

# **INVERTER MINI SPLIT**

***HIGH-WALL DUCTLESS  
AIR CONDITIONING &  
HEATING SYSTEM***

***OWNER'S MANUAL +  
INSTALLATION GUIDE***





# Owner's Manual Contents

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## Explanation of Symbols



Indicates a hazardous situation that, if not avoided, will result in death or serious injury.



Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.



Indicates important but not hazard-related information, used to indicate risk of property damage.



Indicates a hazard that would be assigned a signal word WARNING or CAUTION.

## Precautions



### WARNING

#### Operation and Maintenance

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- Do not connect air conditioner to multi-purpose socket. Otherwise, it may cause fire hazard.
- Do disconnect power supply when cleaning air conditioner. Otherwise, it may cause electric shock.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Do not wash the air conditioner with water to avoid electric shock.
- Do not spray water on indoor unit. It may cause electric shock or malfunction.
- After removing the filter, do not touch fins to avoid injury.
- Do not use fire or hair dryer to dry the filter to avoid deformation or fire hazard.

## Precautions



### WARNING

- Maintenance must be performed by qualified professionals. Otherwise, it may cause personal injury or damage.
- Do not repair air conditioner by yourself. It may cause electric shock or damage. Please contact dealer when you need to repair air conditioner.
- Do not extend fingers or objects into air inlet or air outlet. It may cause personal injury or damage.
- Do not block air outlet or air inlet. It may cause malfunction.
- Do not spill water on the remote controller, otherwise the remote controller may be broken.
- When below phenomenon occurs, please turn off air conditioner and disconnect power immediately, and then contact the dealer or qualified professionals for service.
  - Power cord is overheating or damaged.
  - There's abnormal sound during operation.
  - Circuit break trips off frequently.
  - Air conditioner gives off burning smell.
  - Indoor unit is leaking.
- If the air conditioner operates under abnormal conditions, it may cause malfunction, electric shock or fire hazard.
- When turning on or turning off the unit by emergency operation switch, please press this switch with an insulating object other than metal.
- Do not step on top panel of outdoor unit, or put heavy objects. It may cause damage or personal injury.

## Precautions



### WARNING

#### Attachment

- Installation must be performed by qualified professionals. Otherwise, it may cause personal injury or damage.
- Must follow the electric safety regulations when installing the unit.
- According to the local safety regulations, use qualified power supply circuit and circuit break.
- Do install the circuit break. If not, it may cause malfunction.
- An all-pole disconnection switch having a contact separation of at least 1/8in (3mm) in all poles should be connected in fixed wiring.
- Including an circuit break with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload.
- Air Conditioner should be properly grounded. Incorrect grounding may cause electric shock.
- Don't use unqualified power cord.
- Make sure the power supply matches with the requirement of air conditioner. Unstable power supply or incorrect wiring or malfunction. Please install proper power supply cables before using the air conditioner.
- Properly connect the live wire, neutral wire and grounding wire of power socket.
- Be sure to cut off the power supply before proceeding any work related to electricity and safety.

## Precautions



### WARNING

- Do not put through the power before finishing installation.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
- The appliance shall be installed in accordance with national wiring regulations.
- Installation must be performed in accordance with the requirement of National Electrical Codes (NEC) and local electrical codes by authorized personnel only.
- The air conditioner is the first class electric appliance. It must be properly grounding with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
- The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
- The grounding resistance should comply with national electric safety regulations.
- The appliance must be positioned so that the plug is accessible.
- All wires of indoor unit and outdoor unit should be connected by a professional.
- If the length of power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.

# Precautions



## WARNING

- For the air conditioner with plug, the plug should be reachable after finishing installation.
- For the air conditioner without plug, an circuit break must be installed in the line.
- If you need to relocate the air conditioner to another place, only the qualified person can perform the work. Otherwise, it may cause personal injury or damage.
- Select a location which is out of reach for children and far away from animals or plants. If it is unavoidable, please add the fence for safety purpose.
- The indoor unit should be installed close to the wall.
- Instructions for installation and use of this product are provided by the manufacturer.

## Working temperature range

**For model: 9000 BTU + 12000 BTU - 110~115V, 60Hz**

	Indoor side DB/WB(°F/°C )	Outdoor side DB/WB(°F/°C)
Maximum cooling	89.6/73.4(32/23)	109.4/78.8(43/26)
Maximum heating	80.6/- (27/-)	75.2/64.4(24/18)

### NOTICE:

- The operating temperature range (outdoor temperature) for cooling only unit is 64.4°F(18°C) ~ 109.4°F(43°C) ; for heat pump unit is 19.4°F(-7°C) ~ 109.4°F(43°C) .

**For model: 9000 + 12000 BTU - 220~230V, 60Hz**

	Indoor side DB/WB(°F/°C )	Outdoor side DB/WB(°F/°C)
Maximum cooling	89.6/73.4(32/23)	109.4/78.8(43/26)
Maximum heating	80.6/- (27/-)	75.2/64.4(24/18)

### NOTICE:

- The operating temperature range (outdoor temperature) for cooling only unit is 5°F(-15°C) ~ 109.4°F(43°C) ; for heat pump unit is 5°F(-15°C) ~ 109.4°F(43°C) .

**For model: 18000 + 24000 BTU - 220~230V, 60Hz**

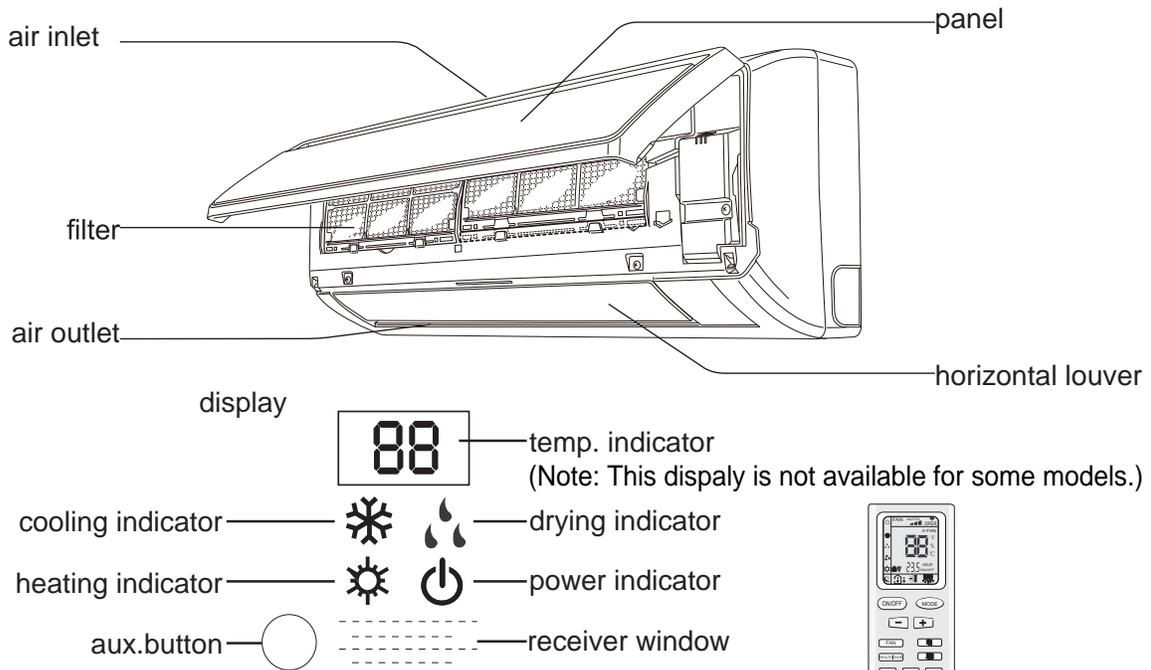
	Indoor side DB/WB(°F/°C )	Outdoor side DB/WB(°F/°C )
Maximum cooling	89.6/73.4( 32/23)	115/78.8( 46/26)
Maximum heating	80.6/- ( 27/-)	75.2/64.4( 24/18)

### NOTICE:

- The operating temperature range (outdoor temperature) for cooling only unit is 5°F(-15°C) ~ 115°F(46°C) ; for heat pump unit is 5°F(-15°C) ~ 115°F(46°C) .

# Parts Name

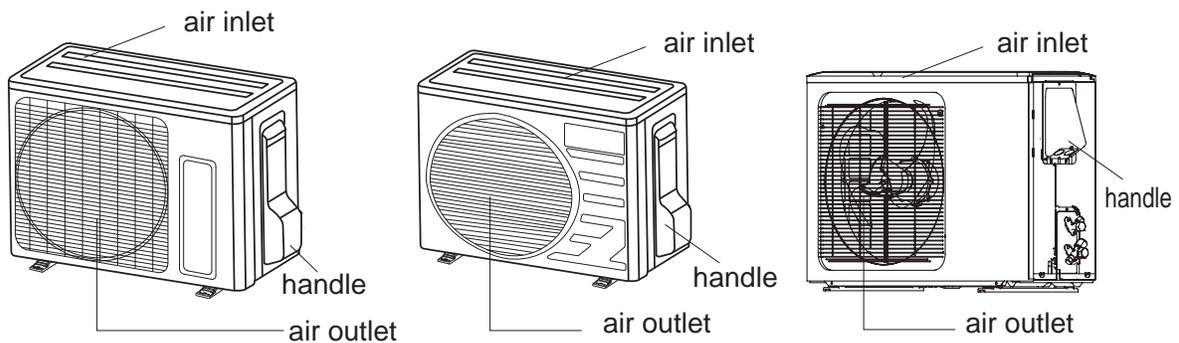
## Indoor Unit



remote controller

(Display content or position may be different from above graphics, please refer to actual products)

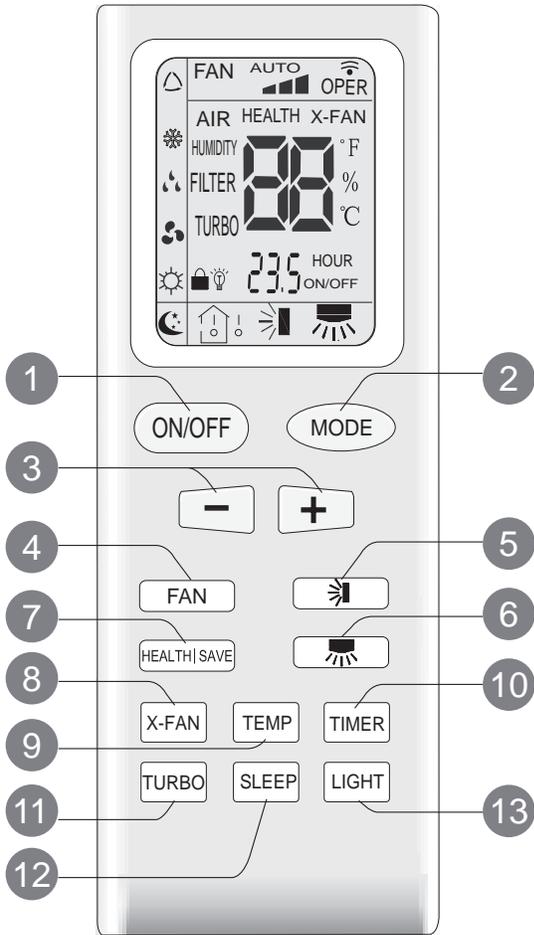
## Outdoor Unit



### **NOTICE:**

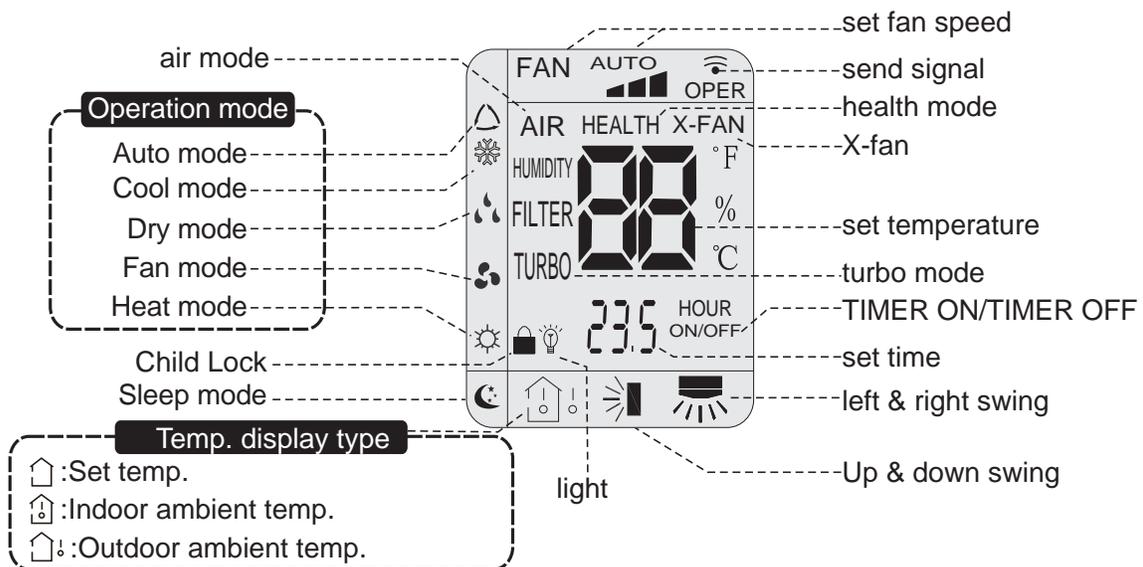
Actual product may be different from above graphics, please refer to actual products.

# Buttons on remote controller



- 1 ON/OFF button
- 2 MODE button
- 3 +/- button
- 4 FAN button
- 5 button
- 6 button
- 7 HEALTH|SAVE button
- 8 X-FAN button  
(Note: X-FAN is same with BLOW)
- 9 TEMP button
- 10 TIMER button
- 11 TURBO button
- 12 SLEEP button
- 13 LIGHT button

# Introduction for icons on display screen



# Introduction for buttons on remote controller

## Note:

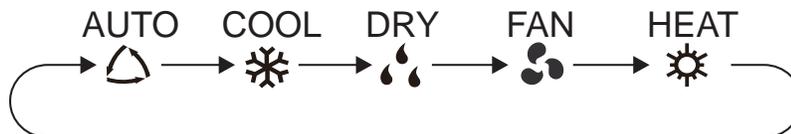
- After putting through power, air conditioner will give out a sound and operation indicator "⏻" is ON (red indicator). You can operate the air conditioner through the remote controller.
- At ON status, after each pressing button on remote controller, the signal icon "📶" on remote controller will flash once. Air conditioner will give out a sound, which indicates the signal has been sent to air conditioner.
- At OFF status, display screen on remote controller displays set temperature. At on status, display screen on remote controller displays the corresponding startup function's icon.

## 1 ON/OFF button

Press this button can turn on or turn off the air conditioner. After turning on the unit, operation indicator "⏻" on indoor unit is ON (green indicator. Color may be different for different models) and indoor unit gives out a sound.

## 2 MODE button

Press this button can select your required operation mode.



- After selecting auto mode, air conditioner will operate automatically according to ambient temperature. Set temperature can't be adjusted and also can't be displayed. Press "FAN" button can adjust fan speed. Press "📶" button can adjust swing angle.
- After selecting cool mode, air conditioner operates under cool mode. Cool indicator "❄️" on indoor unit is ON. You can press "+" or "-" button to adjust set temperature. Press "FAN" button can adjust fan speed. Press "📶" button can adjust swing angle.
- After selecting dry mode, air conditioner operates under dry mode at low speed. Dry indicator "💧" on indoor unit is ON. Under dry mode, fan speed can't be adjusted. Press "📶" button to adjust swing angle.
- After selecting fan mode, air conditioner operates only under fan mode, All mode indicators on indoor unit is OFF. Operation indicator is ON. Press "FAN" button can adjust fan speed. Press "📶" button to adjust swing angle.
- After selecting heat mode, air conditioner operates under heat mode. Heat indicator "☀️" on indoor unit is ON. You can press "+" or "-" button to adjust set temperature. Press "FAN" button to adjust fan speed. Press "📶" button to adjust swing angle. (Cooling only unit can't receive the signal for heating mode.)

# Introduction for buttons on remote controller

## Note:

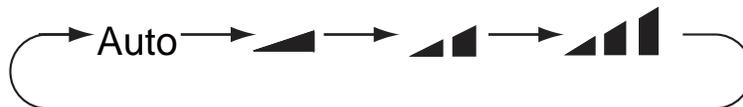
For preventing cold wind, after starting up heating mode, indoor fan will blow fan after delaying 1-5min. (Details time is decided by indoor ambient temperature)  
Temperature setting range on remote controller: 60.8~86°F (16~30°C). Fan speed setting range: auto, low speed, medium speed and high speed.

## 3 "+" or "-" button

- After each pressing of "+" or "-" button, it can increase or decrease set temperature 33.8°F(1°C) . Hold "+" or "-" button, 2s later, set temperature on remote controller will change quickly. After reaching to your required time, loosen the button. Temperature indicator on indoor unit will also change accordingly. (Temperature can't be adjusted under auto mode)
- Under TIMER ON, TIMER OFF or Clock setting, you can press "+" or "-" button to adjust time. (Refer to TIMER button for details)

## 4 FAN button

Pressing this button can set fan speed circularly as: auto (AUTO), low( ▲ ), medium( ■■ ), high( ▲▲▲ ).

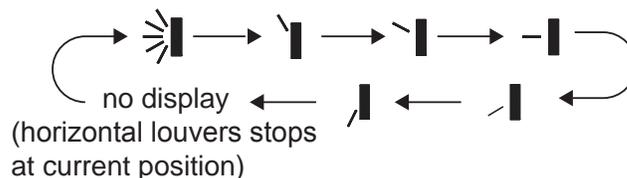


## Note:

- Under AUTO Speed, IDU fan motor will adjust the fan speed (high, medium or low speed) according to ambient temperature.
- Fan speed under dry mode is low speed.

## 5 按钮 button

- Press this button to start or stop up & down swing function. The remote controller defaults to simple swing condition.
- Press + button and 按钮 button at the same time at unit OFF to switch between simple swing and static swing; 按钮 blinks for 2 seconds.
- In static swing condition, pressing 按钮 button, the swing angle of up & down louver changes as below:



- If the unit is turned off during swing operation, the louver will stop at present position.

# Introduction for buttons on remote controller

## Note:

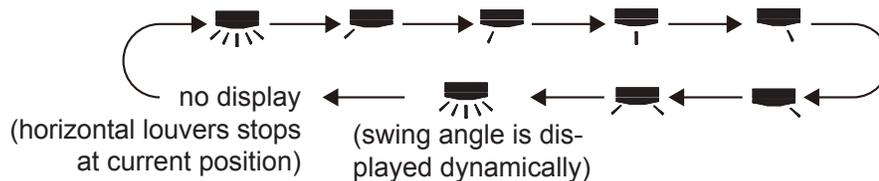
When selecting "↻" with remote controller, it's auto swing. Horizontal louver of air conditioner will swing up&down automatically at the maximum angle.

When selecting "┘、┙、┚、┛、├" with remote controller, it's the fixed position swing. Horizontal louver of air conditioner will stop at that position as shown by the icon to swing.

## 6

### button

- Press this button to start or stop left & right swing function. The remote controller defaults to simple swing condition.
- Press + button and button at the same time at unit OFF to switch between simple swing and static swing; button blinks for 2 seconds.
- In static swing condition, pressing button, the swing angle of left & right louver changes as below:



- If the unit is turned off during swing operation, the louver will stop at present position.
- When selecting "↻" with remote controller, it's auto swing. Horizontal louver of air conditioner will swing left&right automatically at the maximum angle.
- When selecting "┘、┙、┚、┛、├" with remote controller, it's the fixed position swing. Horizontal louver of air conditioner will stop at that position as shown by the icon to swing.
- When selecting "↻" (swing angle is displayed dynamically), it's the circulating swing. Horizontal louver of

air conditioner will swing circularly according to the angle as shown by the icon.

**Note:** There is no this function for the units. If press this key, the main unit will click, but it also runs under original status.

## 7

### HEALTH|SAVE button

#### HEALTH FUNCTION:

After pressing HEALTH button, remote controller will switch circularly as below:  
"HEALTH"→"AIR"→"AIR HEALTH"→"no display"

- When selecting "HEALTH" by remote controller, HEALTH function will be started up.
- When selecting "AIR" by remote controller, AIR function will be started up.
- When selecting "AIT HEALTH", AIR and HEALTH function will be started up.
- When there's no display on remote controller, AIR and HEALTH function will be turned off.
- AIR function is applicable for some models.

# Introduction for buttons on remote controller

## SAVE function:

Under cool mode, press SAVE button and the unit will operate under SAVE mode. Dual-8nixie tube on remote controller displays "SE". Air conditioner will operate at auto speed. Set temperature can't be adjusted. Press SAVE button again to exit SAVE mode. Air conditioner turn back to original set speed and set temperature.

- This function is applicable to partial of models.

## 8 X-FAN button

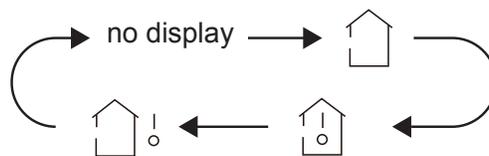
After pressing this button under cooling or dry mode, remote controller displays the character of "X-FAN" and X-FAN function is started up. Press this button again to cancel X-FAN function. The character of "X-FAN" will disappear.

### Note:

- After starting up X-FAN function, when turning off the unit, indoor fan will continue to operate for a while at low speed to dry the residual water inside the indoor unit.
- When the unit operates under X-FAN mode, press "X-FAN" button can turn off X-FAN function. Indoor fan stops operation immediately.

## 9 TEMP button

Press this button can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. Temperature is set circularly by remote controller as below:



- When selecting "🏠" by remote controller or no display, temperature indicator on indoor unit displays set temperature.
- When selecting "🏠🌡️" by remote controller, temperature indicator on indoor unit displays indoor ambient temperature.
- When selecting "🏠🌡️!" by remote controller, temperature indicator on indoor unit displays outdoor ambient temperature.

### Note:

- Outdoor ambient temperature display may can't be selected for some models. When indoor unit receives "🏠🌡️!" signal, it displays indoor set temperature.
- Only for the model whose indoor unit has dual-8 display.

## 10 TIMER button

- At ON status, press this button once can set TIMER OFF. The character of HOUR and OFF will flash. Press "+" or "-" button within 5s can adjust the time of TIMER ON. After each pressing of "+" or "-" button, time will increase or decrease half an

## Introduction for buttons on remote controller

hour. When holding "+" or "-" button, 2s later, the time will change quickly until to reach to your required time. After that, press "TIMER" button to confirm it. The character of HOUR and OFF won't flash again.

Cancel TIMER OFF: Press "TIMER" button again under TIMER OFF status.

- At OFF status, press this button once can set TIMER ON. Please refer to TIMER off for detailed operation.

Cancel TIMER ON: Press "TIMER" button again under TIMER ON status.

### Note:

- Time setting range: 0.5-24 hours.
- Time interval between two operations can't exceed 5s. Otherwise, remote controller will exit the setting status automatically.

### 11 TURBO button

When pressing this button under cooling or heating mode, air conditioner will enter into quick cooling or quick heating mode. The character of "TURBO" is displayed on remote controller. Press this button again to exit turbo function and the character of "TURBO" will be disappeared on remote controller.

### 12 SLEEP button

Press this button under cooling, heating mode can start up sleep function.

"" icon will be displayed on remote controller. Press this button again to cancel sleep function. "" icon on remote controller will be displayed.

### 13 LIGHT button

Press this button can turn off the light for indoor unit's display. "" icon on remote controller will disappear. Press this button again to turn on the light for indoor unit's display. "" icon on remote controller will be displayed.

## Function introduction for combination buttons

### Child lock function

Press "+" and "-" buttons simultaneously can turn on or turn off child lock function. When child lock function is started up, "" icon will be displayed on remote controller. If operate remote controller, "" icon will flash three times, while remote controller won't send signal.

### Switchover function for temperature display

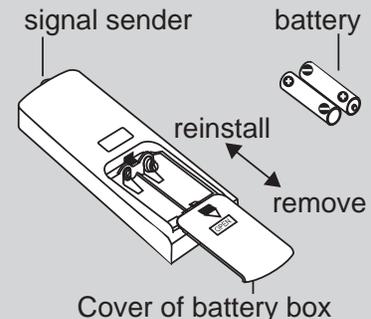
After turning off the unit by remote controller, press "-" button and "MODE" button simultaneously to switch between °C and °F .

## Operation guide

1. After putting through the power, press "  " button on remote controller to turn on the air conditioner.
2. Press "  " button to select your required mode: AUTO, COOL, DRY, FAN, HEAT.
3. Press "+" or "-" button to set your required temperature. (Temperature can't be adjusted under auto mode).
4. Press "  " button to set your required fan speed: auto, low, medium and high speed.
5. Press "  " button to select fan blowing angle.

## Replacement of batteries in remote controller

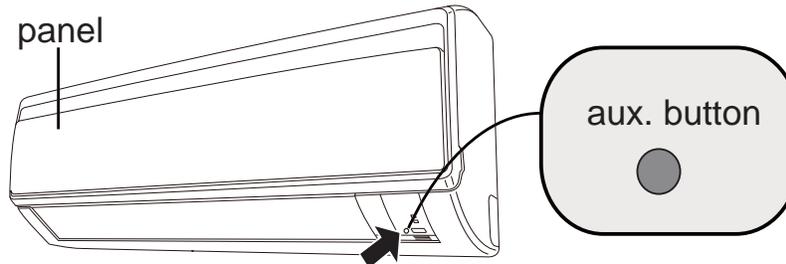
1. Press the back side of remote controller marked with "  ", as shown in the fig, and then push out the cover of battery box along the arrow direction.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of "+" polar and "-" polar are correct.
3. Reinstall the cover of battery box.



- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 26.2ft (8m), and there should be no obstacles between them.
- Signal may be interfered easily in the room where there is fluorescent lamp or wireless telephone; remote controller should be close to indoor unit during operation.
- Replace new batteries of the same model when replacement is required.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

## Emergency operation

If remote controller is lost or damaged, please use auxiliary button to turn on or turn off the air conditioner. The operation in details are as below: As shown in the fig. press aux. button to turn on or turn off the air conditioner. When the air conditioner is turned on, it will operate under auto mode.



**⚠ WARNING:**

Use insulated object to press the auto button

## Clean and maintenance

**⚠ WARNING**

- Turn off the air conditioner and disconnect the power before cleaning the air conditioner to avoid electric shock.
- Do not wash the air conditioner with water to avoid electric shock.
- Do not use volatile liquid to clean the air conditioner.

### Clean surface of indoor unit

When the surface of indoor unit is dirty, it is recommended to use a soft dry cloth or wet cloth to wipe it.

**NOTICE:**

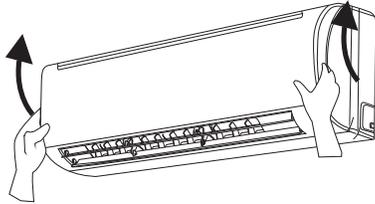
- Do not remove the panel when cleaning it.

# Clean and maintenance

## Clean filter

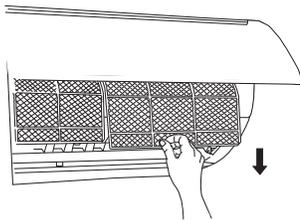
### 1 Open panel

Pull out the panel to a certain angle as shown in the fig.



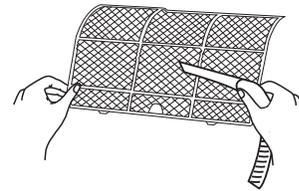
### 2 Remove filter

Remove the filter as indicated in the fig.



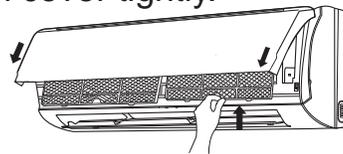
### 3 Clean filter

- Use dust catcher or water to clean the filter.
- When the filter is very dirty use the water (below 113°F(45°C)) to clean it, and then put it in a shady and cool place to dry.



### 4 Install filter

Install the filter and then close the panel cover tightly.



## ! WARNING

- The filter should be cleaned every three months. If there is much dust in the operation environment, clean frequency can be increased.
- After removing the filter, do not touch fins to avoid injury.
- Do not use fire or hair dryer to dry the filter to avoid deformation or fire hazard.

# Clean and maintenance

## Checking before use-season

1. Check whether air inlets and air outlets are blocked.
2. Check whether circuit break, plug and socket are in good condition.
3. Check whether filter is clean.
4. Check whether mounting bracket for outdoor unit is damaged or corroded.  
If yes, please contact dealer.
5. Check whether drainage pipe is damaged.

## Checking after use-season

1. Disconnect power supply.
2. Clean filter and indoor unit's panel.
3. Check whether mounting bracket for outdoor unit is damaged or corroded.  
If yes, please contact dealer.

## Notice for recovery

1. Many packing materials are recyclable materials.  
Please dispose them in appropriate recycling unit.
2. If you want to dispose the air conditioner, please contact local dealer or consultant service center for the correct disposal method.

# Malfunction analysis

## General phenomenon analysis

Please check below items before asking for maintenance. If the malfunction still can't be eliminated, please contact local dealer or qualified professionals.

Phenomenon	Check items	Solution
Indoor unit can't receive remote controller's signal or remote controller has no action.	<ul style="list-style-type: none"> <li>• Whether it's interfered severely (such as static electricity, stable voltage)?</li> </ul>	<ul style="list-style-type: none"> <li>• Pull out the plug. Reinsert the plug after about 3min, and then turn on the unit again.</li> </ul>
	<ul style="list-style-type: none"> <li>• Whether remote controller is within the signal receiving range?</li> </ul>	<ul style="list-style-type: none"> <li>• Signal receiving range is 8m.</li> </ul>
	<ul style="list-style-type: none"> <li>• Whether there are obstacles?</li> </ul>	<ul style="list-style-type: none"> <li>• Remove obstacles.</li> </ul>
	<ul style="list-style-type: none"> <li>• Whether remote controller is pointing at the receiving window?</li> </ul>	<ul style="list-style-type: none"> <li>• Select proper angle and point the remote controller at the receiving window on indoor unit.</li> </ul>
	<ul style="list-style-type: none"> <li>• Is sensitivity of remote controller low; fuzzy display and no display?</li> </ul>	<ul style="list-style-type: none"> <li>• Check the batteries. If the power of batteries is too low, please replace them.</li> </ul>
	<ul style="list-style-type: none"> <li>• No display when operating remote controller?</li> </ul>	<ul style="list-style-type: none"> <li>• Check whether remote controller appears to be damaged. If yes, replace it.</li> </ul>
	<ul style="list-style-type: none"> <li>• Fluorescent lamp in room?</li> </ul>	<ul style="list-style-type: none"> <li>• Take the remote controller close to indoor unit.</li> <li>• Turn off the fluorescent lamp and then try it again.</li> </ul>
No air emitted from indoor unit	<ul style="list-style-type: none"> <li>• Air inlet or air outlet of indoor unit is blocked?</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminate obstacles.</li> </ul>
	<ul style="list-style-type: none"> <li>• Under heating mode, indoor temperature is reached to set temperature?</li> </ul>	<ul style="list-style-type: none"> <li>• After reaching to set temperature, indoor unit will stop blowing out air.</li> </ul>
	<ul style="list-style-type: none"> <li>• Heating mode is turned on just now?</li> </ul>	<ul style="list-style-type: none"> <li>• In order to prevent blowing out cold air, indoor unit will be started after delaying for several minutes, which is a normal phenomenon.</li> </ul>

# Malfunction analysis

Phenomenon	Check items	Solution
Air conditioner can't operate	<ul style="list-style-type: none"> <li>● Power failure?</li> </ul>	<ul style="list-style-type: none"> <li>● Wait until power recovery.</li> </ul>
	<ul style="list-style-type: none"> <li>● Is plug loose?</li> </ul>	<ul style="list-style-type: none"> <li>● Reinsert the plug.</li> </ul>
	<ul style="list-style-type: none"> <li>● Circuit break trips off or fuse is burnt out?</li> </ul>	<ul style="list-style-type: none"> <li>● Ask professional to replace circuit break or fuse.</li> </ul>
	<ul style="list-style-type: none"> <li>● Wiring has malfunction?</li> </ul>	<ul style="list-style-type: none"> <li>● Ask professional to replace it.</li> </ul>
	<ul style="list-style-type: none"> <li>● Unit has restarted immediately after stopping operation?</li> </ul>	<ul style="list-style-type: none"> <li>● Wait for 3min, and then turn on the unit again.</li> </ul>
	<ul style="list-style-type: none"> <li>● Whether the function setting for remote controller is correct?</li> </ul>	<ul style="list-style-type: none"> <li>● Reset the function.</li> </ul>
Mist is emitted from indoor unit's air outlet	<ul style="list-style-type: none"> <li>● Indoor temperature and humidity is high?</li> </ul>	<ul style="list-style-type: none"> <li>● Because indoor air is cooled rapidly. After a while, indoor temperature and humidity will be decrease and mist will disappear.</li> </ul>
Set temperature can't be adjusted	<ul style="list-style-type: none"> <li>● Unit is operating under auto mode?</li> </ul>	<ul style="list-style-type: none"> <li>● Temperature can't be adjusted under auto mode. Please switch the operation mode if you need to adjust temperature.</li> </ul>
	<ul style="list-style-type: none"> <li>● Your required temperature exceeds the set temperature range?</li> </ul>	<ul style="list-style-type: none"> <li>● Set temperature range: 60.8~86°F (16~30°C).</li> </ul>
Cooling (heating) effect is not good.	<ul style="list-style-type: none"> <li>● Voltage is too low?</li> </ul>	<ul style="list-style-type: none"> <li>● Wait until the voltage resumes normal.</li> </ul>
	<ul style="list-style-type: none"> <li>● Filter is dirty?</li> </ul>	<ul style="list-style-type: none"> <li>● Clean the filter.</li> </ul>
	<ul style="list-style-type: none"> <li>● Set temperature is in proper range?</li> </ul>	<ul style="list-style-type: none"> <li>● Adjust temperature to proper range.</li> </ul>
	<ul style="list-style-type: none"> <li>● Door and window are open?</li> </ul>	<ul style="list-style-type: none"> <li>● Close door and window.</li> </ul>

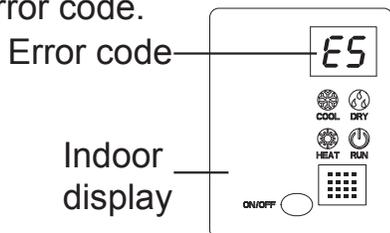
# Malfunction analysis

Phenomenon	Check items	Solution
Odours are emitted	<ul style="list-style-type: none"> <li>• Whether there's odour source, such as furniture and cigarette, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Eliminate the odour source.</li> <li>• Clean the filter.</li> </ul>
Air conditioner operates normally suddenly	<ul style="list-style-type: none"> <li>• Whether there's interference, such as thunder, wireless devices, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Disconnect power, put back power, and then turn on the unit again.</li> </ul>
Outdoor unit has vapor	<ul style="list-style-type: none"> <li>• Heating mode is turned on?</li> </ul>	<ul style="list-style-type: none"> <li>• During defrosting under heating mode, it may generate vapor, which is a normal phenomenon.</li> </ul>
"Water flowing" noise	<ul style="list-style-type: none"> <li>• Air conditioner is turned on or turned off just now?</li> </ul>	<ul style="list-style-type: none"> <li>• The noise is the sound of refrigerant flowing inside the unit, which is a normal phenomenon.</li> </ul>
Cracking noise	<ul style="list-style-type: none"> <li>• Air conditioner is turned on or turned off just now?</li> </ul>	<ul style="list-style-type: none"> <li>• This is the sound of friction caused by expansion and/or contraction of panel or other parts due to the change of temperature.</li> </ul>

# Malfunction analysis

## Error Code

- When air conditioner status is abnormal, temperature indicator on indoor unit will blink to display corresponding error code. Please refer to below list for identification of error code.



Above indicator diagram is only for reference. Please refer to actual product for the actual indicator and position.

Below listed error codes are only part error codes. Please refer to error code list in service manual for more information.

Error code	Troubleshooting
Heating indicator ON 10s OFF 0.5s	Means defrosting status. It's the normal phenomenon.
E5	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
E6	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
E8	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
U8	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
H6	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
C5	Please contact qualified professionals for service.
F1	Please contact qualified professionals for service.
F2	Please contact qualified professionals for service.



## WARNING

- When below phenomenon occurs, please turn off air conditioner and disconnect power immediately, and then contact the dealer or qualified professionals for service.
  - Power cord is overheating or damaged.
  - There's abnormal sound during operation.
  - Circuit break trips off frequently.
  - Air conditioner gives off burning smell.
  - Indoor unit is leaking.
- Do not repair or refit the air conditioner by yourself.
- If the air conditioner operates under abnormal conditions, it may cause malfunction, electric shock or fire hazard.

# SYSTEM OPERATION

---

## COOLING OPERATION

### **How it works:**

In cooling mode, the mini split indoor evaporator absorbs heat from inside the room, discharging the heat outdoors. The maximum cooling capacity decreases as the outdoor temperature increases. The rise in outdoor temperature causes the air conditioner to work harder & longer to hold the room temperature.

### **Indoor Coil Freeze Protection:**

Frost may form on the indoor coil during cooling operation when the outdoor temperature is below 50°F (10°C). Prolonged operation may cause ice to form on the indoor coils and block airflow. If the mini split microcomputer detects ice on the indoor coil it will stop the compressor to defrost the coil, protecting the unit.

## HEATING OPERATION

### **How it works:**

In heating mode, the mini split outdoor condenser will absorb ambient heat from outside, discharging the heat indoors. The maximum heating capacity decreases as the outdoor temperature decreases. The drop in outdoor temperature makes less ambient heat available to pump inside (this is also where the term “heat pump” comes from). During extremely cold outdoor temperatures, you may need an additional heating source to supplement the mini split’s heat pump.

### **Defrost Function:**

In heating mode, frost may form on the outdoor coil during humid and low outdoor temperature conditions. Prolonged operation may cause ice to form on the outdoor coil and block airflow, reducing the system’s heating capacity.

If the mini split microcomputer detects ice on the outdoor coil it will switch automatically to defrost mode to melt the ice and clear the coil. During defrost mode, heating will be discontinued and the mini split system will flash the Defrost indicator. The compressor will continue to run while indoor and outdoor fans will stop. It is normal to see steam or vapor coming from the outdoor unit during defrost mode. Defrost mode will terminate 12 minutes after the initiation of defrost cycle or when the outdoor coil temperature is 50°F (10°C) or greater.

# ENERGY SAVING TIPS

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- 1. Relaxing room temperature at night is OK:** During the nighttime hours you don't require the same level of conscious cooling or heating. Try using Sleep Mode to gradually relax room temperature and allow the unit to run less and save energy.
- 2. Curtains and shades:** In the summer, you need to block the effects of the sun. Close window curtains and shades on the south and west side of your home to help block solar heat. In winter, the sun is your friend. Open curtains and shades to allow solar heat into your room.
- 3. Close doors:** If you don't need to heat and cool your whole home, confine the heating and cooling to one room by closing doors. Limit the space you're heating and cooling to specified capability of the unit.
- 4. Service the unit:** Some basic maintenance might be all you need. The outdoor unit will greatly benefit from a good hosing out, especially in treed areas where seeds and other debris can stick to coil fins and make the unit work up to 15% harder!
- 5. Rearrange the room:** Furniture that obstructs airflow means you could be heating and cooling the back of a chair or the front of a sofa instead of the actual living space. Use the Swing Louvers to help direct the air in the right direction for the room; remove or rearrange obstacles blocking airflow.
- 6. Lighting:** Turning lights off can help reduce your heat. Each light bulb is a tiny heater. Your air conditioner must waste energy overcoming the heat from your lights to reach and hold your desired room temperature.
- 7. Is anyone home?** If possible, while you're away turn your unit to Auto mode and make sure windows and drapes are closed. Although the room temperature will be uncomfortable for a few minutes when you come home, the unit will have the room back to your desired temperature in no time.
- 8. Don't forget the fan:** The fan is much like a car. The faster it runs, the more energy it uses. Sometimes we need the car to go fast, but slow is good enough most of the time. Try saving money by using the comfortable quiet low fan speed as much as possible.



# Installation Manual Content

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## Explanation of Symbols



Indicates a hazardous situation that, if not avoided, will result in death or serious injury.



Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.



Indicates important but not hazard-related information, used to indicate risk of property damage.



Indicates a hazard that would be assigned a signal word WARNING or CAUTION.

# System Requirements

## Piping Requirements

### PIPE SIZE in (mm)

Unit Size (BtuH)	Voltage	Liquid Line	Suction/Gas Line
9,000	115v - 1ph 60hz	1/4 (6)	3/8 (9.5)
12,000	115v - 1ph 60hz	1/4 (6)	3/8 (9.5)
9,000	208/230v - 1ph 60hz	1/4 (6)	3/8 (9.5)
12,000	208/230v - 1ph 60hz	1/4 (6)	3/8 (9.5)
18,000	208/230v - 1ph 60hz	1/4 (6)	1/2 (12)
24,000	208/230v - 1ph 60hz	1/4 (6)	1/2 (12)

### REFRIGERANT LINE LENGTHS ft (m)

Unit Size (BtuH)	Voltage	Min Line Length	Max Line Length	Max Elevation (ID over OD)
9,000	115v - 1ph 60hz	10 (3)	66 (20)	33 (10)
12,000	115v - 1ph 60hz	10 (3)	66 (20)	33 (10)
9,000	208/230v - 1ph 60hz	10 (3)	50 (15)	33 (10)
12,000	208/230v - 1ph 60hz	10 (3)	50 (15)	33 (10)
18,000	208/230v - 1ph 60hz	10 (3)	82 (25)	33 (10)
24,000	208/230v - 1ph 60hz	10 (3)	82 (25)	33 (10)

Notes: Insulate both refrigerant lines, separately.

### REFRIGERANT CHARGE

Unit Size (BtuH)	Voltage	Refrigerant Type	Factory System Charge oz (kg)*	Additional Charge oz/ft (g/m)
9,000	115v - 1ph 60hz	R410A	35.3 (1.0)	0.2 (20)
12,000	115v - 1ph 60hz	R410A	35.3 (1.0)	0.2 (20)
9,000	208/230v - 1ph 60hz	R410A	26.1 (0.74)	0.2 (20)
12,000	208/230v - 1ph 60hz	R410A	35.3 (1.0)	0.2 (20)
18,000	208/230v - 1ph 60hz	R410A	45.9 (1.3)	0.2 (20)
24,000	208/230v - 1ph 60hz	R410A	54.7 (1.6)	0.2 (20)

\*Precharge amount for up to 25-ft of refrigerant pipe.

### ELECTRICAL REQUIREMENTS

Unit Size (BtuH)	Voltage	Min Circuit Amps (MCA)	Max Overcurrent Protection (MOP)	Main Power Wire Size (AWG)**
9,000	115v - 1ph 60hz	12	25	12
12,000	115v - 1ph 60hz	15	25	12
9,000	208/230v - 1ph 60hz	10	16	16
12,000	208/230v - 1ph 60hz	10	16	16
18,000	208/230v - 1ph 60hz	15	25	14
24,000	208/230v - 1ph 60hz	17	25	12

\*\*Main power wire from electrical panel to outdoor unit.

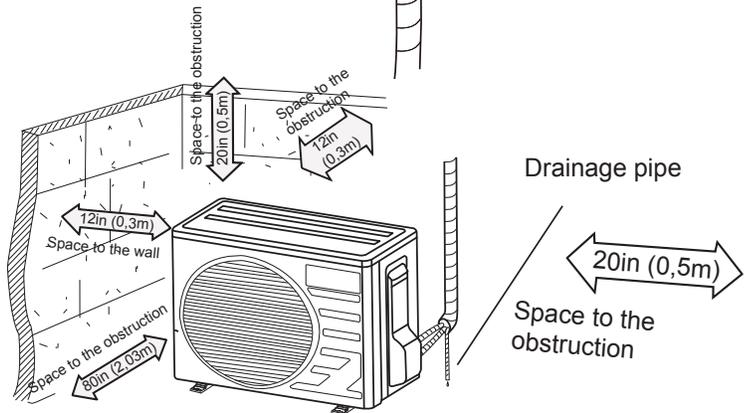
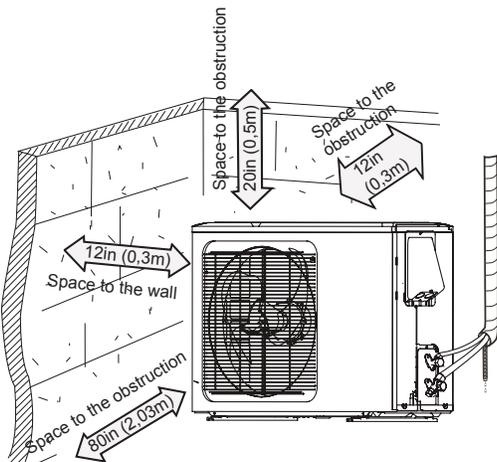
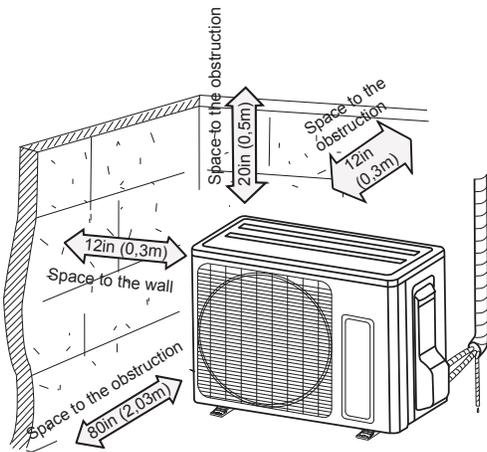
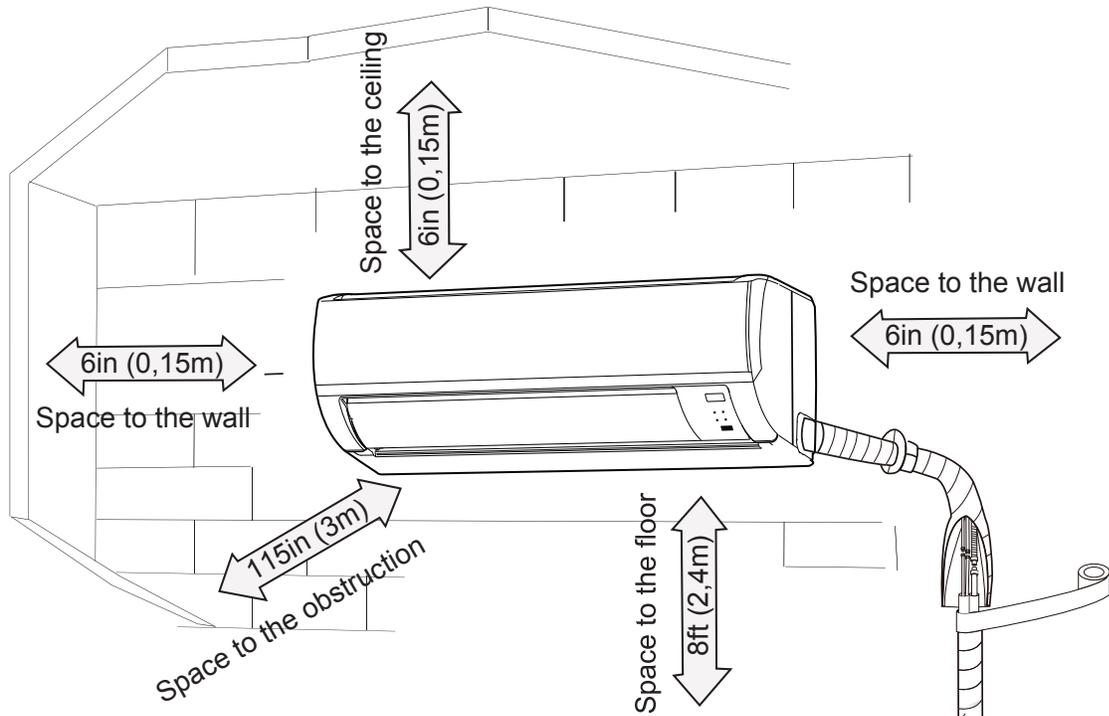
- Notes:
- 1) System must be on a single dedicated circuit.
  - 2) Main power is supplied to the outdoor unit.
  - 3) Use table above to size over current protection.
  - 4) Follow all local building codes and NEC (National Electrical Code) regulations. Interconnecting Cable:

Recommended cable - 16/4 AWG stranded bare copper conductors THHN 600V unshielded wire

Note: Use shield cable if installation is in close proximity of RF and EMI transmitting devices.

Condensate Drain Size: 5/8-in OD 7/16-in ID Note: Insulate condensate drain hose to prevent sweating and possible water damage.

# Installation dimension diagram



## Tools for installation

1 Level meter	2 Screw driver	3 Impact drill
4 Drill head	5 Pipe expander	6 Torque wrench
7 Open-end wrench	8 Pipe cutter	9 Leakage detector
10 Vacuum pump	11 Pressure meter	12 Universal meter
13 Inner hexagon spanner		14 Measuring tape

### Note:

- Please contact the local agent for installation.
- Don't use unqualified power cord.

## Selection of installation location

Basic requirement	Indoor unit
<p>Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:</p> <ol style="list-style-type: none"> <li>1. The place with strong heat sources, vapors, flammable or explosive gas, or volatile objects spread in the air.</li> <li>2. The place with high-frequency devices (such as welding machine, medical equipment).</li> <li>3. The place near coast area.</li> <li>4. The place with oil or fumes in the air.</li> <li>5. The place with sulfureted gas.</li> <li>6. Other places with special circumstances.</li> <li>7. Do not use the unit in the immediate surroundings of a laundry a bath a shower or a swimming pool.</li> </ol>	<ol style="list-style-type: none"> <li>1. There should be no obstruction near air inlet and air outlet.</li> <li>2. Select a location where the condensation water can be dispersed easily and won't affect other people.</li> <li>3. Select a location which is convenient to connect the outdoor unit and near the power socket.</li> <li>4. Select a location which is out of reach for children.</li> <li>5. The location should be able to withstand the weight of indoor unit and won't increase noise and vibration.</li> <li>6. The appliance must be installed 8,2ft (2.5m) above floor.</li> <li>7. Don't install the indoor unit right above the electric appliance.</li> <li>8. Please try your best to keep way from fluorescent lamp.</li> </ol>
Outdoor unit	
<ol style="list-style-type: none"> <li>1. Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.</li> <li>2. The location should be well ventilated and dry, in which the outdoor unit won't be exposed directly to sunlight or strong wind.</li> <li>3. The location should be able to withstand the weight of outdoor unit.</li> <li>4. Make sure that the installation follows the requirement of installation dimension diagram.</li> <li>5. Select a location which is out of reach for children and far away from animals or plants. If it is unavoidable, please add the fence for safety purpose.</li> </ol>	

# Requirements for electric connection

## Safety precaution

1. Must follow the electric safety regulations when installing the unit.
2. According to the local safety regulations, use qualified power supply circuit and circuit break.
3. Make sure the power supply matches with the requirement of air conditioner. Unstable power supply or incorrect wiring or malfunction. Please install proper power supply cables before using the air conditioner.
4. Properly connect the live wire, neutral wire and grounding wire of power socket.
5. Be sure to cut off the power supply before proceeding any work related to electricity and safety.
6. Do not put through the power before finishing installation.
7. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
8. The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.
9. The appliance shall be installed in accordance with national wiring regulations.
10. Installation must be performed in accordance with the requirement of NEC by authorized personnel only

## Grounding requirement

1. The air conditioner is the first class electric appliance. It must be properly grounding with specialized grounding device by a professional. Please make sure it is always grounded effectively, otherwise it may cause electric shock.
2. The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
3. The grounding resistance should comply with national electric safety regulations.
4. The appliance must be positioned so that the plug is accessible.
5. An all-pole disconnection switch having a contact separation of at least 1/8in (3mm) in all poles should be connected in fixed wiring.
6. Including an circuit break with suitable capacity, please note the following table. Air switch should be included magnet buckle and heating buckle function, it can protect the circuit-short and overload. (Caution: please do not use the fuse only for protect the circuit)

Air-conditioner	Circuit break capacity
09、12K	16A
09K(115V)	25A
12K(115V)	25A
18K	25A
24K	25A

# Installation of indoor unit

## Step one: choosing installation location

Recommend the installation location to the client and then confirm it with the client.

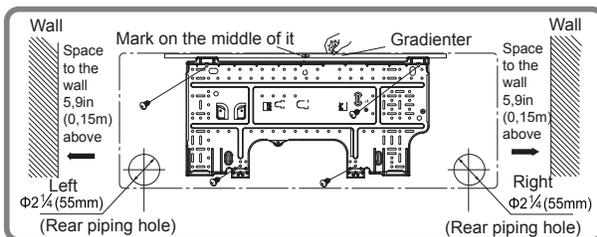
## Step two: install wall-mounting frame

1. Hang the wall-mounting frame on the wall; adjust it in horizontal position with the level meter and then point out the screw fixing holes on the wall.
2. Drill the screw fixing holes on the wall with impact drill (the specification of drill head should be the same as the plastic expansion particle) and then fill the plastic expansion particles in the holes.
3. Fix the wall-mounting frame on the wall with tapping screws (ST4.2X25TA) and then check if the frame is firmly installed by pulling the frame. If the plastic expansion particle is loose, please drill another fixing hole nearby.

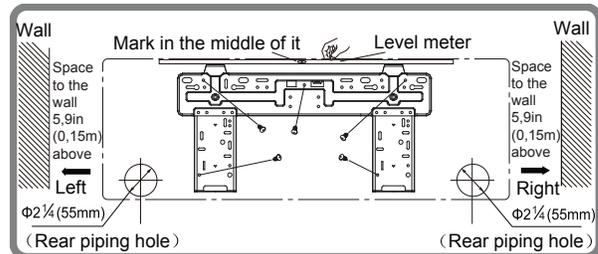
## Step three: open piping hole

1. Choose the position of piping hole according to the direction of outlet pipe. The position of piping hole should be a little lower than the wall-mounted frame, shown as below.

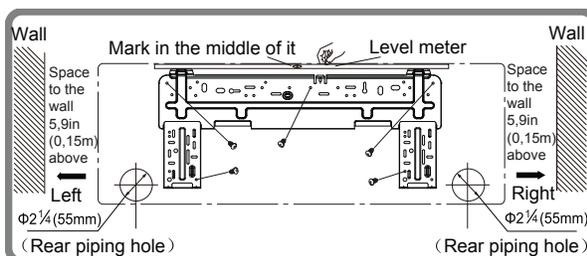
09、12K:



18K



24K

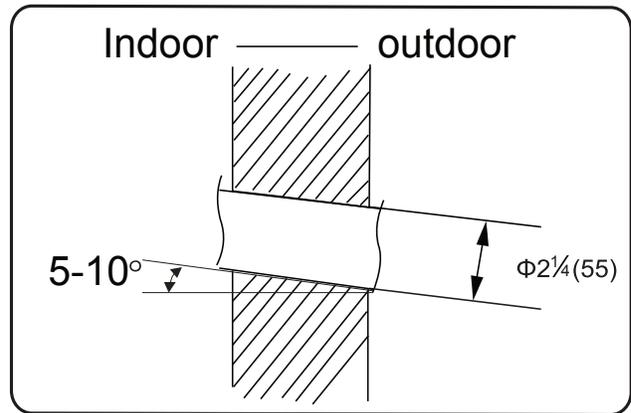


2. Open a piping hole with the diameter of  $\Phi 2\frac{1}{4}$  (55mm) on the selected outlet pipe position. In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.

# Installation of indoor unit

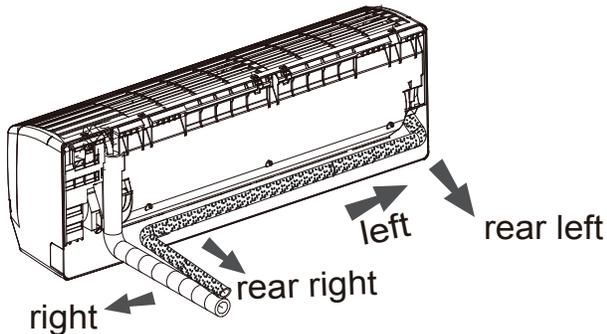
## Note:

- Pay attention to dust prevention and take relevant safety measures when opening the hole.
- The plastic expansion particles are not provided and should be bought locally.

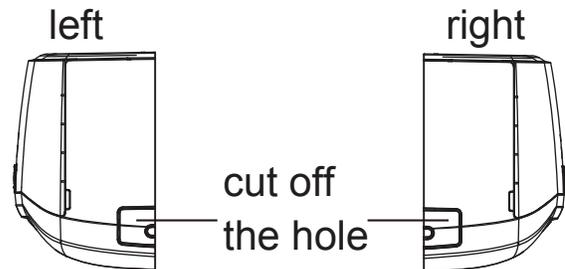


## Step four: outlet pipe

1. The pipe can be led out in the direction of right, rear right, left or rear left.

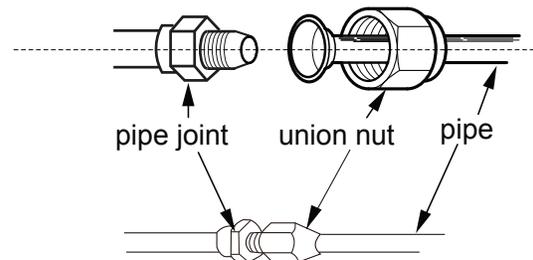


2. When select leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.



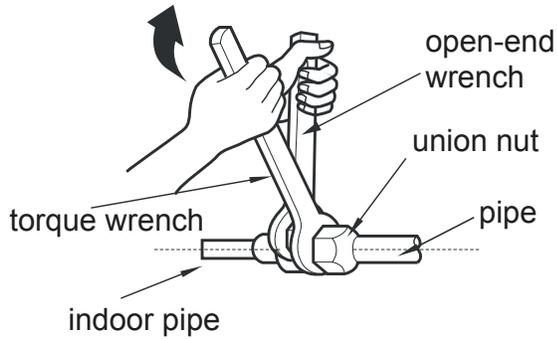
## Step five: connect the pipe of indoor unit

1. Aim the pipe joint at the corresponding bellmouth.
2. Pretightening the union nut with hand.



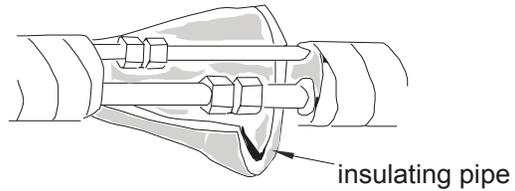
3. Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.

# Installation of indoor unit



Hex nut diameter	Tightening torque (N·m)
$\Phi 1/4$	15~20
$\Phi 3/8$	30~40
$\Phi 1/2$	45~55
$\Phi 5/8$	60~65
$\Phi 3/4$	70~75

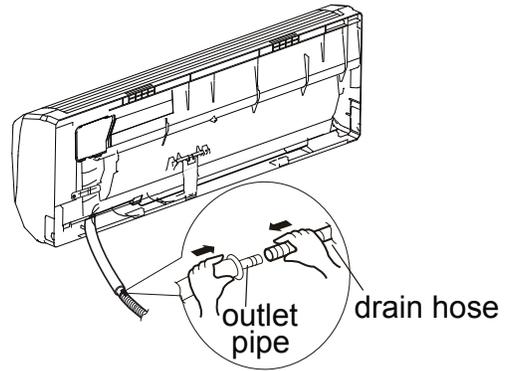
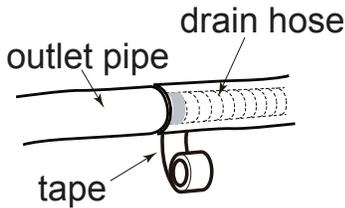
4. Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.



## Step six: install drain hose

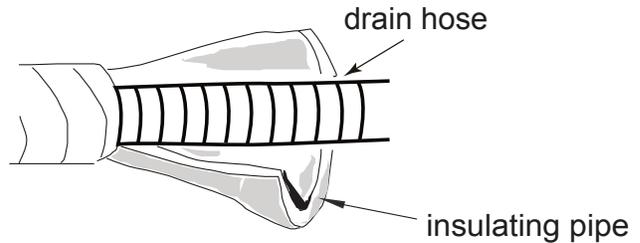
1. Connect the drain hose to the outlet pipe of indoor unit.

2. Bind the joint with tape.



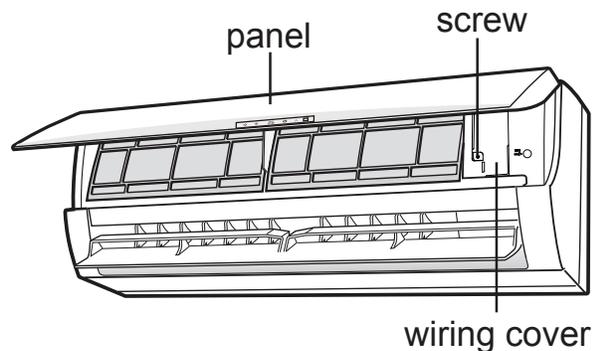
**Note:**

- Add insulating pipe in the indoor drain hose in order to prevent condensation.
- The plastic expansion particles are not provided.



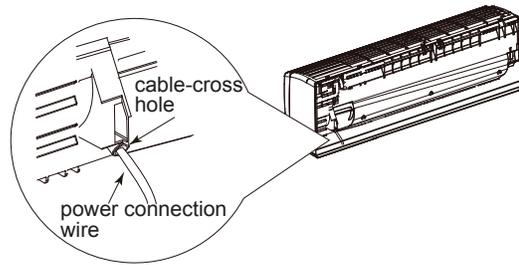
## Step seven: connect wire of indoor unit

1. Open the panel, remove the screw on the wiring cover and then take down the cover.

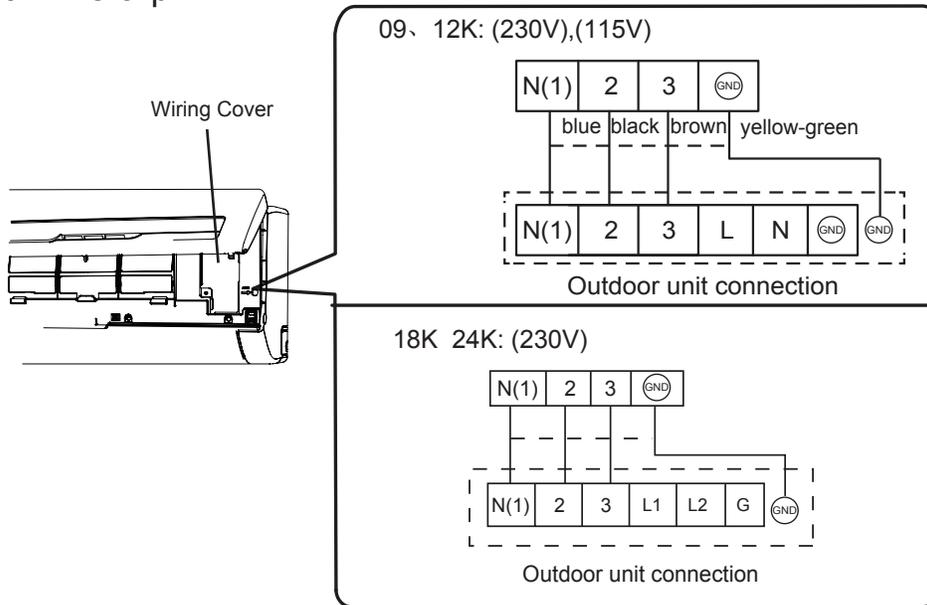


# Installation of indoor unit

2. Make the power connection wire go through the cable-cross hole at the back of indoor unit and then pull it out from the front side.



3. Remove the wire clip; connect the power connection wire to the wiring terminal according to the color; tighten the screw and then fix the power connection wire with wire clip.

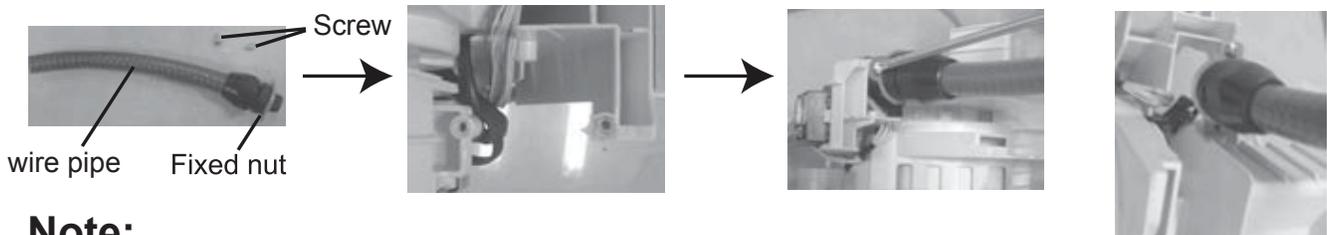


4. Put wiring cover back and then tighten the screw.  
5. Close the panel.

## Notice before installation

1. How to install the over line pipe (According to the direction as show.)

2. Finish (According to the direction as show in right figure.)



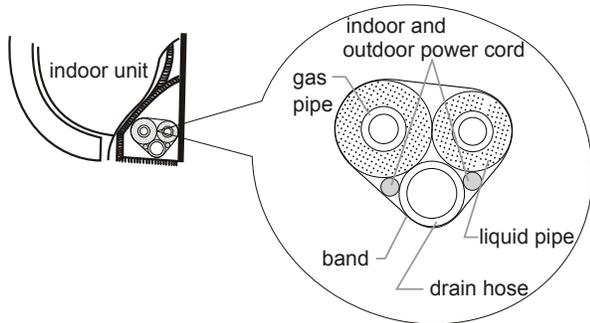
## Note:

- All wires of indoor unit and outdoor unit should be connected by a professional.
- If the length of power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.
- For the air conditioner with plug, the plug should be reachable after finishing installation.
- For the air conditioner without plug, an circuit breaker must be installed in the line. The circuit breaker should be all-pole parting and the contact parting distance should be more than 1/8in(3mm).

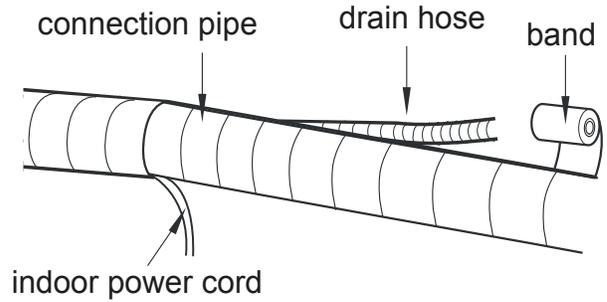
# Installation of indoor unit

## Step eight: bind up pipe

1. Bind up the connection pipe, power cord and drain hose with the band.



2. Reserve a certain length of drain hose and power cord for installation when binding them. When binding to a certain degree, separate the indoor power and then separate the drain hose.



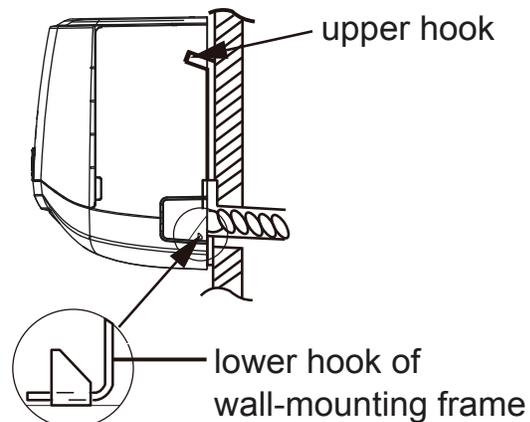
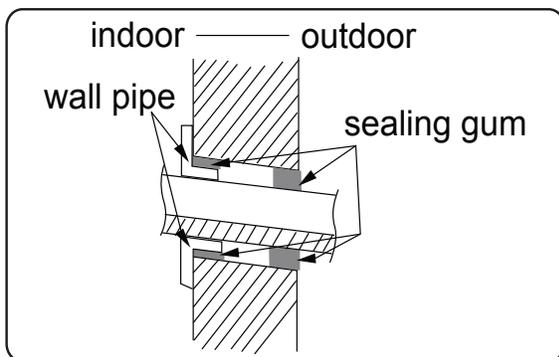
3. Bind them evenly.
4. The liquid pipe and gas pipe should be bound separately at the end.

### Note:

- The power cord and control wire can't be crossed or winding.
- The drain hose should be bound at the bottom.

## Step nine: hang the indoor unit

1. Put the bound pipes in the wall pipe and then make them pass through the wall hole.
2. Hang the indoor unit on the wall-mounting frame.
3. Stuff the gap between pipes and wall hole with sealing gum.
4. Fix the wall pipe.
5. Check if the indoor unit is installed firmly and closed to the wall.



### Note:

- Do not bend the drain hose too excessively in order to prevent blocking.

# Installation of outdoor unit

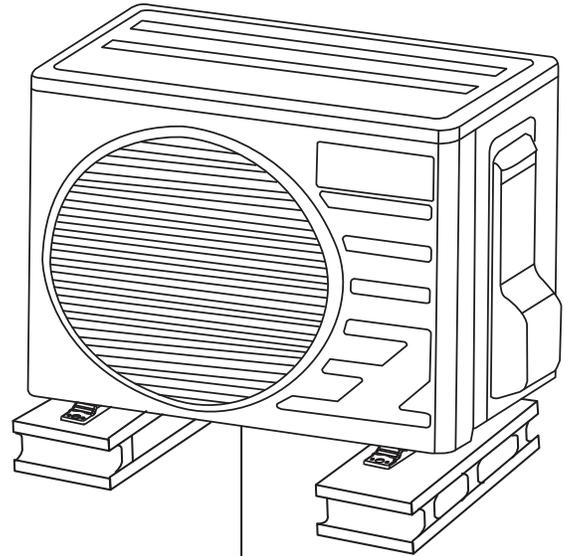
## Step one: fix the support of outdoor unit

(select it according to the actual installation situation)

1. Select installation location according to the house structure.
2. Fix the support of outdoor unit on the selected location with expansion screws.

### Note:

- Take sufficient protective measures when installing the outdoor unit.
- Make sure the support can withstand at least four times of the unit weight.
- The outdoor unit should be installed at least 1 1/8 in (3cm) above the floor in order to install drain joint.
- For the unit with cooling capacity of 2300W ~5000W, 6 expansion screws are needed; for the unit with cooling capacity of 6000W ~8000W, 8 expansion screws are needed; for the unit with cooling capacity of 10000W ~16000W, 10 expansion screws are needed.

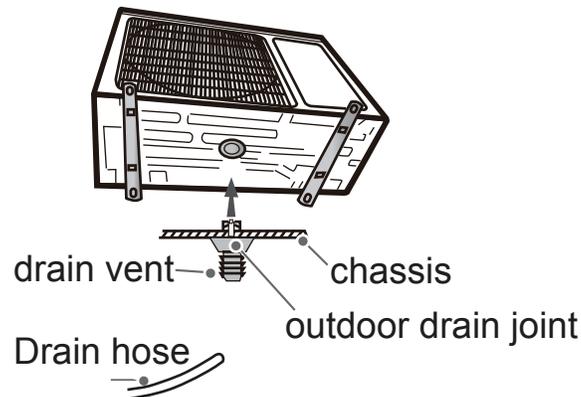


at least 1 1/8 in (3cm) above the floor

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## Step two: install drain joint (Only for cooling and heating unit)

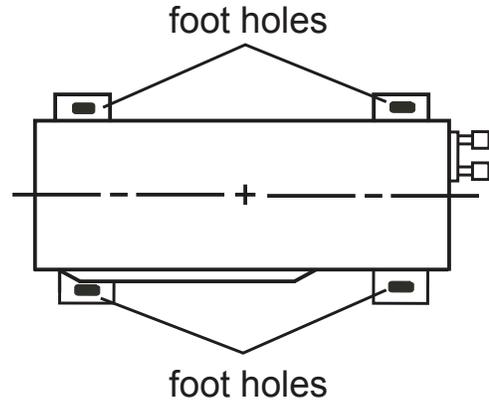
1. Connect the outdoor drain joint into the hole on the chassis, as shown in the picture below.
2. Connect the drain hose into the drain vent.



# Installation of outdoor unit

## Step three: fix outdoor unit

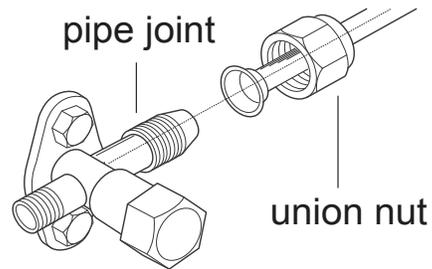
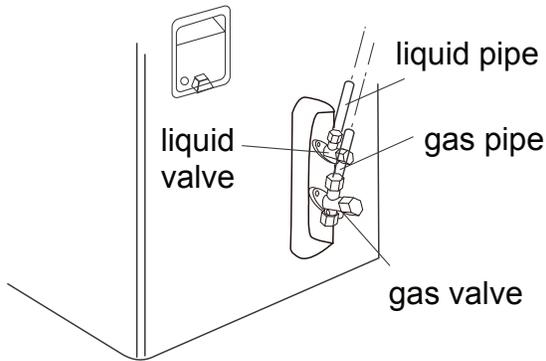
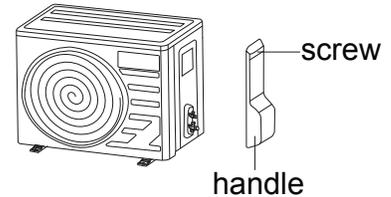
1. Place the outdoor unit on the support.
2. Fix the foot holes of outdoor unit with bolts.




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## Step four: connect indoor and outdoor pipes

1. Remove the screw on the right handle of outdoor unit and then remove the handle.
2. Remove the screw cap of valve and aim the pipe joint at the bellmouth of pipe.



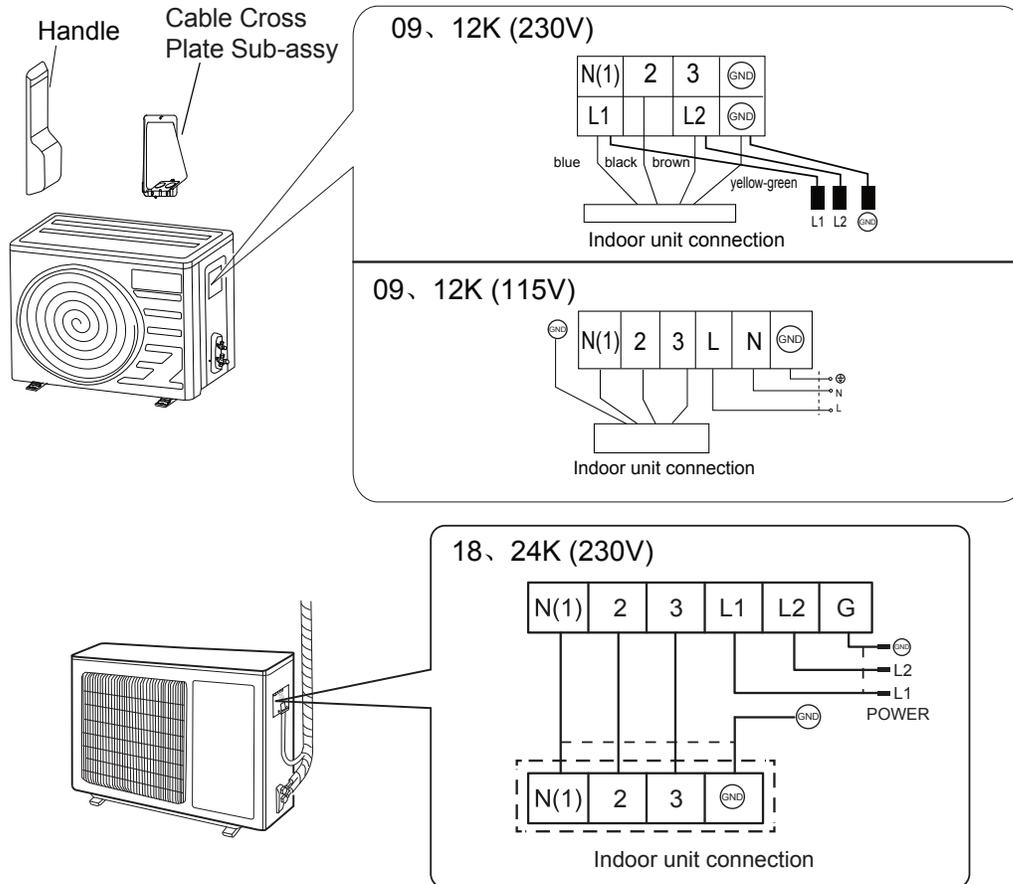
3. Pretightening the union nut with hand.
4. Tighten the union nut with torque wrench by referring to the sheet below.

Hex nut diameter	Tightening torque (N·m)
$\Phi 1/4$	15~20
$\Phi 3/8$	30~40
$\Phi 1/2$	45~55
$\Phi 5/8$	60~65
$\Phi 3/4$	70~75

# Installation of outdoor unit

## Step five: connect outdoor electric wire

1. Remove the wire clip; connect the power connection wire and signal control wire (only for cooling and heating unit) to the wiring terminal according to the color; fix them with screws.

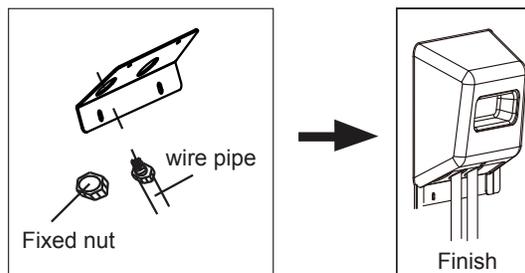


2. Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

### Note:

- After tighten the screw, pull the power cord slightly to check if it is firm.
- Never cut the power connection wire to prolong or shorten the distance.
- The connecting wire and connection pipe cannot touch each other.
- Top cover of outdoor unit and electric box assembly should be fixed by the screw. Otherwise, it can cause a fire, or short circuit caused by water or dust.

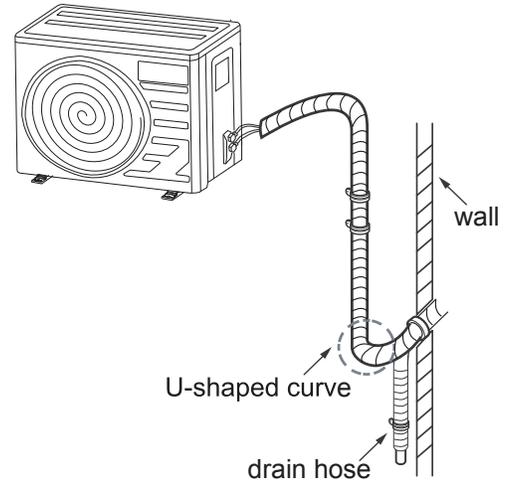
### Install the over line pipe



# Installation of outdoor unit

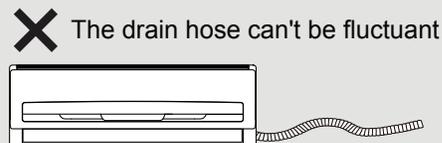
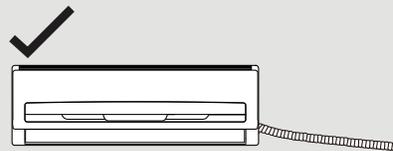
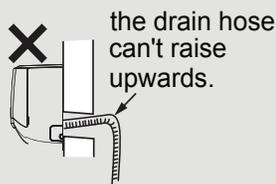
## Step six: neaten the pipes

1. The pipes should be placed along the wall, bent reasonably and hidden possibly. Min. semidiameter of bending the pipe is 4in(10cm).
2. If the outdoor unit is higher than the wall hole, you must set a U-shaped curve in the pipe before pipe goes into the room, in order to prevent rain from getting into the room.

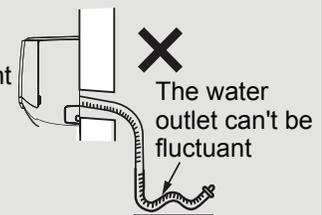
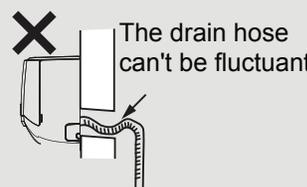
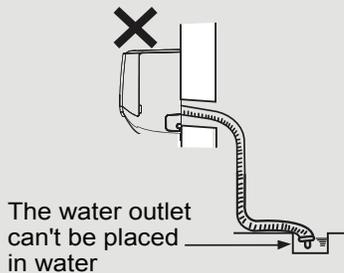


### Note:

- The through-wall height of drain hose shouldn't be higher than the outlet pipe hole of indoor unit.
- Slant the drain hose slightly downwards. The drain hose can't be curved, raised and fluctuant, etc.



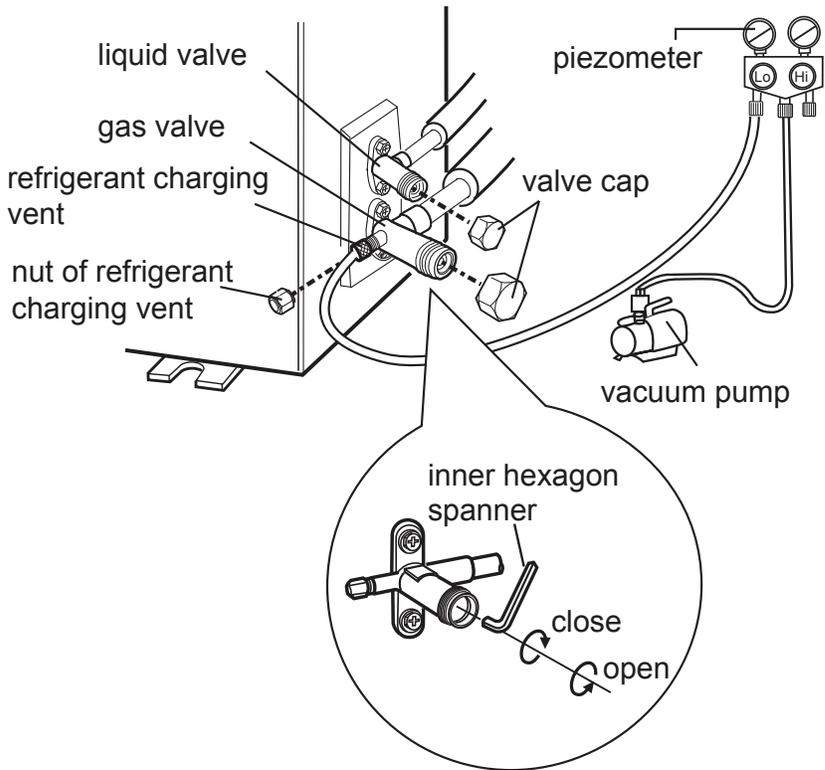
- The water outlet can't be placed in water in order to drain smoothly.



# Vacuum pumping

## Use vacuum pump

1. Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.
2. Connect the charging hose of piezometer to the refrigerant charging vent of gas valve and then connect the other charging hose to the vacuum pump.
3. Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in  $-0.1\text{MPa}$ .
4. Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in  $-0.1\text{MPa}$ . If the pressure decreases, there may be leakage.
5. Remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.
6. Tighten the screw caps of valves and refrigerant charging vent.
7. Reinstall the handle.



# Leakage detection

1. With leakage detector:  
Check if there is leakage with leakage detector.
2. With soap water:  
If leakage detector is not available, please use soap water for leakage detection. Apply soap water at the suspected position and keep the soap water for more than 3min. If there are air bubbles coming out of this position, there's a leakage.

## Check after installation

- Check according to the following requirement after finishing installation.

Items to be checked	Possible malfunction
Has the unit been installed firmly?	The unit may drop, shake or emit noise.
Have you done the refrigerant leakage test?	It may cause insufficient cooling (heating) capacity.
Is heat insulation of pipeline sufficient?	It may cause condensation and water dripping.
Is water drained well?	It may cause condensation and water dripping.
Is the voltage of power supply according to the voltage marked on the nameplate?	It may cause malfunction or damaging the parts.
Is electric wiring and pipeline installed correctly?	It may cause malfunction or damaging the parts.
Is the unit grounded securely?	It may cause electric leakage.
Does the power cord follow the specification?	It may cause malfunction or damaging the parts.
Is there any obstruction in the air inlet and outlet?	It may cause insufficient cooling (heating) capacity.
The dust and sundries caused during installation are removed?	It may cause malfunction or damaging the parts.
The gas valve and liquid valve of connection pipe are open completely?	It may cause insufficient cooling (heating) capacity.

## Test operation

### 1. Preparation of test operation

- The client approves the air conditioner.
- Specify the important notes for air conditioner to the client.

### 2. Method of test operation

- Put through the power, press ON/OFF button on the remote controller to start operation.
- Press MODE button to select AUTO, COOL, DRY, FAN and HEAT to check whether the operation is normal or not.
- If the ambient temperature is lower than 61°F(16°C) , the air conditioner can't start cooling.

# Configuration of connection pipe

1. Standard length of connection pipe
  - 16,5ft (5m), 25ft (7.5m), 26,5ft (8m).
2. Min. length of connection pipe is 9,8ft (3m).
3. Max. length of connection pipe and max. high difference.

Cooling capacity	Max length of connection pipe	Max height difference	Cooling capacity	Max length of connection pipe	Max height difference
5000Btu/h (1465W)	50ft (15)	16,5ft (5)	24000Btu/h (7032W)	83,3ft (25)	33,3ft (10)
7000Btu/h (2051W)	50ft (15)	16,5ft (5)	28000Btu/h (8204W)	100ft (30)	33,3ft (10)
9000Btu/h (2637W)	50ft (15)	16,5ft (5)	36000Btu/h (10548W)	100ft (30)	66,5ft (20)
12000Btu/h (3516W)	66,5ft (20)	33,3ft (10)	42000Btu/h (12306W)	100ft (30)	66,5ft (20)
18000Btu/h (5274W)	83,3ft (25)	33,3ft (10)	48000Btu/h (14064W)	100ft (30)	66,5ft (20)

4. The additional refrigerant oil and refrigerant charging required after prolonging connection pipe
  - After the length of connection pipe is prolonged for 33,3ft (10m) at the basis of standard length, you should add 5ml of refrigerant oil for each additional 16,5ft (5m) of connection pipe.
  - The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
 
$$\text{Additional refrigerant charging amount} = \text{prolonged length of liquid pipe} \times \text{additional refrigerant charging amount per meter}$$
  - When the length of connection pipe is above 16,5ft (5m), add refrigerant according to the prolonged length of liquid pipe. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.

# Configuration of connection pipe

Additional refrigerant charging amount for R410A

Diameter of connection pipe		Outdoor unit throttle	
Liquid pipe(in)	Gas pipe(in)	Cooling only(g/m)	Cooling and heating(g/m)
Φ1/4	Φ3/8 or Φ1/2	15	20
Φ1/4 or Φ3/8	Φ5/8 or Φ3/4	15	50
Φ1/2	Φ3/4 or Φ7/8	30	120
Φ5/8	Φ1 or Φ1 ¼	60	120
Φ3/4	—	250	250
Φ7/8	—	350	350

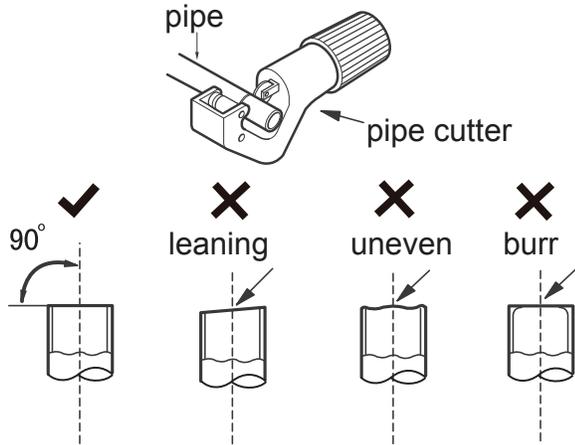
# Pipe expanding method

## Note:

Improper pipe expanding is the main cause of refrigerant leakage. Please expand the pipe according to the following steps:

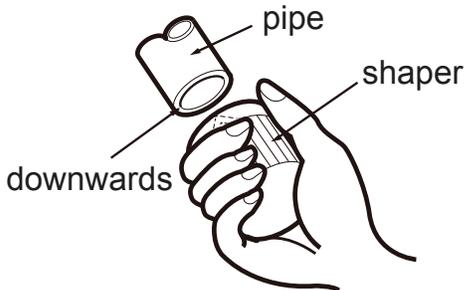
### A: Cut the pipe

- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



### B: Remove the burrs

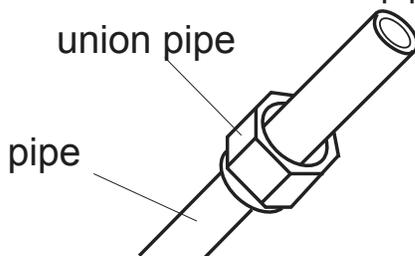
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.



### C: Put on suitable insulating pipe

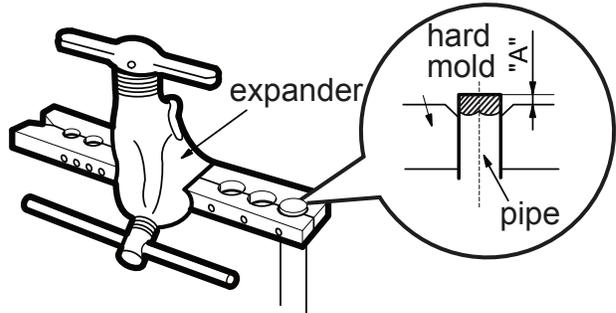
### D: Put on the union nut

- Remove the union nut on the indoor connection pipe and outdoor valve; install the union nut on the pipe.



### E: Expand the port

- Expand the port with expander.



### Note:

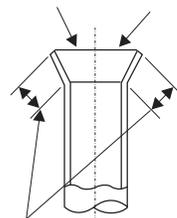
- "A" is different according to the diameter, please refer to the sheet below:

Outer diameter (mm)	A(mm)	
	Max	Min
Φ1/4"	1.3	0.7
Φ3/8"	1.6	1.0
Φ1/2"	1.8	1.0
Φ5/8"	2.4	2.2

### F: Inspection

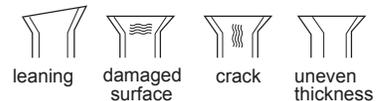
- Check the quality of expanding port. If there is any blemish, expand the port again according to the steps above.

smooth surface



the length is equal

improper expanding



# START-UP AND TROUBLESHOOTING

## Items Explained With Aid Of Owner's Manual:

1. How to turn system on and off; selecting COOLING, HEATING and other operating modes; setting a desired temperature; setting the timer to automatically start and stop system operation; and all other features of the Remote Control and display panel.
2. How to remove and clean the air filter.
3. How to set air with the swing louvers.
4. Explain care and maintenance.
5. Provides the Owner's Manual and installation instructions for reference.

## Troubleshooting

This unit has onboard diagnostics. Error codes will appear on the LED display on the front panel of the indoor unit in place of the temperature display. The table below explains the error codes for both units.

### DIAGNOSTIC CODES

Equipment Fault	Error Codes	Possible Causes
Indoor Configuration Jumper	C5	Missing Configuration Jumper on Indoor Control Board
Indoor/Outdoor Mismatch	LP	Indoor and Outdoor Units Do Not Match (Model or Capacity)
High Current Protection	E5	Power Supply is not Stable and Voltage Range is too Large
Communication Error	E6	Mis-wired or Communication Failure
Indoor Air Temp. Thermistor	F1	Bad Connection, or Indoor Air Sensor Failure
Indoor Coil Temp. Thermistor	F2	Bad Connection, or Indoor Coil Sensor Failure
Outdoor Air Temp. Thermistor	F3	Bad Connection, or Outdoor Ambient Sensor Failure
Outdoor Coil Temp. Thermistor	F4	Bad Connection, or Outdoor Coil Sensor Failure
Compressor Discharge Temp. Thermistor	F5	Bad Connection, or Discharge Sensor Failure
Compressor Overload Protection	H3	Low Refrigerant Charge, Blocked Capillary, or Compressor Motor Failure
IPM Module Protection	H5	IPM Module Temperature Too High, High Ambient, Low Voltage, or Bad Connections
Indoor Fan Malfunction	H6	Indoor Fan Stopped or Running too Slow
Compressor Synchronism	H7	High Pressure, Low Voltage, or Bad Connections
4-Way Valve Malfunction	U7	Bad Connection, Solenoid Failure, or Valve Malfunction. (Heat Pumps Only)
High Pressure Protection	E1	Too much refrigerant or High Ambient conditions or low airflow.



