

Nortek Global HVAC, LLC

Multi Variable Heat Pump Floor and Ceiling Type Indoor Unit

Owner's Manual

Heat Pump




Models:


BDFC-2.8(09)-AK	BDFC-3.6(12)-AK
BDFC-5.0(18)-AK	BDFC-7.1(24)-AK
BDFC-9.0(30)-AK	BDFC-11.2(36)-AK
BDFC-12.5(42)-AK	BDFC-14.0(48)-AK

- Please read this owner's manual carefully before operation and retain it for future reference
- Specifications & illustrations subject to change without notice or incurring obligations

Preface

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

 WARNING	DANGER: Failure to comply may result in severe personal injury, property damage and/or death.
 CAUTION	CAUTION: Failure to comply may result in personal injury and/or property damage.
 NOTICE	NOTICE is used to address practices not related to personal injury.

 WARNING	
(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 cooling or heating performance may result.	
(5) Direct operators or maintainers should keep this manual for future reference.	
(6) If this unit fails to operate normally, please contact a qualified contractor as soon as possible and provide the following information: 1) Content on the nameplate (model number, cooling capacity, serial number and manufacture date. 2) Malfunction details (before and after the malfunction occurred).	
(7) Each unit has been strictly tested and proved before shipment. In order to prevent units from being damaged or malfunctioning because of improper service, please do not disassemble the unit by yourself. If you need to maintenance or service, please contact a qualified contractor.	
(8) In standby mode, the unit will consume a little power for normal communication, preheating refrigerant, etc. When the unit won't be used for a long period of time, turn off the power of the complete unit. Power will need to be turned back on 24 hours before the next time the air conditioner is used for warmup..	
(9) Illustrations in this manual are for your reference only. Manuals are subject to change by manufacturer without prior notice.	
(10) Instructions are also be available online.	

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.
- **DISPOSAL:** Do not dispose this product as unsorted household waste. Please dispose or recycle responsibly.



R410A(R32/125:50/50):2087.5

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1 Safety Precautions

 **WARNING**

- | |
|---|
| (1) Follow this instruction to complete the installation work. Please read this manual carefully before unit startup and service. |
| (2) Wire size of power cord should be sized correctly. The damaged power cord and connection wire should be replaced by specialized cable. |
| (3) After connecting the power cord, please affix the electric box cover properly. |
| (4) Never fail to comply with the nitrogen charge requirements. Charge nitrogen when welding pipes. |
| (5) Never short-circuit or cancel the pressure switch to prevent unit damage. |
| (6) Connect the wired controller before energization; otherwise wired controller could be damaged. |
| (7) Before using the unit, please check if the piping and wiring are correct to avoid water leakage, refrigerant leakage, electric shock, or fire etc.. |
| (8) Do not insert fingers or objects into air outlet/inlet grille. |
| (9) Open the door and window and keep good ventilation in the room to avoid oxygen deficit when the gas/oil heating equipment is used. |
| (10) Never start up or shut off the air conditioner by plugging or unplugging the power cord. |
| (11) Let the unit run for at least five minutes after startup; otherwise it will affect oil return of the compressor. |
| (12) Do not allow children operate this unit. |
| (13) Do not operate this unit with wet hands. |
| (14) Turn off the unit or cut off the power supply before cleaning, otherwise electric shock or injury may occur. |
| (15) Never spray or flush water towards unit, otherwise malfunction or electric shock may occur. |
| (16) Do not expose the unit to the wet or corrosive circumstances. |
| (17) Under cooling mode, please don't set the room temperature too low. Keep the temperature difference between indoor and outdoor unit within 5°C (9°F). |
| (18) User is not allowed to repair the unit. Faulty service may cause electric shock or fire. Please contact a qualified service technician for help. |
| (19) Before installation, please check if the power supply matches the requirements specified on the nameplate. |
| (20) Installation should be conducted by dealer or qualified personnel. Please do not attempt to install the unit yourself. Faulty installation may result in water leakage, electric shock or fire etc.. |
| (21) Be sure to use the appropriate accessories and parts to prevent the water leakage, electric shock and fire accidents. |
| (22) Make sure the unit can be grounded properly and securely to avoid electric shock. Please do not connect the ground wire to gas pipe, water pipe, lightning rod or telephone line. |
| (23) Connect power to the unit 8 hours before operation. Do not cut off the power when it will not be used for a short period of time, i.e. overnight (to protect the compressor). |
| (24) If refrigerant leakage occurs during installation, please ventilate immediately. Toxic gas will result if the refrigerant gas meets spark or open flame. |
| (25) Volatile liquid, such as paint thinner or gasoline will damage the unit appearance. Only use soft cloth with a little mild detergent to clean the outer casing of unit. |
| (26) If anything abnormal occurs (such as burning smell), please power off the unit and cut off the main power supply, and then immediately contact a licensed contractor. If the problem persists, the unit might be damaged and lead to electric shock or fire. |

2 Product Introduction

2.1 Names of Key Components



Fig.2.1

No.	①	②	③	④	⑤	⑥
Name	Drainage Pipe	Connection Pipe	Air Inlet Grille (With Filter)	Louver	Main Unit	Display board

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	27(80.6)	19(66.2)	35(95.0)	24(75.2)
Rated Heating	20(68.0)	15(59.0)	7(44.6)	6(42.8)

2.3 Unit Functions

Unit Functions	Wired Controller WRC1(Optional)	Remote Controller RC (Standard)
Operation Mode (Cooling, Heating, Fan, Dehumidifying)	✓	✓
Fan Speed Adjustment	✓	✓
Temperature Adjustment	✓	✓
X-fan Function	✓	✓
Quiet Function	✓	X
Sleep Function	✓	✓
Save Function	✓	X
E-heater Function	X	X
Memory Function	✓	X
Absence Function	✓	✓
Timer Function	✓	✓
Low Temp Dehumidify Function	✓	X
Filter Cleaning Reminding Function	✓	X
I Feel	X	✓
Light Function	✓	✓
Swing	✓	✓

Note:

① ✓: included, X: not included.







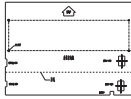

② Please refer to the user manual of Wired Controller or Remote Controller for more details.

3 Installation Preparation

Note: Product illustrations are for reference only. Please refer to the actual product. Unspecified measure unit is mm/inch.

3.1 Standard Fittings

Please use the following provided accessories according to the requirement.

No.	Name	Appearance	Q'ty	Usage
1	Remote controller		1+2	To control the indoor unit
2	Special nut		1	To connect gas pipe
3	Special nut		1	To connect liquid pipe
4	M10X8 nut with washer		8	To be used with the suspension bolt for installing the unit.
5	Insulation		1	To insulate the gas pipe
6	Insulation		1	To insulate the liquid pipe
7	Paper pattern for installation		1	Locate the drill hole on ceiling or wall
8	Fastener		4	To fasten the sponge

3.2 Selecting a Location for Installation

(1) The supporting structure to be used must have a sufficient load carrying capacity to support the weight of the unit.

(2) Drain pipe can drain water out easily.

(3) There is no obstacle near air inlet and air outlet that might impede good air circulation.

(4) There should be sufficient space around the unit for maintenance access. Please see diagram below.

(5) Keep the unit away from other heat sources, inflammable gas, and smoke.

(6) The indoor unit, outdoor unit, power cord and connection electric wire should be at least 1m (40 in.) from television and radio. Electrical appliances may cause electromagnetic interference. (Strong electromagnetic field will require clearances more than 1 m (40 in.)

Unit: mm/inch

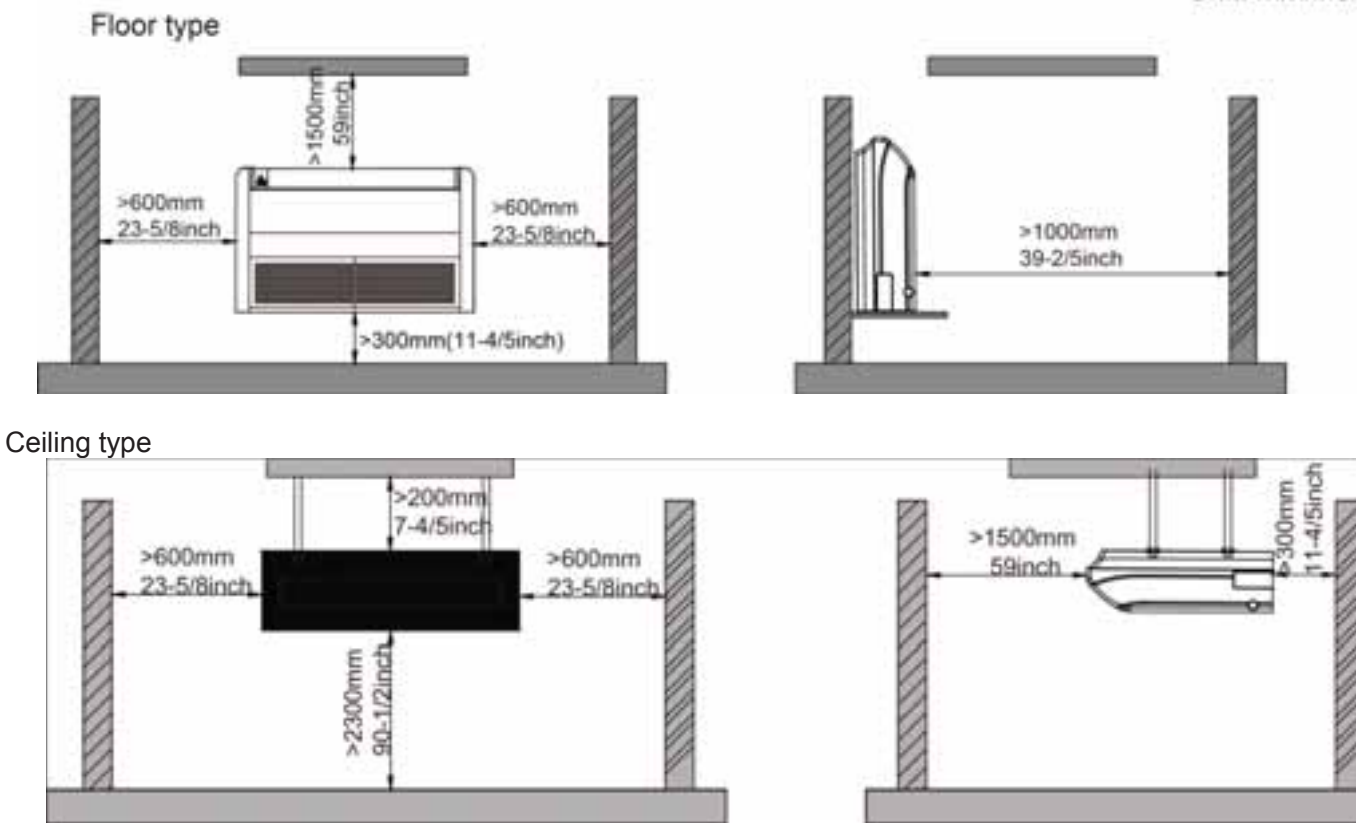


fig.3.2

NOTICE

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

3.3 Requirements of Communication Wire Selection

Note:

If air conditioner is installed in or near a strong electromagnetic field, STP (shielded twisted pair) communication cable must be used.

3.3.1 Selection of communication wire between indoor unit and wired controller

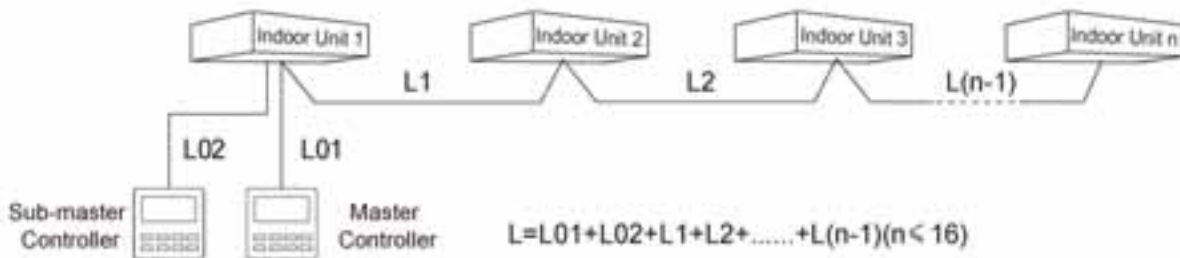


Fig.3.3.1

Wire type	Total length of communication wire between indoor unit and wired controller (m/yd)	Wire diameter (mm ²)	Wire standard	Remark
Light/Common PVC Jacket Soft Wire	L≤250(273-13/32)	2×0.75~ 2×1.25	IEC 60227-5	The total length of communication line should not exceed 250m (850 feet)

3.3.2 Selection of communication wire between Indoor Unit and Indoor Unit (Outdoor Unit)

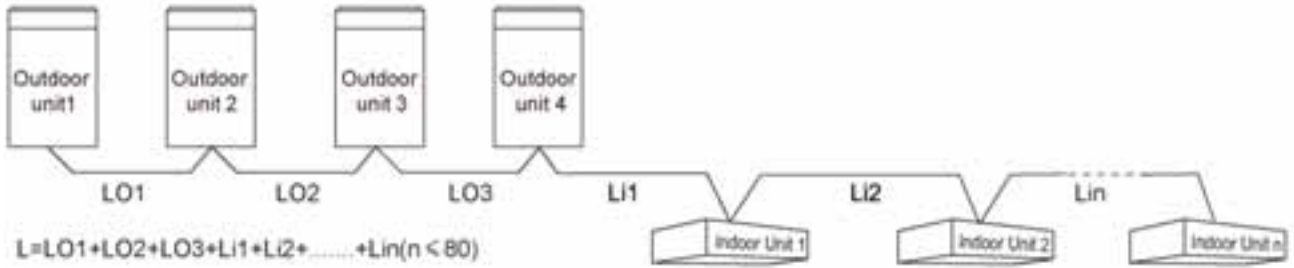


Fig.3.3.2

Wire type	Total length of communication wire between indoor unit and indoor unit(outdoor unit) (m/yd)	Wire diameter (mm ²)	Wire standard	Remark
Light/Common PVC Jacket Soft Wire	$L \leq 1000(1093-5/8)$	$\geq 2 \times 0.75$	IEC 60227-5	If wire gauge is 2X1 mm ² , then it's OK to increase the length of communication line. But total length should not exceed 1500m (4900 feet).

3.4 Wiring Requirement

Note:

- ① The circuit breaker and power cord specification listed above are based on max power (max current) of the unit.
- ② The power cord specification listed above is based on ambient temperature of 40°C (104°F)
- ③ The circuit breaker specification listed above is based on ambient temperature of 40°C (104°F). If the working condition is different, please adjust it according to the circuit breaker specification sheet .

Dimension of power cord and capacity of air switch

Model	Power specification	MCA (A)	MOP (A)
BDFC-2.8(09)-AK	208~230V-1ph-60Hz	1	15
BDFC-3.6(12)-AK		1	15
BDFC-5.0(18)-AK		1	15
BDFC-7.1(24)-AK		1	15
BDFC-9.0(30)-AK		1	15
BDFC-11.2(36)-AK		1	15
BDFC-12.5(42)-AK		1	15
BDFC-14.0(48)-AK		1	15

4 Installation Instructions

4.1 Indoor Unit Installation

4.1.1 Dimensions

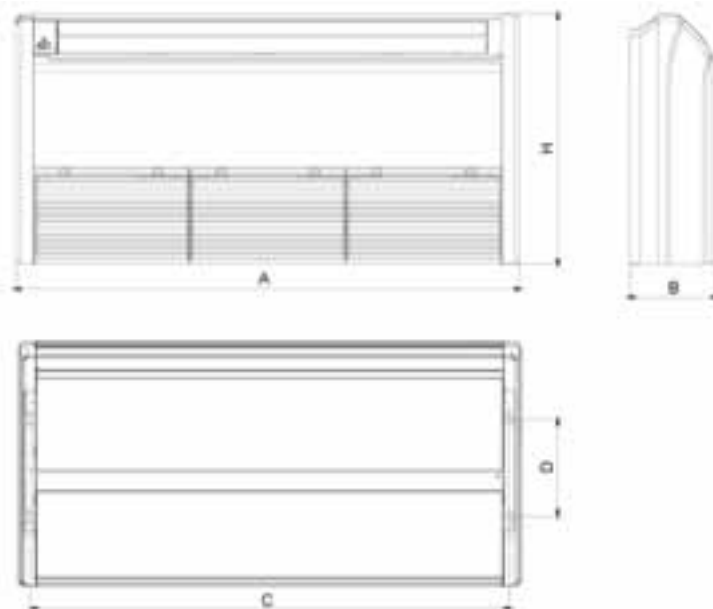


Fig.4.1.2.1

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

Unit: mm/inch

Models:	A	B	C	D	H
BDFC-2.8(09)-AK	1220 (48)	225 (8-7/8)	1158 (45-5/8)	280 (11)	700 (27-1/2)
BDFC-3.6(12)-AK BDFC-5.0(18)-AK					
BDFC-7.1(24)-AK BDFC-9.0(30)-AK	1420 (55-15/16)	245 (9-5/8)	1354 (53-5/16)	280 (11)	700 (27-1/2)
BDFC-11.2(36)-AK BDFC-12.5(42)-AK BDFC-14.0(48)-AK	1700 (66-15/16)	245 (9-5/8)	1634 (64-21/64)	280 (11)	700 (27-1/2)

Models:	Drainage pipe (Outer Diameter × wall thickness) (mm/inch)	Outer diameter of connection pipe(mm/inch)	
		Liquid pipe	Gas pipe
BDFC-2.8(09)-AK	φ17×1.75 φ11/16×1/16	6.35 (1/4)	9.52 (3/8)
BDFC-3.6(12)-AK		6.35 (1/4)	12.7 (1/2)
BDFC-5.0(18)-AK		9.52 (3/8)	15.9 (5/8)
BDFC-7.1(24)-AK BDFC-9.0(30)-AK		9.52 (3/8)	15.9 (5/8)
BDFC-11.2(36)-AK BDFC-12.5(42)-AK BDFC-14.0(48)-AK		9.52 (3/8)	15.9 (5/8)

Note:

Installation and mounting must be carried out by qualified personnel.

4.1.2 Suspend the indoor unit

- (1) Determine the location of the hanger with the paper template, and then remove the paper template, as shown in Fig. 4.1.2.1.left

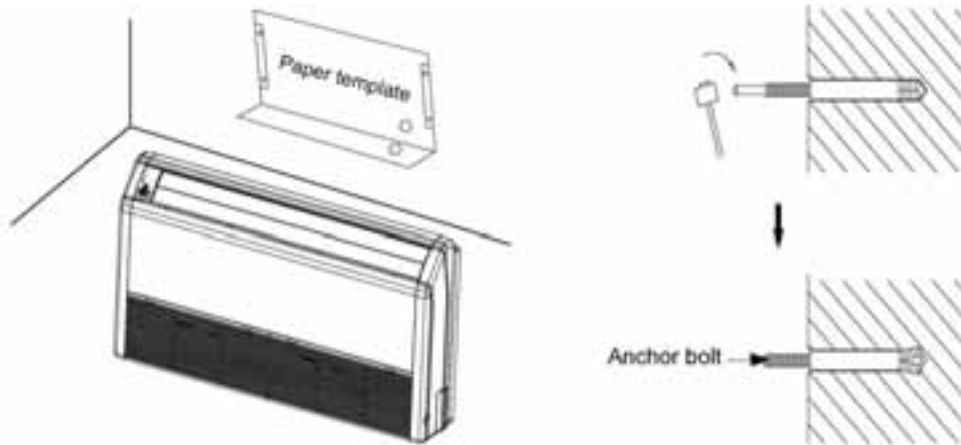


Fig.4.1.2.1

- (2) Insert the anchor bolts into the drilled holes, and drive the pins completely into the anchor bolts with a hammer, as shown in Fig. 4.1.2.1 .
- (3) Remove the right and left side panels. ,as shown in Fig 4.1.2.2.
- (4) Put the hanger bolt into the clasp of the indoor unit and tighten screws on the hanger to prevent the indoor unit from moving,as shown in Fig 4.1.2.2.
- (5) Reinstall and tighten the right and left side panels,as shown in Fig 4.1.2.3.

- (6) Adjust the height of the unit to make the drain pipe slope slightly downward so that the drainage will become much smoother as shown in Fig. 4.1.2.3.

Floor type

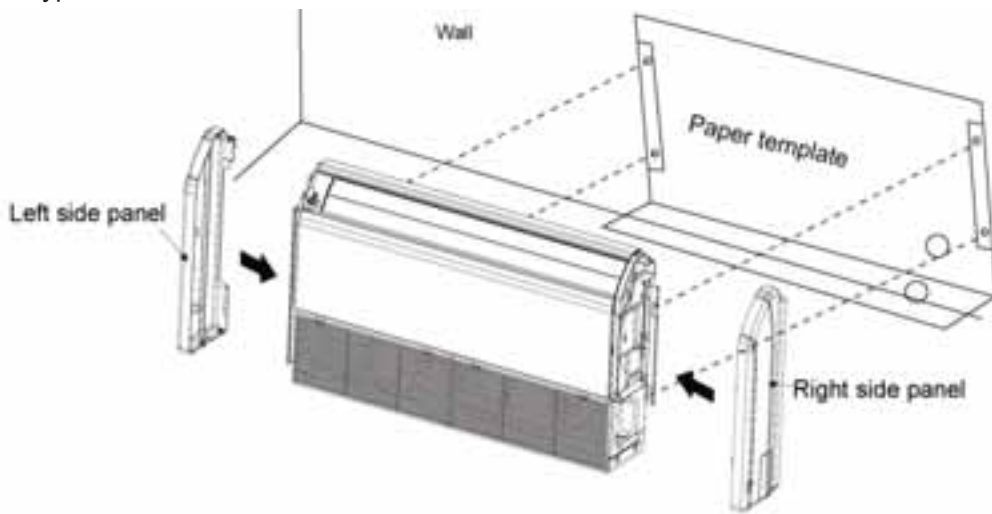


Fig.4.1.2.2

Ceiling type

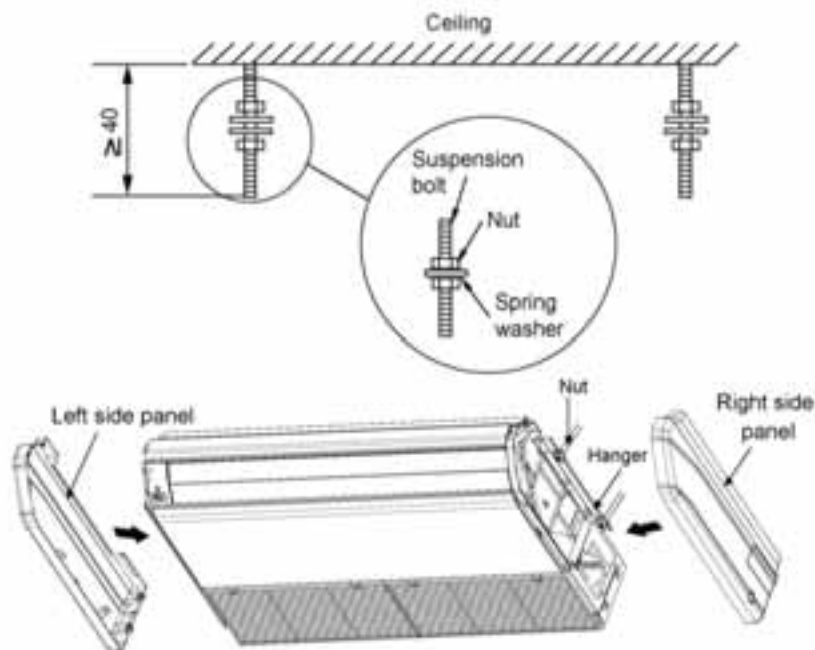


Fig.4.1.2.3

4.1.3 Leveling

The water level test must be done after installing the indoor unit to make sure the unit is level, as shown below.

Note:

Adjust the height of the unit to make the drain pipe slope slightly downward so that the drainage will be smooth.

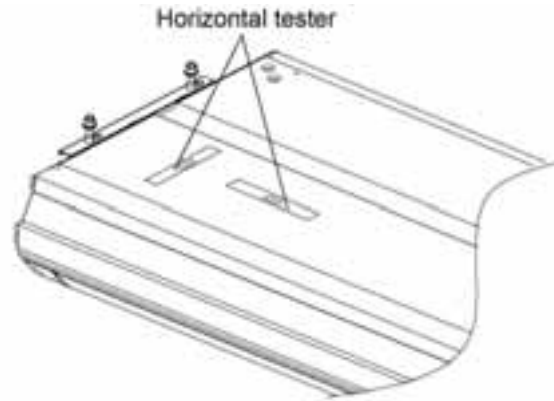


Fig.4.1.3

4.2 Refrigerant Pipe Connection

- (1) Align the flaring port of copper pipe with the center of screwed joint and then tighten the flaring nut by hand as shown in Fig. 4.2.
- (2) Tighten the flaring nut with torque wrench.

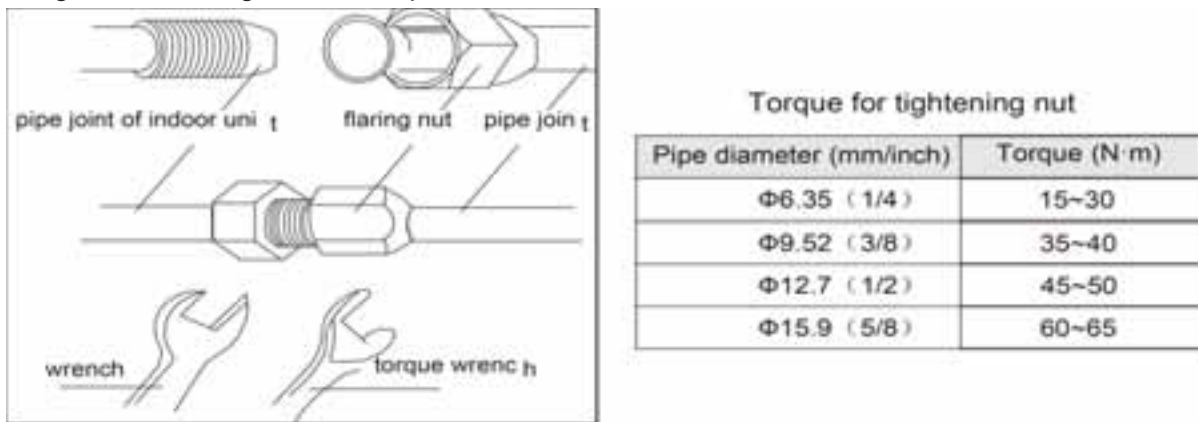


Fig.4.2

- (3) Use pipe bender when bending the pipe. The bending angle should not be too small.
- (4) Wrap the connection pipe and joint with sponge and secure firmly with tape.

4.3 Drainage Pipe Installation and Drainage System Testing

4.3.1 Notice for Installation of Drainage Pipe

- (1) The drainage pipe should be as short as possible and the downward slope should be at least 1%~2% in order to drain condensation water smoothly.
- (2) The diameter of drainage hose should be bigger or equal to the diameter of drainage pipe joint.
- (3) Install drainage pipe according to the following Fig. and wrap insulation around the drainage pipe. Improper installation may lead to water leakage.
- (4) Use normal hard PVC pipe for the drainage pipe. During connection, insert the end of PVC pipe into the drainage hole and then tighten it with drainage hose and wire binder. Never connect the drainage hole and drainage hose with glue.
- (5) 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, larger pipes should be applied.

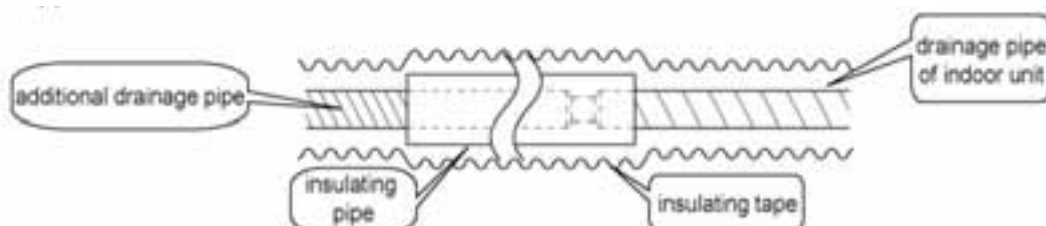


Fig.4.3.1.1

- (6) Connect the drainage pipe properly, as shown in Fig 4.3.1.2.

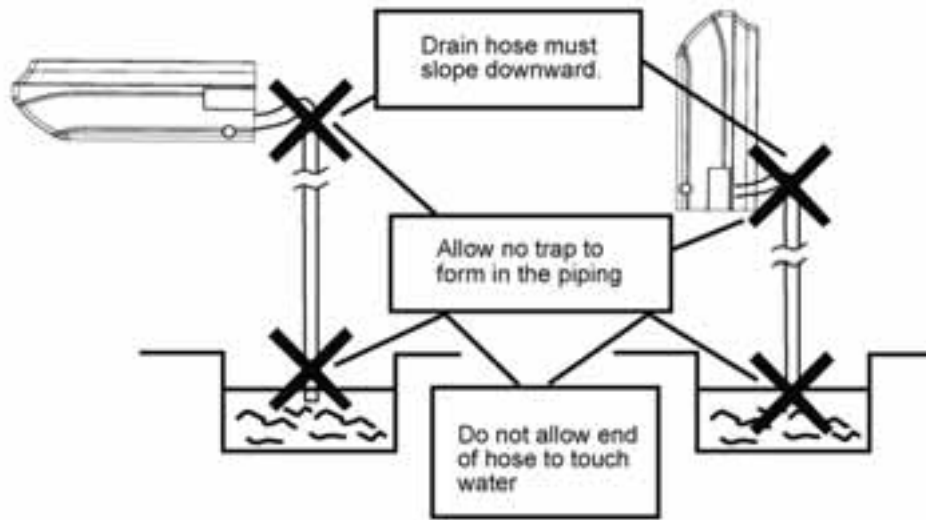


Fig.4.3.1.2

4.3.2 Drainage pipe installation

- (1) The diameter of the drainage pipe should be the same or larger than the connection pipes (PVC pipe, outside diameter 17mm (11/16inch), thickness \geq 1.75mm (1/16inch)).
- (2) Keep drainage pipe as short as possible and sloping downwards at a gradient of at least 1% to prevent forming air bubbles.
- (3) Insert the drainage hose into drain socket, tighten the metal clamp securely.
- (4) Warp the sealing pad over drain hose and metal clamp for heat insulation.
- (5) Make sure to perform insulation work for all drainage piping in order to prevent any possible condensation.
- (6) Apply the suitable diameter for converging drainage pipe according to the operating capacity of the unit, as show in Fig. 4.3.2.1.

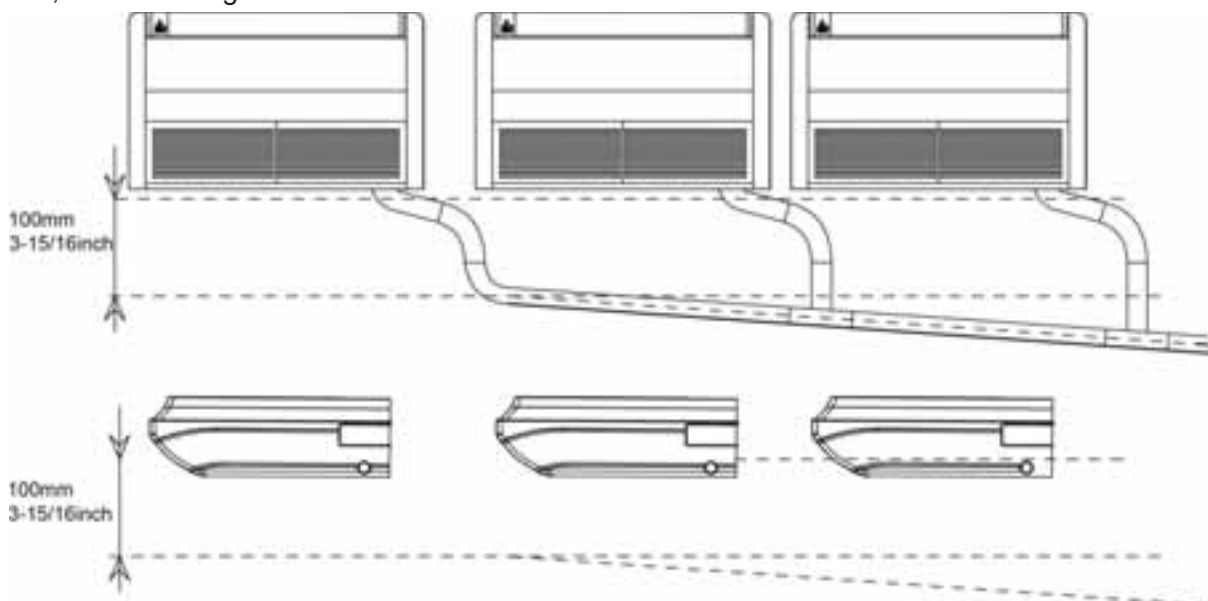


Fig.4.3.2.1

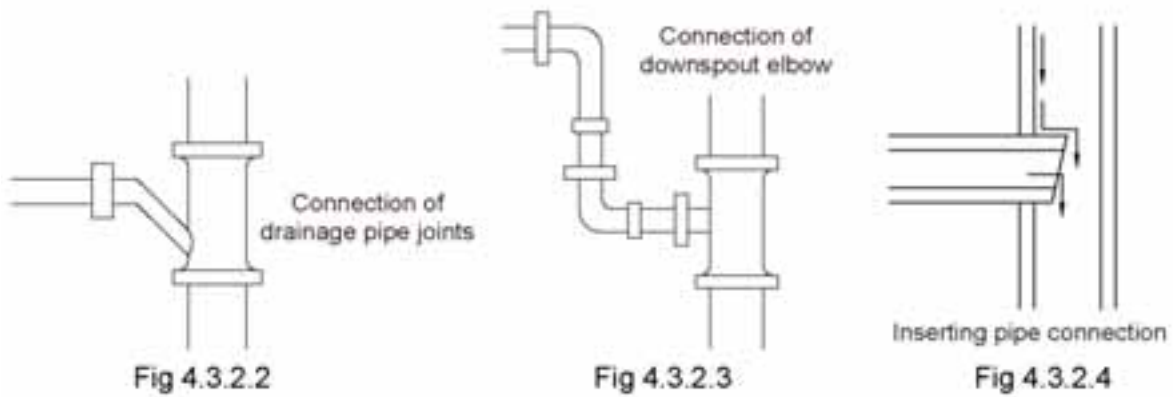
- ①- T -drainage pipes assembled by T-shaped joints

- (7) The horizontal pipe can't be connected to vertical pipe in the same level; please select the connection way as shown in following fig.

Fig. 4.3.2.2: Three-way connection of drainage pipe joints

Fig. 4.3.2.3: Connection of downspout elbow

Fig. 4.3.2.4: Inserting horizontal pipe connection



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

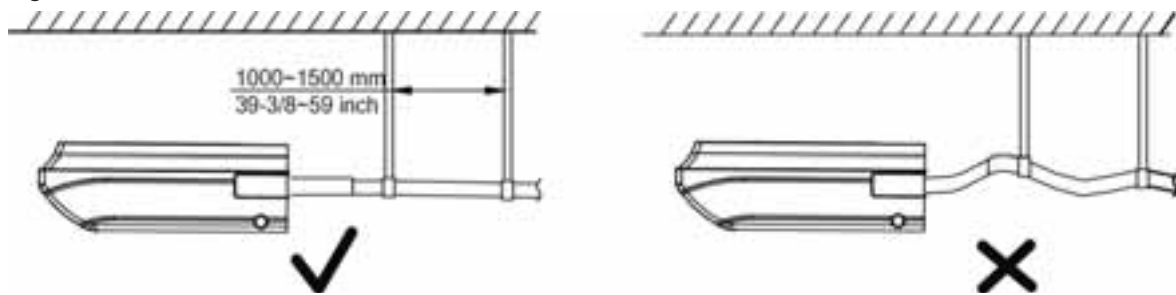


Fig.4.3.2.5

(9) Prepare the local piping at the connection point for the drain pipe, as shown in the installation drawings.

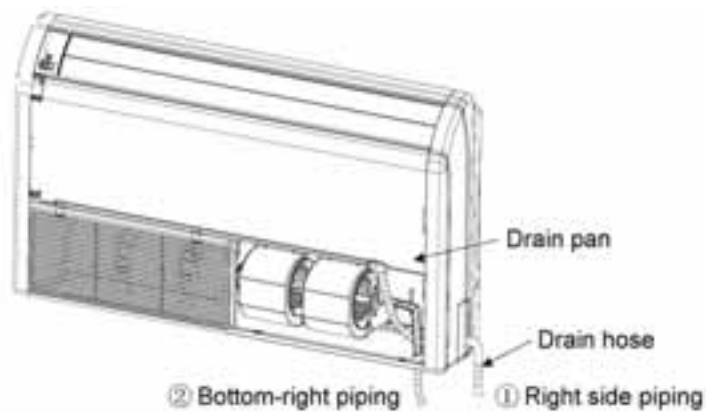


Fig.4.3.2.6

4.3.3 Test of Drainage System

- (1) Please test drainage system after electric work is finished. Add approximately 1L (1 qt) purified water to drain pan from air vent. Be carefule not to splash the water over the electrical components (e.g. water pump. etc):
- (2) During the test check the drainage joint for leakage.
- (3) It's strongly recommended to do the drain test before ceiling decoration.

Ceiling type



Floor type

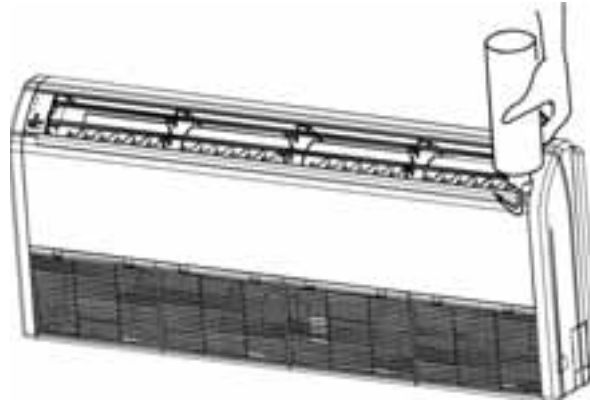


Fig.4.3.3

4.4 Wired Controller Installation

Wired controller is optional accessory. If wired controller is needed, please contact your local dealer and install the wired controller according to the instruction manual.

Note:

Controller commissioning operation must be performed before first use for automatic addressing and other settings. Please refer to the manual of ODU.

5 Wiring Work

Note:

- ①.....Units must be grounded securely, or it may cause electric shock.
- ②.....Please carefully read the wiring diagram. Faulty wiring could cause malfunction or even damage the unit.
- ③.....The capacity of power supply must be sufficient and the sectional area of wires in the room should be larger than 2.5mm².
- ④.....The unit should be powered by independent circuit and specific socket.
- ⑤.....The wiring should have a dedicated power supply.
- ⑥.....Install circuit breaker for branch circuit according to related regulations and electrical standards.
- ⑦.....Crimp terminal or single wire must be used for all wires.
- ⑧.....Keep cable away from refrigerant piping, compressor and fan motor.
- ⑨.....Do not change the wiring inside the unit.
- ⑩.....If there is strong electromagnetic interference around the unit, use shielded twisted pair line; the metal shielded layer of twisted pair wire must be grounded to avoid electromagnetic interference.
- ⑪.....The communication wires should be separated from power cord and connection wire between indoor unit and outdoor unit.
- ⑫.....Adjust the static pressure via wired controller according to site conditions.

5.1 Connection of Wire and Patch Board Terminal

(1) Single wire connection (as shown in Fig. 5.1.1)

- 1) Strip about 25mm (1 in.) insulation of the wire end with stripping tool.

- 2) Remove the wiring screws on the patch board.
 - 3) Shape the tail of wire into ring with needle nose pliers. Ring should match the size of the terminal screw.
 - 4) Use the screwdriver to tighten the terminal.
- (2) Stranded wire connection (as shown in Fig. 5.1.2)
- 1) Strip about 10mm (3/8 in) insulation of the end of stranded wire with stripping tool.
 - 2) Remove the wiring screws on patch board.
 - 3) Insert the wire into the ring tongue terminal and tighten with crimping tool.
 - 4) Use the screwdriver to tighten the terminal.

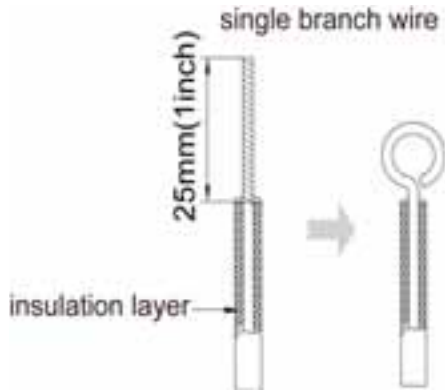


Fig. 5.1.1

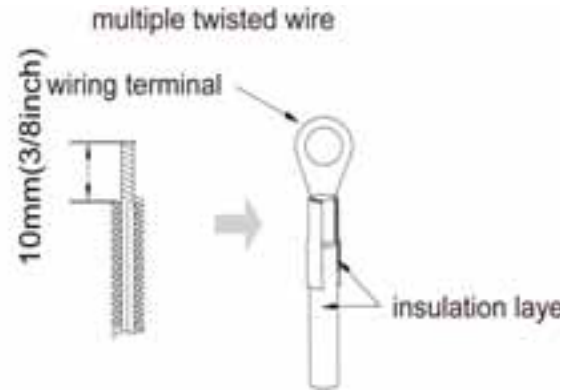
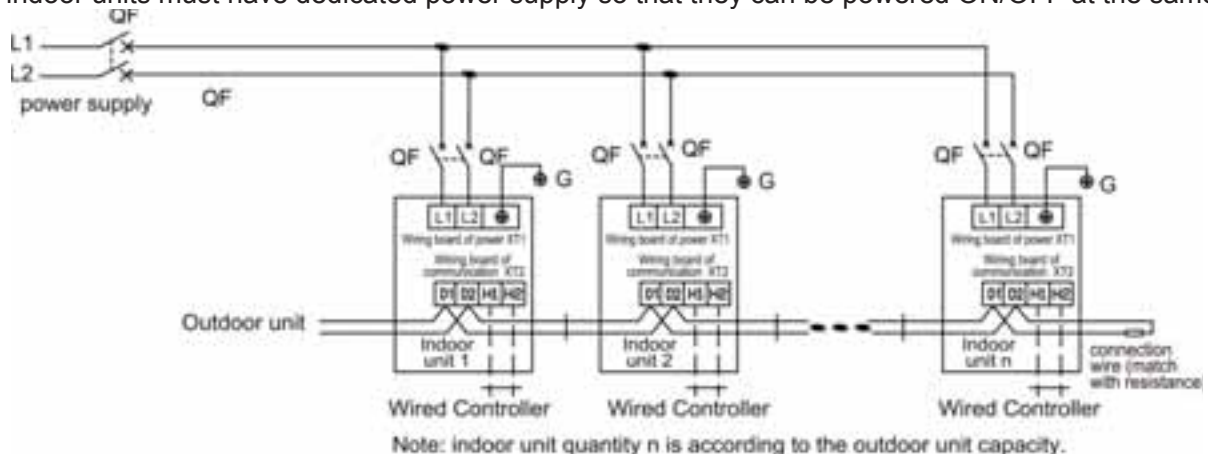


Fig. 5.1.2

5.2 Power Cord Connection

Note:

All indoor units must have dedicated power supply so that they can be powered ON/OFF at the same time.



For units with single-phase power supply.

- 1) Detach the electric box lid.
- 2) Lead the power cord through the wiring -holes.
- 3) Connect the power cord to terminal "L, N, ".
- 4) Secure the power cord with wiring clamp.

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

For units with single-phase power supply.

- (1) Detach the electric box lid.
- (2) Lead the Communication cable through the wiring 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

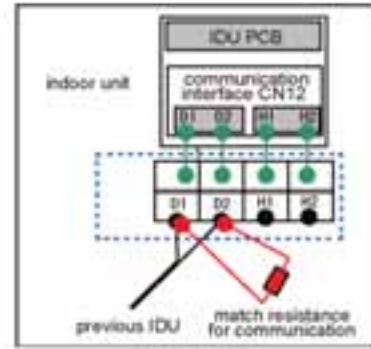


Fig 5.3.2

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

5.4 Connection of Communication Wire for Wired Controller

- (1) Open the electric box of the IDU.
- (2) Lead the communication wire through the wiring holes.
- (3) Connect the communication wire to terminal H1 and H2 of indoor 4-bit wiring board.
- (4) Secure the communication wire with clamp on the electric box.
- (5) Wiring instructions of signal receiver and wired controller.

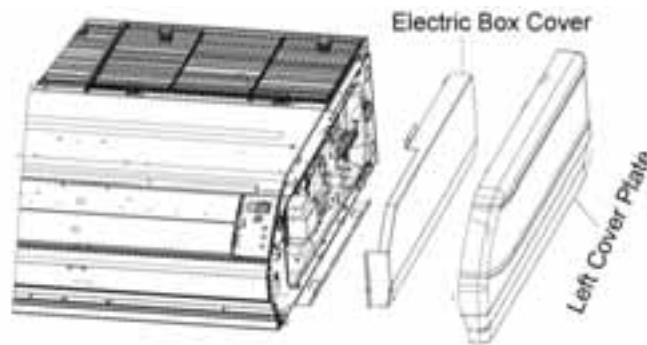


Fig.5.4.1

- (6) Both IDU and wired controller are equipped with signal receiver, and available for remote control respectively.(Fig 5.4.2)

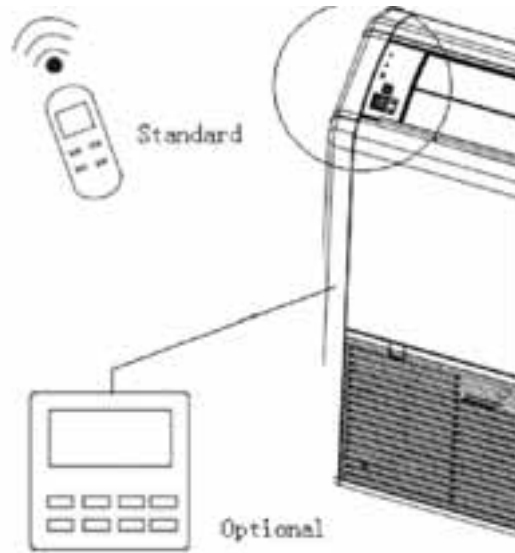


Fig 5.4.2

5.5 Connection of Wired Controller and Indoor Units Network

- (1) Communication wire of indoor unit to 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. One must be set as master one and one as slave.
- (4) One wired controller can control 16 indoor units maximum at the same time. (as shown in Fig. 5.5)

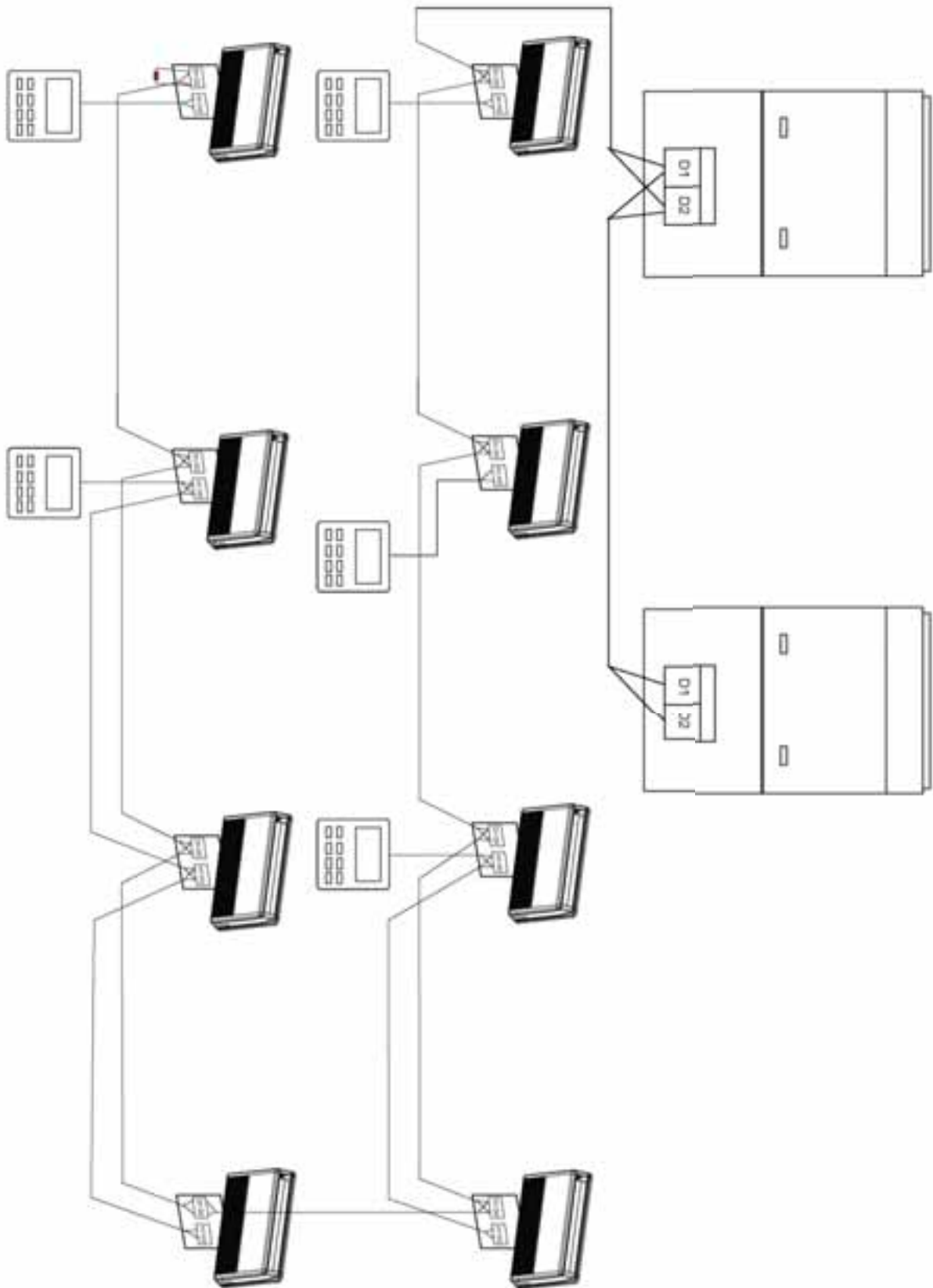


Fig.5.5

NOTICE

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

6 Routine Maintenance

NOTICE

(1) Turn off the unit and cut off the main power supply when cleaning the air conditioner to avoid electric shock or injury.

(2) Use a ladder or other stable platform when cleaning the unit.

(3) Do not clean the unit with hot water whose temperature is higher than 45°C (113°F) to prevent fading or warping.

(4) Do not dry the filters over open flame to avoid warping.

(5) Clean the filter with a damp cloth dipped in mild detergent.

(6) Please contact a qualified service technician if there is a malfunction.

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. Dry the filters in the shade.

(2) If the unit is used in a very dusty environment, please clean it more frequently (about every two weeks).

6.2 Preseason Maintenance

(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 cords and communication cables are securely connected.

(4) Check if any error code displayed after turning on power.

6.3 Post-Seasonal Maintenance

(1) Set the unit in fan mode for half a day on a sunny day to dry the inner parts of unit;

(2) When the unit won't be used for a long period of time, please turn off power supply to save energy. The characters on the wired controller screen will disappear after turning 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	dA	Indoor Unit Hardware Address Error
L1	Indoor Fan Protection	LH	Low Air Quality Warning	dH	Wired Controller PCB Error
L2	E-heater Protection	LC	ODU-IDU Incompatibility Error	dC	Capacity DIP Switch Setting Error
L3	Water Full Protection	d1	Indoor Unit PCB Error	dL	Outlet Air Temperature Sensor Error
L4	Wired Controller Power Supply Error	d3	Ambient Temperature Sensor Error	dE	Indoor Unit CO ₂ Sensor Error
L5	Freeze protection	d4	Inlet Pipe Temperature Sensor Error	db	Special Code: Field Debugging Code
L7	No Master Indoor Unit Error	d6	Outlet Pipe Temperature Sensor Error	C0	Communication Error
L8	Power Insufficiency Protection	d7	Humidity Sensor Error	AJ	Filter Cleaning Reminder
L9	Quantity Of Group Control Indoor Units Setting Error	d8	Water Temperature Sensor Error	d9	Jumper Cap Error

8 Troubleshooting

The air conditioner should not be serviced by users. Faulty repair may cause electric shock or fire, so please contact an authorized service center for professional service. Check the following before calling for service help.

Phenomenon	Troubleshooting
The unit won't start up	① ... Power supply is not connected ② ... Circuit breaker tripping caused by electrical short ③ ... Input voltage is too low ④ ... Operation button is turned off ⑤ ... Control loop malfunction
The unit runs for a short while, then stops	① ... There is obstacle in front of the condenser ② ... Control loop malfunction ③ ... Set the unit in cooling mode when outdoor ambient temperature is higher than 43°C (110°F)
Poor cooling effect	① ... The filter is dirty ② ... Too heavy heat load of room(e.g. too many people) ③ ... Doors or windows are open ④ ... Inlet or outlet of IDU are blocked ⑤ ... Thermostat setting temperature is too high ⑥ ... Room temperature sensor malfunction.
Poor heating effect	① ... The filter is dirty ② ... Doors or windows are open ③ ... Thermostat setting temperature is too low ④ ... Refrigerant charge is low (e.g. refrigerant leakage) ⑤ ... Outdoor ambient temperature is lower than -5°C (23°F) ⑥ ... Circuit control malfunction
Indoor fan doesn't start up during heating	① ... Position of tube temperature sensor head is not suitable ② ... Tube temperature sensor head isn't inserted well ③ ... Wiring of tube temperature sensor head is broken ④ ... Capacitor has a short

Note:

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.

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