



# Owner's Manual

# **Original Instructions**

Split Air Conditioner

## **CONTENTS**

Safety precautions	01
Parts name	05
Installation notice	06
Installation of outdoor unit	08
Test and operation	10
Configuration of connection pipe	11

Thank you for choosing our product.

Please read this Owner's Manual carefully before operation and retain it for future reference.

If you have lost the Owner's Manual, please contact the local agent or visit www.gree.com or send an email to global@cn.gree.com for the electronic version.

#### NOTE:

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

GWC09ACC-K6DNA1C/O GWH09ACC-K6DNA1A/O GWH09ACC-K6DNA1X/O GWH09ACC-S6DBA1A/O GWH09QB-K6DNA1C/O GWH09QB-K6DNA1E/O GWH09QB-K6DNB8I/O GWH09QB-K6DNB4Y/Q GWH09QB-K6DNA5X/O GWH09UB-K6DNA4A/O GWH09YC-K6DNA1A/O GWH09YC-K6DNA1Z/O GWH09YD-S6DBA2A/O GWC12ACC-K6DNA1D/O GWH12ACC-K6DNA1X/O GWH12ACC-S6DBA1A/O GWH12QB-K6DNB4Y/O GWH12QC-K6DNA1C/Q GWH12QC-K6DNA1D/O GWH12QC-K6DNA5X/O GWH12YC-K6DNA1A/O GWH12YC-K6DNA1Z/O GWH12YD-S6DBA2A/O GWH12UB-K6DNA4A/O

GWC18ACD-K6DNA1D/O GWH18ACE-S6DBA1A/O GWH18QD-K6DNA1C/O GWH18QD-K6DNC2C/O GWH18QD-K6DNA1D/O GWH18QD-K6DNA5X/O GWH18YD-K6DNA1A/O GWH18YD-K6DNA1Z/O GWH18YE-S6DBA2A/O GWH18UC-K6DNA4A/O GWC24ACE-K6DNA1A/O GWH24AAE-K6DNA4Z/O

GWH07QB-K6DNB2E/O

GWH24QE-K6DNA1C/O GWH24QE-K6DNC2C/O GWH24QE-K6DNA1E/O GWH24QE-K6DNA5X/O GWH24YE-K6DNA1A/O GWH24YE-S6DBA2A/O GWH24YE-K6DNA1Z/O GWH24AFE-K6DNA2I/O

# **Explanation of Symbols**

**WARNING** 

This symbol indicates the possibility of death or serious injury.

**ACAUTION** 

This symbol indicates the possibility of injury or damage to property.

NOTICE

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

# **Exception Clauses**

Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons.

- 1.Damage the product due to improper use or misuse of the product;
- 2. Alter, change, maintain or use the product with other equipment without abiding by the instruction manual of manufacturer;
- 3. After verification, the defect of product is directly caused by corrosive gas;
- 4. After verification, the defects are due to improper operation during transportation of product;
- 5. Operate, repair, maintain the unit without abiding by instruction manual or related regulations;
- 6.After verification, the problem or dispute is caused by the quality specification or performance of parts and components that produced by other manufacturers;
- 7. The damage is caused by natural calamities, bad using environment or force majeure.

If it needs to install, move or maintain the air conditioner, please contact dealer or local service center to conduct it at first. Air conditioner must be installed, moved or maintained by appointed unit. Otherwise, it may cause serious damage or personal injury or death.

When refrigerant leaks or requires discharge during installation, maintenance, or disassembly, it should be handled by certified professionals or otherwise in compliance with local laws and regulations.

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.

# The refrigerant



Appliance filled with flammable gas R32.



Before install the appliance, read the installation manual first.



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



Before repair the appliance, read the service manual first.

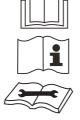
- To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R32, which is specially cleaned. The refrigerant is flammable and inodorous. Furthermore, it can lead to explosion under certain conditions. But the flammability 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 ozonosphere. 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 there fore need a less filling.

#### WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacture. 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 larger than Xm².

(Please refer to table "a" in section of " Safety operation of flammable refrigerant "for space X.) Appliance filled with flammable gas R32. For repairs, strictly follow manufacturer's instructions only. Be aware that refrigerants may not contain an odour. Read specialist's manual.





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.



R32: 675

This marking indicates that this product should not be disposed with other house hold wastes. To prevent possible harm to the environment or human health from uncontrolled waste throu-

ghout 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.

If it needs to install, move or maintain the air conditioner, please contact dealer or local service center to conduct it at first. Air conditioner must be installed, moved or maintained by appointed unit. Otherwise, it may cause serious damage or personal injury or death.

# 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.

## Safety operation of flammable refrigerant

#### Installation notes

- 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.
- It is not allowed to drill hole or burn the connection pipe.
- · Leak test is a must after installation.

## table a - Minimum room area (m2)

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



# **WARNING**

# Installation

- Installation or maintenance must be performed by qualified professionals.
- The appliance shall be installed in accordance with national wiring regulations.
- According to the local safety regulations, use qualified power supply circuit and circuit break.
- All wires of indoor unit and outdoor unit should be connected by a professional.
- Be sure to cut off the power supply before proceeding any work related to electricity and safety.
- Make sure the power supply matches with the requirement of air conditioner.
- Unstable power supply or incorrect wiring may result in electric shock, fire hazard or malfunction. Please install proper power supply cables before using the air conditioner.

- The grounding resistance should comply with national electric safety regulations.
- Air Conditioner should be properly grounded. Incorrect grounding may cause electric shock.
- Do not put through the power before finishing installation.
- 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.
- Circuit break should be included magnet buckle and heating buckle function, it can protect the overload and circuit-short.

# **A**CAUTION

# Installation

- Instructions for installation and use of this product are provided by the manufacturer.
- 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.
- Don't use unqualified power cord.
- If the length of power connection wire is insufficient, please contact the supplier for a new.
- The appliance must be positioned so that the plug is accessible.
- For the air conditioner with plug, the plug should be reachable after finishing installation.

- For the air conditioner with- out plug, an circuit break must be installed in the line.
- The yellow-green wire in air conditioner is grounding wire, which can't be used for other purposes.
- 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 temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.



# **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.
- 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 connect air conditioner to multi-purpose

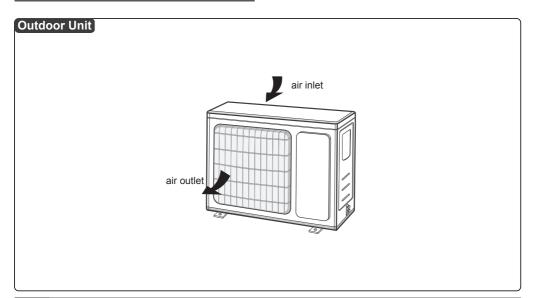
- socket. Otherwise, it may cause fire hazard.
- Do disconnect power supply when cleaning air conditioner. Otherwise, it may cause electric shock.
- Do not wash the air conditioner with water to avoid electric shock.
- Do not spray water on indoor unit. It may cause electric shock or malfunction.
- Do not repair air conditioner by yourself. It may cause electric shock or damage. Please contact dealer when you need to repair air conditioner.
- After removing the filter, do not touch fins to avoid injury.
- Do not extend fingers or objects into air inlet or air outlet. it may cause personal injury or damage.



# **Operation** and **Maintenance**

- Do not spill water on the remote controller, otherwise the remote controller may be broken.
- Do not use fire or hair dryer to dry the filter to avoid deformation or fire hazard.
- Do not block air outlet or air inlet. It may cause malfunction.
- Do not step on top panel of outdoor unit, or put heavy objects. It may cause damage or personal injury.
- 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 overheat ing or damaged.
  - There's abnormal sound during operation.
  - Circuit break trips off frequently.
  - Air conditioner gives off burning smell.
  - Indoor unit is leaking.

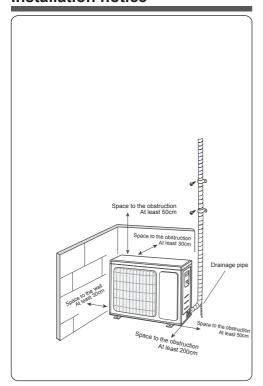
# Parts name



## NOTE

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

#### Installation notice



Safety precautions for installing and relocating the unit

To ensure safety, please be mindful of the following precautions.

# WARNING :

When installing or relocating the unit, be sure to keep the refrigerant circuit free from air or substances other than the specified refrigerant.

Any presence of air or other foreign substance in the refrigerant circuit will cause system pressure rise or compressor rupture, resulting

When installing or moving this unit, do not charge the refrigerant which is not comply with that on the nameplate or unqualified refrigerant.

Otherwise, it may cause abnormal operation, wrong action, mechanical malfunction or even series safety accident.

When refrigerant needs to be recovered during relocating or repairing the unit, be

# WARNING

sure that the unit is running in cooling mode. Then, fully close the valve at high pressure side (liquid valve). About 30-40 seconds later, fully close the valve at low pressure side (gas valve), immediately stop the unit and disconnect power. Please note that the time for refrigerant recovery should not exceed 1 minute.

If refrigerant recovery takes too much time, air may be sucked in and cause pressure rise or compressor rupture, resulting in injury.

■ During refrigerant recovery, make sure that liquid valve and gas valve are fully closed and power is disconnected before detaching the connection pipe.

If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

■ When installing the unit, make sure that connection pipe is securely connected before the compressor starts running.

If compressor starts running when stop valve is open and connection pipe is not yet connected, air will be sucked in and cause pressure rise or compressor rupture, resulting in injury.

Prohibit installing the unit at the place where there may be leaked corrosive gas or flammable gas.

If there leaked gas around the unit, it may cause explosion and other accidents.

■ Do not use extension cords for electrical connections. If the electric wire is not long enough, please contact a local service center authorized and ask for a proper electric wire.

Poor connections may lead to electric shock or fire.

Use the specified types of wires for electrical connections between the indoor and outdoor units. Firmly clamp the wires so that their terminals receive no external stresses.

Electric wires with insufficient capacity, wrong wire connections and insecure wire terminals may cause electric shock or fire.

# Tools for installation

1 Level meter

6 Pipe expander

- Open-end wrench Screw driver
  - 8 Pipe cutter
- 3 Impact drill Leakage detector 4 Drill head
  - Wacuum pump

12 Universal

13 Inner hexagon

spanner

14 Measuring

tape

meter

6 Torque wrench 11 Pressure meter

#### NOTICE

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

# Selection of installation location

#### **Basic requirement**

Installing the unit in the following places may cause malfunction. If it is unavoidable, please consult the local dealer:

- 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.
- 8.It's not allowed to be installed on the unstable or motive base structure (such as truck) or in the corrosive environment (such as chemical factory).

#### **Outdoor unit**

- Select a location where the noise and outflow air emitted by the outdoor unit will not affect neighborhood.
- 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.
- 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.

#### 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.
- 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.

# Requirements for electric connection

- 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.

#### **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.
- 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.

# Air switch capacity

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)

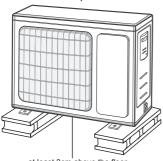
Air-conditioner	Air switch capacity
07K、09K GWH12QC-K6DNA1C/O GWH12YC-K6DNA1A/O GWH12YC-K6DNA1Z/O	10A
GWH12QB-K6DNB4Y/O	13A
12K、18K GWH09YD-S6DBA2A/O GWH09ACC-S6DBA1A/O GWH09UB-K6DNA4A/O	16A
24K GWH18YE-S6DBA2A/O GWH18ACE-S6DBA1A/O	25A

#### Installation of outdoor unit

### Step 1:

# fix the support of outdoor unit (select it according to the actual installation situation)

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



at least 3cm above the floor

#### NOTICE

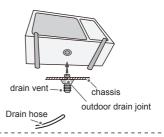
- Take sufficient protective measures when installing the outdoor unit.
- Make sure the support can withstand at least four times of the unit weight.
- The outdoor unit should be installed at least 3cm above the floor in order to install drain joint. (for the model with heating tube, the installation height should be no less than 20cm.)
- 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.

# Step 2: install drain joint (Only for some models)

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

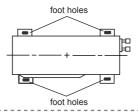
#### NOTICE

 As for the shape of drainage joint, please refer to the current product. Do not install the drainage joint in the severe cold area. Otherwise, it will be frosted and then cause malfunction.



# Step 3: fix outdoor unit

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

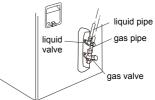


# Step 4: connect indoor and outdoor pipes

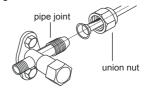
 Remove the screw on the right handle of outdoor unit and then remove the handle.



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



3. Pretighten the union nut with hand.



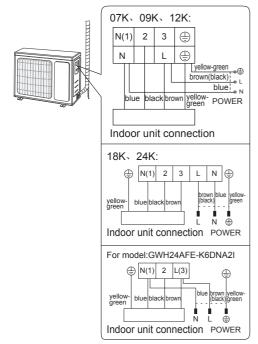
4. Tighten the union nut with torque wrench by referring to the sheet below.

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

Step 5:

# connect outdoor electric wire

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.



#### NOTICE

- The wiring board is for reference only, please refer to the actual one.
- Fix the power connection wire and signal control wire with wire clip (only for cooling and heating unit).

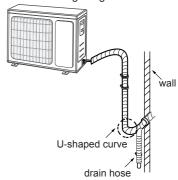
#### NOTICE

- 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 6:

# 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.



#### NOTICE

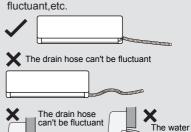
 The through-wall height of drain hose should not be higher than the outlet pipe hole of indoor unit.



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



Slant the drain hose slightly downwards.
The drain hose can't be curved, raised and fluctuant etc.



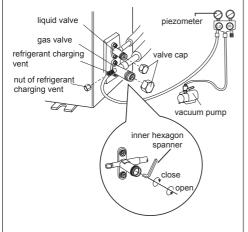
outlet can't be

fluctuant

# **Test and operation**

# Use vacuum pump

- 1. Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.
- 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.
- Open the piezometer completely and operate for 10-15min to check if the pressure of piezometer remains in -0.1MPa.
- 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.
- Remove the piezometer, open the valve core of liquid valve and gas valve completely with inner hexagon spanner.
- 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 pipe- line 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 damage the parts.
Is electric wiring and pipeline installed correctly?	It may cause malfunction or damage the parts.
Is the unit grounded securely?	It may cause electric leakage.
Does the power cord follow the specification?	It may cause malfunction or damage 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 damage 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 waste electricity.

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

# Configuration of connection pipe

- Standard length of connection pipe: 5m, 7.5m, 8m.
- 2. Min. length of connection pipe.

For the unit with standard connection pipe of 5m, there is no limitation for the min length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.

3. Max. length of connection pipe is shown as below. **Max. length of connection pipe** 

Cooling capacity	Max. length of connection pipe(m)
5000Btu/h (1465W)	15
7000Btu/h (2051W)	15
9000Btu/h (2637W)	15
12000Btu/h (3516W)	20
18000Btu/h (5274W)	25
24000Btu/h (7032W)	25
28000Btu/h (8204W)	30
36000Btu/h (10548W)	30
42000Btu/h (12306W)	30
48000Btu/h (14064W)	30

 The calculation method of additional refrigerant oil and refrigerant charging amount 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
- (2) 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 Sheet

#### Additional refrigerant charging amount for R32

Pipir	Piping size	Indoor unit throttle	Outdoor unit throttle	nit throttle
Liquid pipe	Gas pipe	Cooling only, cooling and heating (g / m)	Cooling only (g / m)	cooling and heating (g / m)
1/4"	3/8" or 1/2"	16	12	16
1/4" or 3/8"	5/8" or 3/4"	40	12	40
1/2"	3/4" or 7/8"	80	24	96
2/8"	1" or 1 1/4"	136	48	96
3/4"	I	200	200	200
1/8"	ı	280	280	280

#### NOTICE

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

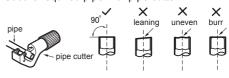
Pipe expanding method

#### NOTICE

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

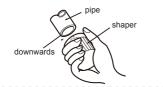
# A: Cut the pipe

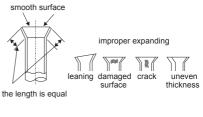
- Confirm the pipe length according to the distance of indoor unit and outdoor unit.
- Cut the required pipe with pipe cutter.



#### B: Remove the burrs

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



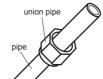


## C: Put on suitable insulating pipe

### D: Put on the union nut

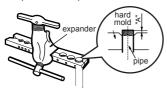
 Remove the union nut on the indoor connection pipe and outdoor valve;

install the union nut on the pipe.



## E: Expand the port

• Expand the port with expander.



#### NOTICE

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

Outer diameter	A(mm)	
(mm)	Max	Min
Ф6 - 6.35(1/4")	1.3	0.7
Ф9 - 9.52(3/8")	1.6	1.0
Ф12-12.7(1/2")	1.8	1.0
Ф15.8-16(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.

# Working temperature range

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

#### For some models:

#### NOTE

• The operating temperature range (outdoor temperature) for Low-temperature cooling only unit is -15°C~43°C; for Low-temperature heat pump unit is -22°C~43°C.

#### For some models:

#### NOTE

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

	Indoor side DB/WB(°C)	Outdoor side DB/WB(°C)
Maximum cooling	32/23	50/26
Maximum heating	27/-	30/18

#### For model: GWH24AFE-K6DNA2I(LC)

#### NOTE

 The operating temperature range (out door temperature) for Low-temperature cooling only unit is -15°C ~50°C; for heat pump unit is -15°C~50°C.

#### For model: GWH24AFE-K6DNA2I(LCLH)

#### NOTE

The operating temperature range (out door temperature) for Low-temperature cooling only unit is -15°C
 ~50°C; for Low-temperature heat pump unit is -25°C
 ~50°C.

# Working temperature range

For models:

GWH18YE-S6DBA2A、GWH24YE-S6DBA2A、GWH09ACC-S6DBA1A、GWH12ACC-S6DBA1A、GWH18ACE-S6DBA1A

	Indoor side DB/WB(°C)	Outdoor side DB/WB(°C)
Maximum cooling	32/23	52/32
Maximum heating	27/-	24/18

#### NOTE

The operating temperature range (outdoor temperature) for cooling only unit is -18°C~52°C; for Low-temperature heat pump unit is -30°C~52°C.

	Indoor side DB/WB(°C)	Outdoor side DB/WB(°C)
Maximum cooling	32/23	48/30

#### For models:

GWC09ACC-K6DNA1C、GWC12ACC-K6DNA1D、GWC18ACD-K6DNA1D

#### NOTE

The operating temperature range (outdoor temperature) for cooling only unit is 18°C~48°C.

#### For model: GWC24ACE-K6DNA1A

#### NOTE

 The operating temperature range (outdoor temperature) for cooling only unit is -15°C~48°C.

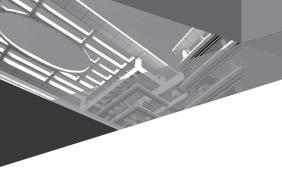
#### For models:

GWH09UB-K6DNA4A、GWH12UB-K6DNA4A、GWH18UC-K6DNA4A

	Indoor side DB/WB(°C)	Outdoor side DB/WB(°C)
Maximum cooling	32/23	54/32
Maximum heating	27/-	24/18

#### NOTE

 The operating temperature range (outdoor temperature) for cooling only unit is -18°C~54°C; for heat pump unit is -30°C~54°C.





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