



User's Manual

Οδηγίες Χρήσης

Manuale d'installazione ed uso

ΚΛΙΜΑΤΙΣΤΙΚΟ ΤΟΙΧΟΥ ΤΥΠΟΥ INVERTER WALL MOUNTED AIR CONDITIONER INVERTER TYPE CONDIZIONATORE SPLIT

MODELS/MONTEΛΑ/MODELLI

HTN/HTG20-09R32

HTN/HTG20-12R32

HTN/HTG-717R32

HTN/HTG-721R32

Thank you for purchasing our product.

- Before using this product, be sure to read this Instruction Manual to ensure proper usage. Please keep this manual for later reference.
- Improper use of this product may result in a malfunction, failure, unexpected accident, or create a potential hazard.

Ευχαριστούμε για την επιλογή σας στο κλιματιστικό TOYOTOMI.

Για τη σωστή του χρήση παρακαλούμε διαβάστε το εγχειρίδιο χρήσης προσεκτικά, πριν θέσετε τη μονάδα σε λειτουργία και κρατήστε το σε καλή κατάσταση για μελλοντική αναφορά.

Grazie per aver scelto un prodotto TOYOTOMI.

Per un corretto funzionamento, leggere attentamente questo manuale prima di usare il condizionatore e conservarlo per una futura consultazione.

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.



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

R32: 675



Appliance filled with flammable gas R32.



Before use the appliance, read the owner's manual first.



Before install the appliance, read the installation manual first.



Before repair the appliance, read the service manual first.

The Refrigerant

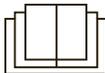
- To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R32, which is specially cleaned. The refrigerant is flammable and inodorous. Furthermore, it can lead to explosion under certain conditions. But the flammability of the refrigerant is very low. It can be ignited only by fire.
- Compared to common refrigerants, R32 is a nonpolluting refrigerant with no harm to the ozone layer. The influence upon the greenhouse effect is also lower. R32 has got very good thermodynamic features which lead to a really high energy efficiency. The units therefore need a less filling.

WARNING :

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. Should repair be necessary, contact your nearest authorized Service Centre. Any repairs carried out by unqualified personnel may be dangerous. The appliance shall be stored in a room without continuously operating ignition sources. (for example: open flames, an operating gas appliance or an operating electric heater.) Do not pierce or burn.

Appliance shall be installed, operated and stored in a room with a floor area see table a - Minimum room area (m²) .

Appliance filled with flammable gas R32. For repairs, strictly follow manufacturer's instructions only. Be aware that refrigerant does not contain odour. Read specialist's manual.



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



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 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



- 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 NEC and CEC 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.

Precautions



WARNING

- The air conditioner is not allowed to use in a room that has running fire (such as fire source, working coal gas ware, operating heater).
- It is not allowed to drill hole or burn the connection pipe.
- The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table a.
- Leak test is a must after installation.
- Instructions for installation and use of this product are provided by the manufacturer.

Working temperature range

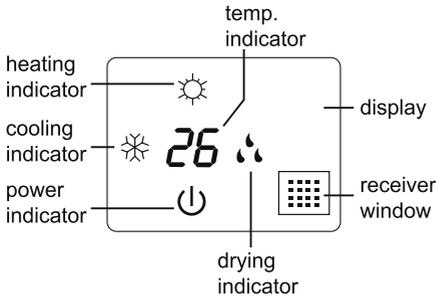
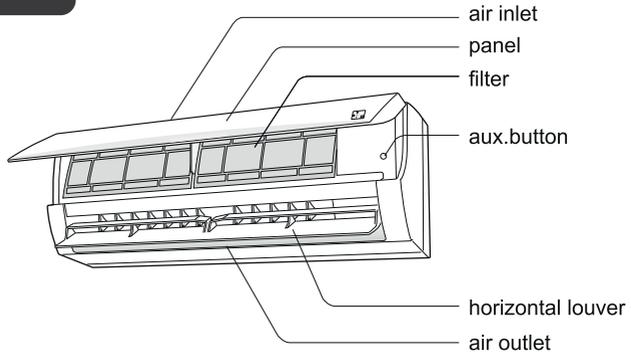
	Indoor side DB/WB(°C)	Outdoor side DB/WB(°C)
Maximum cooling	32/23	43/26
Maximum heating	27/-	24/18

NOTICE:

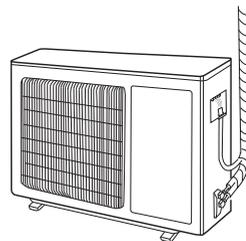
- The operating temperature range (outdoor temperature) for cooling only unit is -15 °C ~ 43°C ; for heat pump unit is -15°C ~ 43°C .

Parts Name

Indoor Unit



remote control

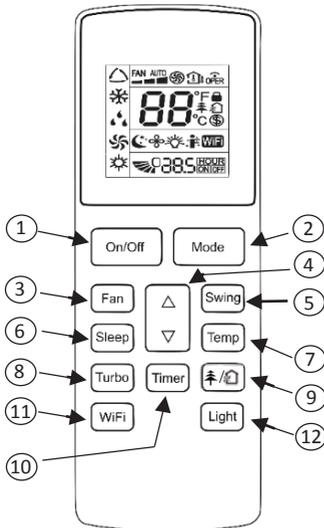


(Display content or position may be different from above graphics, please refer to actual products)

NOTICE:

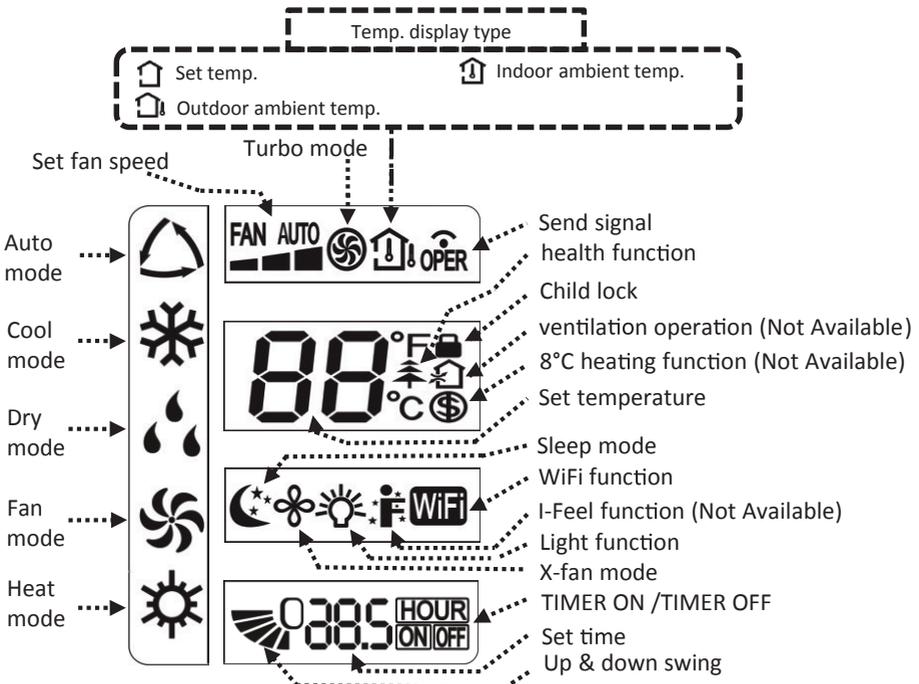
Actual product may be different from above graphics, please refer to actual products.

Buttons on remote controller



- ① On/Off button
- ② Mode button
- ③ Fan button
- ④ ▲/▼ button
- ⑤ Swing button
- ⑥ Sleep button
- ⑦ Temp button
- ⑧ Turbo button
- ⑨ 🌲/🏠 button
- ⑩ Timer button
- ⑪ WiFi button
- ⑫ Light button

Introduction for buttons on remote controller



Introduction for buttons on remote controller

Note:

- This is a general use remote controller, it could be used for the air conditioners with multifunction; For some function, which the model doesn't have, if press the corresponding button on the remote controller that the unit will keep the original running status.
- After putting through the power, the air conditioner will give out a sound. Operation indicator "⏻" is ON (red indicator, the colour is different for different models). After that, you can operate the air conditioner by using remote controller.
- Under on status, pressing the button on the remote controller, the signal icon "📶" on the display of remote controller will blink once and the air conditioner will give out a "de" sound, which means the signal has been sent to the air conditioner.
- Under off status, set temperature and clock icon will be displayed on the display of remote controller (If timer on, timer off and light functions are set, the corresponding icons will be displayed on the display of remote controller at the same time); Under on status, the display will show the corresponding set function icons.

1 On/Off button

Press this button to turn on the unit. Press this button again to turn off the unit.

2 Mode button

Each time you press this button, a mode is selected in a sequence that goes from AUTO, COOL, DRY, FAN, and HEAT *, as the following:



* Note: Only for models with heating function.

3 Fan button

This button is used for setting Fan Speed in the sequence that goes from AUTO, , to , then back to Auto.

Note:

- Fan speed under dry mode is low speed.
- X-FAN function: Hold fan speed button for 2s in COOL or DRY mode, the icon "⊗" is displayed and the indoor fan will continue operation for a few minutes in order to dry the indoor unit even though you have turned off the unit. After energization, X-FAN OFF is defaulted. X-FAN is not available in AUTO, FAN or HEAT mode. This function indicates that moisture on evaporator of indoor unit will be blown after the unit is stopped to avoid mould.
 - Having set X-FAN function on: After turning off the unit by pressing ON/OFF button indoor fan will continue running for a few minutes. at low speed. In this period, Hold fan speed button for 2s to stop indoor fan directly.
 - Having set X-FAN function off: After turning off the unit by pressing ON/OFF button, the complete unit will be off directly.

4 ▲ / ▼ button

Press ▲ / ▼ button to increase/decrease set temperature. In AUTO mode, set temperature is not adjustable. When setting Timer On or Timer Off, press "▲" or "▼" button to adjust the time.

Introduction for buttons on remote controller

5 Swing button

Press this button to set up & down swing angle.

6 Sleep button

In the Cooling or Heating mode, press this button to start sleep mode. Once you set it up, this symbol "  " appears on the screen remote control. Pressing the button for the fourth time will disable this function and "  " will disappear. If you deactivate the air conditioner, sleep mode will be deactivated. During DRY, FAN, AUTO, Energy Saving & "8th C Heating" functions, sleep mode is not available.

During Cooling:

-If the air conditioner temperature is set between 16-23 ° C, the temperature will increase by one degree per hour for the next 3 hours after the power is turned on and then remains stable. At the 8th hour after the operation is switched on, the temperature will be reduced by one degree automatically

- If the air conditioner temperature is set between 24-27 ° C, the temperature will increase by one degree per hour for the next 2 hours from the start of the operation and then remain stable. At the 8th hour after the operation is switched on, the temperature will be reduced by one degree automatically.

-If the air conditioner temperature is set between 28-29 ° C, the temperature will increase to a certain degree within the next hour of activation and then remain stable. At the 8th hour after the operation is switched on, the temperature will be reduced by one degree automatically.

-If the air conditioner temperature is set from 30 ° C to above, it will remain constant for 7 hours after the operation is switched on and at 8 o'clock the temperature will be reduced by one degree automatically.

During Heating mode:

-If the air conditioner selection is 16 ° C, the air conditioner will continue to operate at this temperature.

-If the air conditioner temperature is between 17 ° C and 20 ° C, the air conditioner's temperature will drop to a certain extent after the first hour of the operation and then remain constant.

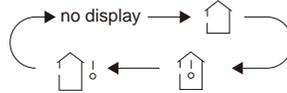
-If the air conditioner's temperature is between 21-27 ° C, the air conditioner's temperature will drop by one degree per hour within the first 2 hours of activation and then remain constant.

-If the air conditioner's temperature is between 28-30 ° C, the air conditioner's temperature will be reduced by one degree per hour in the first 3 hours after activation and then will remain constant.

Introduction for buttons on remote controller

7 Temp button

Press this button, you can see indoor set temperature, indoor ambient temperature on indoor unit's display. The setting on remote controller is selected circularly as below:



Note:

- Outdoor temperature display is not available. At that time, indoor unit receives "🏠!" signal, while it displays indoor set temperature.

8 Turbo button

Press this button to activate / deactivate the Turbo function Under COOL or HEAT mode.

9 🌿/🏠 button

Press this button to achieve the on and off of healthy and scavenging functions in operation status. Press this button for the first time to start scavenging function; LCD displays "🏠" (not available). Press the button for the second time to start healthy and scavenging functions simultaneously; LCD displays "🏠" and "🌿". Press this button for the third time to quit healthy and scavenging functions simultaneously. Press the button for the fourth time to start healthy function; LCD display "🌿". Press this button again to repeat the operation above.

10 Timer button

- Under ON status, press this button to set timer OFF; Under OFF status, press this button to set timer ON.
- Press this button once and the characters of HOUR ON (OFF) will flash to be displayed. Meanwhile, press "▲" button or "▼" button to adjust timer setting (time will change quickly if holding "▲" or "▼" button). Time setting range is 0.5~24hours. Press this button again to confirm timer setting and the characters of HOUR ON (OFF) will stop flashing.

If the characters are flashing but you haven't press timer button, timer setting status will be quit after 5s. If timer is confirmed, press this button again to cancel timer.

11 WiFi button

Press "WiFi" button to turn on or turn off WiFi function. When WiFi function is turned on, the "WiFi" icon will be displayed on remote controller; Under status of unit off, press "MODE" and "WiFi" buttons simultaneously for 1s, WiFi module will restore to factory default setting.

- This function is only available for some models.

Introduction for buttons on remote controller

12 Light button

Press this button to turn on the display's light and press this button again to turn off the display's light.

Function introduction for combination buttons

Combination of "▲" and "▼" buttons: About lock

Press "▲" and "▼" buttons simultaneously 3s to lock or unlock the keypad. If the remote controller is locked,  is displayed. In this case, pressing any button,  blinks three times.

Combination of "MODE" and "▼" buttons: About switch between Fahrenheit and centigrade

At unit OFF, press "MODE" and "▼" buttons simultaneously to switch between °C and °F.

Combination of "TEMP" and "TIMER" buttons: About Energy-saving Function

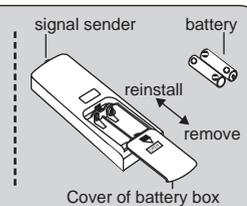
Press "TEMP" and "TIMER" simultaneously in COOL mode to start the energy-saving function. Nixie tube on the remote controller displays "SE". Repeat the operation to quit the function.

Combination of "TEMP" and "TIMER" buttons: About 8°C Heating Function (Not available)

Press "TEMP" and "TIMER" simultaneously in HEAT mode to start 8°C Heating Function. Nixie tube on the remote controller displays "8" and a selected temperature of "8°C". (46°F if Fahrenheit is adopted). Repeat the operation to quit the function.

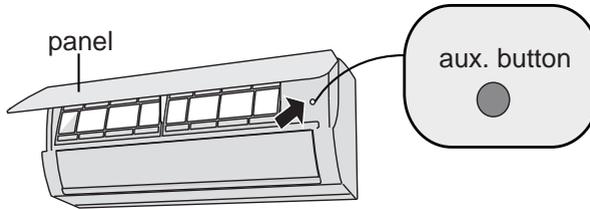
Replacement of batteries in remote controller

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.



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. Open panel, 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:

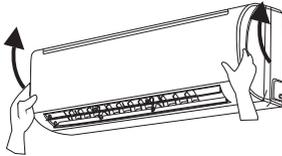
- Do not remove the panel when cleaning it.

Clean and Maintenance

Clean filter

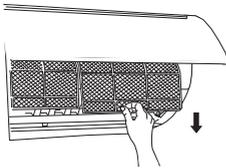
1 Open panel

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



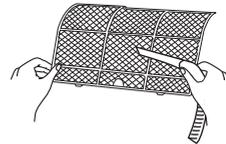
2 Remove filter

Remove the filter as indicated in the fig.



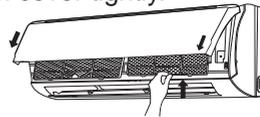
3 Clean filter

- Use dust catcher or water to clean the filter.
- When the filter is very dirty, use the water (below 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 air switch, 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"> Whether it's interfered severely (such as static electricity, stable voltage)? 	<ul style="list-style-type: none"> Pull out the plug. Reinsert the plug after about 3min, and then turn on the unit again.
	<ul style="list-style-type: none"> Whether remote controller is within the signal receiving range? 	<ul style="list-style-type: none"> Signal receiving range is 8m.
	<ul style="list-style-type: none"> Whether there are obstacles? 	<ul style="list-style-type: none"> Remove obstacles.
	<ul style="list-style-type: none"> Whether remote controller is pointing at the receiving window? 	<ul style="list-style-type: none"> Select proper angle and point the remote controller at the receiving window on indoor unit.
	<ul style="list-style-type: none"> Is sensitivity of remote controller low; fuzzy display and no display? 	<ul style="list-style-type: none"> Check the batteries. If the power of batteries is too low, please replace them.
	<ul style="list-style-type: none"> No display when operating remote controller? 	<ul style="list-style-type: none"> Check whether remote controller appears to be damaged. If yes, replace it.
	<ul style="list-style-type: none"> Fluorescent lamp in room? 	<ul style="list-style-type: none"> Take the remote controller close to indoor unit. Turn off the fluorescent lamp and then try it again.
No air emitted from indoor unit	<ul style="list-style-type: none"> Air inlet or air outlet of indoor unit is blocked? 	<ul style="list-style-type: none"> Eliminate obstacles.
	<ul style="list-style-type: none"> Under heating mode, indoor temperature is reached to set temperature? 	<ul style="list-style-type: none"> After reaching to set temperature, indoor unit will stop blowing out air.
	<ul style="list-style-type: none"> Heating mode is turned on just now? 	<ul style="list-style-type: none"> In order to prevent blowing out cold air, indoor unit will be started after delaying for several minutes, which is a normal phenomenon.

Malfunction analysis

Phenomenon	Check items	Solution
Air conditioner can't operate	● Power failure?	● Wait until power recovery.
	● Is plug loose?	● Reinsert the plug.
	● Air switch trips off or fuse is burnt out?	● Ask professional to replace air switch or fuse.
	● Wiring has malfunction?	● Ask professional to replace it.
	● Unit has restarted immediately after stopping operation?	● Wait for 3min, and then turn on the unit again.
	● Whether the function setting for remote controller is correct?	● Reset the function.
Mist is emitted from indoor unit's air outlet	● Indoor temperature and humidity is high?	● Because indoor air is cooled rapidly. After a while, indoor temperature and humidity will be decrease and mist will disappear.
Set temperature can't be adjusted	● Unit is operating under auto mode?	● Temperature can't be adjusted under auto mode. Please switch the operation mode if you need to adjust temperature.
	● Your required temperature exceeds the set temperature range?	● Set temperature range: 16°C ~30°C .
Cooling (heating) effect is not good.	● Voltage is too low?	● Wait until the voltage resumes normal.
	● Filter is dirty?	● Clean the filter.
	● Set temperature is in proper range?	● Adjust temperature to proper range.
	● Door and window are open?	● Close door and window.

Malfunction analysis

Phenomenon	Check items	Solution
Odours are emitted	<ul style="list-style-type: none"> • Whether there's odour source, such as furniture and cigarette, etc. 	<ul style="list-style-type: none"> • Eliminate the odour source. • Clean the filter.
Air conditioner operates nor-	<ul style="list-style-type: none"> • Whether there's interference, such as thunder, wireless devices, etc. 	<ul style="list-style-type: none"> • Disconnect power, put back power, and then turn on the unit again.
Outdoor unit has vapor	<ul style="list-style-type: none"> • Heating mode is turned on? 	<ul style="list-style-type: none"> • During defrosting under heating mode, it may generate vapor, which is a normal phenomenon.
"Water flowing" noise	<ul style="list-style-type: none"> • Air conditioner is turned on or turned off just now? 	<ul style="list-style-type: none"> • The noise is the sound of refrigerant flowing inside the unit, which is a normal phenomenon.
Cracking noise	<ul style="list-style-type: none"> • Air conditioner is turned on or turned off just now? 	<ul style="list-style-type: none"> • This is the sound of friction caused by expansion and/or contraction of panel or other parts due to the change of temperature.

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.

Error code	Troubleshooting
E5	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.
H3	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
E1	It can be eliminated after restarting the unit. If not, please contact qualified professionals for service.
F0	Please contact qualified professionals for service.

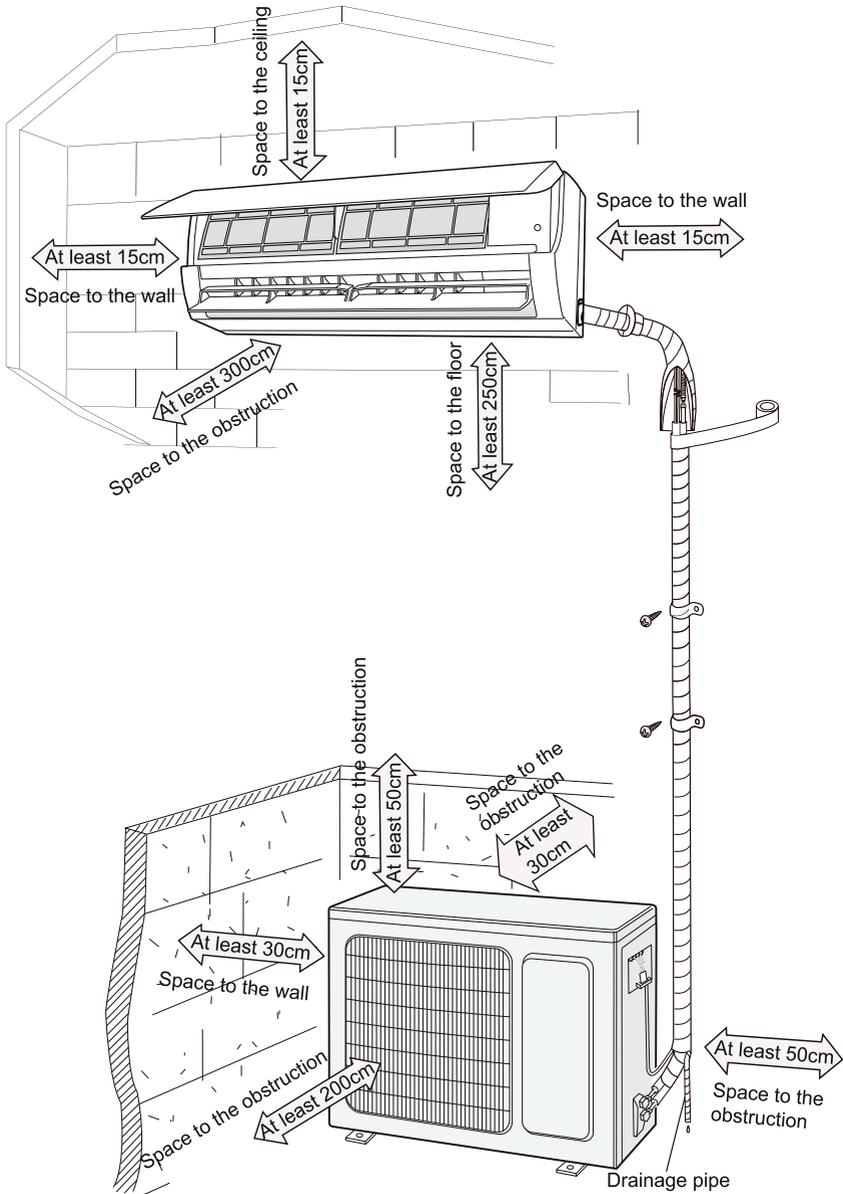
Note: If there're other error codes, please contact qualified professionals for service.



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.
 - Air switch 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.

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

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

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 air switch.
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. Appliance shall be installed, operated and stored in a room with a floor area see table a - Minimum room area (m²)



Please notice that the unit is filled with flammable gas R32. Inappropriate treatment of the unit involves the risk of severe damages of people and material. Details to this refrigerant are found in chapter “refrigerant”.

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 3mm in all poles should be connected in fixed wiring.
6. Including an air switch 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	Air switch capacity
9K & 12 K	10A
17K & 21K	16A

Installation of indoor unit

Step one: choosing installation location

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

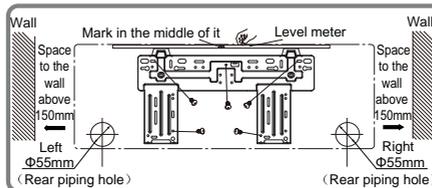
Step two: install wall-mounting frame

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.

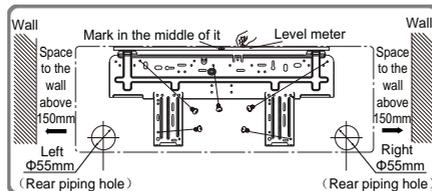
Step three: open piping hole

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.

9k & 12k



17k & 21k

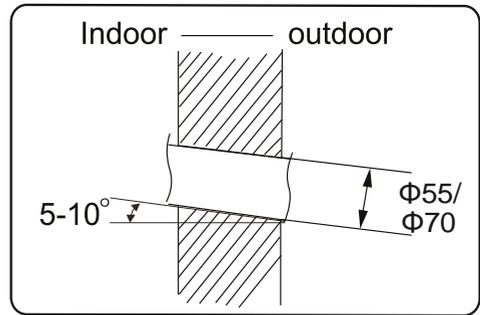


2. Open a piping hole with the diameter of $\Phi 55$ or $\Phi 70$ on the selected outlet pipe position. In order to drain smoothly, slant the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.

Installation of indoor unit

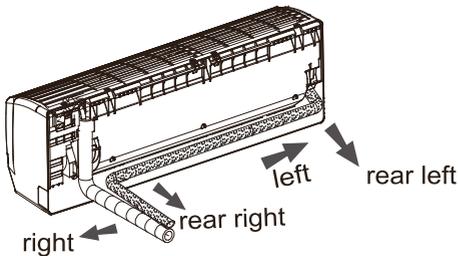
Note:

- 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.

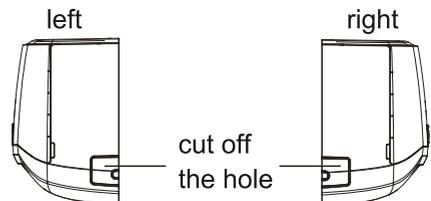


Step four: outlet pipe

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

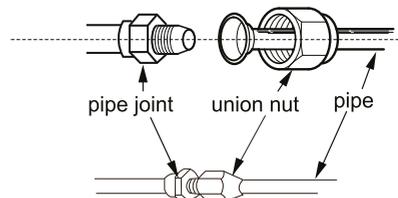


2. When select leading out the pipe from left or right, please cut off the corresponding hole on the bottom case.



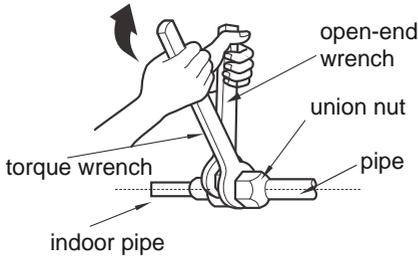
Step five: connect the pipe of indoor unit

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



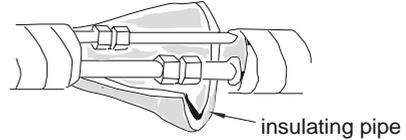
3. Adjust the torque force by referring to the following sheet. Place the open-end wrench on the pipe joint and place the torque wrench on the union nut. Tighten the union nut with torque wrench.

Installation of indoor unit



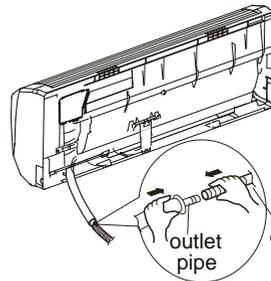
Hex nut diameter	Tightening torque (N·m)
Φ 6	15~20
Φ 9.52	30~40
Φ 12	45~55
Φ 16	60~65
Φ 19	70~75

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

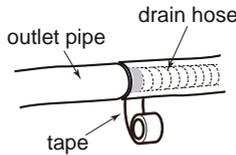


Step six: install drain hose

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

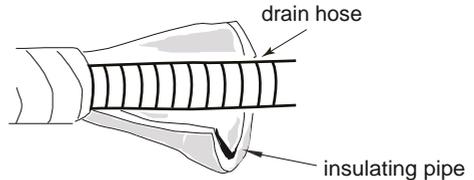


2. Bind the joint with tape.



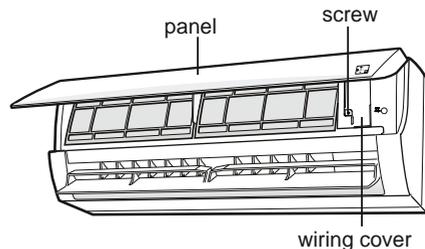
Note:

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



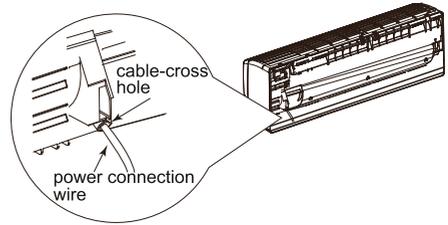
Step seven: connect wire of indoor unit

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

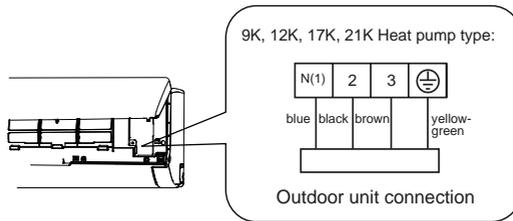


Installation of indoor unit

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.



Note: The wiring board is for reference only.
Please refer to the actual one.

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

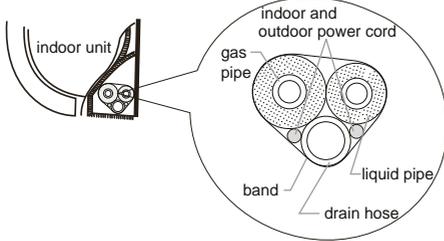
Note:

- 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 air switch must be installed in the line. The air switch should be all-pole parting and the contact parting distance should be more than 3mm.

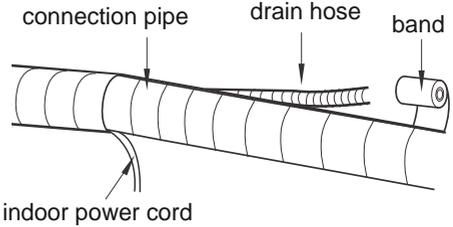
Installation of indoor unit

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.



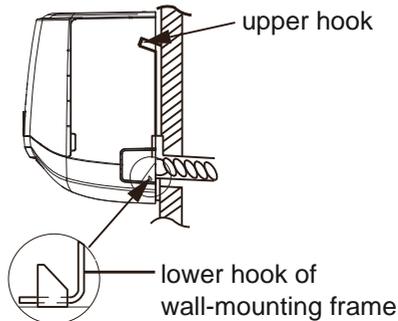
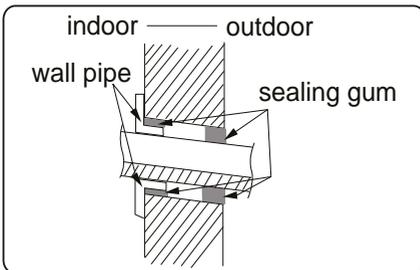
3. Bind them evenly.
4. The liquid pipe and gas pipe should be bound separately at the end.

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.

Configuration of connection pipe

1. Standard length of connection pipe
 - 5m, 7.5m, 8m.
2. Min. length of connection pipe is 3m.
3. Max. length of connection pipe

capacity	Max length of connection pipe
5000Btu/h (1465W)	15
7000Btu/h (2051W)	15
9000Btu/h (2637W)	15
12000Btu/h (3516W)	20
18000Btu/h (5274W)	25

capacity	Max length of connection pipe
24000Btu/h (7032W)	25
28000Btu/h (8204W)	30
36000Btu/h (10548W)	30
42000Btu/h (12306W)	30
48000Btu/h (14064W)	30

4. The additional refrigerant oil and refrigerant charging required after prolonging connection pipe
 - After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.
The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):
 - Additional refrigerant charging amount = prolonged length of liquid pipe × additional refrigerant charging amount per meter
 - Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See the following sheet.

Configuration of connection pipe

Sheet 2. Additional refrigerant charging amount for R32

Diameter of connection pipe mm		Indoor unit throttle	Outdoor unit throttle	
Liquid pipe	Gas pipe	Cooling only, cooling and heating (g / m)	Cooling only (g / m)	cooling and heating (g / m)
Φ6	Φ9.5 or Φ12	16	12	16
Φ6 or Φ9.5	Φ16 or Φ19	40	12	40
Φ12	Φ19 or Φ22.2	80	24	96
Φ16	Φ25.4 or Φ31.8	136	48	96
Φ19	—	200	200	200
Φ22.2	—	280	280	280

Note: The additional refrigerant charging amount in Sheet 2 is recommended value, not compulsory.

Safety operation of flammable refrigerant

Qualification requirement for installation and maintenance man

- All the work men who are engaging in the refrigeration system should bear the valid certification awarded by the authoritative organization and the qualification for dealing with the refrigeration system recognized by this industry. If it needs other technician to maintain and repair the appliance, they should be supervised by the person who bears the qualification for using the flammable refrigerant.
- It can only be repaired by the method suggested by the equipment’s manufacturer.

Installation notes

- The air conditioner is not allowed to use in a room that has running fire (such as fire source, working coal gas ware, operating heater).
- It is not allowed to drill hole or burn the connection pipe.
- The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table a.
- Leak test is a must after installation.

table a - Minimum room area (m²)

Minimum room area(m ²)	Charge amount (kg)	≤1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2	2.1	2.2	2.3	2.4	2.5
	floor location	/	14.5	16.8	19.3	22	24.8	27.8	31	34.3	37.8	41.5	45.4	49.4	53.6
window mounted	/	5.2	6.1	7	7.9	8.9	10	11.2	12.4	13.6	15	16.3	17.8	19.3	
wall mounted	/	1.6	1.9	2.1	2.4	2.8	3.1	3.4	3.8	4.2	4.6	5	5.5	6	
ceiling mounted	/	1.1	1.3	1.4	1.6	1.8	2.1	2.3	2.6	2.8	3.1	3.4	3.7	4	

Maintenance notes

- Check whether the maintenance area or the room area meet the requirement of the nameplate.
 - It’s only allowed to be operated in the rooms that meet the requirement of the nameplate.
- Check whether the maintenance area is well-ventilated.
 - The continuous ventilation status should be kept during the operation process.
- Check whether there is fire source or potential fire source in the maintenance area.
 - The naked flame is prohibited in the maintenance area; and the “no smoking” warning board should be hanged.
- Check whether the appliance mark is in good condition.
 - Replace the vague or damaged warning mark.

Welding

- If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps as below:

Safety operation of flammable refrigerant

- a. Shut down the unit and cut power supply
 - b. Eliminate the refrigerant
 - c. Vacuuming
 - d. Clean it with N₂ gas
 - e. Cutting or welding
 - f. Carry back to the service spot for welding
- The refrigerant should be recycled into the specialized storage tank.
 - Make sure that there isn't any naked flame near the outlet of the vacuum pump and it's well-ventilated.

Filling the refrigerant

- Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant won't contaminate with each other.
- The refrigerant tank should be kept upright at the time of filling refrigerant.
- Stick the label on the system after filling is finished (or haven't finished).
- Don't overfilling.
- After filling is finished, please do the leakage detection before test running; another time of leak detection should be done when it's removed.

Safety instructions for transportation and storage

- Please use the flammable gas detector to check before unload and open the container.
- No fire source and smoking.
- According to the local rules and laws.

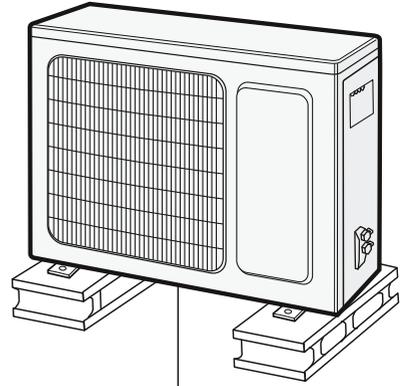
Installation of outdoor unit

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.

- 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 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.

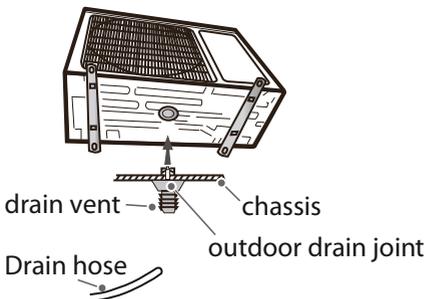


at least 3cm above the floor

Step two: install drain joint

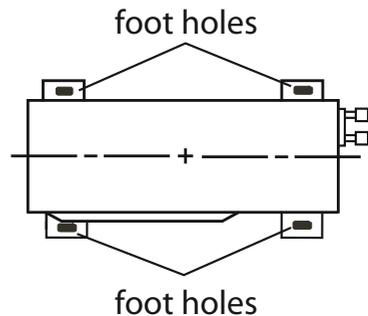
(Only for cooling and heating unit)

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.



Step three: fix outdoor unit

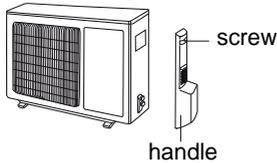
1. Place the outdoor unit on the support.
2. Fix the foot holes of outdoor unit with bolts.



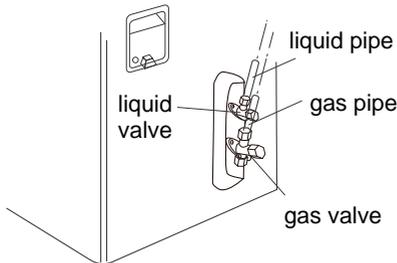
Installation of outdoor unit

Step four: connect indoor and outdoor pipes

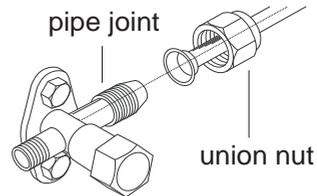
1. Remove the screw on the right handle of outdoor unit and then remove the handle.



2. Remove the screw cap of valve and aim the pipe joint at the bellmouth of pipe.



3. Pretightening the union nut with hand.

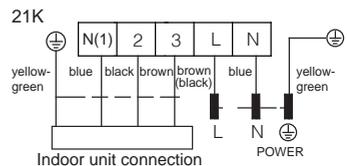
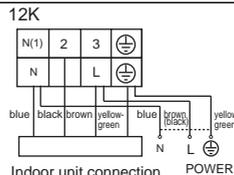
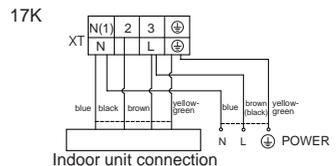
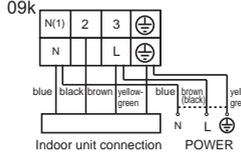
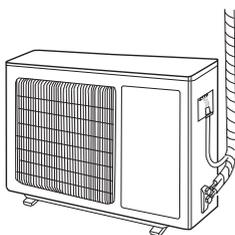


4. Tighten the union nut with torque wrench by referring to the sheet below.

Hex nut diameter	Tightening torque (N·m)
Φ 6	15~20
Φ 9.52	30~40
Φ 12	45~55
Φ 16	60~65
Φ 19	70~75

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.



Note: The wiring board is for reference only. Please refer to the actual one.

Installation of outdoor unit

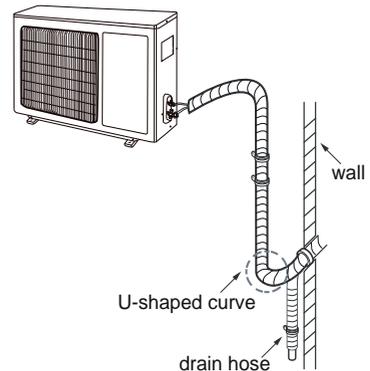
- Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

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.

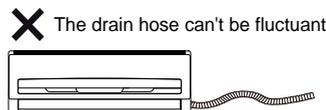
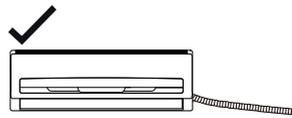
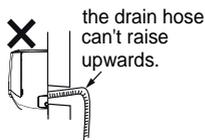
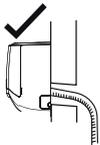
Step six: neaten the pipes

- The pipes should be placed along the wall, bent reasonably and hidden possibly. Min. semidiameter of bending the pipe is 10cm.
- 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.

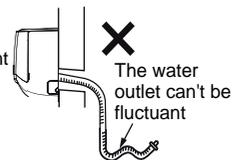
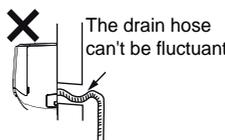
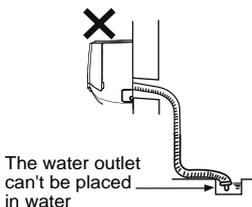


Note:

- 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.



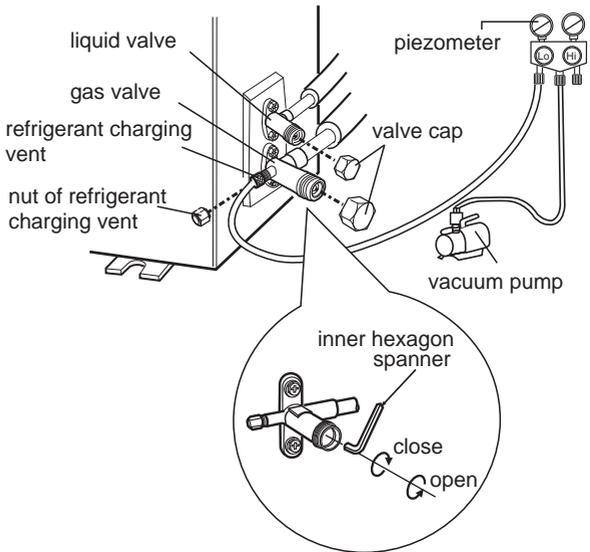
- The water outlet can't be placed in water in order to drain smoothly.



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 -0.1MPa .
4. Close the vacuum pump and maintain this status for 1-2min to check if the pressure of piezometer remains in -0.1MPa . 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.
Is the inlet and outlet of piping hole been covered?	It may cause insufficient cooling (heating) capacity or waster eletricity.

Test operation

1. Preparation of test operation

- 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 16°C , the air conditioner can't start cooling.

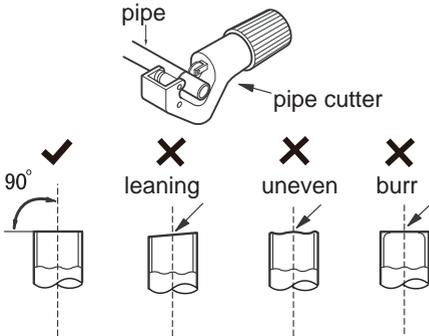
Pipe expanding method

Note:

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

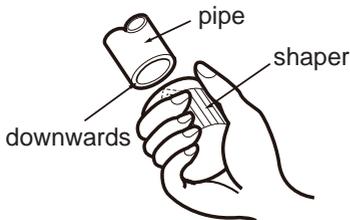
A: Cut the pipe

- 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

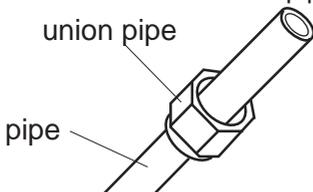
- Remove the burrs with shaper and prevent the burrs from getting into the pipe.



C: Put on suitable insulating pipe

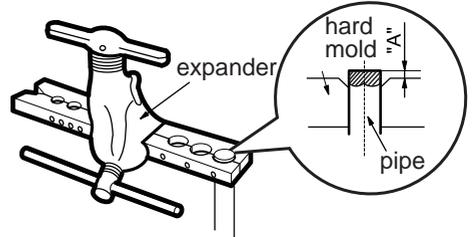
D: Put on the union nut

- 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.



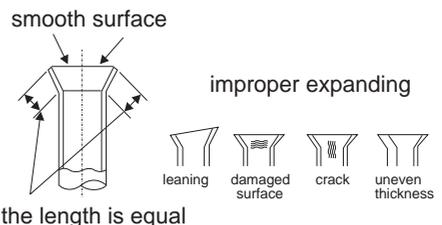
Note:

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

Outer diameter (mm)	A(mm)	
	Max	Min
Φ6 - 6.35(1/4")	1.3	0.7
Φ9.52(3/8")	1.6	1.0
Φ12-12.7(1/2")	1.8	1.0
Φ15.8-16(5/8")	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.



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