



# Service Manual

## Multi-Pipe VRF Connecting Box Module

VOB5-2C

VOB5-3C

VOB5-5C



- ◆ Nameplate (model, cooling capacity, product code, ex-factory date).
  - ◆ Malfunction status (detail description of conditions before and after malfunction occurs).
- 7) It is a normal phenomenon that the fan of indoor unit will still run for 20~70 seconds after the indoor unit receives the “stop” signal so as to make full use of the waste heat.
  - 8) When the work mode of the indoors is conflict with the modes of outdoor units, it will be indicated on the display of the wired controller in five seconds and then the indoor unit will stop. In this case, please harmonize their work modes: the cooling mode is compatible with the dry mode.
  - 9) If the supply power fails when the unit is running, then the indoor unit will send the “start” signal to the outdoor unit three minutes later after the power recovery.
  - 10) The power cable and transmission line must not be twisted together, but instead of separated with an interval of at least 2cm; otherwise it may be result in communication problem.
  - 11) 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.
  - 12) All graphics and information in this manual are only for reference. Manufacturer reserves the right for changes in terms of sales or production at any time and without prior notice.



This product must not be disposed together with the domestic waste. This product has to be disposed at an authorized place for recycling of electrical and electronic appliances.







**Thank you for purchasing Innovair’s air conditioners. Before using, please read this manual carefully and keep it properly for further reference.**

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## 1 Safety Precautions

	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.

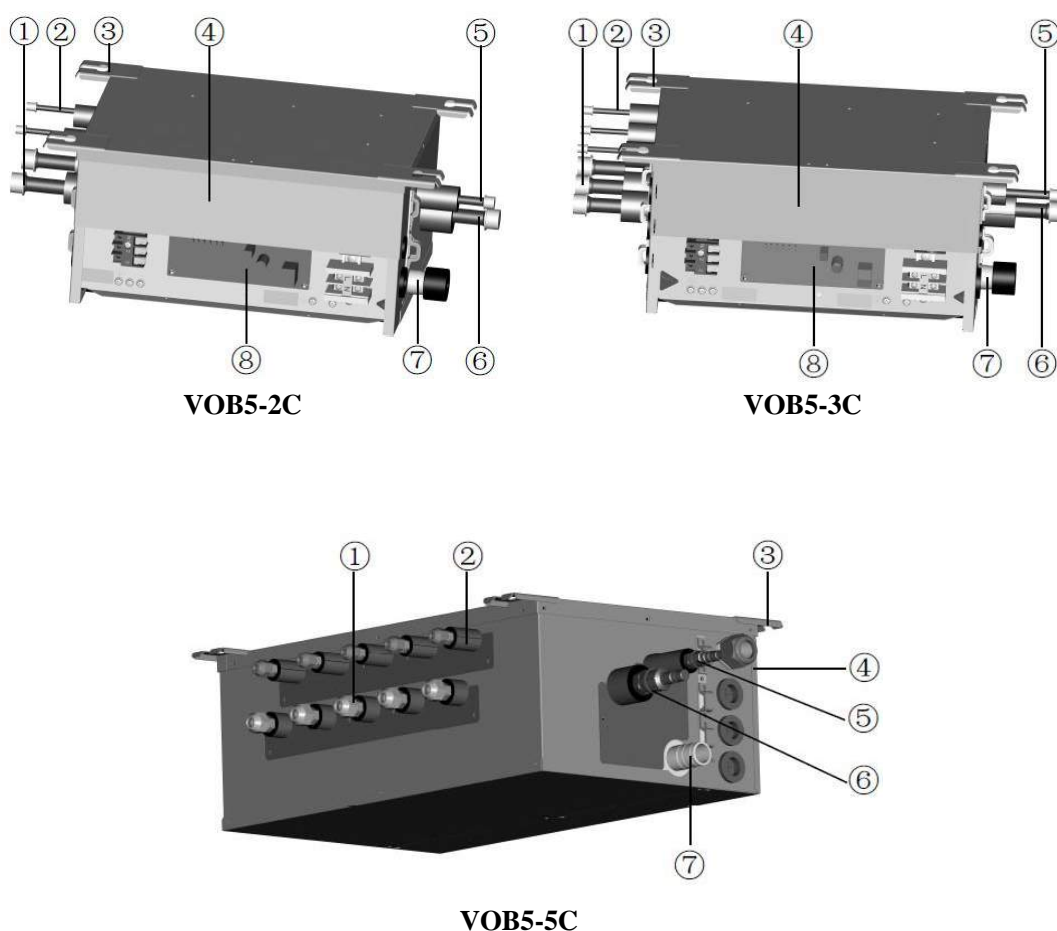
 <b>WARNING</b>	
1)	Instructions for installation and use of this product are provided by the manufacturer.
2)	Installation must be performed in accordance with the requirements of NEC and CEC by appointed personnel only.
3)	The installation should be left to the appointed service center and according to the instructions given in the manual. Improper installation may cause fall down, water leakage, electric shock or fire etc.
4)	For operating the air conditioner pleasantly, please install it as outlined in this installation manual.
5)	The power supply must adopt the special circuit with air switch protection and assure it has enough capacity
6)	Connect the indoor unit, VOB Module and outdoor unit with the room air conditioner piping and cord available from our standard parts. This installation manual describes the correct connections using the installation set available from our standard parts.
7)	Before installation, check the parameter of power cord and make sure that it complies with the power supply requirement on the nameplate. Make sure the power supply is safe.
8)	This air conditioner must be properly grounded through the receptacle to avoid electric shock. The ground wire shouldn't be connected with gas pipe, water pipe, lightning arrester or telephone line.
9)	If refrigerant leaks while work is being carried out, ventilate the area. If the refrigerant comes in contact with a flame, it produces toxic gas.
10)	Do not power on until all installation work is complete.
11)	During installation, make sure that the refrigerant pipe is attached firmly before you start up the compressor. Do not operate the compressor under the condition of refrigerant piping not attached properly with valve open. This may cause abnormal pressure in the refrigeration cycle that leads to breakage and even injury.
12)	When installing and relocating the air conditioner, do not mix gases except the specified refrigerant (R410A) to enter the refrigerant cycle. If air or other gas enters the refrigerant cycle, the pressure inside the cycle will rise to an abnormally high value and cause breakage, injury, etc.
13)	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.
14)	Never cut off or damage power cables and transmission wires. If the power cable or transmission line were damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
15)	After the power cord is connected, please install the cover of electric box to avoid danger.

16) When installing or relocating the unit, please contact the appointed service center for the repair or relocation. Meanwhile the specialized parts and accessories must be used. Otherwise, it may result in water leakage, electric shock or fire hazard.
17) Diameter of power cord must be large enough. Damaged power cord or connecting wire must be replaced by specialized electric cable.
18) The power wire and transmission line must be more than one meter away from televisions or radios which can emit electromagnetic waves to prevent image interference or noise. Otherwise, the unit maybe not work
19) Nitrogen must be charged according to technical requirements.
20) For units with wired controllers, do not connect power supply until the wired controller is well installed. Otherwise, the wired controller cannot be used.
21) When installation is finished, please check and make sure the drain pipe, pipeline and electric wire are all well connected so as to avoid water leakage, refrigerant leakage, electric shock and fire hazard.
22) Never extend fingers or objects into air outlet or return air grille.
23) Please keep the room well-ventilated and it could avoid oxygen deficit.
24) Never start or stop the air conditioner by inserting or removing the power cord.
25) Before startup of the compressor, please turn on the main power switch of the unit for more than 8 hours and it makes sure that the heater belt of the compressor has been energized for at least eight hours! Once the compressor is started, it must be guaranteed that it works continuously for at least 30 minutes, otherwise it would be damaged!
26) Never operate the unit with wet hands. Otherwise, it may cause electric shock.
27) Before cleaning and repairing, it is necessary to stop working and turn off the power supply. Otherwise, it may cause electric shock or damage.
28) Do not spray water on the air conditioner or it will cause malfunction or electric shock.
29) The air conditioner is not support to install in the circumstances as the following that where there is full of mist of oil, damp or corrosive gas, flammable gases, the acidic or alkaline vapor and the ocean.
30) Volatile liquid like thinner or gasoline will damage the appearance of air conditioner. (Please use soft dry cloth and wet cloth with mild detergent to clean unit's appearance.)
31) Never standing or place objects on outdoor unit. Person or objects falling from the unit may cause injury.
32) If abnormal condition occurs (e.g. unpleasant smell), please turn off the unit at once and disconnect power supply. Then contact appointed service center. If the air conditioner continues to operate despite of abnormal condition, it may be damaged and cause electric shock or fire hazard.
33) The drain pipe should be installed as instructed in the manual to guarantee the proper drainage; meanwhile it should be insulated to prevent condensing; otherwise the improper installation would cause water leakage and then wet the household wares in the room.
34) Don't attempt to repair the air conditioner by yourself. The improper repair will lead to electric shock or fire, please contact the appointed service center and ask professional technicians to repair it.
35) Please take notice of the installation foundation of the unit after long use, if it is damaged, it may lead to the fall of the unit and cause the injury.
36) Be sure to shut off the power supply when you do not use the air conditioner for a long time. Otherwise, the dusts may accumulate in it, which may cause overheating or fire hazards.
37) Innovair Corporation is not responsible for any personal injury or property loss caused by improper installation, improper debugging, unnecessary repair or not following the instructions of this manual.

## 2 Product Introduction

The VOB module of Innovair’s Multi-Pipe VRF Series is the latest branch device, which adopts the intelligent control technology. Respond to the changes in load of the indoor units, it can coordinate the flow rate of the refrigerant well. Otherwise, it is very compact and has a flexible choice about the installation location, such as the ceiling of parlor, corridor, balcony, storeroom and etc.

### 2.1 Names of Main Parts



NO.	①	②	③	④
Name	Gas piping of indoor unit side	Liquid piping of indoor unit side	Hanger metal	Electrical equipment plate
NO.	⑤	⑥	⑦	⑧
Name	Liquid piping of outdoor unit side	Gas piping of outdoor unit side	Drain hole	Printed circuit board

Fig. 1

## 2.2 Combinations for Outdoor and Indoor Units

Table 1

Sorts		VOB5-2C	VOB5-3C	VOB5-5C
No. of connectable indoor units	Min	1	1	1
	Max	2	3	5

## 2.3 Parts and Components of Unit

For the Super Free Match Series, one outdoor unit is able to drive up to three VOB Modules and nine indoor units which include cassette type, duct type, wall-mounted type, floor ceiling type and console type. The outdoor unit will run as long as any one indoor unit receives the running command, and all indoor units stop once the outdoor unit is turned off.

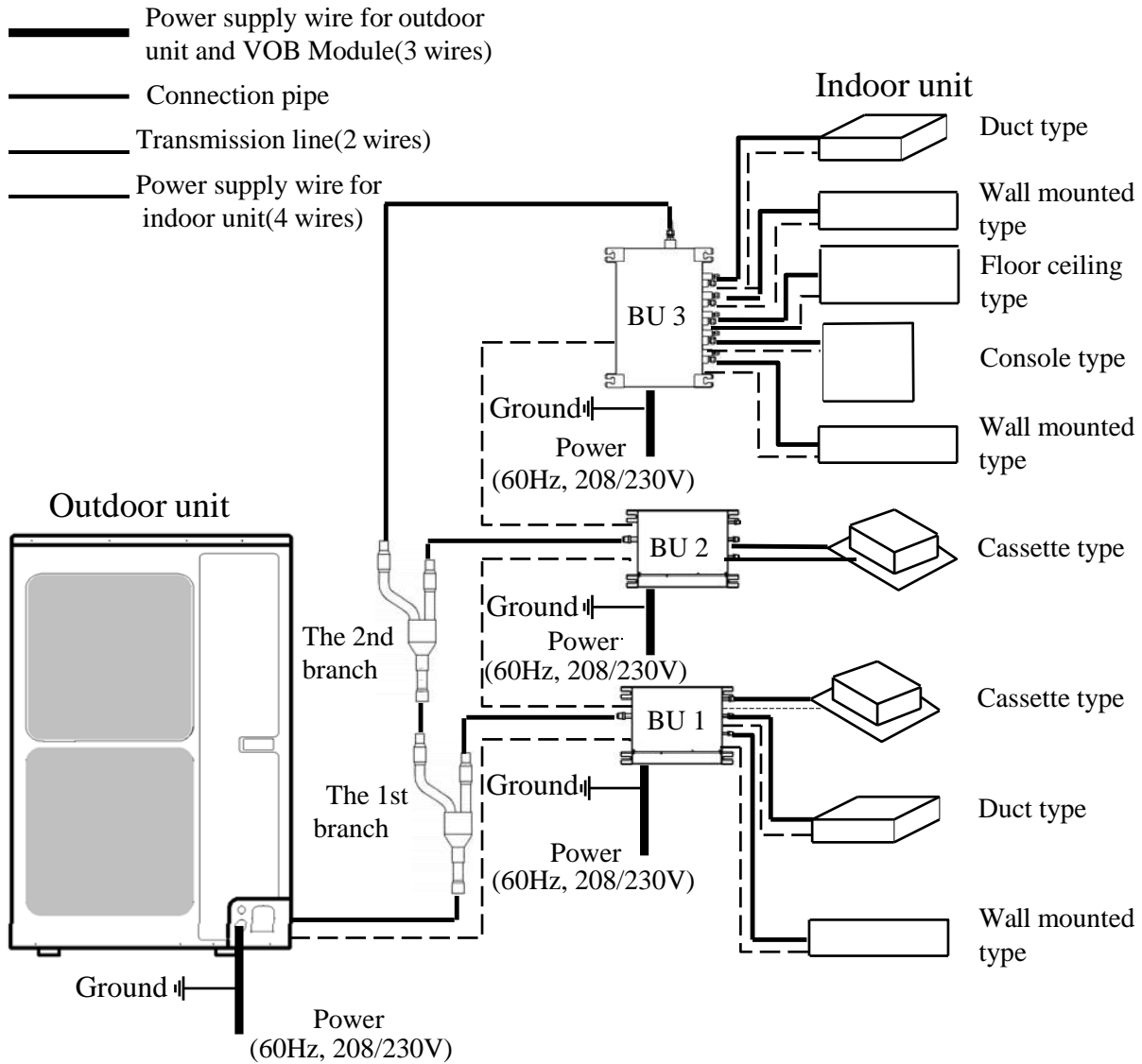


Fig. 2

## 2.4 Working Temperature Range

Table 2

Sorts	Outside temperature: DB(°C/°F)
Maximum	50°C(122°F)
Minimum	-15°C(5°F)

### 3 Selection of Installation Location and Precautions

<b>⚠ WARNING</b>	
1)	The installation of the air conditioner must be in accordance with the national and local laws and regulations.
2)	The quality of the installation will affect the capability of air conditioner directly. The installation should be left to the appointed service center. Please contact your dealer after purchasing this machine. Professional installation workers will provide installation and test services according to the installation manual.
3)	The air conditioner should not install in this place where the small animals exist, because they may cause malfunctions, smoke or fire. Please keep the area around the unit clean.

#### 3.1 Selection of Installation Location

<b>⚠ WARNING</b>	
1)	The VOB Module must be installed on a firm and solid support which can withstand the weight of the module and the mounting surface must be horizontal plane. The VOB Module can be chosen to install in
2)	The location must be out of children's reach, please keep the unit away from children.
3)	The VOB Module is for indoor use. If installing in the outdoors, the location must be away from wind and
4)	There is enough space for the installation and maintenance.
5)	Avoid direct sunlight or other heat sources exist.
6)	Do not install in location that is hot or humid for long periods of time.
7)	Avoid the VOB Module installed in the bedroom and study, where these places need to be quiet.
8)	VOB Module cannot be installed in the place of inflammable and explosive materials and severe dust, smoke and the other air pollution, such as the kitchen.
9)	There is enough space to install drainage pipe, so that the condensed water can be discharged.
10)	Installation at the following places might lead to the air conditioner malfunction, such as where is full of machine oil, saline-sodic soil near the sea, sulphide fog, high frequency facilities or special conditions. If it is unavoidable, please contact the appointed service center.

<b>NOTICE</b>	
1)	Make sure that the unit will not cause any operating vibration or noise after installation.
2)	VOB Module shall be installed close to the indoor unit, hence to minimize the length and bends of cooling pipe.



### 3.2 Outline Dimension and Servicing Space of VOB5-2C

1) Outline dimension

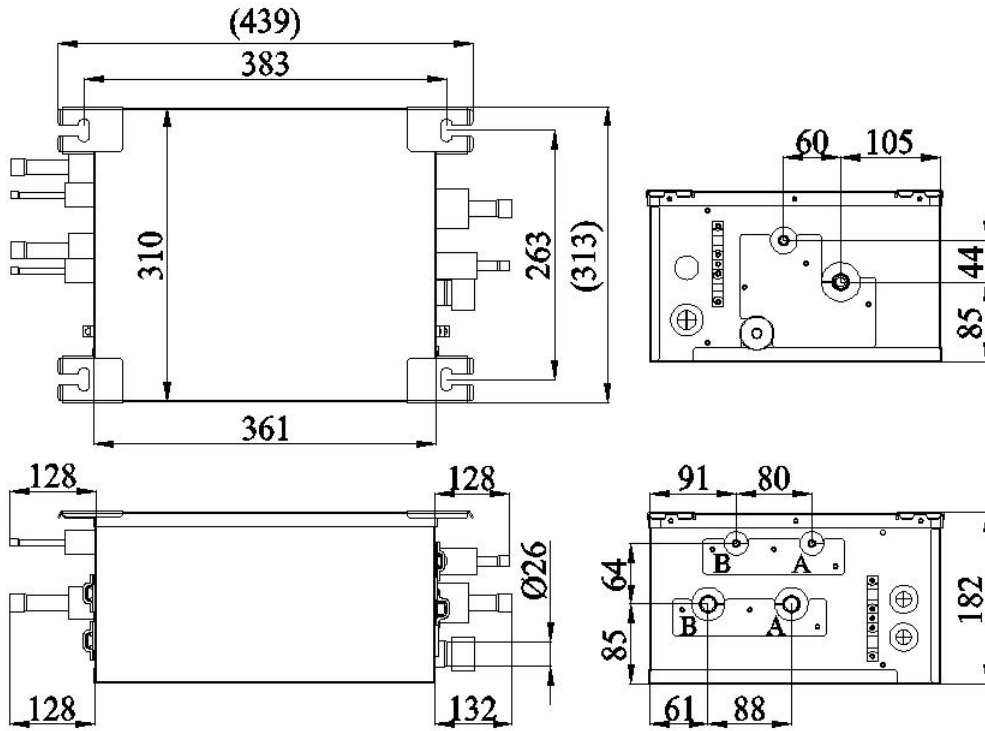


Fig. 7 (mm)

Table 5

Sorts	Indoor unit side (mm/inch)		Outdoor unit side (mm/inch)
	Port A	Port B	
Liquid pipe	$\Phi 6.5(1/4)$	$\Phi 6.5(1/4)$	$\Phi 9.7(3/8)$
Gas pipe	$\Phi 16.3(5/8)$	$\Phi 16.3(5/8)$	$\Phi 16.3(5/8)$

2) Installation and service space

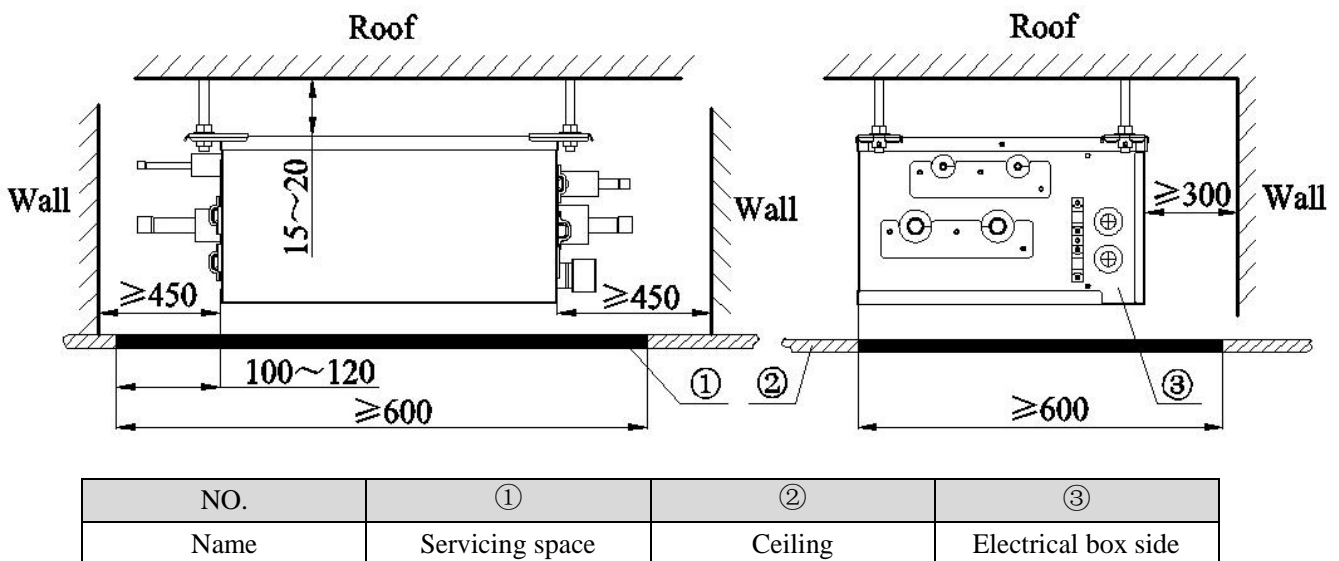


Fig. 8 (mm)

### 3.3 Outline Dimension and Servicing Space of VOB5-3C

1) Outline dimension

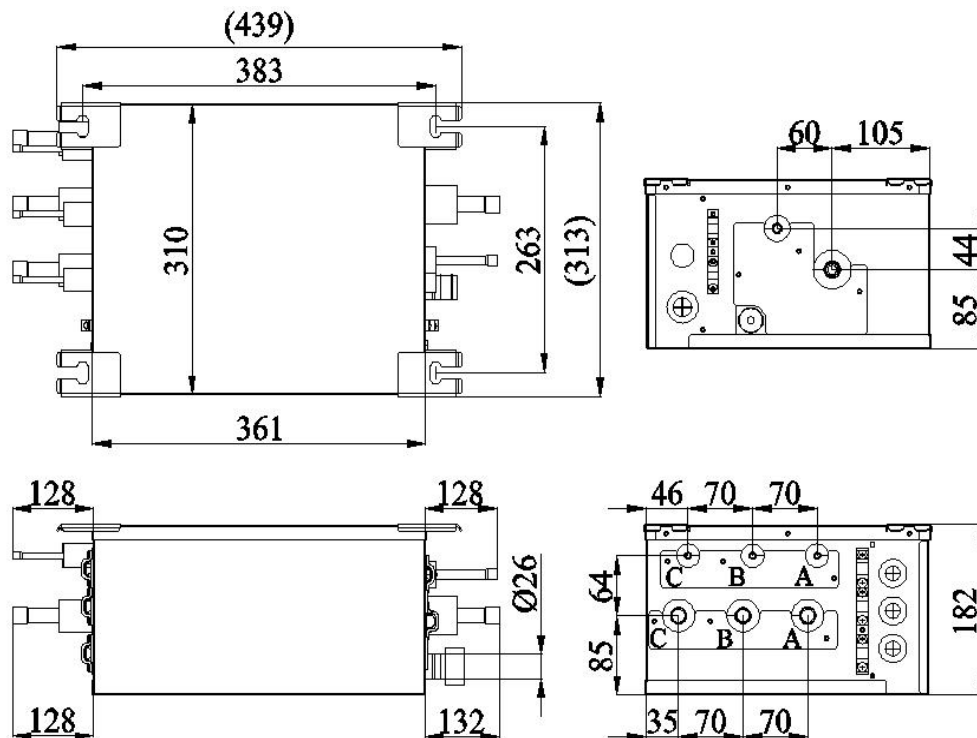
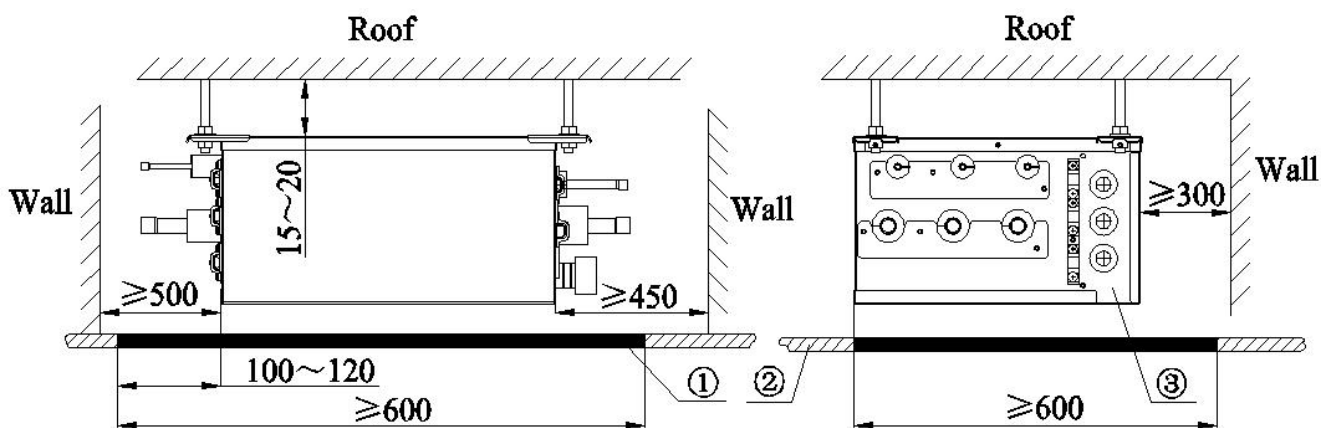


Fig. 9 (mm)

Table 6

Sorts	Indoor unit side (mm/inch)			Outdoor unit side (mm/inch)
	Port A	Port B	Port C	
Liquid pipe	Φ6.5(1/4)	Φ6.5(1/4)	Φ6.5(1/4)	Φ9.7(3/8)
Gas liquid	Φ16.3(5/8)	Φ16.3(5/8)	Φ16.3(5/8)	Φ16.3(5/8)

2) Installation and service space



NO.	①	②	③
Name	Servicing space	Ceiling	Electrical box side

Fig. 10 (mm)

### 3.4 Outline Dimension and Servicing Space of VOB5-5C

1) Outline dimension

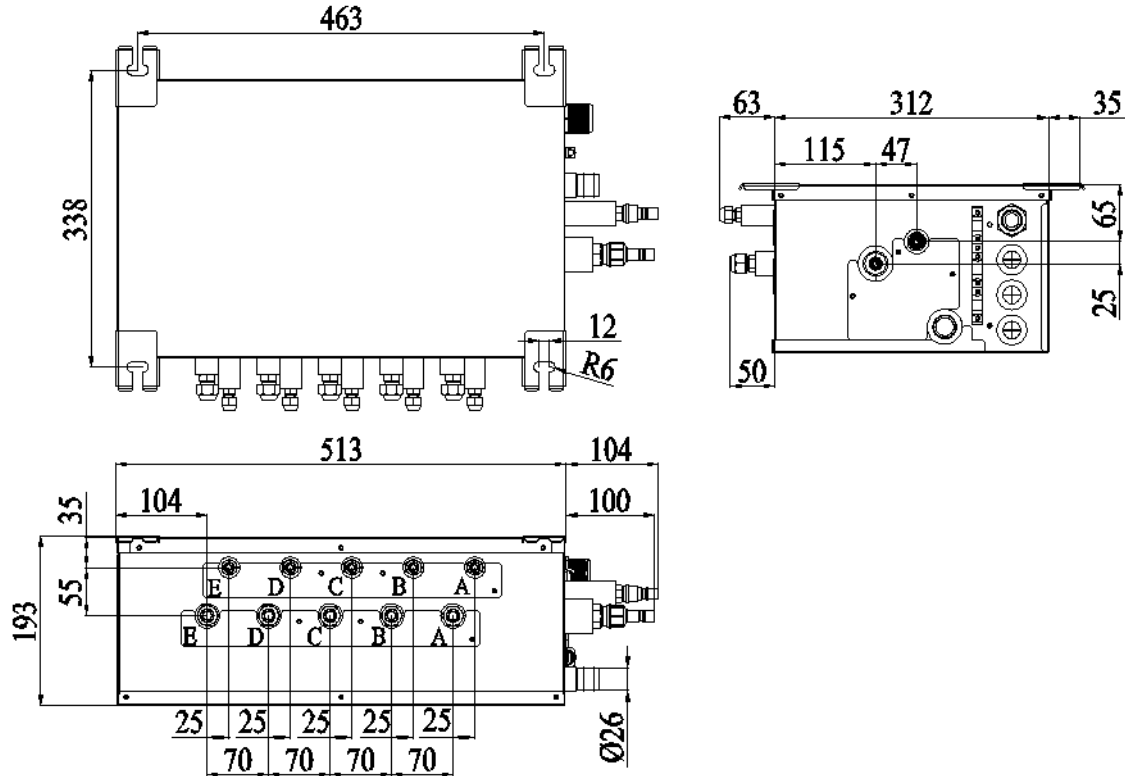
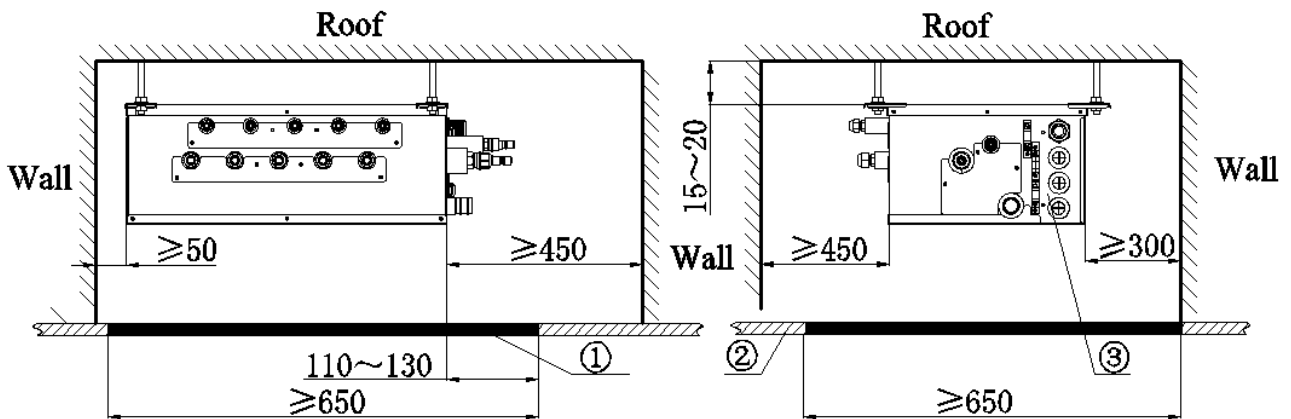


Fig. 11 (mm)

Table 7

Sorts	Indoor unit side (mm/inch)	Outdoor unit side (mm/inch)
Liquid pipe	Φ6.35(1/4)	Φ9.52(3/8)
Gas pipe	Φ9.52(3/8)	Φ15.9(5/8)

2) Installation and service space



NO.	①	②	③
Name	Servicing space	Ceiling	Electrical box side

Fig. 12 (mm)

## 4 Installation Instruction

- 1) Check the installation location and ensure it is strength and level. Otherwise, there should be enough space to install drainage pipe, so that the condensed water can be discharged.
- 2) Reference to the size of hanger metal and drill 4 holes in the installation location.
- 3) Hang the hanger bolts.

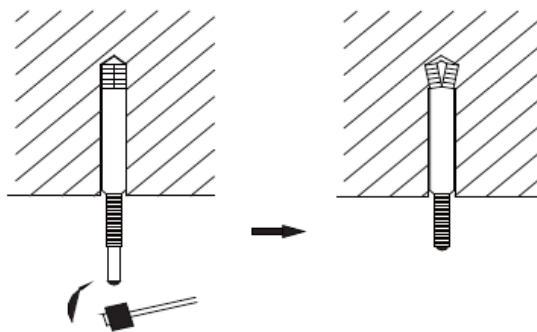


Fig. 13

- 4) Fix the modules securely with the hanger bolts. You can get the M10 or M8 hanger bolts, nuts and washers from the market.

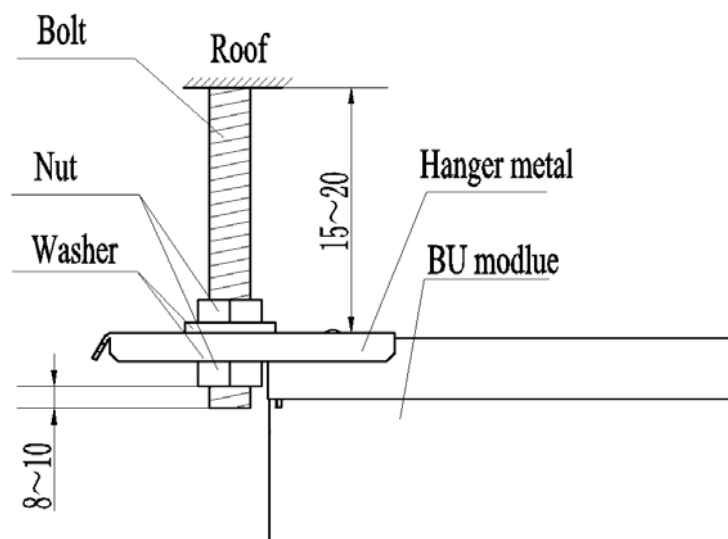


Fig. 14 (mm)

- 5) Adjusting the nuts position, so that the VOB Module should be level in front/back and left/right.

## 5 Installation of Refrigerant Pipes

### 5.2 Allowable Length and Drop Height of Connecting Pipe

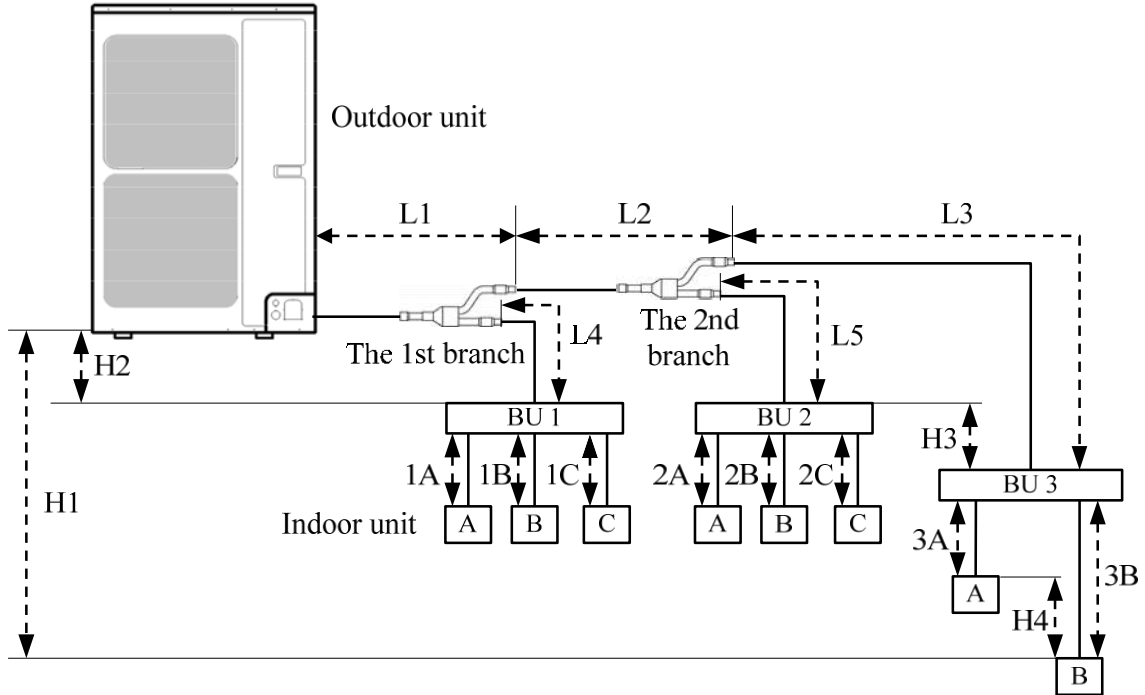


Fig. 15 (8 indoor units)

Table 8

The sorts		The pipes	Length(m/feet)
Maximum allowable length	Total length between outdoor unit and BU modules		$L1+L2+L3+L4+L5$ $\leq 55(181)$
	Total length between indoor units and BU	VOM0355H2RE508	$1A+1B+1C+2A+2B+2C+$ $\leq 80(263)$
		VOM0362H2RE508	$3A+3B$ $\leq 90(295)$
	Between indoor unit and VOB Module		$1A;1B;1C;2A;2B;2C;3A;3B$ $\leq 15(49)$
Between indoor unit and the 1st branch		$L4+1B;L2+L5+2A;$ $L2+L3+3B$ $\leq 40(131)$	
Maximum allowable length	Between outdoor and indoor units		$H1$ $\leq 30(99)$
	Between outdoor units and VOB Modules		$H2$ $\leq 30(99)$
	Between BU and VOB Modules		$H3$ $\leq 15(49)$
	Between indoor and indoor units		$H4$ $\leq 15(49)$
Minimum allowable length	Between outdoor and the 1st branch		$L1$ $\geq 5(16)$
	Between BU and the branch		$L3;L4;L5$ as possible as short

**NOTICE!** VOB Module should be placed within the level between the outdoor unit and indoor unit.

### 5.3 Installation of Piping Adapter (VOB5-5C)

If the piping connection size of VOB Module does not match with that of the outdoor unit and indoor units, it should prevail with the piping connection size of the outdoor unit and indoor units.

Install the optional piping adapters to the VOB Module, so that the piping connection size of VOB Module can match with that of the outdoor unit and indoor units.

1) Piping adapter(Optional accessories)

Table 9

NO.	Name	Port A (mm/inch)	Port B (mm/inch)
1	Φ15.9→Φ19.05	Φ15.9(5/8)	Φ19.05(3/4)
2	Φ9.52→Φ12.7	Φ9.52(3/8)	Φ12.7(1/2)
3	Φ9.52→Φ15.9	Φ9.52(3/8)	Φ15.9(5/8)
4	Φ6.35→Φ9.52	Φ6.35(1/4)	Φ9.52(3/4)

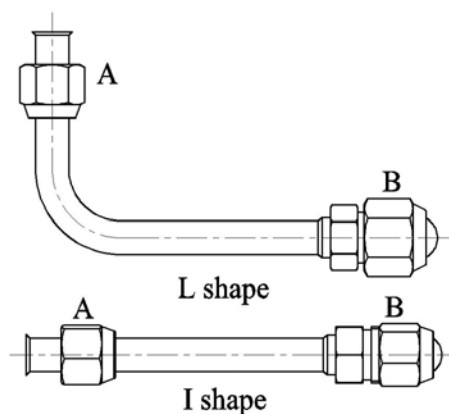


Fig. 16

- 2) Install the piping adapter
  - ① Refer to the piping connection size of the outdoor unit and indoor units, the appropriate piping adapter should be adopted.
  - ② Align the flared end of copper tube with the center of pipe joint. Tighten the nuts with hands. Then tighten the flaring nuts with torque wrench until you hear a “click”.

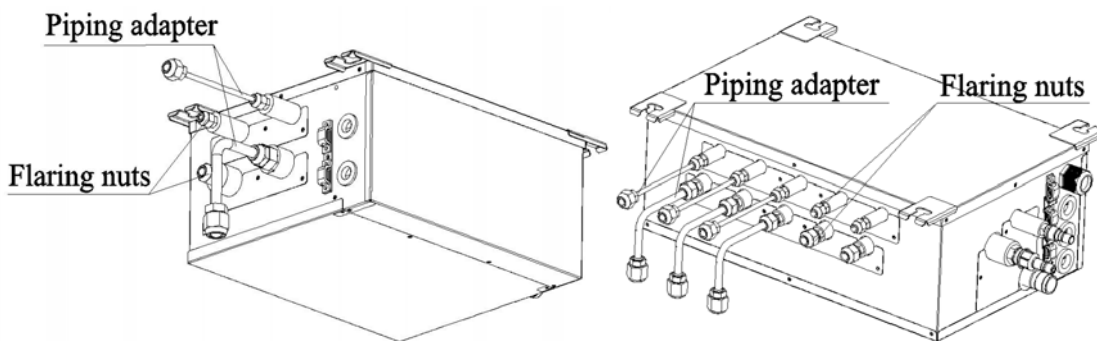


Fig. 17

3) Sealing the unconnected port

If the port of VOB Module indoor side does not connected to one indoor unit, the port must be sealed to prevent refrigerant leaks. Please tighten the copper flaring nuts to the unconnected port with torque wrench until you hear a “click”.

### 5.4 Installation of Piping Adapter (VOB5-2C and VOB5-3C)

If the piping connection size of VOB Module does not match with that of the outdoor unit and indoor units, it should prevail with the piping connection size of the outdoor unit and indoor units. Braze the optional piping adapters to the VOB Module, so that the piping connection size of VOB Module can match with that of the outdoor unit and indoor units.

- 1) Piping adapter(Standard accessories)

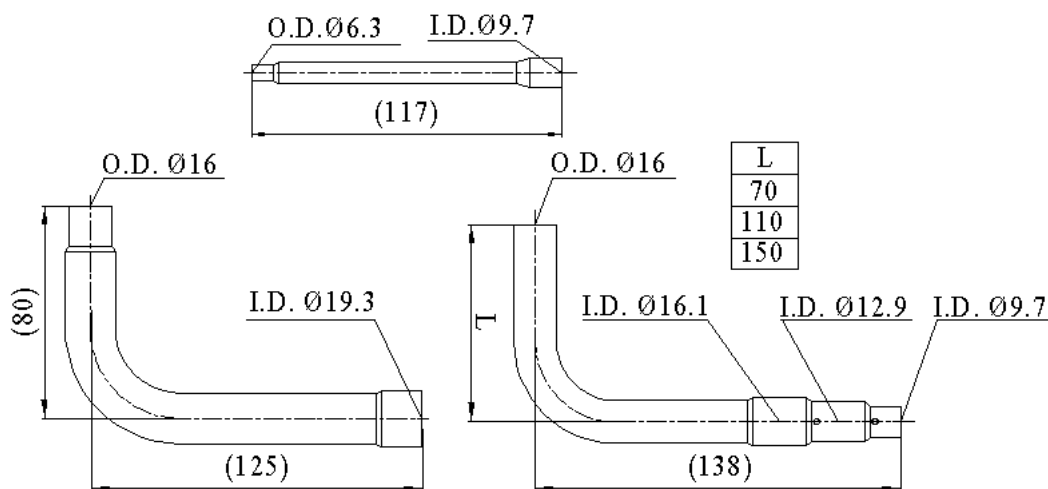


Fig. 18

- 2) Brazing the piping adapter
  - ① If the connection size of the pipe adapter selected is different from the piping connection size of VOB Module, cut the tube of the piping adapter from middle with tube cutter and remove the burrs.
  - ② To avoid heat damage the internal structure of the VOB Module, wrap the pipes to be brazed with sufficient wet cloths.
  - ③ After brazing, use wet cloths to cool off the pipes to be brazed sufficient.

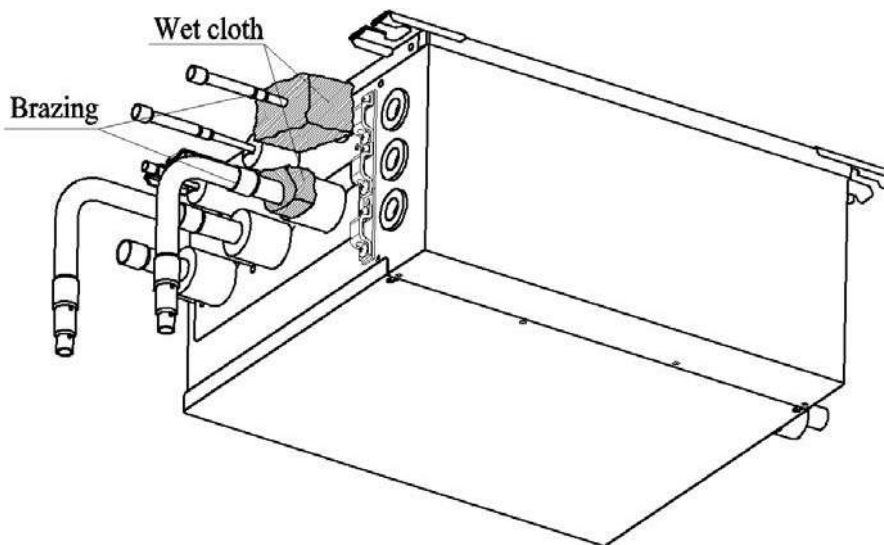


Fig. 19

3) Sealing the unconnected port

If the port of VOB Module indoor side does not connected to one indoor unit, the port must be sealed to prevent refrigerant leaks.

- ① Select the appropriate piping adapter.
- ② Pinch the end of the chosen piping.
- ③ To avoid heat damage the internal structure of the VOB Module, wrap the pipes to be brazed with sufficient wet cloths.

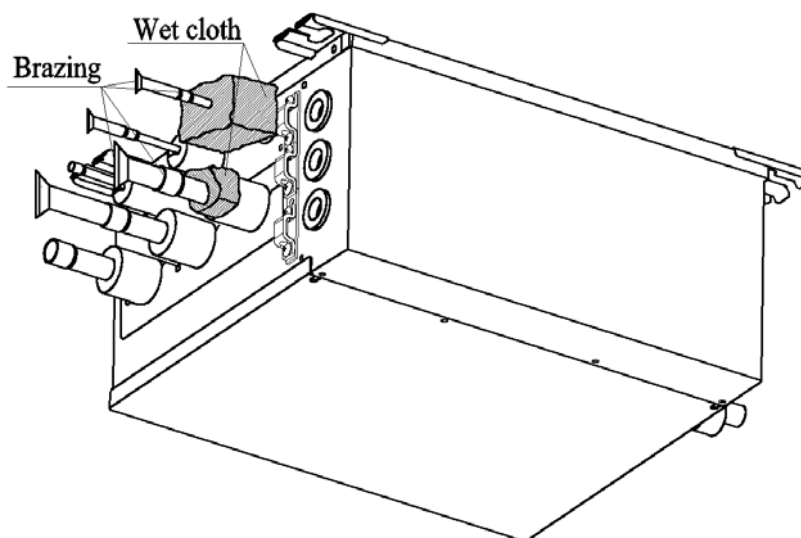


Fig. 20

- ④ After brazing, use wet cloths to cool off the pipes to be brazed sufficient.



### 5.5 Precaution for Connection

#### ⚠ CAUTION

- 1) Conform to the following principles during pipe connection: Outdoor unit shall be installed close to the indoor unit, hence to minimize the length and bends of connection pipes; the height gap of outdoor unit and indoor units should be as small as possible; the radius of curvature should be as large as possible.
- 2) The brazing operation must be strictly in accordance with the process requirements. Rosin joint or pin hole is not allowed.
- 3) During the installation, do not damage the pipeline. The pipeline's radius of bending must be over than 200mm (8inch). The pipes cannot repeatedly be bent or straightened. Otherwise it will get harden and crack. Do not bend or straight the pipes for more than 3 times at the same position.

- 1) The process of flaring
  - ① Using the tube cutter to cut the connecting pipe in the appropriate place and remove the burrs.
  - ② Install the nut before the flaring operation.
  - ③ Check the flared portion, whether there is fractured or not.

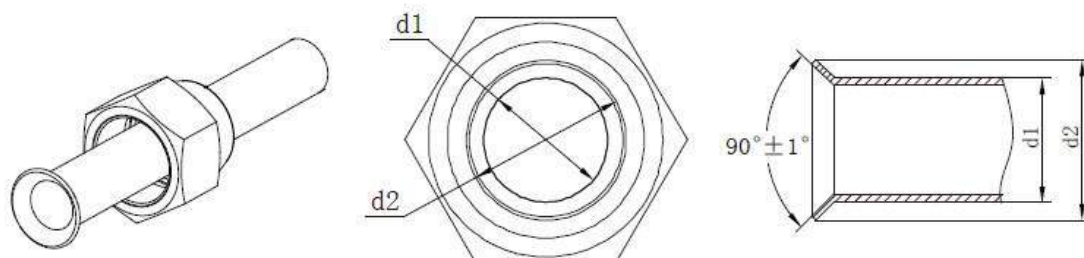


Fig. 21

- 2) Precaution for elbow operation

- ① The elbow operation could be done by hands. Be careful and do not damage the pipe.

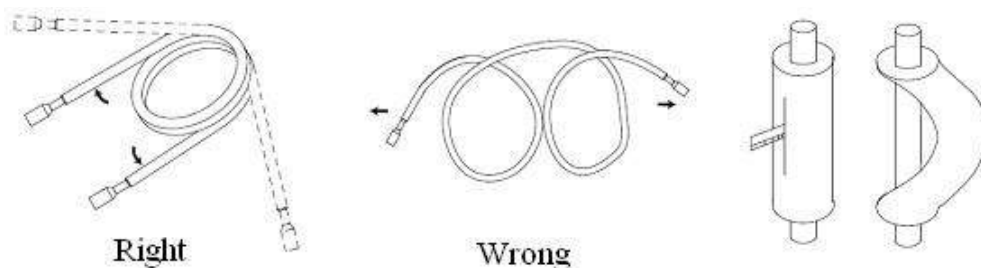


Fig. 22

- ② If the thermal insulation of the refrigerant pipe is not removed, please do not bend the pipe. Otherwise, it may lead the pipe to crack. It is better to make an incision with a knife in the thermal insulation and remove it. After elbow operation is finished, recover the thermal insulation with binding band.
- 3) The process of install refrigerant pipes
  - ① Remove the screw caps from the pipes.
  - ② Align the flared end of copper tube with the center of pipe joint. Tighten the nuts by hands. (If the flared end of copper tube and the center of pipe joint are not in coaxial, it is hard to tighten the nuts by hands, please do not tighten it with spanners, because the screw thread may be broken by force).
  - ③ Tighten the flaring nuts with torque wrench until you hear a “click”. (The spanner and torque wrench should be perpendicular to the refrigerant pipeline).
  - ④ The following table for the torque required to tighten the nuts.

Table 10

Pipe diameter (mm/inch)	Thickness of copper tube (mm/inch)	Tightening torque (N·m/lbf·ft)
Φ6.35(1/4)	≥0.8(1/32)	15~30(11~22)
Φ9.52(3/8)	≥0.8(1/32)	35~40(26~29)
Φ12.7(1/2)	≥0.8(1/32)	45~50(33~37)
Φ15.9(5/8)	≥1.0(1/25)	60~65(44~48)
Φ19.05(3/4)	≥1.0(1/25)	70~75(52~55)

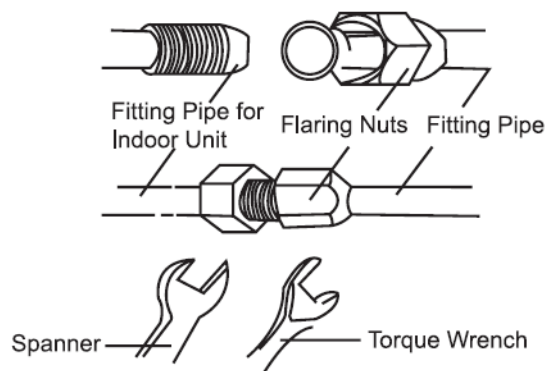
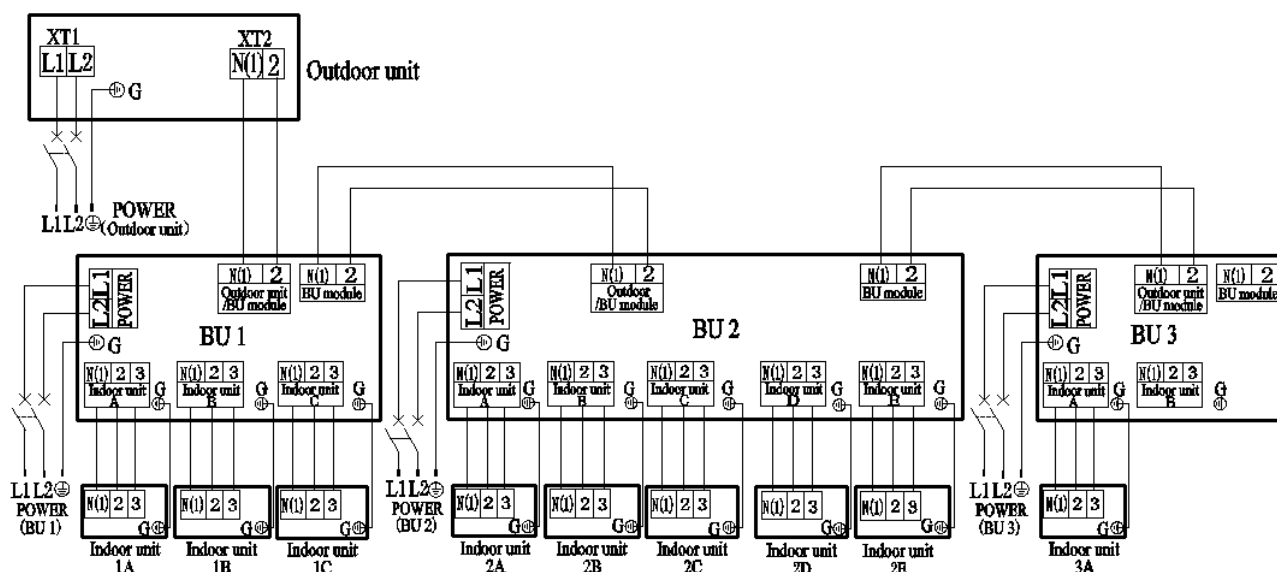


Fig. 23

<b>⚠ CAUTION</b>	
1)	During the connection of the indoor unit and VOB Module to the refrigerant pipe, never pull any joints of the indoor unit and the VOB Module by force; otherwise the capillary pipe or other pipe may crack, which then would result in leakage.
2)	The refrigerant pipe should be supported by brackets, that is, don't let the unit withstand the weight of it.
3)	For the Super Free Match system, each pipe should be labeled to tell which system it belongs to avoid mistaken inaccurate piping.

## 6 Electrical Wiring Work

### 6.2 Wiring Connection



**NOTICE!** The “L1”, “3” terminals are connected to the live wire, the “L2”, “N(1)” terminals are connected to the neutral wire and the “2” terminal is connected to the transmission line.

Fig. 24

### 6.3 Requirements of Power Circuit and Cable

Table 11


Phase and frequency		1Ph,60Hz
Voltage		208/230V
Recommended cable of outdoor unit (Pieces × Sectional area)	VOM0355H2RE508	3×6.0 mm <sup>2</sup>
	VOM0362H2RE508	
Recommended cable of VOB Module (Pieces × Sectional area)		3×0.75 mm <sup>2</sup>
Transmission line (Pieces × Sectional area)		2×1.5 mm <sup>2</sup>
Recommended cable of indoor unit (Pieces × Sectional area)		4×0.75mm <sup>2</sup>
Capacity of the air switch	VOM0355H2RE508	40A
	VOM0362H2RE508	40A
	VOB Module	10A

### **NOTICE**

- 1) The total length of the transmission line between the outdoor unit and the furthest VOB Module is not
- 2) The specifications of the power cable and transmission line listed in the table above are determined based on the maximum power (maximum amps) of the unit.
- 3) The specifications of the power cable listed in the table above are applied to the conduit-guarded

<p>multi-wire copper cable (like, YJV copper cable, consisting of PE insulated wires and a PVC cable jacket) used at 40°C(104°F) and resistible to 90°C(194°F), and shall be at least those of ordinary polychloroprene sheathed cords. If the working condition changes, they should be modified according to the related national standard.</p>
<p>4) The specifications of the air switch listed in the table above are applied to the breaker with the working temperature at 40°C(104°F). If the working condition changes, they should be modified according to the related national standard.</p>
<p>5) The length of the recommended power cable should be less than 15meters(49feet); otherwise, the diameter of the power cable is not enough.</p>
<p>6) Mentioned power cable and transmission line length is just a reference value. It may be different depending on the condition of installation, humidity or materials, etc.</p>
<p>7) 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.</p>

### 6.4 Ground Requirements

<p><b>⚠ WARNING</b></p>
<p>1) The air conditioner is classified into the Class I appliances, so its ground ways must be reliable.</p>
<p>2) The ground wire must be fixed on the screw hole with the sign as the right figure. </p>
<p>3) The yellow-green wire of the air conditioner is the ground wire and must be fixed by the tapping screw. And it cannot be used for other purpose or cut off. Otherwise, it will cause the hazard of electric shock.</p>
<p>4) The reliable ground terminal should be provided and the ground wire cannot be connected to any of the following places: a. Water pipe; b. Coal gas pipe; c. Sewage pipe; d. Lightning rod e. Telephone line f. Other unreliable places considered by a professional.</p>

### 6.5 Precautions on the Electrical Wiring Work

<p><b>⚠ WARNING</b></p>
<p>1) The electrical installation should be carried out by the professional as instructed by the local laws, regulations and also this manual.</p>
<p>2) The ground connection should be reliable and the ground wire should be connected to the dedicated device of the building by the professional.</p>
<p>3) Before starting work, the power must not be supplied to the unit.</p>
<p>4) The air switch coupled with the leakage current protection switch must be equipped in the circuits, which is of enough capacity and of both magnetic and thermal tripping functions in case of the short circuit and overload.</p>
<p>5) The electrical work should use a cable length enough to cover the entire distance with no connection. If it is unavoidable, please make sure the connection should be reliable, the external forces will not act on the wires and the joint is not bared. Otherwise it will cause electrical shock or fire etc.</p>
<p>6) The power cable with the rated voltage and exclusive circuit for the air conditioner should be used.</p>
<p>7) Do not pull the power cable by force after it is installed.</p>
<p>8) The diameter of the power cable should be large enough and once it is damaged, it must be replaced by the dedicated one.</p>
<p>9) The multi-wire copper cable should be used for the power cable and the transmission line.</p>

### 6.6 Precaution of Laying Wires

- 1) Use a wire stripper to strip off a length of the insulation layer at the end of the wires;
- 2) Loosen the screws on the terminal block of the air conditioner;
- 3) Press the ends of the cable tightly onto the round terminals corresponding to the size of the screws.
- 4) Pass the screw through the round terminals and fix it onto the terminal block.

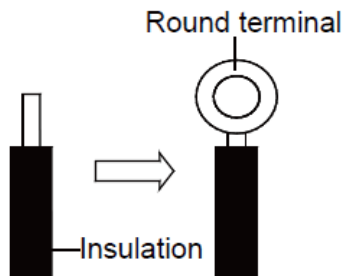
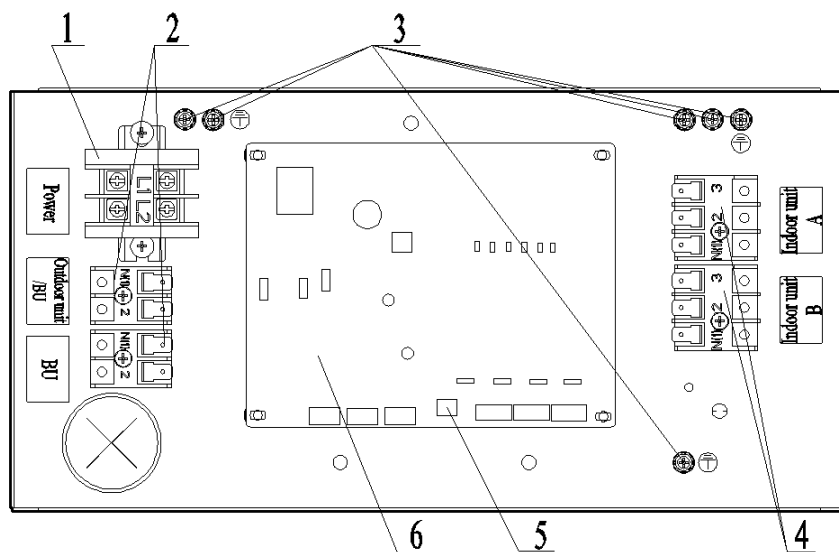


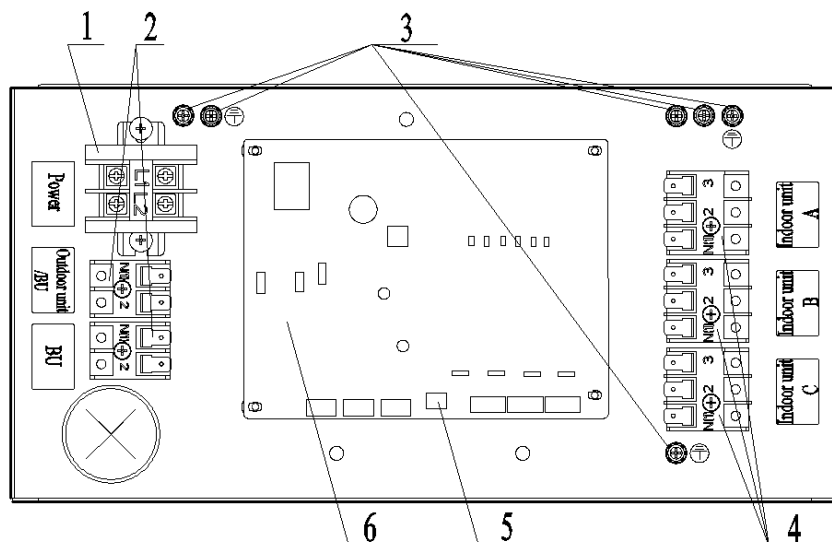
Fig. 25

### 6.7 Procedures for Electrical Wiring Work

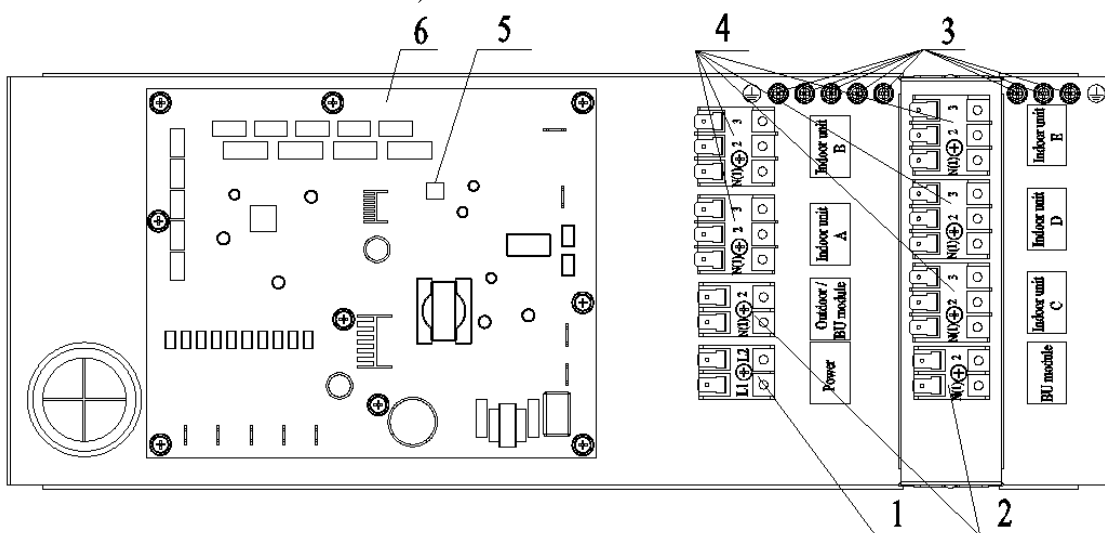
- 1) Unscrew the electrical equipment plate.
- 2) The structure of behind the electrical equipment plate.



a) VOB5-2C



b) VOB5-3C



c) VOB5-5C

NO.	1	2	3
Name	Terminal black for BU module power supply	Terminal black for transmission line	Ground screw
NO.	4	5	6
Name	Terminal black for indoor unit power supply	DIP switch	Printed circuit board

Fig. 26

- 3) Let the power cable and transmission line go through the rubber ring. In order to protect the power cable and transmission line from damaging by the hole, the rubber ring cannot fall from that, otherwise, it may cause electrical shock or fire etc.
- 4) Connect the power cable of the VOB Module to the L1, L2 terminals with the sign of Power and as well as the ground screw.
- 5) Connect the transmission line of the VOB Module to the N(1), 2 terminals with the sign of Outdoor unit/VOB Module.
- 6) If the transmission line need to be connected to the other VOB Module, please connect the extra

- line to the N(1), 2 terminals with the sign of VOB Module.
- 7) Connect the power cable of the indoor unit to the N(1), 2 and 3 terminals with the sign of Indoor unit A (B, C, D and E) and as well as the ground screw.
- 8) Fix the power cable and transmission line firmly by cable fixing clip.
- 9) Screw the electrical equipment plate.

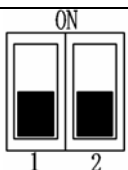
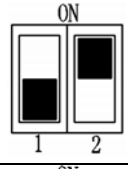
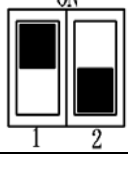
<b>⚠ CAUTION</b>	
1)	The transmission line and the power cable must be separated with an interval of at least 2cm(3/4inch); otherwise it may be result in communication problem.
2)	Confirm the each cable connected to the terminal screw is exactly and securely after finishing the electric work.
3)	Fix each ground wire separately with the ground screw.
4)	When connecting indoor units, make sure to connect refrigerant pipes and power cables to the same connection ports marked with matching signs (A, B, C ,D and E).
5)	If the connecting wire is connected to the terminal incorrectly, the unit will not work normally.
6)	The refrigerant pipe should be supported by brackets, that is, don't let the unit withstand the weight of it.
7)	For the Super Free Match system, each pipe should be labeled to tell which system it belongs to avoid mistaken inaccurate piping.

**6.8 Instructions for DIP Switch**

- ◆ 2 digits DIP is adopted to assign the address when using multi-VOB Modules and the address cannot be repeated in the same unit.
- ◆ One outdoor unit can connect to no more than 3 VOB Modules.
- ◆ “ON” side means "ON" and the opposite side represents "OFF".

**NOTICE!:** The black part is lever.

Table 12

Number	DIP Code		Icon	Address
	DIP 1	DIP 2		
1	OFF	OFF		BU 1
2	OFF	ON		BU 2
3	ON	OFF		BU 3

## 7 Design of Drainage Pipeline

### 7.2 Installation of Drain Hose

- 1) Remove the rubber stopper of drain hole.
- 2) Connect the drain hose to the drain hole of VOB Module.
- 3) The drain hose should be kept at 5~10 degrees of gradient to facilitate discharge of the condensing water. Take care that does not exert too much force on the hose.
- 4) Thermal insulation materials should be placed at the joints of the drain hose so as to prevent from dew condensation. Fix the drain hose firmly by binding band.

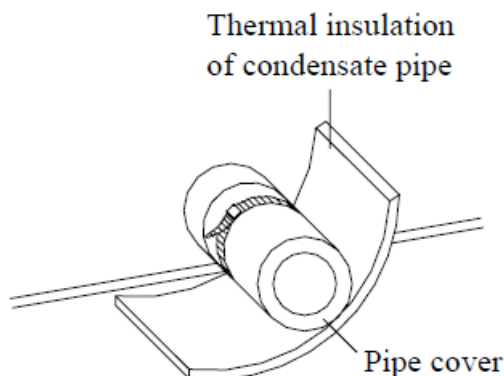


Fig. 27

- 5) The end of the drain hose should be inserted into the hole of drainage pipeline.

### 7.3 Design of Drainage Pipeline

- 1) The drainage pipeline should be kept at a certain gradient ( $1/50$ — $1/100$ ) so as to avoid bulges of pipes where there might be water bends.
- 2) The drainage pipeline is form of the hard PVC pipes for common purposes which can be purchased locally. The diameter of the PVC pipes is not less than 31mm (1-1/4inch) and the pipeline should be fixed as close to the VOB Module as possible.
- 3) Insert the drain hose into the drain hole of drainage pipeline. Use binding band to fix it tightly. It is not allowed to use adhesive glue to join the drain hose to the drainage hole.
- 4) When the drainage pipeline is laid for a couple of units, the position of the shared pipeline should be approximately 100mm lower than the drainage hole of each module. In this case, some special-purpose pipes with thicker walls will be used.

**NOTICE!** At intervals of about 1 meter (3-1/4feet), fix the drain pipes to the wall with brackets, not floating in the air.

## 8 Test Operation

After all the installation has been accomplished, follow the “operation test” as described in the outdoor unit owner’s manual.



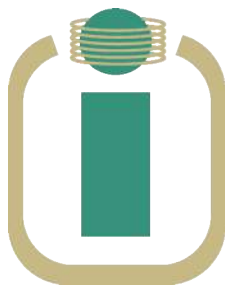
## 9 Troubleshooting

### WARNING

- 1) In the event of abnormal conditions (like, stinky smell), please shut off the power supply immediately and then contact the appointed service center; otherwise, the abnormal running would damage the air conditioner and also would cause electric shock or fire hazard .
- 2) Do not repair the air conditioning personally but instead contact the professionally skilled personnel at the appointed service center, as the incorrect repair would cause electric shock or fire hazard etc.

Table 13

Errors	Indicating LED flashing times			Indoor unit error code	Outdoor unit error code
	Yellow LED	Green LED	Red LED		
BU 1 is connected	Flash 1 time				
BU 2 is connected	Flash 2 times				
BU 3 is connected	Flash 3 times				
Indoor unit A is connected		Flash 1 time			
Indoor unit B is connected		Flash 2 times			
Indoor unit C is connected		Flash 3 times			
Indoor unit D is connected		Flash 4 times			
Indoor unit E is connected		Flash 5 times			
Indoor unit A gas tube temperature sensor error			Flash 1 time	b7	b7 indoor unit address
Indoor unit A liquid tube temperature sensor error			Flash 2 times	b5	b5 indoor unit address
Indoor unit B gas tube temperature sensor error			Flash 3 times	b7	b7 indoor unit address
Indoor unit B liquid tube temperature sensor error			Flash 4 times	b5	b5 indoor unit address
Indoor unit C gas tube temperature sensor error			Flash 5 times	b7	b7 indoor unit address
Indoor unit C liquid tube temperature sensor error			Flash 6 times	b5	b5 indoor unit address
Indoor unit D gas tube temperature sensor error			Flash 7 time	b7	b7 indoor unit address
Indoor unit D liquid tube temperature sensor error			Flash 8 times	b5	b5 indoor unit address
Indoor unit E gas tube temperature sensor error			Flash 9 time	b7	b7 indoor unit address
Indoor unit E liquid tube temperature sensor error			Flash 10 times	b5	b5 indoor unit address



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