



## High Static Slim Duct

# ***Installation & Owner's Manual***

## **Original Instructions**

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GFH<09>DA-D3DNA1A/I  
GFH<12>DA-D3DNA1A/I  
GFH<18>DB-D3DNA1A/I  
GFH<24>DB-D3DNA1A/I




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

For more information, please contact your local distributor or visit [www.greecomfort.com](http://www.greecomfort.com) for the electronic version. or send an email to [info@twclimate.com](mailto:info@twclimate.com).

## Preface

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

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
<b>▲WARNING</b>	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
<b>▲CAUTION</b>	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.
<b>NOTICE</b>	NOTICE is used to address practices not related to personal injury.

<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) The total output capacity of all indoor units will never exceed the total capacity of the outdoor unit if all are operating at the same time. If indoor demand exceeds the outdoor units capacity, the indoor capacities will be reduced.
(5) Keep this manual in a convenient place for use by a licensed HVAC technician.
(6) If this unit fails to operate normally, please contact a licensed HVAC technician for service. Technicians can call our Customer Care line at 800-850-7928 and ask for Technical Support by providing the following information 1) Tell the operator they are a licensed HVAC technician [proof may be required] 2) If warranty parts are needed, a copy of the installing licensed HVAC technicians invoice may be required.
(7) Each unit has been quality tested before leaving the factory. There are no customer serviceable parts, to prevent voiding your warranty, any repairs or servicing needs to be done by a licensed HVAC contractor.
(8) Installation must be performed in accordance with the requirements of NEC and CEC by authorized personnel only.

## User Notice

- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- **DISPOSAL:** Follow all local disposal codes and regulations whenever disposing of this equipment.



# Contents

1 Safety Precautions .....	1
2 Product Introduction .....	3
2.1 Names of Key Components .....	3
2.2 Rated Working Condition .....	3
3 Preparations for Installation .....	3
3.1 Standard Fittings .....	3
3.2 Location for Installation .....	4
3.3 Wiring Requirements.....	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 Installation of Air Duct .....	12
4.5 Installation of Wired Controller.....	15
5 Wiring Work.....	15
5.1 Connection of Wire and Patch Board Terminal.....	15
5.2 Power Cord Connection .....	16
5.3 Connect Communication Wire of Wired Controller.....	17
6 Setting of External Static Pressure .....	18
7 Routine Maintenance.....	18
7.1 Cleaning of Filter .....	18
7.2 Maintenance before the Seasonal Use .....	18
7.3 Maintenance after the Seasonal Use.....	19
8 Table of Error Codes for Indoor Unit.....	19
9 Troubleshooting.....	20

# 1 Safety Precautions

## ⚠WARNING

- |   |
|---|
| (1) Please read this manual carefully and follow the instructions before unit startup and/or service by a licensed HVAC technician.   |
| (2) Size power supply wiring by recommendations provided here, or in the product submittals, while adhering to all local codes and regulations. Any damaged wiring must be replaced prior to unit startup or service.   |
| (3) After connecting power supply wiring, secure the electrical box cover properly in order to avoid accidents.   |
| (4) Use nitrogen whenever welding (brazing) refrigerant piping. Always follow generally accepted procedures.  |
| (5) Do not disconnect or bypass pressure switches. Unit damage or physical harm may occur.  |
| (6) To operate properly the wired controller must be connected prior to unit startup.   |
| (7) To prevent electrical shocks, fire and/or water damage, etc., check all piping and wiring prior to unit start up for water and refrigerant leaks.   |
| (8) Do not insert fingers or objects into air outlet/inlet grille.  |
| (9) Whenever gas/oil appliances or equipment is present, make sure the area is properly ventilated. Open doors and windows to avoid oxygen depletion.   |
| (10) Where applicable, never start up or shut off an air conditioner by plugging or unplugging the power cord.  |
| (11) Let system run for at least five minutes to insure proper oil return to the compressor.  |
| (12) Do not allow children operate this unit.   |
| (13) Do not operate this unit with wet hands.   |
| (14) Make sure the unit is turned off and the supply power is disconnected prior to cleaning the unit, to prevent electrical shock or injury.   |
| (15) Never spray or flush the indoor or outdoor unit with water, electrical shock or equipment damage may occur.  |
| (16) Do not install this equipment in moist or corrosive environments.  |
| (17) In cooling, the temperature difference between the indoor and outdoor unit must be within 41° F (5 °C).  |
| (18) There are no user serviceable parts. Repair and servicing must be done by a licensed HVAC technician to preserve the system warranty.  |
| (19) Check power supply requirements prior to purchase and/or installation. Power supply information is available on <a href="http://www.greecomfort.com/resources/dealer-resources-current-product/">www.greecomfort.com/resources/dealer-resources-current-product/</a> |
| (20) Installation must be done by a licensed HVAC technician. Please do not attempt to install the unit by yourself. Improper procedures may result in water damage, electrical shock or fire, etc..  |
| (21) Use only generally acceptable fittings, parts and procedures to install or service this system.  |
| (22) Improper grounding of this equipment may prevent the system from operating properly. This system must be grounded properly, do not connect the ground to gas or water pipe, lightning rod or telephone line.   |
| (23) Power-on the unit 8 hours before operation. Turn on power for 8 hours before operation. Do not cut off the power for more than 24 hours (to protect the compressor).   |
| (24) If refrigerant leakage occurs during installation, please ventilate the area immediately. If refrigerant comes in contact with fire, poisonous gas will be created.  |
| (25) To maintain the systems exterior finishes, use only mild cleaning agents on system surfaces.   |

(26) If you smell or hear anything out of the ordinary, power off the unit, disconnect the main power supply and contact a licensed HVAC technician for service. Operating the system under these adverse conditions may result in irreparable damage or personal injury.

Any personal injury or property loss caused by improper installation, improper debugging, unnecessary or improper repair/servicing or not following the instructions in this manual is not the responsibility of Gree Electric Appliances, Inc. of Zhuhai.

## 2 Product Introduction

### 2.1 Names of Key Components

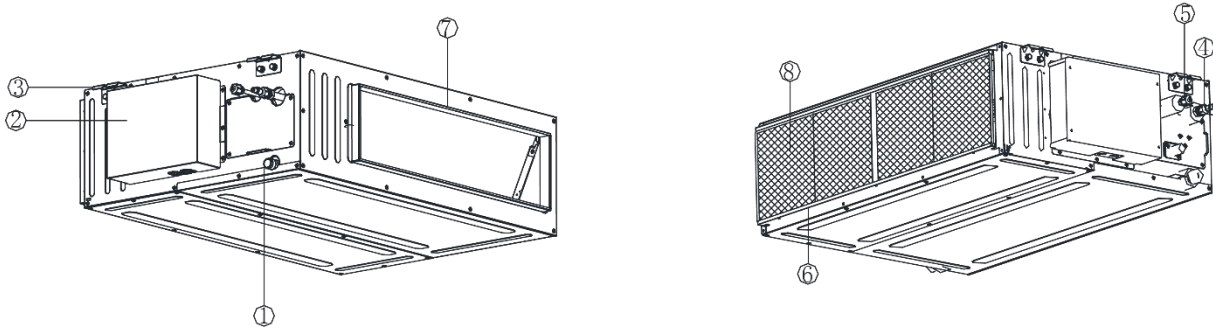


Fig 2.1.1

NO.	1	2	3	4	5	6	7	8
Name	Drain Pipe	Control box	Support Bracket	Gas pipe	Liquid pipe	Air-return Opening	Air Outlet	Filter

### 2.2 Rated Working Condition

	Indoor Side Condition		Outdoor Side Condition	
	Dry Bulb Temp °C(°F)	Wet Bulb Temp °C(°F)	Dry Bulb Temp °C(°F)	Wet Bulb Temp °C(°F)
Rated Cooling	26.7(80.0)	19.4(67.0)	35(95.0)	23.9(75.0)
Rated Heating	21.1(70.0)	15.6(60.0)	8.3(47.0)	6.1(43.0)

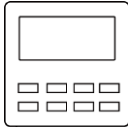




## 3 Preparations for Installation

### NOTICE!

Product graphics are only for reference. Please refer to actual products. Unspecified unit of measure is mm(in.).

### 3.1 Standard Fittings

Please use the supplied standard fittings listed below as instructed.

No.	Name	Appearance	Q'ty	Usage
1	Wired Controller		1	To control the indoor unit
2	Drain Hose Assembly		1	To connect with the hard PVC drain pipe
3	Special Nut		1	To be used for connecting the refrigerant pipe
4	M10X8 Nut with Washer		4	To be used together with the hanger bolt for installing the unit.
5	M10 Nut (M10X8.4 Nut)		4	To be used together with the hanger bolt for installing the unit.

No.	Name	Appearance	Q'ty	Usage
6	M10 Washer (Spring Washer M10X2.6)		4	To be used together with the hanger bolt for installing the unit.
7	Insulation		1	To insulate the gas pipe
8	Insulation		1	To insulate the liquid pipe
9	Sponge		2	To insulate the drain pipe
10	Fastener		8	To fasten the sponge

### 3.2 Location for Installation

- (1) This appliance shall not be installed a corrosive environment [i.e. laundry, etc.]
- (2) The framework the unit is attached to must be strong enough to support units' weight.
- (3) The condensate drain pipe must be properly sized/sloped to ensure proper drainage.
- (4) Remove all obstacles at inlet or outlet to ensure good air circulation.
- (5) Observe all dimensions below to ensure there's enough room for maintenance.
- (6) Keep the unit away from any heating source, inflammable gas or smoke.
- (7) This is a concealed ceiling type unit.
- (8) Indoor and outdoor unit supply power and control wiring should be kept at least 1m(39-3/8 in.) from any TV set or radio. Electrical appliances may create interference (noise) even if wiring is in excess of 1m(39-3/8 in.). Strong electrical signals may still create interference.

Unit: mm(in.)

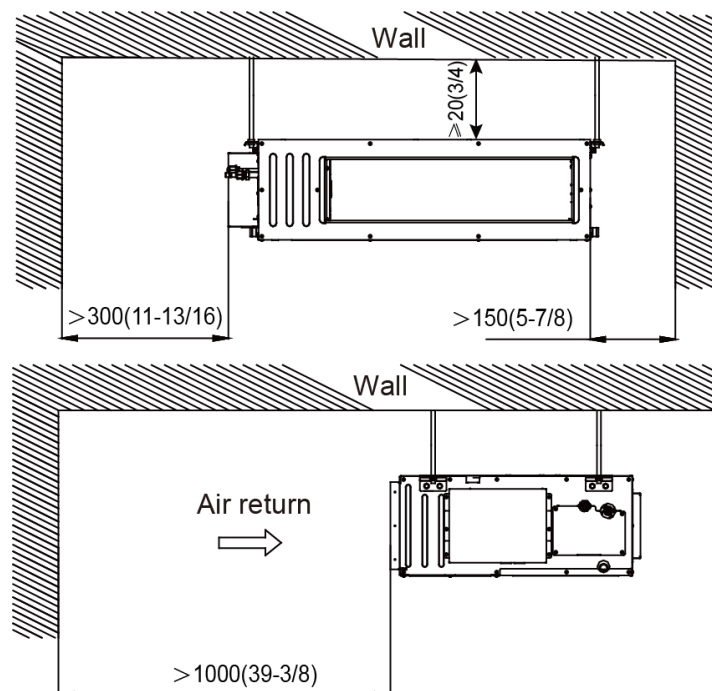


Fig 3.2.1

**NOTICE**

(1) Installation of the unit must be in accordance with National Electric Codes and local regulations.

(2) Do not install the unit yourself, improper installation will affect unit's performance. Installation must be performed by a licensed HVAC technician.

(3) Do not connect power until all installation work is finished.

### 3.3 Wiring Requirements

#### (1) Power Supply and Breaker Capacity

Model	Power Supply	Fuse Capacity(A)
GFH<09>DA-D3DNA1A/I	208/230V-1ph-60Hz	5
GFH<12>DA-D3DNA1A/I		5
GFH<18>DB-D3DNA1A/I		5
GFH<24>DB-D3DNA1A/I		5

**NOTICE**

(1) Use only copper wire for power supply wiring. Make sure the operating temperature is consistent with the wire values.

(2) If the supply power wiring is more than 15m (49-1/4 ft.) long, resize appropriately to avoid overloading the circuit.

(3) Above selection requirements: Power cord size is based on BV single-core 2-4 wire at 40°C(104°F) ambient temperature when laying across plastic pipe. Breaker is D type and used at 40°C(104°F). If actual installation condition varies, please lower the capacity appropriately according to the specifications of the supply wire and breaker provided by manufacturer.

(4) Install an approved disconnect near the unit. The minimum distance between each breaker within the disconnect should be 3mm(1/8 in.) (The same for both indoor and outdoor units).



## 4 Installation Instructions

### NOTICE!

These duct type indoor units are limited to be installed for one room.

### 4.1 Installation of Indoor Unit

#### 4.1.1 Outline Dimension and Installation Spots

Equip with a inspection hatch after lifting the unit. For the convenience of maintenance, the service port should be on one side of the electric box and below unit's lower level.

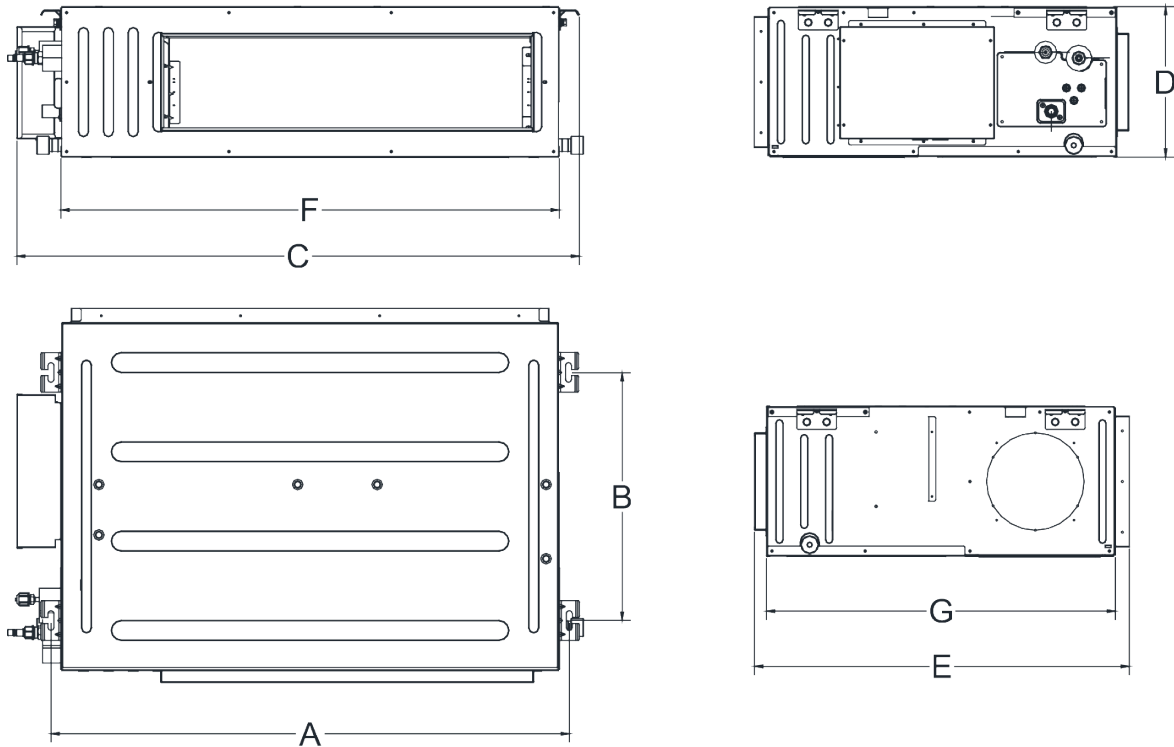


Fig 4.1.1

Below are dimensions of A, B, C, etc. for different models:

Unit:mm(in.)

Model	A	B	C	D	E	F	G
GFH<09>DA-D3DNA1A/ GFH<12>DA-D3DNA1A/	740 (29-1/8)	500 (19-11/16)	830 (32-11/16)	300 (11-13/16)	754 (29-11/16)	700 (27-9/16)	700 (27-9/16)
GFH<18>DB-D3DNA1A/ GFH<24>DB-D3DNA1A/	1040 (40-15/16)	500 (19-11/16)	1130 (44-1/2)	300 (11-13/16)	754 (29-11/16)	1000 (39-3/8)	700 (27-9/16)

### 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 4.1.3; diameter of drilling hole is according to the diameter of expansion bolt and the depth is 60-70mm(2-3/8~2-3/4 in.), as shown in fig 4.1.4.

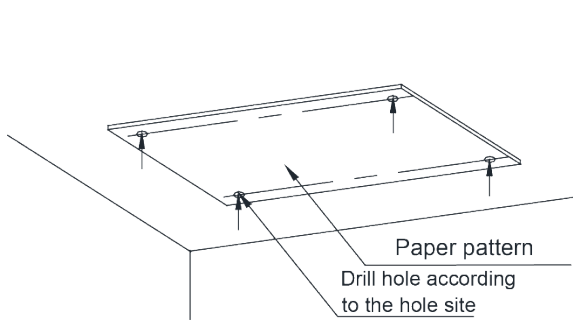


Fig 4.1.3

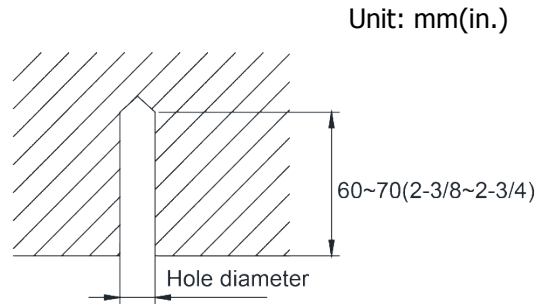


Fig 4.1.4

- 2) Insert the M10 expansion bolt into the hole and then knock the nail into the bolt, as shown in fig 4.1.5, and then remove the paper pattern.

**NOTICE!**

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

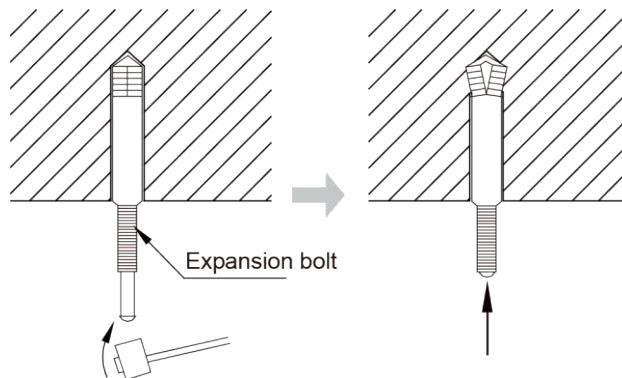


Fig 4.1.5

(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.

DUCT(09)~(24)HP230V1BD are as follows:

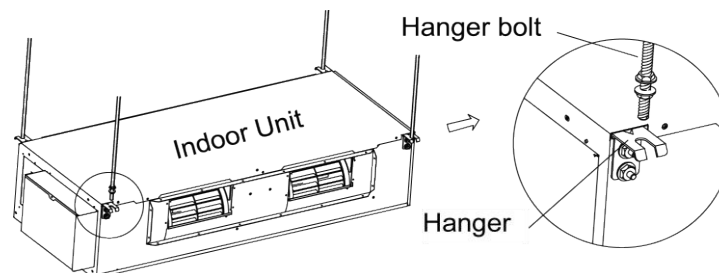


Fig 4.1.6

**NOTICE!**

- 1) Before startup, make sure to securely connect all refrigerant lines, drainage hose, control wire for the wired controller, and connection wire for indoor unit.
- 2) When drilling holes on ceiling (air return outlet or air outlet), you will need to reinforce the ceiling to prevent vibration. For details, please consult the user or builder.
- 3) If ceiling reinforcement is needed, please install a beam bracket, and then put the unit on the beam bracket.
- (3) Adjust the unit to the right position.
- (4) Check to make sure the unit is level.

Once installed, remember to check to see that the whole unit is properly positioned. It should be horizontal from front to back and slanted 1% from left to right, in the direction of drainage.

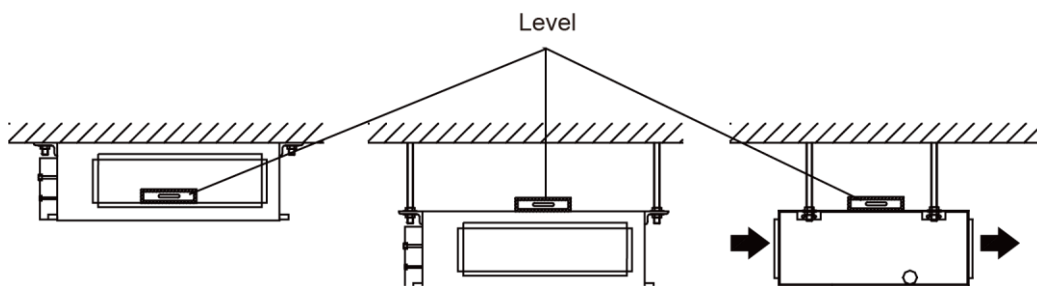


Fig 4.1.8

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

## 4.2 Refrigerant Pipe Connection

- (1) Guide the flaring port of copper pipe to the center of screwed joint and then tighten the flaring nut with hand as shown in fig 4.2.1.
- (2) Tighten the flaring nut with torque wrench.

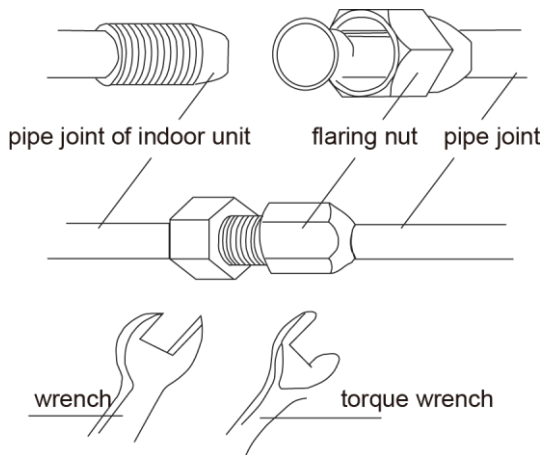


Fig 4.2.1

Torque for tightening nut

Pipe diameter mm(in.)	Torque(N · m)
Φ6.35(1/4)	15~30
Φ9.52(3/8)	35~40
Φ12.7(1/2)	45~50
Φ15.9(5/8)	60~65
Φ19.05(3/4)	70~75

- (3) Use a pipe bender when bending the pipe and do not over bend.
- (4) Wrap the refrigerant pipe and joint with insulation and secure firmly with tape.

### 4.3 Drainage Line Installation and Drainage System Testing

#### 4.3.1 Notice for Installation of Drain Line

- (1) The drain line should be short and the downward slant should be at least 1%~2% in order to drain condensation properly.
- (2) The diameter of drain line should be greater than or equal to the diameter of drain connection.
- (3) Install drain line according to the following fig. and secure insulation to the drain line (Fig 4.3.1). Improper installation may lead to water leakage and resulting damage.
- (4) Hard PVC pipe may be used as the drain line. When connecting, insert the end of PVC pipe into the drain hole and secure it. Do not use glue (PVC cement).
- (5) When several unit's drain lines are connected, position the drain line about 100mm(4in.) lower than the drainage port of each unit. Use heavier duty drain line if needed.

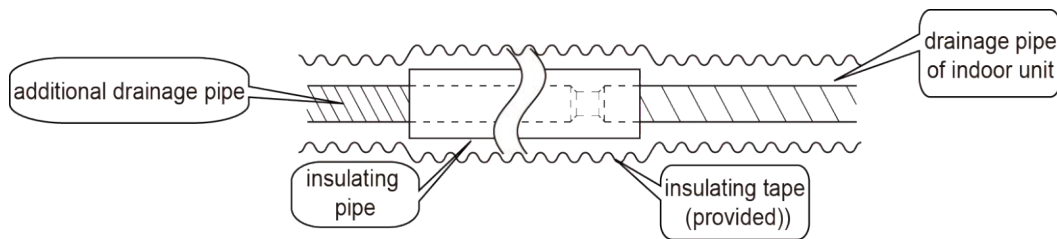


Fig 4.3.1

#### 4.3.2 Drain Line installation

- (1) Insert the drain hose into the drain hole and secure it with tape, as shown in Fig 4.3.2.
- (2) Tighten the pipe clamp, with the distance between screw nut and hose smaller than 4mm(1/8in.).
  - ① metal clamp(accessory)
  - ② drain hose(accessory)
- (3) Use sealing tape to insulate the pipe clamp and hose, see Fig.4.3.3.
  - ① metal clamp(accessory)
  - ② thermal sponge(accessory)

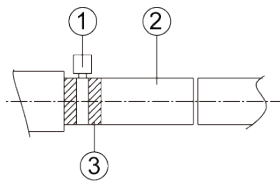


Fig 4.3.2

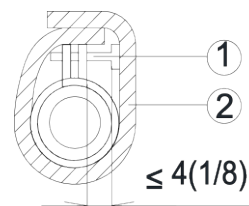


Fig 4.3.3

- (4) When connecting several drain lines, follow the instruction as indicated in Fig 4.3.4. Select the condensate drain line to match the unit capacity.

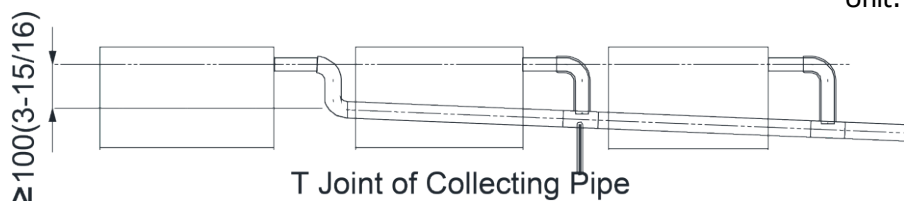


Fig 4.3.4

- (5) Install the trap as shown in following Fig 4.3.5.
- (6) Install one trap for each unit.
- (7) Allow clearance for cleaning trap.

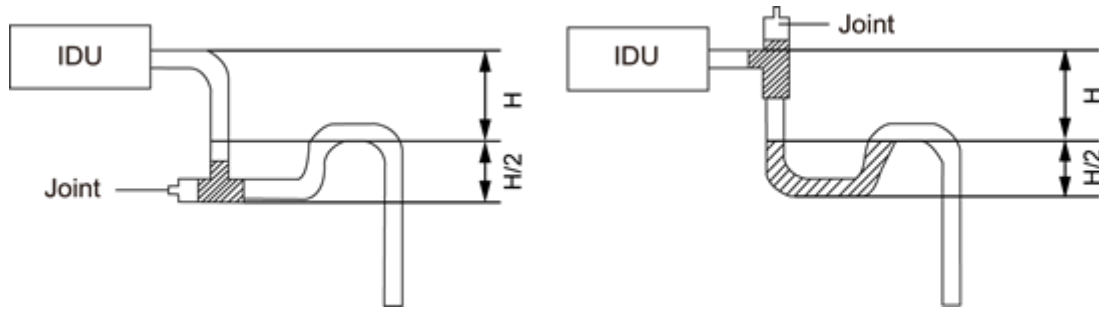


Fig 4.3.5

- (8) The horizontal pipe can be connected to vertical pipe in the same level; please select the connection way as shown in following fig.

NO1: Connection of drainage pipe joints (Fig4.3.6)

NO2: Connection of downspout elbow (Fig4.3.7)

NO3: Inserting pipe connection (Fig4.3.8)

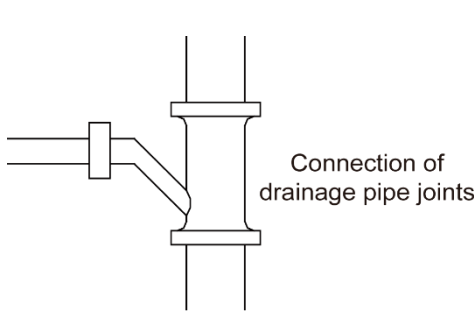


Fig 4.3.6

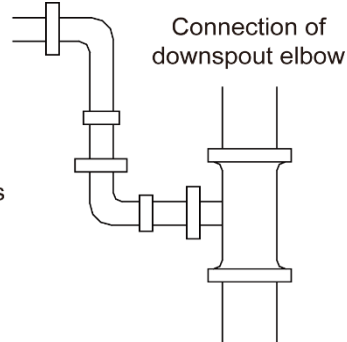


Fig 4.3.7

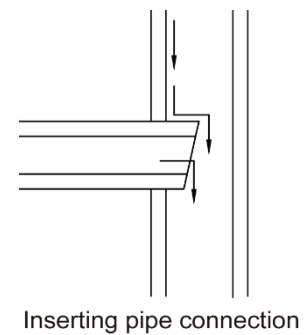


Fig 4.3.8

- (9) The installation height of raising pipe for drainage should be less 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.

Unit: mm(in.)

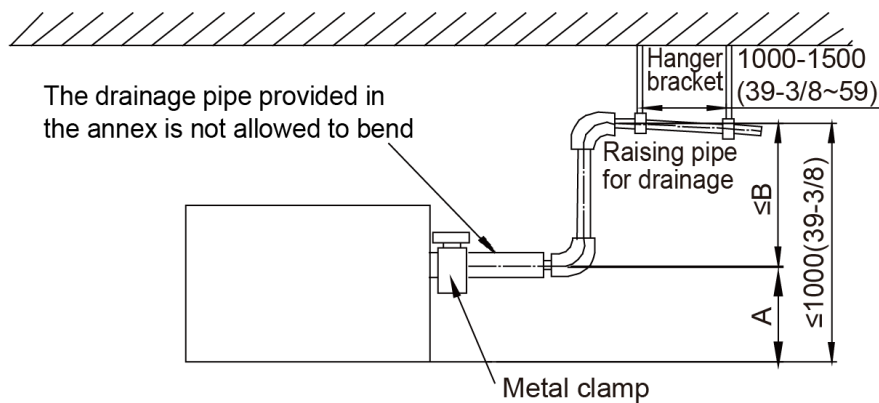


Fig 4.3.9

Model	A	B	C
GFH<09>DA-D3DNA1A/I GFH<12>DA-D3DNA1A/I GFH<18>DB-D3DNA1A/I GFH<24>DB-D3DNA1A/I	150 (5-7/8)	850 (33-1/2)	800 (31-1/2)

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

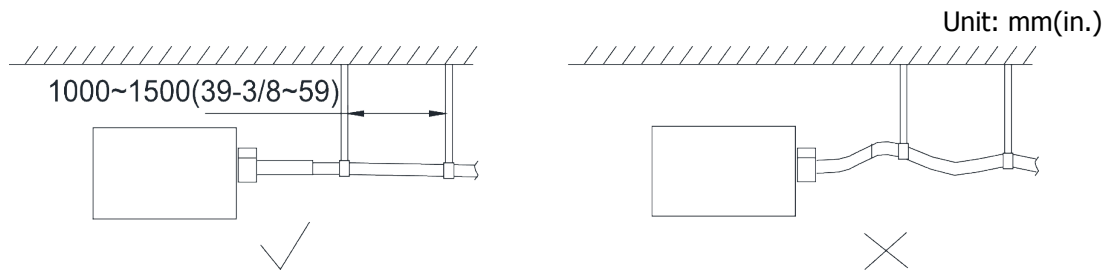


Fig 4.3.10

### 4.3.3 Test of Drainage System

◆ Models with water pump

(1) Please test drainage system after electrical work is finished. Inject approximately 1L purified water to drain pan from air vent, do not splash the water over the electrical components (e.g. water pump. etc.).

- 1) Spray 1L water on evaporator with sprayer.
- 2) When commissioning is finished, energize the IDU's and switch to cooling or dry mode, the water pump will operate, check the transparent portion of the drain socket to make sure the unit is draining properly.
- 3) If the communication wire is not connected, communication malfunction "E6" will occur after 3 min of energizing. In this case, the water pump operates automatically. Make sure the water pump drains normally through drainage port. The water pump will stop automatically after running for 1min.

- (2) During the test, please carefully check the drainage joint, make sure it is not leaking.
- (3) Make sure to perform a drain test before finishing the ceiling.

◆ Models without water pump

(1) Inject some water to the water tray of indoor unit as following:

- 1) Connect the drain hose to the other drain connection pipe of water tray and inject approximately 1L water. (Remove the drain hose after testing and then put a plug in water tray.)
- 2) Spray 1L water on evaporator with sprayer.

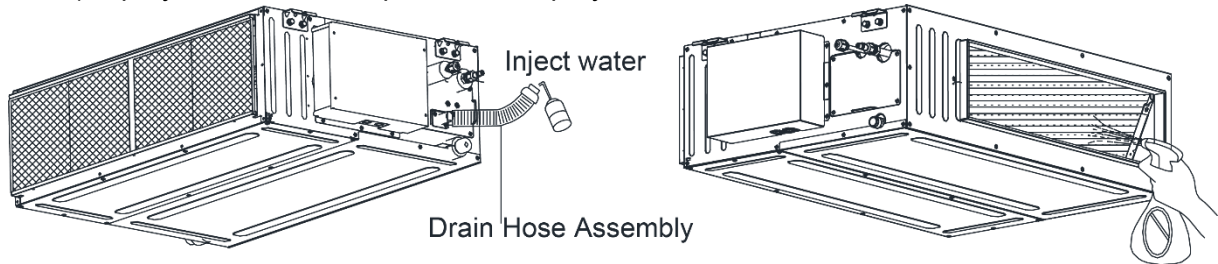


Fig 4.3.11

- (2) Make sure the water drains properly from the drain pipe and check for leaks.
- (3) Securely insulate the drain hose and pipe clamp after checking drainage.

## 4.4 Installation of Air Duct

### NOTICE!

- ① The supply, return and fresh air ducts should be insulated to avoid heat loss and prevent condensation. Use generally accepted practices and insulate appropriately for the area of the country you are in.
- ② Each supply, return and fresh air duct should be secured to ensure quiet operation.
- ③ The design and construction of air duct should comply with local codes and regulations.
- ④ Keep the edge of air-return duct more than 150mm(5-7/8 in.) away from the wall. Add a filter to the air-return opening.
- ⑤ Consider noise and vibration dampening for the design and construction of the ductwork. To reduce noise, position the supply and return air openings as far away from the most commonly occupied area of the space being conditioned.

4.4.1 Shape and Size of Supply and Return Air Opening

Unit: mm(in.)

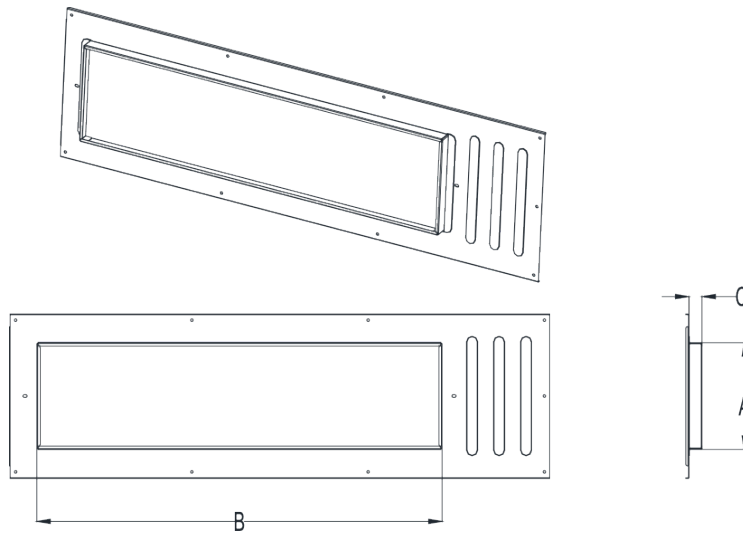


Fig 4.4.1 Air Supply Outlet

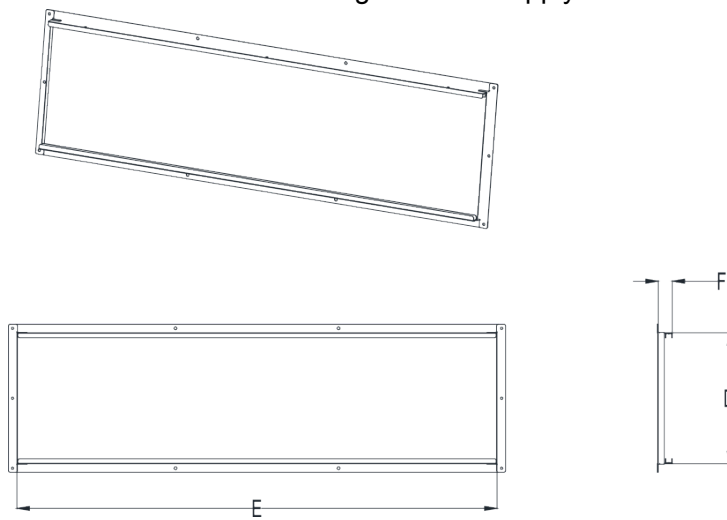


Fig 4.4.2 Return Air Opening

Model	Size of Supply Air Outlet			Size of Return Air Opening		
	A	B	C	D	E	F
GFH<09>DA-D3DNA1A/I GFH<12>DA-D3DNA1A/I	195 (7-5/8)	451 (17-3/4)	25 (1)	264 (10-3/8)	660 (26)	29 (1-1/8)
GFH<18>DB-D3DNA1A/I GFH<24>DB-D3DNA1A/I	195 (7-5/8)	751 (29-9/16)	25 (1)	264 (10-3/8)	960 (37-3/4)	29 (1-1/8)

4.4.2 Installation of Supply Duct

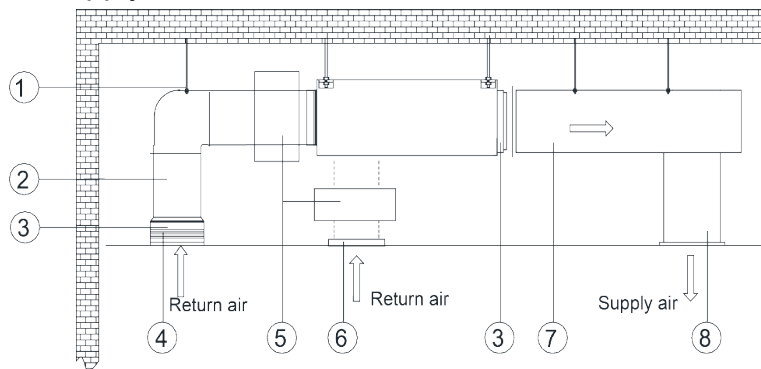


Fig 4.4.5



No.	Name	No.	Name
1	Hanger Rod	5	Static Pressure Box
2	Return Air Duct	6	Filter
3	Canvas Duct	7	Main Supply Air Duct
4	Return Air Inlet	8	Supply Air Outlet

#### 4.4.3 Installation of the Return Air Duct

(1)The default installation location of the rectangular flange is at the back and the return air cover plate is at the bottom, as shown in Fig 4.4.6.

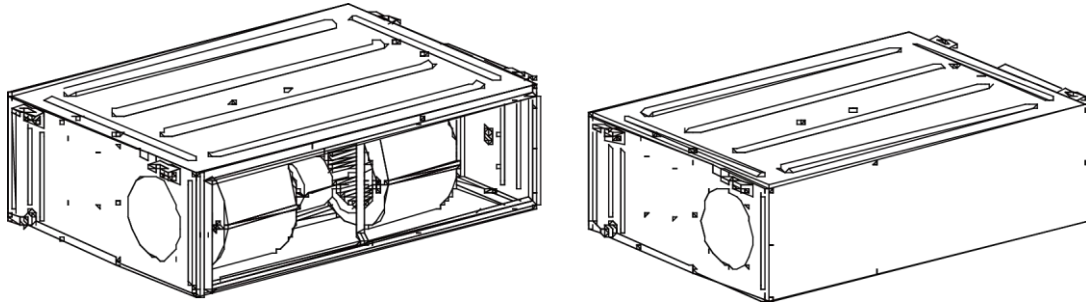


Fig 4.4.6

(2)If the bottom return air is desired, just change the rectangular flange with the return air cover plate.

(3)Connect one end of the return air duct to the return air outlet of the unit with rivets and the other to the return air louver. Use reinforced canvas duct for easy adjustment of duct.

(4)More noise is likely to be produced in the bottom return air mode than the rear return air mode, install a silencer and a static pressure box to minimize the noise.

(5)Choose the best installation method by considering the building conditions and accessibility needed maintenance etc., as shown in Fig 4.4.7.

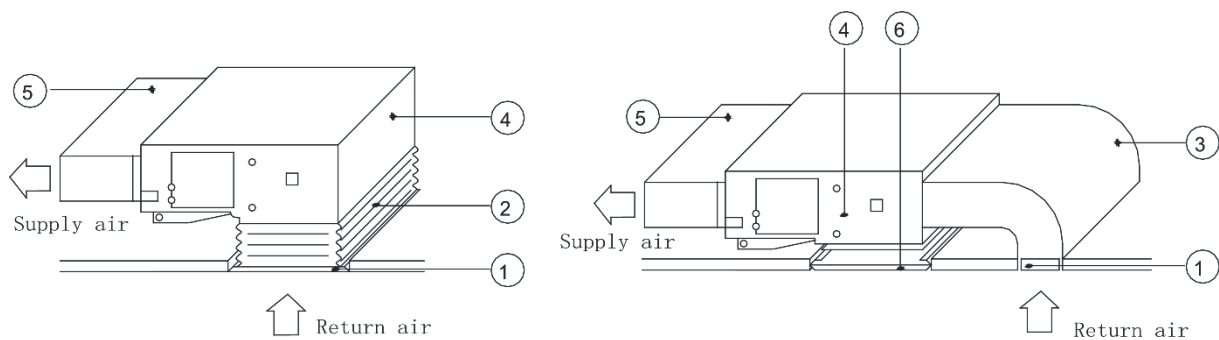


Fig 4.4.7

Table 5 Installation of the return air duct

No.	Name	No.	Name
1	Return Air Inlet (with filter)	4	Indoor unit
2	Canvas Duct	5	Supply Air Duct
3	Return Air Duct	6	Grille

#### 4.4.4 Installation of the Fresh Air Pipe

(1)When the fresh air pipe is needed to be connected, cut the fresh air baffle as Fig 4.4.8.

- Plug the fresh air baffle opening with insulation if not installing fresh air ductwork.
- (2) Install the round flange so that the fresh air duct can be connected as Fig 4.4.9.
- (3) Seal and insulate the fresh air ductwork and flange.
- (4) Fresh air should be treated with an air filter.

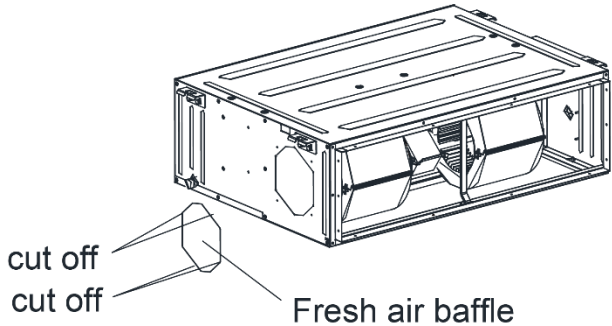


Fig 4.4.8

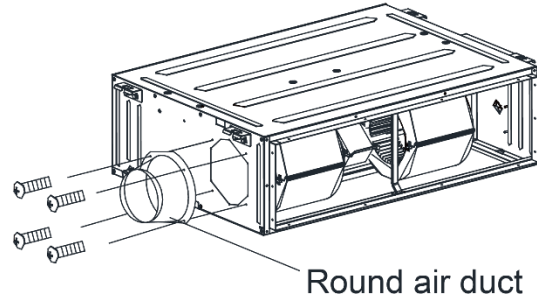


Fig 4.4.9

## 4.5 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.

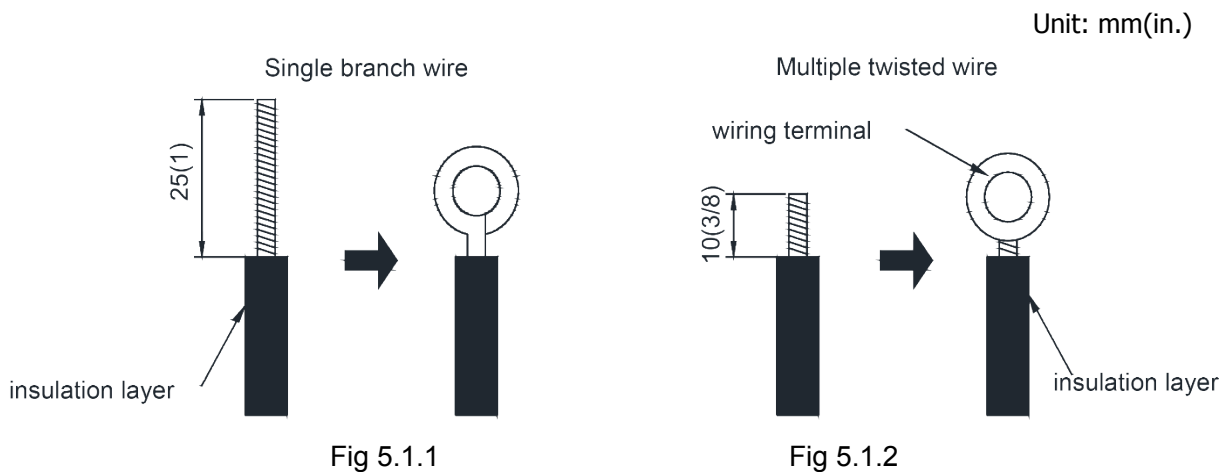
### **NOTICE**

- |  |
|--|
| (1) Units must be properly grounded for proper operation and to prevent electrical shock.  |
| (2) Read the wiring diagram carefully before wiring, incorrect wiring could cause improper operation or unit damage.             |
| (3) The unit should be powered by an independent circuit and breaker (disconnect).   |
| (4) All wiring should be in accordance with local codes and regulations to ensure proper operation and safety.                   |
| (5) Install circuit breakers for branch circuits according to local codes and regulations and electrical standards.              |
| (6) Keep all wiring away from refrigerant lines, compressors and fan motors.   |
| (7) The communication wires should be separated from power supply wire and interconnecting wire between outdoor and indoor unit. |
| (8) Adjust the static pressure via wired controller based on the installation layout.  |

## 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 in.) 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 using a needle nose plier, and keep the gauge of ring in proportion to the screw.
  - 4) Use a screwdriver for tightening the terminal.
- (2) Connecting stranded wire (as shown in fig 5.1.2)
- 1) Strip about 10mm (3/8 in.) insulation of the end of stranded wire by stripping and cutting tool.
  - 2) Loosen the screws on terminal board.
  - 3) Insert the wire into the ring tongue terminal and tighten by crimping tool.
  - 4) Use a screwdriver for tightening terminals.



## 5.2 Power Cord Connection

### NOTICE!

- ① Every unit should be equipped with a circuit breaker for short-circuit and overload protection.
- ② For the system to work properly, all indoor units connected to the same outdoor unit must be kept energized.

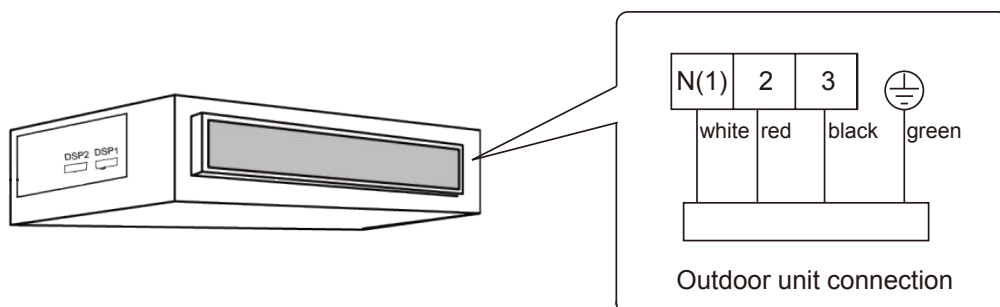


Fig 5.2.1

### NOTICE!

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

- For units with single-phase power supply.
  - (1) Remove the electrical box cover.
  - (2) Insert wiring through the access holes.
  - (3) Secure wiring with a wire tie.
  - (4) The power supply wire size can't be smaller than 18 AWG.

### 5.3 Wiring of the Signal Line of the Wired Controller

- (1) Open the cover of the electrical box of the indoor unit.
- (2) Feed the communication wire go through the rubber grommet.
- (3) Insert the communication wire into the four-pin socket on the printed circuit board of the indoor unit.
- (4) Secure the signal line with a wire tie.

## 6 Setting of External Static Pressure

Working range for external static pressure of this series of duct type unit is 0 -.8 InWc. For corresponding external static pressure to the respective static pressure notch please see below. The setting of static pressure for indoor fan can be done via wired controller and Gree debugging software. For specific instructions see the Wired Controller Instruction Manual or Gree Debugging Software Instruction Manual.

Applicable to: 9K/12K								
Static pressure notch for indoor fan	2	3	4	5	6	7	8	9
External static pressure (In Wc)	0	.08	.16	.24	.32	.40	.48	.60
Applicable to: 18K/24K								
Static pressure notch for indoor fan	2	3	4	5	6	7	8	9
External static pressure (In Wc)	0	.12	.24	.36	.48	.60	.72	.80

## 7 Routine Maintenance

<b>NOTICE</b>
(1) Turn off the unit and disconnect the main power supply when cleaning the air conditioner to avoid electric shock or injury.
(2) To clean equipment, use a safe ladder and follow all precautions (spotter).
(3) Do not clean the unit with hot water higher than 112°F to prevent fading or deformation.
(4) Do not use excessive heat when cleaning filters, filters will be deformed or damaged.
(5) Clean the filter with a wet cloth dipped in neutral detergent.
(6) Contact a licensed HVAC technician whenever your unit is not operating properly.

### 7.1 Filter Cleaning

- (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 carefully.
- (2) If the unit is in a dusty or dirty environment, clean them regularly. (usually once every two weeks).

### 7.2 Maintenance before Seasonal Use

- (1) Make sure the air inlet and air outlet of indoor and outdoor unit are not blocked.
- (2) Make sure equipment is securely grounded.
- (3) Make sure all the power and communication wiring are secure and not damaged.

(4) Check if any error code displayed after energized.

### 7.3 Maintenance after the Seasonal Use

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

### 8 Table of Error Codes for Indoor Unit

Number	Error code	Error
1	E1	Compressor high pressure protection
2	E2	Indoor anti-freeze protection
3	E3	Low pressure compressor protection, low refrigerant protection and refrigerant collecting mode
4	E4	Compressor high discharge temperature protection
5	E5	AC over-current protection
6	E6	Communication error
7	E7	Mode conflict
8	E8	Anti-high temperature protection
9	E9	Full water protection
10	F1	Indoor ambient temperature sensor is open/short circuited
11	F2	Indoor evaporator temperature sensor is open/short circuited
12	F3	Outdoor ambient temperature sensor is open/short circuited
13	F4	Outdoor condenser temperature sensor is open/short circuited
14	F5	Outdoor discharge temperature sensor is open/short circuited
15	H6	No feedback from indoor fan motor
16	U8	Zero-crossing protection
17	C5	Jumper cap malfunction protection
18	EE	Loading EEPROM malfunction

Note: If there're other error codes, please contact qualified professionals for service.

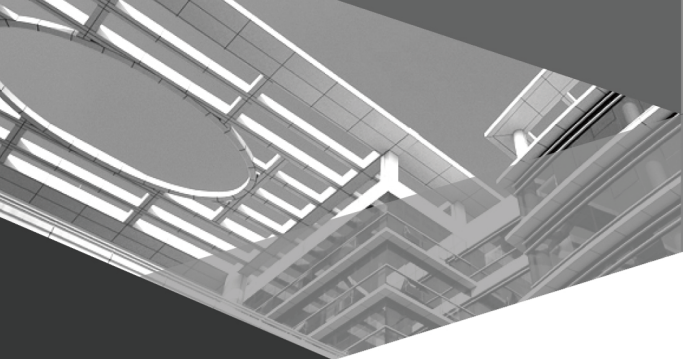
## 9 Troubleshooting

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 Defect of main PC-board.</li> </ul>
The unit stops after running for a while.	<ul style="list-style-type: none"> <li>① The inlet or outlet of ODU or IDU are blocked by obstacle.</li> </ul>
Poor cooling	<ul style="list-style-type: none"> <li>① The filter is dirty.</li> <li>② Too heavy a heat load of room(e.g. too many people in the room)</li> <li>③ Doors or windows are open.</li> <li>④ Inlet and outlet of IDU are blocked.</li> <li>⑤ Temperature is set too high.</li> <li>⑥ Refrigerant is low (e.g. refrigerant leakage)</li> </ul>
Poor heating	<ul style="list-style-type: none"> <li>① The filter is dirty.</li> <li>② Doors or windows are open.</li> <li>③ Temperature is set too low.</li> <li>④ Refrigerant is low (e.g. refrigerant leakage)</li> </ul>
Indoor fan doesn't start up during heating	<ul style="list-style-type: none"> <li>① At startup, the IDU fan will not operate until the heat exchanger (indoor coil) becomes hot, to prevent cold air delivery.</li> <li>② In Defrost, the IDU fan stops because the system temporarily switches to the cooling mode, this prevents cold air delivery, the fan will resume operating after defrosting.</li> </ul>

### NOTICE!

If the air conditioner still fails to work normally after checking and handling as described above, please stop using it immediately and contact a licensed HVAC technician for assistance.



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