditioner by yourself. Improper installation may lead to water leakage, electric shock or fire hazard, etc.
- (4) Before installation, please check whether the power supply is complied with that specified on the nameplate and check the safety of the power supply.
- (5) The air conditioner must be grounded reliably for avoiding electric shock. Please do not connect the earthing wire to gas pipe, water pipe, lightning rod or telephone line.
- (6) Be sure to use special accessories and parts for installation to prevent water leakage, electric shock and fire hazard, etc.
- (7) If refrigerant leakage happens, please ventilate the room immediately.
- (8) Diameter of power cord should be large enough. The damaged power cord and connection wire must be replaced with special cables.
- (9) When the power cord is connected, please fix the electric box cover properly to avoid safety accidents.
- (10) Never fail to comply with the nitrogen-charging welding process. Do charge nitrogen when welding the pipes.
- (11) Never short circuit or cancel the pressure switch to prevent unit damage.
- (12) As for the unit controlled by the wired controller, connect the wired controller well firstly and then energize the unit; otherwise, the unit can't operate normally.
- (13) When installation is finished, please check whether the drainage pipes, pipelines and electric wires are connected correctly to avoid water leakage, refrigerant leakage, electric shock or fire, etc.
- (14) Do not insert fingers or objects into air outlet or air return grille.
- (15) Open the door and window frequently to keep good ventilation for avoiding oxygen deficit when gas heater or oil heater is used in the room.
- (16) Never plug in or unplug the power plug directly to turn on or turn off the air conditioner.
- (17) Once the air conditioner is turned on, it can be turned off only after it has operated for 5min at least; otherwise, it will affect the oil return of compressor.
- (18) Do not allow children to operate this air conditioner.
- (19) Do not operate this air conditioner with wet hands.
- (20) The air conditioner can be cleaned only when it has been turned off and the power has been cut off; otherwise, it may cause electric shock or injury.
- (21) Never spray or flush water towards the air conditioner; otherwise, malfunction or electric shock may happen.
- (22) Do not expose the air conditioner to the moist or corrosive environment.
- (23) Put through the power 8 hours in advance before operation. Do not cut off the power when the air conditioner stops operation for only about one night (protect the compressor).
- (24) Volatile liquid, such as diluent or gasoline, will damage the appearance of air conditioner. Only soft dry cloth and wet cloth dipped with neutral detergent can be used to clean the outer case of air conditioner.
- (25) Under cooling mode, please don't set the room temperature too low; keep the temperature difference between indoor and outdoor within 5°C (41°F).
- (26) If there are any abnormal circumstances (such as burning smell, etc.), please turn off the unit and cut off the main power supply immediately, and then contact Gree appointed service center. If those abnormal circumstances still exist, the unit may be damaged and it may lead to electric shock or fire hazard.
- (27) Do not repair the unit by yourself. Wrong maintenance may cause electric shock or fire hazard. Please contact Gree appointed service center for help.

Any personal injury or property loss caused by improper installation, improper debug, and unnecessary repair or not following the instructions of this manual should not be the responsibility of Gree Electric Appliances, Inc. of Zhuhai.

## 2 Product Introduction

### 2.1 Names of Key Components

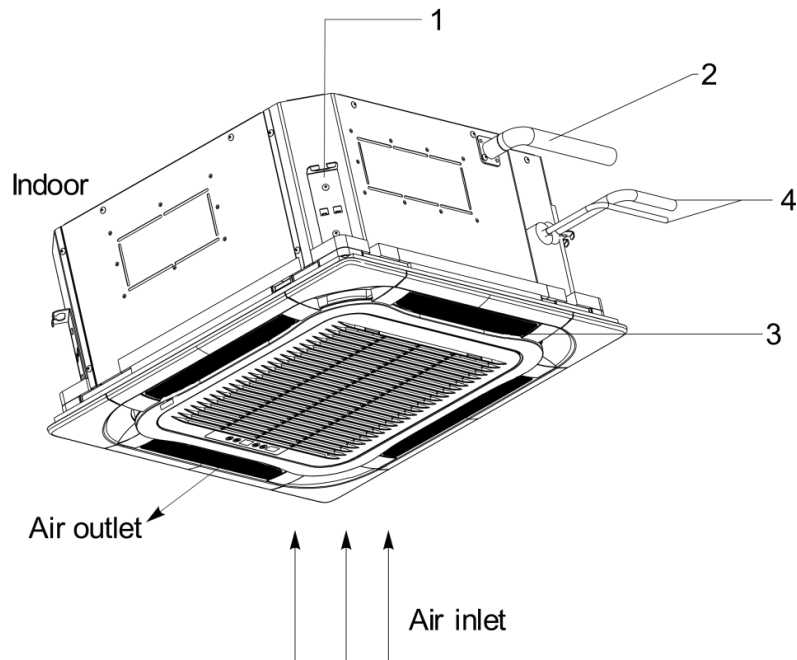


Fig.2.1.1

|      |                 |               |               |                 |
|------|-----------------|---------------|---------------|-----------------|
| No.  | 1               | 2             | 3             | 4               |
| Name | Drainage device | Drainage Pipe | Air flow flap | Connection Pipe |

### 2.2 Rated Working Condition






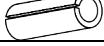


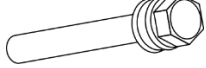


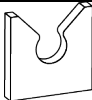


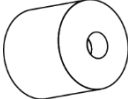

| —             | Indoor Side Condition    |                         | Outdoor Side Condition  |                         |
|---------------|--------------------------|-------------------------|-------------------------|-------------------------|
|               | Dry Bulb Temp<br>°C (°F) | Wet Bulb Temp<br>°C(°F) | Dry Bulb Temp<br>°C(°F) | Wet Bulb Temp<br>°C(°F) |
| Rated Cooling | 26.7(80)                 | 19.4(67)                | 35(95)                  | 24(75)                  |
| Rated Heating | 21.1(70)                 | 15.6(60)                | 8.3(47)                 | 7.1(45)                 |

## 3 Preparations for Installation

**NOTICE** Product graphics are only for reference. Please refer to actual products. Unspecified measure unit is mm (inch).

### 3.1 Standard Fittings

Please use the supplied standard fittings listed below as instructed.

| No. | Name                   | Appearance  | Q'ty | Usage   |
|-----|------------------------|---|------|---|
| 1   | Remote controller      |    | 1+2  | To control the indoor unit.   |
| 2   | Drainage hose assembly |    | 1    | To connect the drainage pipe.   |
| 3   | Special Nut            |    | 2    | GMV-ND05~15T/E-T(U)   |
|     |                        |    | 1    | GMV-ND18T/E-T(U)  |
| 4   | Insulation             |    | 1    | To insulate the gas pipe.   |
| 5   | Insulation             |    | 1    | To insulate the liquid pipe.  |
| 6   | Flannelette            |    | 1    | To prevent the communication wire from reaching out the electric raceway. |
| 7   | Fastener(300mm)        |    | 1    | To fasten the sponge.   |
| 8   | Bolt sub-assy          |    | 4    | Fix the panel.  |
| 9   | Corrugated pipe        |    | 1    | GMV-ND18T/E-T(U)  |
| 10  | Sponge                 |   | 4    | To insulate the drain pipe.   |
| 11  | Gasket Mounting Board  |  | 1    | Used to prevent gasket from falling off.                                  |
| 12  | Fastener(200mm)        |  | 4    | To fasten the sponge.   |
| 13  | Bolt with Washer       |  | 4    | To fix the installation paperboard on the unit.                           |
| 14  | Enswathement           |  | 2    | Used for winding the pipe connecting the indoor and outdoor units.        |
| 15  | Washer                 |  | 10   | To be used together with the hanger bolt for installing the unit.         |

### 3.2 Installation Position Selection

- (1) The location should be able to withstand the weight of unit.
- (2) The water can be drained conveniently from drainage pipe.
- (3) There should be no obstruction near air inlet and air outlet.
- (4) Follow the installation distance required in the figure below to ensure sufficient space for maintenance.
- (5) The installation location should be far from heat sources, flammable or explosive gas, or smog spread in the air.
- (6) The appliance shall not be installed in the laundry.
- (7) Appliances are not accessible to general public.
- (8) The indoor unit, outdoor unit, power cord and connection electricity wire should be at least

1m (3-1/4ft.) from television and radio in order to prevent interference and noise. (Even though 1m (3-1/4ft.) distance is ensured, there may be noise if the electric wave is too strong.)

Unit: mm (inch)

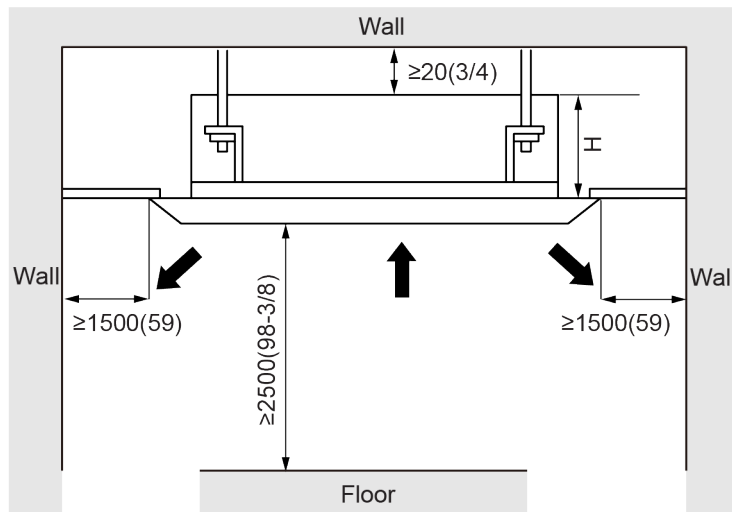


Fig.3.2.1

Unit: mm (inch)

| Model               | H       |
|---------------------|---------|
| GMV-ND05~18T/E-T(U) | 305(12) |

| <b>NOTICE</b>   |
|---|
| (1) The unit shall be installed in accordance with national standards or local regulations.                         |
| (2) Only qualified personnel can carry out installation work, please contact with local dealer before installation. |
| (3) Make sure all the installation work completed before energizing.  |

### 3.3 Requirements for Communication Line

**NOTICE** If air conditioner used under strong electronic-magnetic interference circumstance, STP (shielded twisted pair) communication cable must be adopted.

#### 3.3.1 Select Communication Line for Indoor Unit and Wired Controller

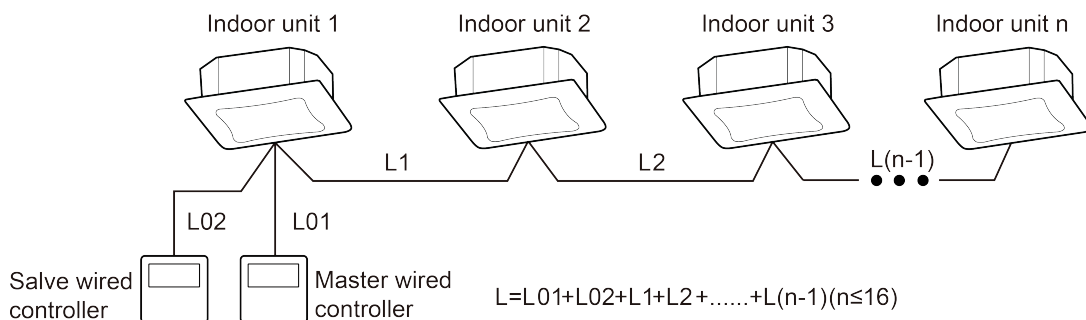


Fig.3.3.1



## Multi Variable Air Conditioners Compact Cassette Type Indoor Unit

| Material type   | Total length of communication line between indoor unit and wired controller L (m/ft.) | Wire size (mm <sup>2</sup> /AWG)           | Material standard | Remarks   |
|---|---|--|-------------------|---|
| Light/Ordinary polyvinyl chloride sheathed cord. (60227 IEC 52 /60227 IEC 53) | L≤250 (L≤820-3/16)  | 2×0.75<br>~2×1.25<br>(2×AWG18<br>~2×AWG16) | IEC 60227-5       | <ol style="list-style-type: none"> <li>Total length of communication line can't exceed 250m (820-3/16ft.).</li> <li>The cord shall be Circular cord (The cores shall be twisted together).</li> <li>If unit is installed in places with intense magnetic field or strong interference, it is necessary to use shielded wire.</li> </ol> |

### 3.3.2 Selection of Communication Wire between Indoor Unit and Indoor Unit (or Outdoor Unit)

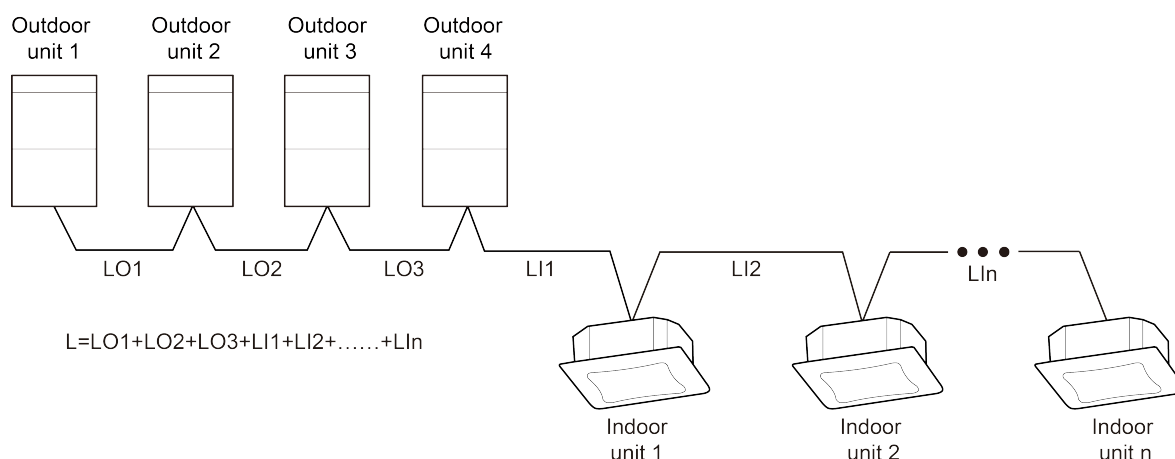


Fig.3.3.2

| Material Type   | Total Length L (m/ft.) of Communication Cable between Indoor Unit and Indoor (Outdoor) | Wire size (mm <sup>2</sup> /AWG) | Material standard | Remarks  |
|---|--|----------------------------------|-------------------|--|
| Light/Ordinary polyvinyl chloride sheathed cord. (60227 IEC 52 /60227 IEC 53) | L≤1000 (L≤3280-13/16)  | ≥2×0.75 (≥2×AWG18)               | IEC 60227-5       | <ol style="list-style-type: none"> <li>If the wire diameter is enlarged to 2×1 mm<sup>2</sup> (2×AWG16), the total communication line length can reach 1500m (4920ft.).</li> <li>The cord shall be Circular cord (The cores shall be twisted together).</li> <li>If unit is installed in places with intense magnetic field or strong interference, it is necessary to use shielded wire.</li> </ol> |

### 3.4 Wiring Requirement

Power Cord Size and Air Switch Capacity:

| Model            | Power Supply      | MCA(A) | MOP(A) |
|------------------|-------------------|--------|--------|
| GMV-ND05T/E-T(U) | 208/230V-1ph-60Hz | 0.7    | 15     |
| GMV-ND07T/E-T(U) |                   | 0.7    | 15     |
| GMV-ND09T/E-T(U) |                   | 0.7    | 15     |
| GMV-ND12T/E-T(U) |                   | 0.8    | 15     |
| GMV-ND15T/E-T(U) |                   | 0.8    | 15     |
| GMV-ND18T/E-T(U) |                   | 0.8    | 15     |

| <b>NOTICE</b> |  |
|---------------|--|
| (1)           | An all-pole disconnection switch having a contact separation of at least 3mm (1/8 inch) in all poles should be connected in fixed wiring.  |
| (2)           | The circuit breaker and power cord specification in above sheet are based on max power (max current) of the unit.  |
| (3)           | The power cord specification in above sheet is based on ambient temperature of 40°C (104°F).   |
| (4)           | The circuit breaker specification in above sheet is based on ambient temperature of 40°C (104°F). If the working condition is different, please adjust it according to the specification sheet of circuit breaker. |

## 4 Installation Instructions

### 4.1 Installation of Indoor Unit

#### 4.1.1 Ceiling opening Dimension and suspension bolt position.

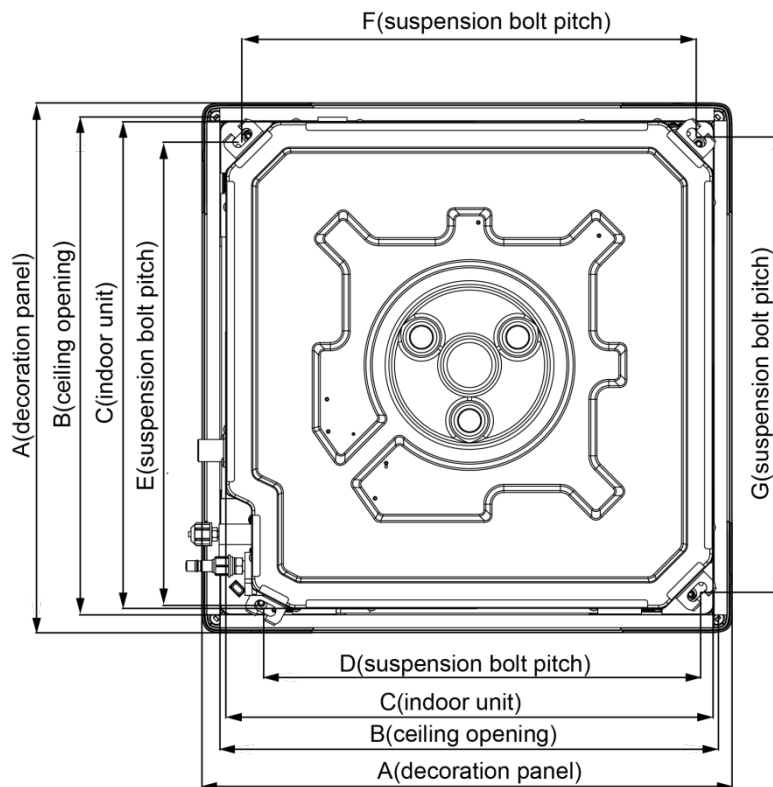


Fig.4.1.1

Unit: mm (inch)

| Model            | A        | B          | C         | D        | E        | F        | G        |
|------------------|----------|------------|-----------|----------|----------|----------|----------|
| GMV-ND05T/E-T(U) |          |            |           |          |          |          |          |
| GMV-ND07T/E-T(U) |          |            |           |          |          |          |          |
| GMV-ND09T/E-T(U) | 620      | 580        | 570       | 505      | 550      | 530      | 530      |
| GMV-ND12T/E-T(U) | (24-3/8) | (22-13/16) | (22-7/16) | (19-7/8) | (22-5/8) | (20-7/8) | (20-7/8) |
| GMV-ND15T/E-T(U) |          |            |           |          |          |          |          |
| GMV-ND18T/E-T(U) |          |            |           |          |          |          |          |



**IMPORTANT!** The drilling work and installation of unit must be carried out by qualified personnel.

### 4.1.2 Suspend the Indoor Unit

(1) Drill bolt holes and install bolts.

1) Stick the reference cardboard on the installation position; drill 4 holes according to the hole site on the cardboard as shown in Fig.4.1.2; diameter of drilling hole is according to the diameter of expansion bolt and the depth is 60-70mm (2-3/8~2-3/4 inch), as shown in Fig.4.1.3.

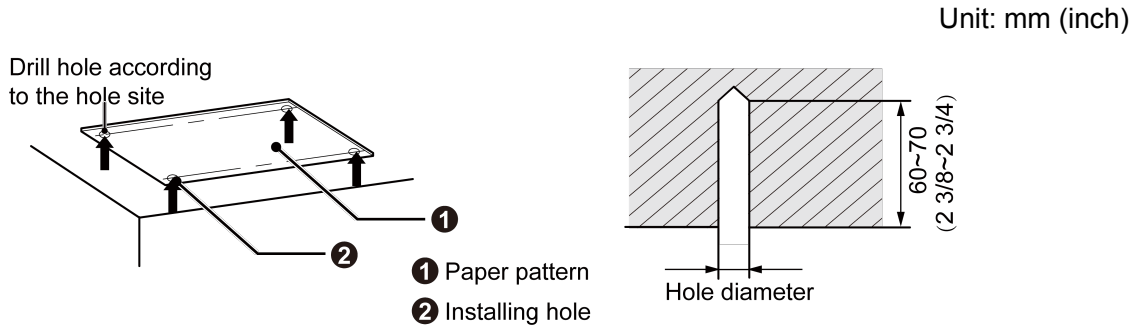


Fig.4.1.2

Fig.4.1.3

2) Insert the M10 expansion bolt into the hole and then knock the nail into the bolt, as shown in Fig.4.1.4.

**NOTICE** The length of bolt depends on the installation height of the unit, bolts are field supplied.

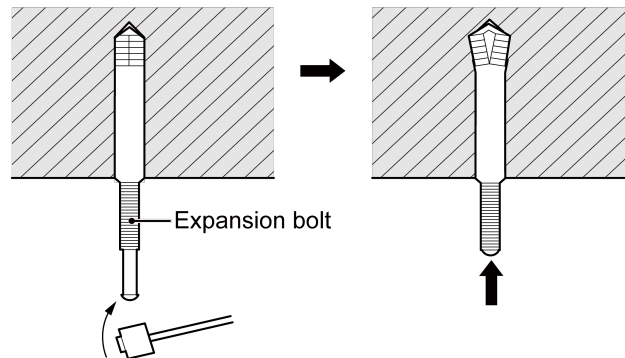


Fig.4.1.4

(2) Install the indoor unit temporarily.

Assemble suspension bolt on the expansion bolt, attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from upper and lower sides of the hanger bracket. The washer fixing plate will prevent the washer from falling.

(3) The usage of paper pattern.

Refer to paper pattern of installation for ceiling opening dimension. The center of ceiling opening is indicated on the paper pattern. Fix the paper pattern to the unit with 4 screws and fix the corners of the waterspout at the drainage pipe by screws.

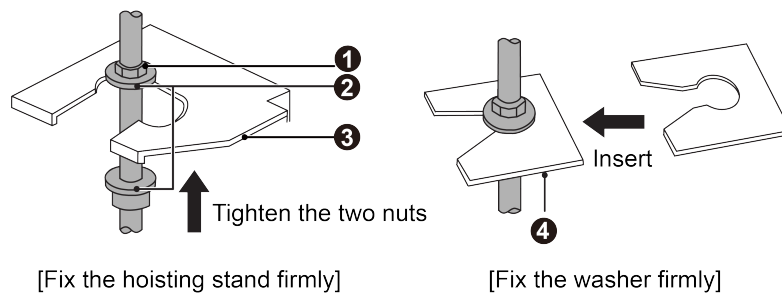
(4) Adjust the unit to the right position.

(5) Check the level of the unit.

The indoor unit is equipped with build-in water pump and float switch, verify the levelness of 4 directions by level gauge or vinyl tube (filled with water) respectively.

(6) Remove the washer locating plate and then tighten the nut on it.

(7) Remove the paper pattern.



- ① Nut(field supplied)
- ② Washer(provided)
- ③ Hoisting stand
- ④ Washer fixing plate(provided)

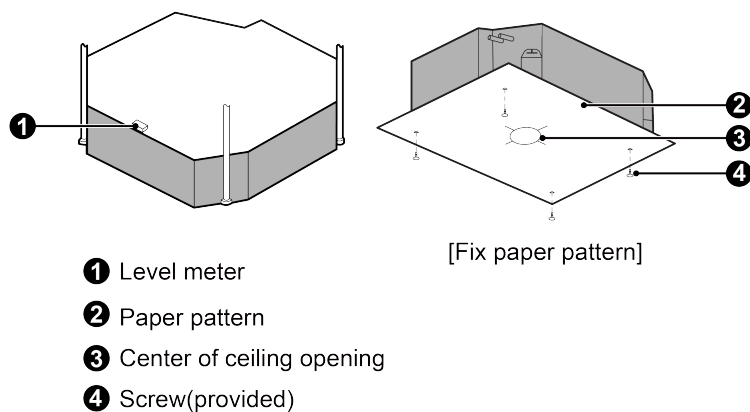


Fig.4.1.5

## 4.2 Refrigerant Pipe Connection

- (1) Aim the flaring port of copper pipe at the center of screwed joint and then tighten the flaring nut with hand as shown in Fig.4.2.1.
- (2) Use a torque wrench to tighten up the flaring nut until the wrench gives out a click sound.

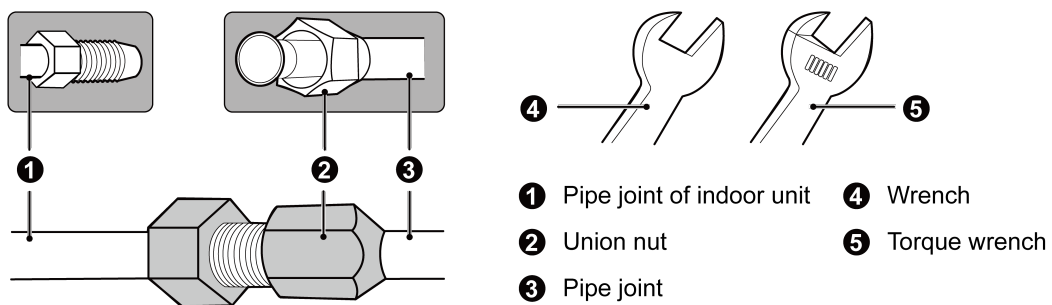


Fig.4.2.1

| Pipe diameter<br>mm(inch) | Torque(N·m) |
|---------------------------|-------------|
| 6.35(1/4)                 | 15~30       |
| 9.52(3/8)                 | 35~40       |
| 12.7(1/2)                 | 45~50       |
| 15.9(5/8)                 | 60~65       |

- (3) The pipe should not be bent too much or it may crack. Use a pipe bender when bending the

pipe.

- (4) Wrap the connection pipe and joint with sponge and then tie them firmly with tape.

## 4.3 Drainage Pipe Installation and Drainage System Testing

### 4.3.1 Notices for Installation of Drain Pipe

- (1) It is not allowed to connect the condensate drain pipe into waste pipe or other pipelines which are likely to produce corrosive or peculiar smell to prevent the smell from entering indoors or corrupt the unit.
- (2) It is not allowed to connect the condensate drain pipe into rain pipe to prevent rain water from pouring in and cause property loss or personal injury.
- (3) Condensate drain pipe should be connected into special drain system for air conditioner.
- (4) The drainage pipe should be short and the gradient downwards should be at least 1%~2% in order to drain condensation water smoothly.
- (5) The diameter of drainage hose should be bigger or equal to the diameter of drainage pipe joint.
- (6) Install drainage pipe according to the following Fig.4.3.1 and arrange insulation to the drainage pipe. Improper installation may lead to water leakage and damp the furniture and other things in the room.
- (7) You can buy normal hard PVC pipe used as the drainage pipe. During connection, insert the end of PVC pipe into the drainage hole and then tighten it with drainage hole and wire binder. Can't connect the drainage hole and drainage hole with glue.
- (8) When the drainage pipelines are used for several units, the position of pipeline should be about 100mm (4 inch) lower than the drainage port of each unit. In this case, thicker pipes should be applied.

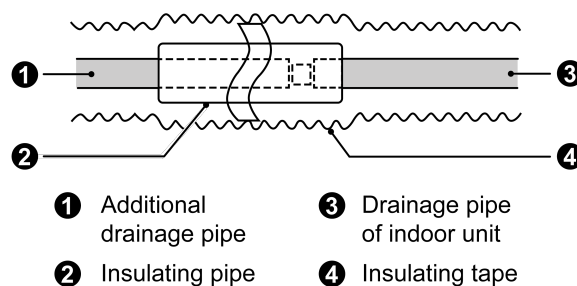
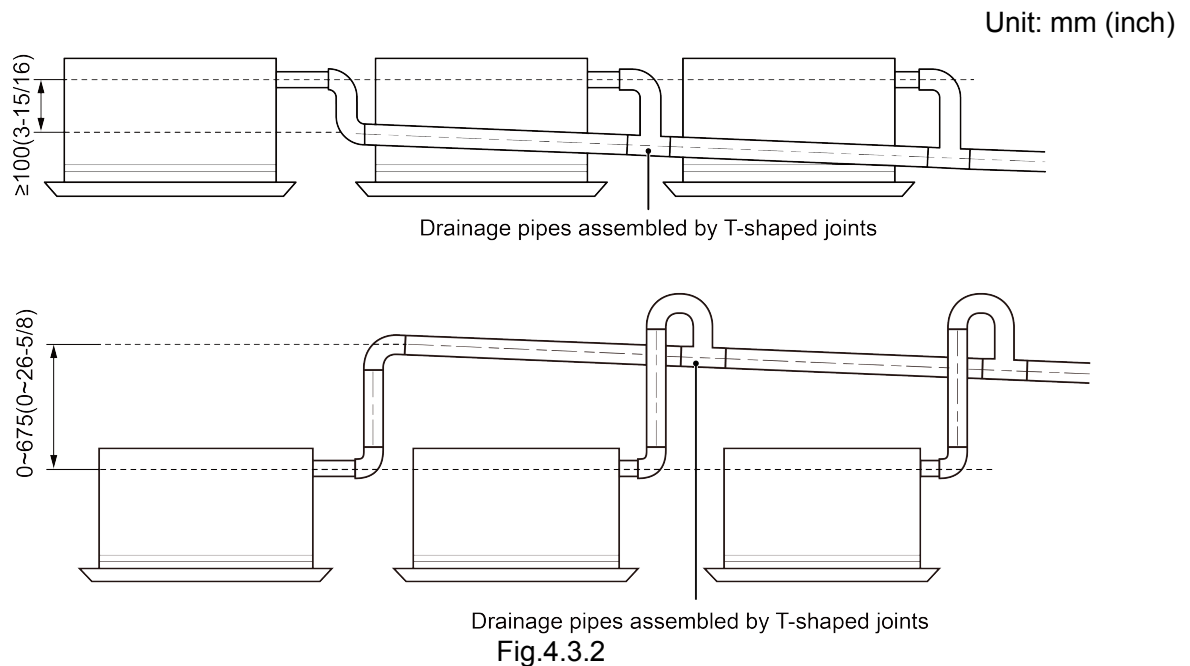


Fig.4.3.1

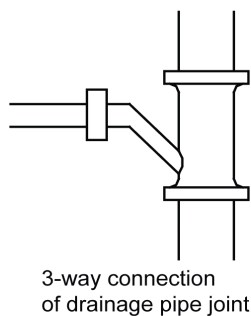
### 4.3.2 Drainage Pipe Installation

- (1) Drainage pipe should have the same diameter or larger diameter than the connecting pipes (PVC pipe, outside diameter 25mm (1 inch), thickness $\geq$ 1.5mm (1/16 inch)).
- (2) Keep drainage pipe short and sloping downwards at a gradient of at least 1% for preventing forming air bubbles.
- (3) If the gradient of drainage pipe could not meet the installation requirements, raising pipe should be applied.
- (4) Insert the drainage hose into drain socket, tighten the metal clamp securely.
- (5) Warp the sealing pad over drain hose and metal clamp for heat insulation.

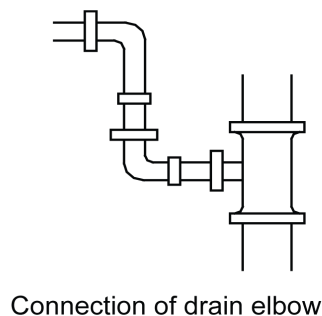
- (6) Make sure to perform insulation work for all drainage piping in order to prevent any possible water drop due to dew condensation.
- (7) Apply the suitable diameter for converging drainage pipe according to the operating capacity of the unit.



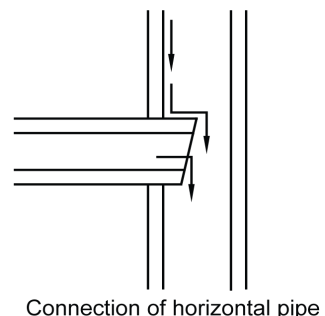
- (8) The horizontal pipe can't be connected to vertical pipe in the same level; please select the connection way as shown in following figure.
  - 1) Three-way connection of drainage pipe joints (Fig.4.3.3).
  - 2) Connection of downspout elbow (Fig.4.3.4).
  - 3) Inserting horizontal pipe connection (Fig.4.3.5).



**Fig.4.3.3**



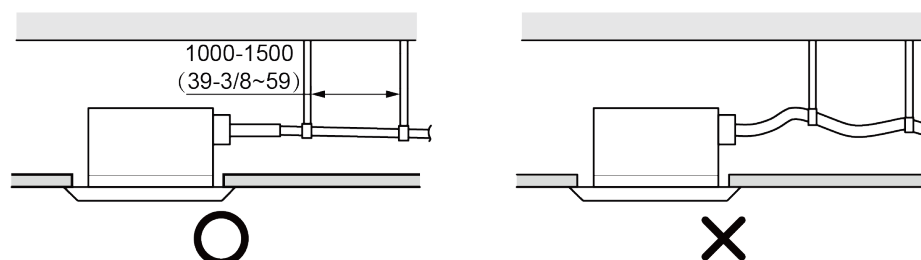
**Fig.4.3.4**



**Fig.4.3.5**

- (9) Drain pipes should have a downward slope of at least 1%~2%, in order to prevent pipes from sagging, install hanger bracket at intervals of 1000~1500mm (39~3/8~59 inch).

Unit: mm (inch)



- (10) The installation height of raising pipe for drainage should be lower than B. The gradient from

raising pipe towards drainage direction should be at least 1%~2%. If the raising pipe is vertical with the unit, the raising height should be less than C, as shown in Fig.4.3.7.

Unit: mm (inch)

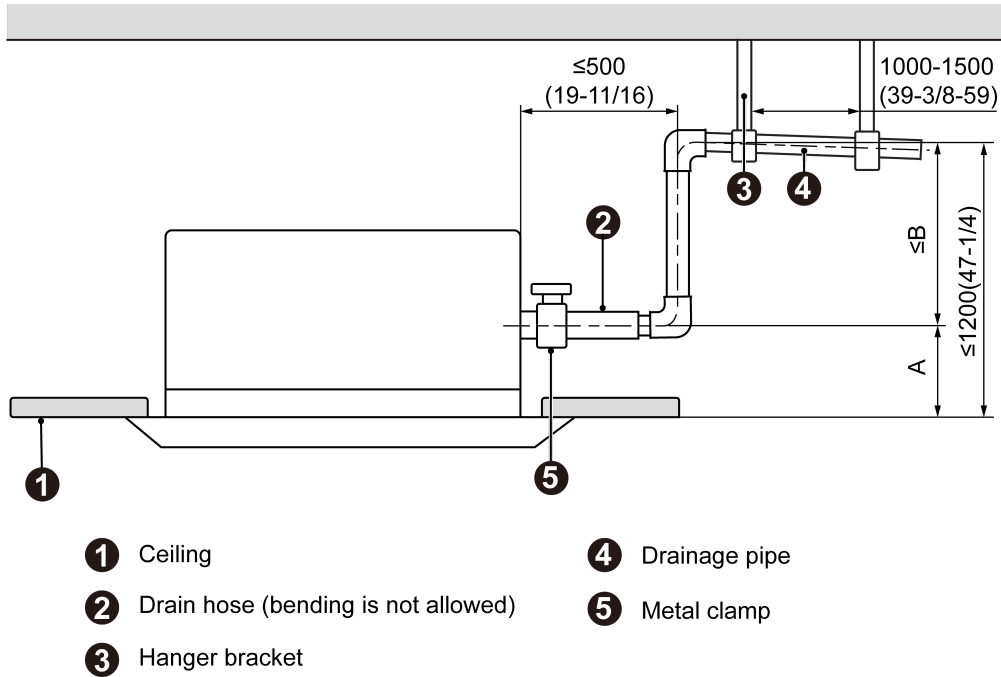


Fig.4.3.7

Unit: mm (inch)

| Model            | A              | B               | C                |
|------------------|----------------|-----------------|------------------|
| GMV-ND05T/E-T(U) | 225<br>(8-7/8) | 975<br>(38-3/8) | 925<br>(36-7/16) |
| GMV-ND07T/E-T(U) |                |                 |                  |
| GMV-ND09T/E-T(U) |                |                 |                  |
| GMV-ND12T/E-T(U) |                |                 |                  |
| GMV-ND15T/E-T(U) |                |                 |                  |
| GMV-ND18T/E-T(U) |                |                 |                  |

(11) During the installation, distance from soft drain pipe to the gasket is C when the bolt is tightened. It is not allowed to apply PVC or other related glue in the joints of two ends of drain pipe.

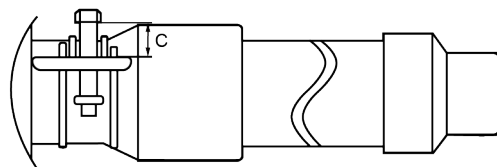


Fig.4.3.8

Unit: mm (inch)

| Model            | C             |
|------------------|---------------|
| GMV-ND05T/E-T(U) | 10±3(3/8±1/8) |
| GMV-ND07T/E-T(U) |               |
| GMV-ND09T/E-T(U) |               |
| GMV-ND12T/E-T(U) |               |
| GMV-ND15T/E-T(U) |               |
| GMV-ND18T/E-T(U) |               |

### 4.3.3 Test of Drainage System

(1) Please test drainage system after electric work is finished.

Inject approximately 1L purified water to drain pan from air vent, ensure that not to splash the water over the electrical components (e.g. water pump. etc.).

- 1) Inject approximately 1L purified water to drain pan from air vent, ensure that not to splash the water over the electrical components (e.g. water pump. etc.).
  - 2) In case of commissioning finished, please energize the IDUs and switch to cooling or dry mode, meanwhile, the water pump operates, you can check the draining through the drain socket.
  - 3) If communication wire is not connected, communication malfunction "C0" will occur after 60s of energizing. In this case, the water pump operates automatically. Check if the water pump drains normally through drainage port. The water pump will stop automatically after running for 10mins.
- (2) During the test, please carefully check the drainage joint, and make sure no any leakage occur.
- (3) It's strongly recommended to do the drain test before ceiling decoration.

Unit: mm (inch)

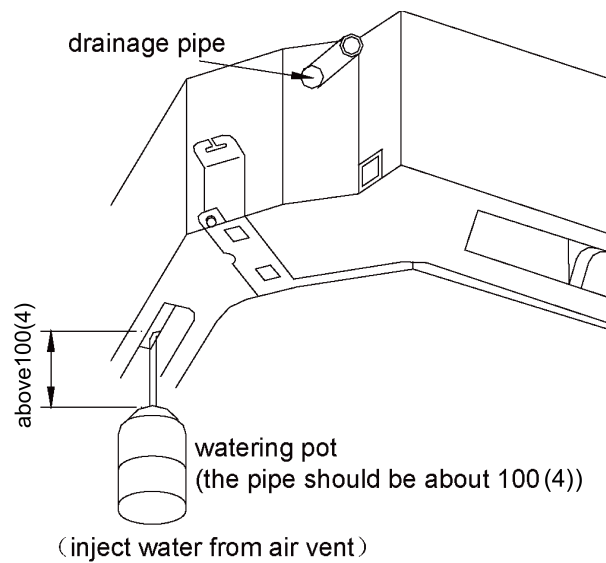


Fig.4.3.9



## 4.4 Locking Joint Installation

When the power cord and communication cable of the unit are connected, the power cable and communication cable need to be fixed through the side panel locking connector. The fixing process is as follows.

- (1) Remove the locking joint bracket from the side panel.

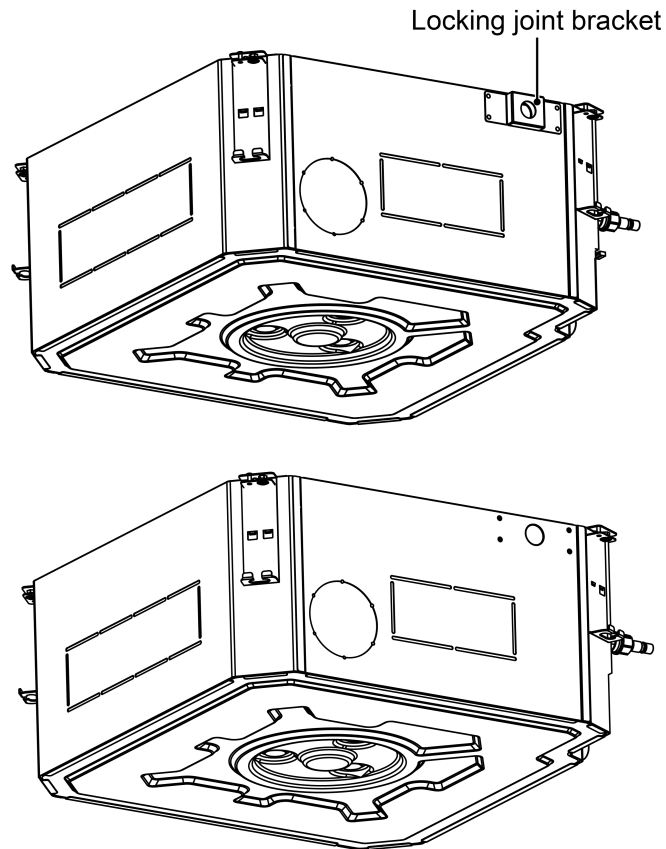


Fig.4.4.1

- (2) Attach the locking joint to the locking joint bracket.

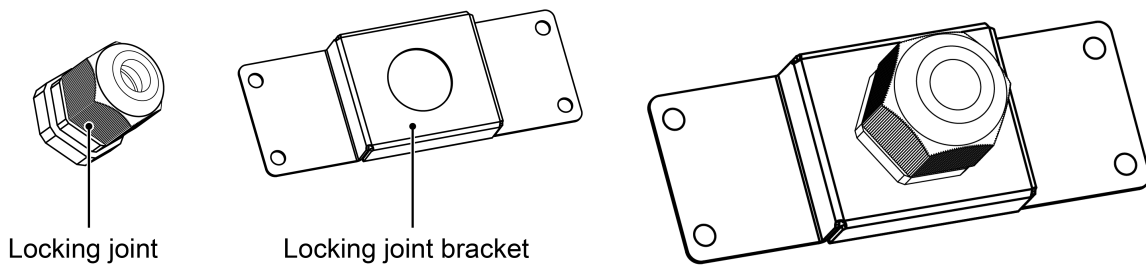


Fig.4.4.2

- (3) Power cable (communication line) passes through the locking joint and the side plate engineering line over the wire crossing hole.
- (4) Finally, reattach the locking joint bracket to the side panel.

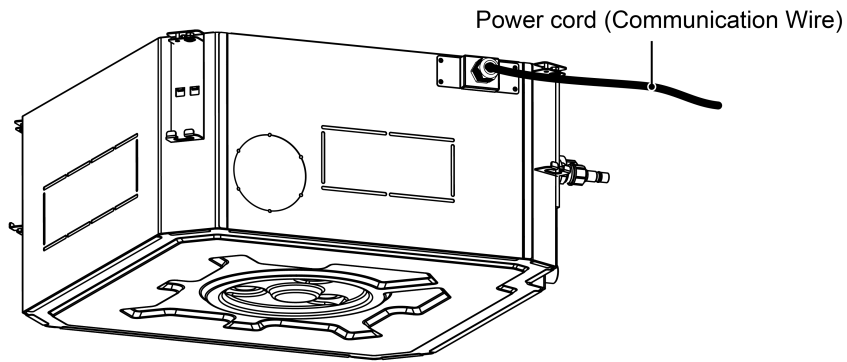


Fig.4.4.3

## 4.5 Panel Installation

### 4.5.1 Notices for Installation

- (1) Improper decorative panel installation could cause the following problems.

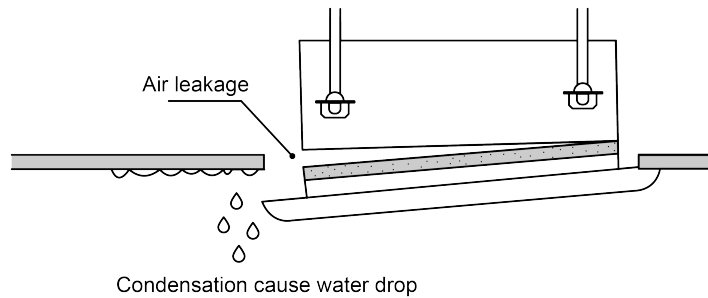


Fig.4.5.1

- (2) Ensure that it's clearance-free between decoration panels and ceiling board after installation, if not, please adjust the body position.

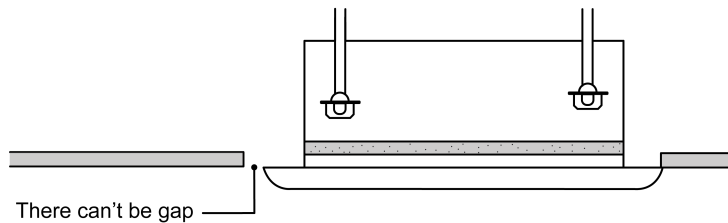


Fig.4.5.2

- (3) Connect the decoration panel terminals (Female) to body terminals (Male) as shown in Fig.4.5.3.

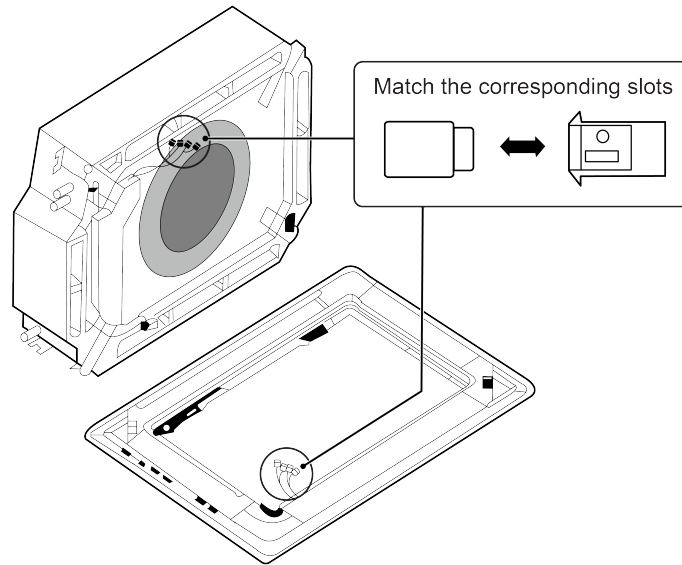


Fig.4.5.3

#### 4.5.2 Panel Installation

- (1) Detach the panel's corner cap, there is a mark "piping side" on one of the 4 corners, adjust the panel direction so as to keep the mark and fittings on the same corner, as shown in Fig.4.5.4.

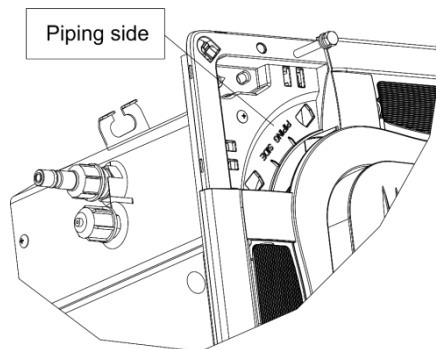


Fig.4.5.4

- (2) Adjust the position of panel to make the panel holes fix at the holes on the units.
- (3) Fix the 4 screws at the two side of panel, as shown in Fig.4.5.5.

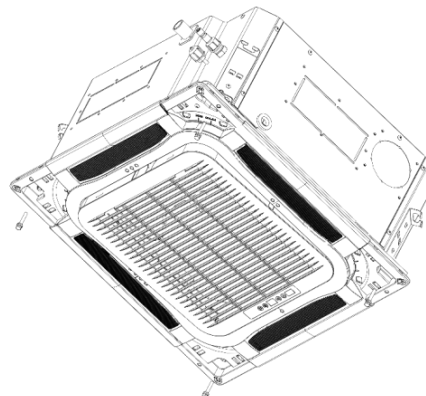


Fig.4.5.5

- (4) Detach the air inlet grille from panel, make a wiring connection of signal receiver. Notices that the connection wire not stuck in the middle of body and panel, or may cause air leakage

and lead to condensation water drop.

- (5) Tighten 4 screws at each corner of panel respectively, fix the panel on the body firmly.
- (6) Tighten the screw until the thickness of sealing material between panel and indoor unit is about 5-8mm(3/16~5/16inch).

Unit: mm (inch)

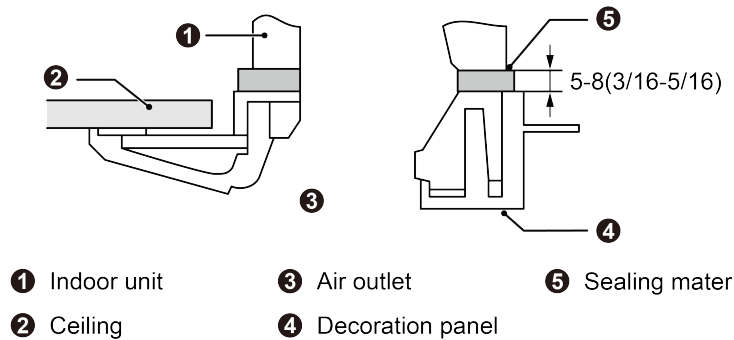


Fig.4.5.6

## 4.6 Installation of Wired Controller

Please refer to User Manual of Wired Controller for the installation details.

**NOTICE** When installation is finished, the unit must be tested and debugged before operation. Please refer to Instruction Manual of ODU for auto addressing and debugging details.

## 5 Wiring Work

### ⚠ WARNING

Before obtaining access to terminals, all supply circuits must be disconnected.

### NOTICE

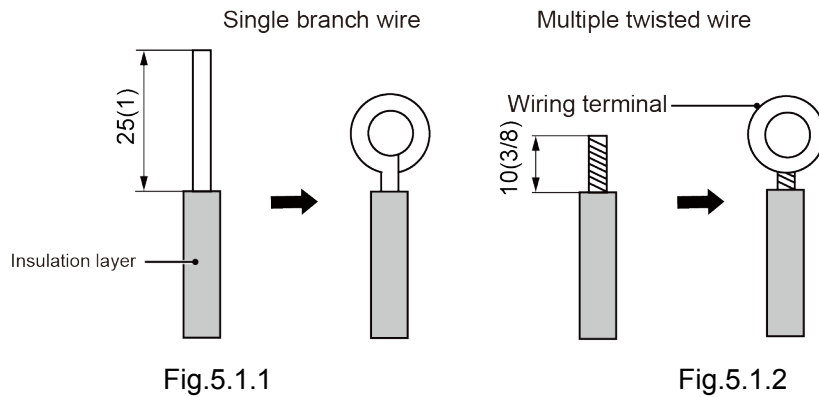
- (1) Units must be grounded securely, or it may cause electric shock.
- (2) Please carefully read the wiring diagram before carry out the wiring work, incorrect wiring could cause malfunction or even damage the unit.
- (3) The unit should be powered by independent circuit and specific socket.
- (4) The wiring should be in accordance with related regulations in order to ensure the units reliable running.
- (5) Install circuit breaker for branch circuit according to related regulations and electrical standards.
- (6) Keep cable away from refrigerant pipings, compressor and fan motor.
- (7) The communication wires should be separated from power cord and connection wire between indoor unit.
- (8) Adjust the static pressure via wired controller according to site circumstance.

## 5.1 Connection of Wire and Patch Board Terminal

- (1) The connection of wire (as shown in Fig.5.1.1)
  - 1) Strip about 25mm (1 inch) insulation of the wire end by stripping and cutting tool.
  - 2) Remove the wiring screws on the terminal board.
  - 3) Shape the tail of wire into ring by needle nose plier, and keep the gauge of ring in accordance with screw.

- 4) Use the screwdriver for tightening the terminal.
- (2) The connection of stranded wire (as shown in Fig.5.1.2)
  - 1) Strip about 10mm (3/8 inch) insulation of the end of stranded wire by stripping and cutting tool.
  - 2) Loosen the wiring screws on terminal board.
  - 3) Insert the wire into the ring tongue terminal and tighten by crimping tool.
  - 4) Use the screwdriver for tightening the terminal.

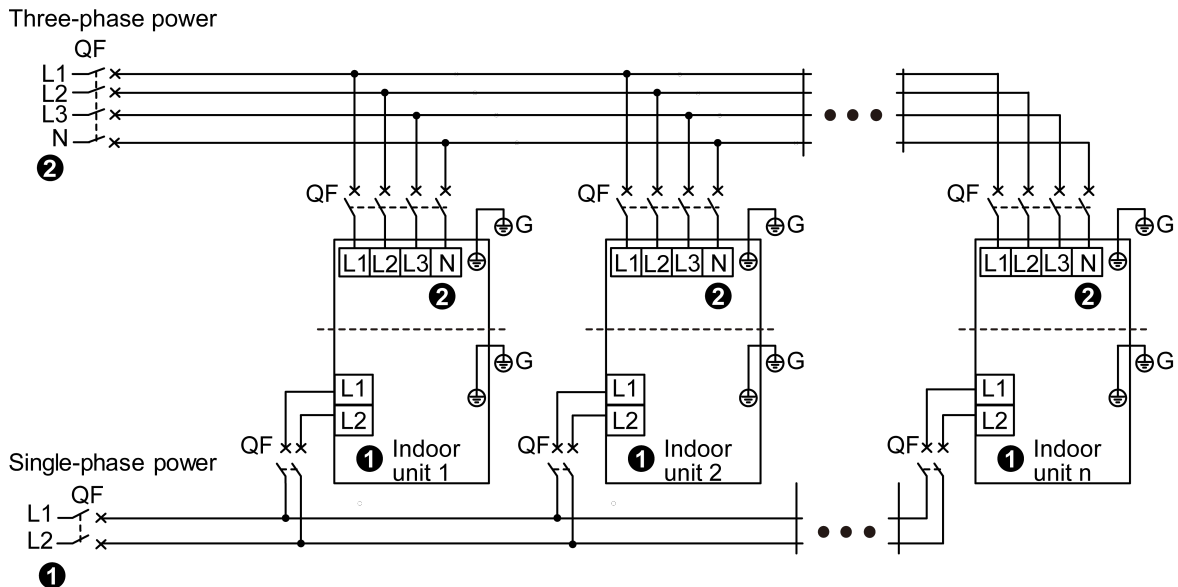
Unit: mm (inch)



## 5.2 Power Cord Connection

**NOTICE** Every unit should be equipped with a circuit breaker for short-circuit and overload protection. In general, circuit breaker is at OFF status.

During operation, all indoor units and outdoor units belonging to the same system must be kept energized status. Otherwise, the unit can't operate normally.



- NOTICE**
- (1) Connect wires for single-phase unit according to figure ① and connect wires for three-phase unit according to figure ②.
  - (2) The maximum connection quantity "n" for indoor unit is decided by the capacity of outdoor unit. Please refer to the unit capacity of unit for details.

Fig. 5.2.1

- (1) Detach the electric box lid.
- (2) Let the power cord pass through the wiring through-holes.
- (3) Connect wires according to Fig.5.2.1.
- (4) Fix the power cord with wiring clamp.
- (5) The wire diameter of power cord can't be less than 18AWG

### 5.3 Connection of Communication Wire between Indoor Unit and Outdoor Unit (or Indoor Unit)

- (1) Detach the electric box lid.
- (2) Let the Communication cable pass through the wiring through-holes.
- (3) Connect the communication wire to terminal D1 and D2 of indoor 4-bit wiring board, as shown in Fig.5.3.1.

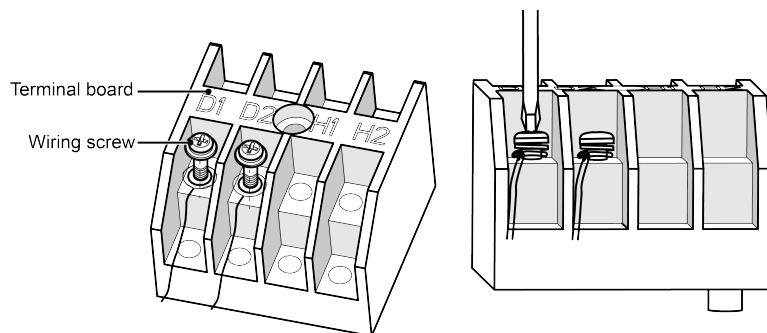
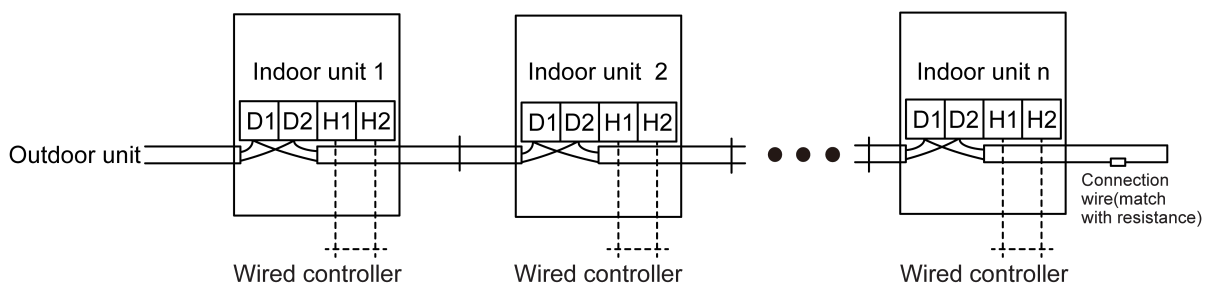


Fig.5.3.1



**NOTICE** Indoor unit quantity n is according to the outdoor unit capacity.

Fig.5.3.2

- (4) Fix the communication cable with clamp of electric box.
- (5) For more reliable communication, make sure connect the terminal resistor to the most downstream IDU of the communication bus (terminal D1 and D2), as shown in Fig. 5.3.2, terminal resistor is provided with each ODU.

### 5.4 Connect Communication Wire of Wired Controller

- (1) Open electric box cover of indoor unit.
- (2) Let the communication wire go through the rubber ring.
- (3) Connect the communication wire to terminal H1 and H2 of indoor 4-bit wiring board.
- (4) Fix the communication wire with wire clip on the electric box.
- (5) Wiring instructions of remote receiving light board and wired controller:
  - 1) Wired controller is shown as Fig.5.4.1, wireless controller is shown as Fig.5.4.2, signal

receiver is provided with panel as standard accessory.

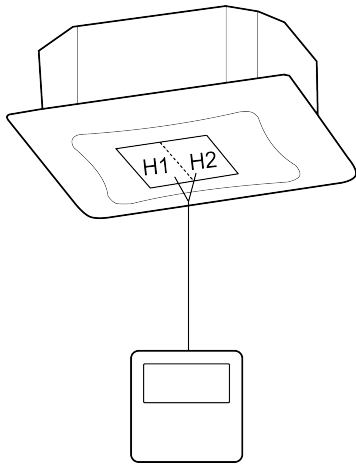


Fig.5.4.1

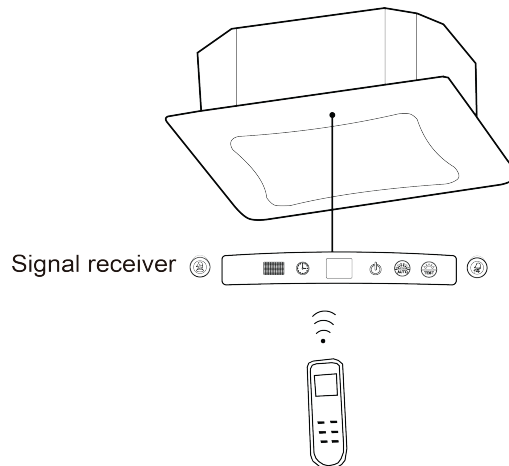


Fig.5.4.2

- 2) Both IDU and wired controller are equipped with signal receiver, and available for wireless control respectively.

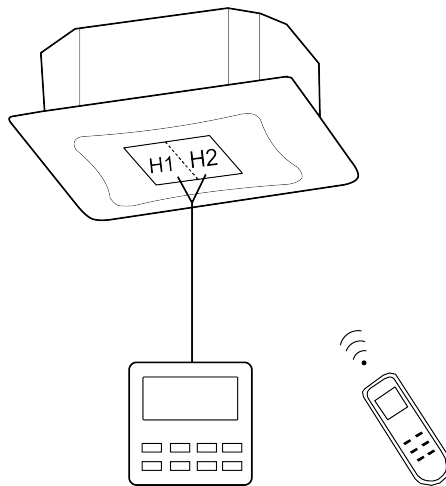


Fig.5.4.3

## 5.5 Illustrate for Connection of Wired Controller and Indoor Units Network

- (1) Communication wire of indoor unit and outdoor unit (or indoor unit) is connected to D1, D2.
- (2) Wired controller is connected to H1, H2.
- (3) One indoor unit can connect two wired controllers that must be set as master one and slave one.
- (4) One wired controller can control 16 indoor units in maximum at the same time (as shown in Fig.5.5.1).

### **NOTICE**

- (1) The type of indoor units must be the same if they are controlled by the same wired controller.
- (2) When the indoor unit is controlled by two wired controllers, the addresses of the two wired controllers should be different through address setting. Address 1 is for main controller; Address 2 is for slave controller. Detailed settings please refer to the instruction manual of wired controller.

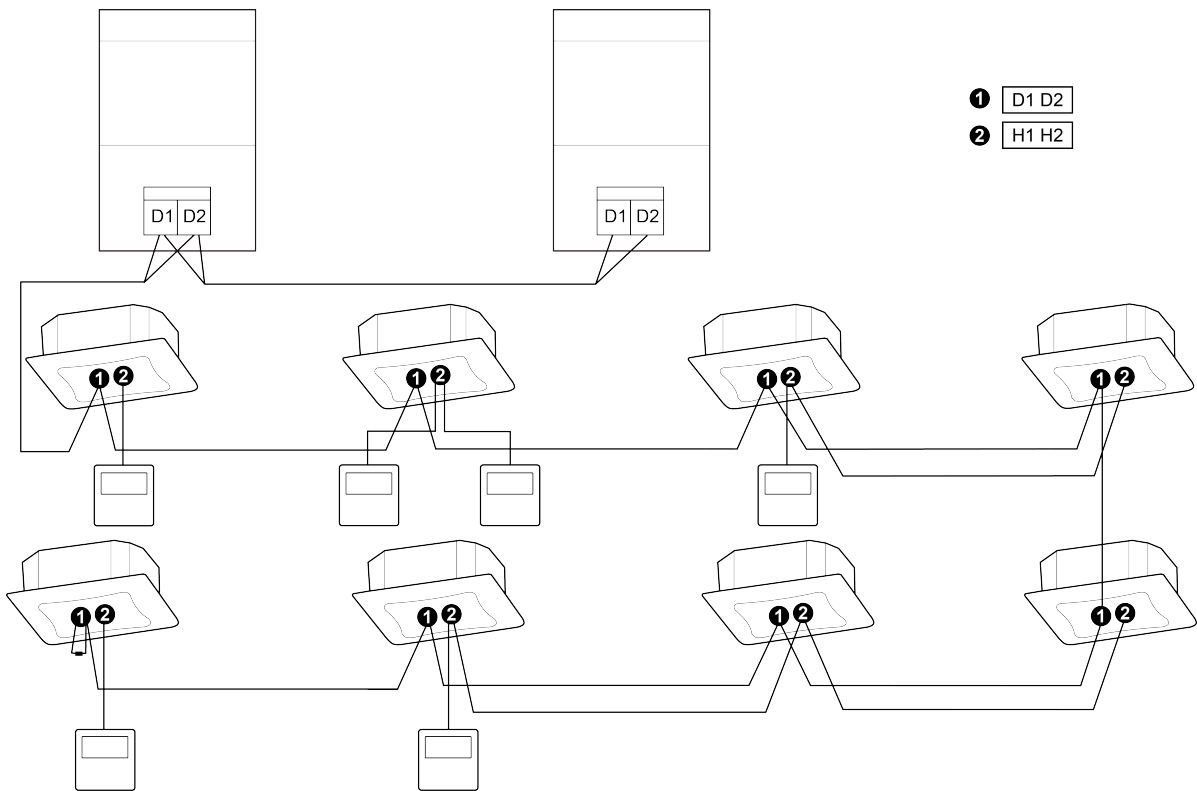


Fig.5.5.1

## 6 Routine Maintenance

| <b>NOTICE</b>   |
|---|
| (1) Do not turn off the unit and cut off the main power supply when cleaning the air conditioner to avoid electric shock or injury. |
| (2) Stand at solid table when cleaning the unit.  |
| (3) Do not clean the unit with hot water whose temperature is higher than 45°C (113°F) to prevent fade or deformation.              |
| (4) Do not dry the filters by fire, or it may catch fire or become deformed.  |
| (5) Clean the filter with a wet cloth dipped in neutral detergent.  |
| (6) Please contact after-sales service staff if there is abnormal situation.  |

### 6.1 Cleaning of Filter

- (1) Remove the filters from inlet of IDU. Use a vacuum cleaner to remove dust. If the filters are dirty, wash them with warm water and mild detergent, and dry the filters in the shade.
- (2) If the unit used in the environment with much dust, please clean it regularly. (Usually once every two weeks).

### 6.2 Maintenance before the Seasonal Use

- (1) Check if the air inlet and air outlet of indoor and outdoor unit are blocked.
- (2) Check if securely grounded.
- (3) Check if all the power cord and communication cable are securely connected.
- (4) Check if any error code displayed after energized.



### 6.3 Maintenance after the Seasonal Use

- (1) Set the unit in fan mode for half a day in a sunny day to dry the inner part of unit.
- (2) When the unit won't be used for a long time, please cut off power supply for energy saving; the characters on the wired controller screen will disappear after cutting off the power supply.

### 7 Table of Error Codes for Indoor Unit

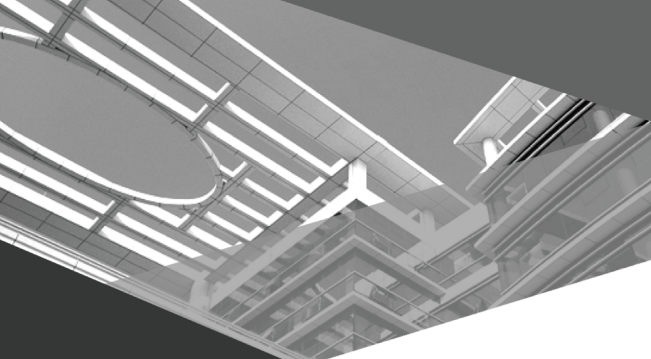
| Error Code | Content  | Error Code | Content   | Error Code | Content  |
|------------|--|------------|---|------------|--|
| L0         | Indoor Unit Error                                    | LA         | Indoor Units Incompatibility Error                        | d9         | Jumper Cap Error                                       |
| L1         | Indoor Fan Protection                                | LH         | Low Air Quantity Warning                                  | dA         | Indoor Unit Network Address Error                      |
| L2         | E-heater Protection                                  | LC         | ODU-IDU Incompatibility Error                             | dH         | Wired Controller PCB Error                             |
| L3         | Water Full Protection                                | d1         | Indoor Unit PCB Error                                     | dC         | Capacity DIP Switch Setting Error.                     |
| L4         | Wired Controller Power Supply Error                  | d3         | Ambient Temperature Sensor Error                          | dL         | Indoor Unit CO <sub>2</sub> Sensor Error               |
| L5         | Freeze Protection                                    | d4         | Inlet Pipe Temperature Sensor Error                       | dE         | Capacity DIP Switch Setting Error.                     |
| L7         | No Master Indoor Unit Error                          | d6         | Outlet Pipe Temperature Sensor Error                      | db         | Special Code: Field Debugging Code                     |
| L8         | Power Insufficiency Protection                       | d7         | Humidity Sensor Error                                     | C0         | Communication Error                                    |
| L9         | Quantity Of Group Control Indoor Units Setting Error | d8         | Water Temperature Sensor Error                            | AJ         | Filter Cleaning Reminder                               |
| o1         | Low Bus bar Voltage of Indoor Unit                   | o2         | High Bus bar Voltage of Indoor Unit                       | o3         | IPM Module Protection of Indoor Unit                   |
| o4         | Failure Startup of Indoor Unit                       | o5         | Overcurrent Protection of Indoor Unit                     | o6         | Current Detection Circuit Malfunction of Indoor Unit   |
| o7         | Desynchronizing Protection of Indoor Unit            | o8         | Communication Malfunction of Indoor Unit's Drive          | o9         | Communication Malfunction of Main Mater of Indoor Unit |
| oA         | High Temperature of Indoor Unit's Module             | ob         | Malfunction of Temperature Sensor of Indoor Unit's Module | oC         | Charging Circuit Malfunction of Indoor Unit            |
| o0         | Other Drive Malfunction                              | db         | Special Code: Field Debugging Code                        |            |  |

## 8 Troubleshooting

The air conditioner is not expected to be serviced by users. Incorrect repair may cause electric shock or fire, so please contact an authorized service center for professional service. The following checks prior to contact may save your time and money.

| Phenomenon                                 | Troubleshooting   |
|--|---|
| The unit can't start                       | <ul style="list-style-type: none"> <li>① Power supply is not connected.</li> <li>② Circuit breaker tripping caused by leakage of electricity.</li> <li>③ Input voltage is too low.</li> <li>④ Operation button is off.</li> <li>⑤ Error of control loop.</li> </ul>   |
| The unit stops after running for a while   | <ul style="list-style-type: none"> <li>① There is obstacle in front of condenser.</li> <li>② Error of control loop.</li> <li>③ Perform cooling when outdoor ambient temperature is higher than 43°C (109°F).</li> </ul>   |
| Poor cooling effect                        | <ul style="list-style-type: none"> <li>① The filter is dirty or blocked.</li> <li>② Too heavy heat load of room (e.g. too many people).</li> <li>③ Door or windows is open.</li> <li>④ Air inlet and outlet of IDU are blocked.</li> <li>⑤ Set temperature is too high or refrigerant leaks.</li> <li>⑥ The performance of room temperature sensor gets worse.</li> </ul> |
| Poor heating effect                        | <ul style="list-style-type: none"> <li>① The filter is dirty or blocked.</li> <li>② Door or window is open.</li> <li>③ Set temperature is too low.</li> <li>④ Refrigerant leaks.</li> <li>⑤ Outdoor ambient temperature is lower than -5°C(23°F).</li> <li>⑥ Error of control circuit.</li> </ul>   |
| Indoor fan doesn't start up during heating | <ul style="list-style-type: none"> <li>① Position of tube temperature sensor is improper.</li> <li>② Tube temperature sensor is not inserted well.</li> <li>③ Wiring of tube temperature sensor breaks off.</li> <li>④ Electrical leakage of capacitor.</li> </ul>  |

**NOTICE** If air conditioner still fails to work normally after checking and handling as described above, please stop using it immediately and contact local service center for assistance.



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

Add: West Jinji Rd, Qianshan, Zhuhai, Guangdong, China, 519070

Tel: (+86-756) 8522218

Fax: (+86-756) 8669426

E-mail: [gree@gree.com.cn](mailto:gree@gree.com.cn) [www.gree.com](http://www.gree.com)



600005062200