NORTEK GLOBAL HVAC, LLC

Owner's Manual
Installation Instructions

Cold Climate Heat Pump Systems

Indoor Units

Inverter

Indoor Models: GHH09(2.6)KSK4DH
GHH12(3.5)KSK4DH
GHH18(5.2)KSK4DH

- Please read this owner's manual carefully before operation and retain for future reference.
- Specifications & illustrations subject to change without notice or incurring obligations.
- If you have lost the owner's manual, please visit www.NortekHVAC.com for electronic version.

Special Note

Remote Control

This model air conditioner uses an RF (radio frequency) remote control. The remote must be calibrated to the air conditioner before it can be used.

Read and follow instructions on this page to calibrate the remote.

Note:

- Hold the remote within 6 feet (2m) of the air conditioner.
- Air conditioner and remote should both be in standby status.
- If the remote signal isn't received by the air conditioner, perform calibration steps again.
- The remote only needs to calibrated once during setup.

Calibrating the Remote Control

With the air conditioner in standby status and the remote within 6 feet (2m), press and hold (🌲/🏠) button for 3 seconds. The remote controller and air conditioner calibrate automatically. The air conditioner will emit three sounds when calibration is complete. If calibration fails, move the remote closer to the air conditioner and try again.

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Explanation of Symbols

⚠ DANGER	Failure to comply will result in severe personal injury, property damage and/or death.
⚠ WARNING	Failure to comply may result in severe personal injury, property damage and/or death.
⚠ CAUTION	Failure to comply may result in personal injury and/or property damage.
⚠ NOTICE	Indicates important but not hazard-related information, used to indicate risk of property damage.

User Notice

Children and persons with reduced mental, sensory or physical capabilities should not be allowed to operate or maintain this equipment.
If the power cord is damaged, it must be replaced by a new cord that meets the same standards as the original. It must be installed by a qualified professional. Failure to comply could result in damage to the equipment or cause a fire.

Precautions

WARNING

Operation and Maintenance

- This appliance should not be used by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be performed by children.
- Do not connect air conditioner to multi-purpose socket. Otherwise, it may cause fire hazard.
- Disconnect power supply when cleaning air conditioner. Otherwise, it may cause electric shock.
- If the supply cord is damaged, it must be replaced by qualified persons.
- 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 dry filter over open flame or with hair dryer to avoid warping fire hazard.
- 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.

Precautions

WARNING

- Do not insert 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.
- When below situations occur, 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 breaker trips off frequently.
  - Air conditioner gives off burning smell.
  - Indoor unit is leaking.
- If the air conditioner malfunctions, it may cause electric shock or fire.
- 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 place objects on outdoor unit or use as step. It may cause damage or personal injury

Precautions

WARNING

Attachment

- Installation must be performed by qualified professionals. Otherwise, it may cause personal injury or damage.
- Follow all the electric safety regulations when installing the unit.
- Use approved power supply circuit and circuit breaker according to local regulations.
- A circuit breaker must be used.
- An all-pole disconnect switch having a contact separation of at least 3mm (1/8 in) in all poles should be connected in fixed wiring.
- Include a circuit break with suitable capacity, please note the capacity table. Air switch should include magnet buckle and heating buckle function, to protect from circuit-short and overload.
- Air Conditioner should be properly grounded. Incorrect grounding may cause electric shock.
- Use only an approved power cord.
- Make sure the power supply matches the requirement listed on nameplate. Unstable power supply or incorrect wiring may cause malfunction. Please install proper power supply cables before using the air conditioner.
- Properly connect the live wire, neutral wire and grounding wire.
- Be sure to cut off the power supply before performing any work related to electricity.

Precautions

- Do not connect power before finishing installation.
- If the supply cord is damaged, it must be replaced by qualified persons.
- The temperature of refrigerant circuit will be high, please keep all cords and cables 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 Class I electric appliance. It must be properly grounded by a professional, otherwise it may cause electric shock.
- The yellow-green wire in air conditioner must be used for grounding only.
- 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.
- Use single wires for all connections. Wires should never be spliced together.
- For the air conditioner with plug, the outlet should be reachable after finishing installation.
- For the air conditioner without plug, a circuit break must be installed in the line.

Precautions

- Once installed the air conditioner should not be moved and installed in a different location.
- Select a location which is out of reach for children and far away from animals or plants. If it is unavoidable, please put up a fence for safety purpose.
- The indoor unit should be installed close to the wall
- Installation instructions and use of this product are provided by manufacturer.

FCC WARNING

WARNING: Changes or modifications to this unit not expressly approved by the manufacturer could damage the equipment and void the warranty.

FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Precautions

FCC STATEMENT

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions,may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Precautions

IC STATEMENT

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with FCC's and IC's RF radiation exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must be installed and operated to provide a separation distance of at least 8 inches (20 cm) from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter. Installers must ensure that 8 in. (20cm) separation distance will be maintained between the device (excluding its handset) and users.

Precautions

IC STATEMENT

Cet appareil est conforme aux limites d'exposition au rayonnement RF stipulées par la FCC et l'IC pour une utilisation dans un environnement non contrôlé. Les antennes utilisées pour cet émetteur doivent être installées et doivent fonctionner à au moins 8 pouces (20 cm) de distance des utilisateurs et ne doivent pas être placées près d'autres antennes ou émetteurs ou fonctionner avec ceux-ci. Les installateurs doivent s'assurer qu'une distance de 20 cm sépare l'appareil (à l'exception du combiné) des utilisateurs.

Working Temperature Range

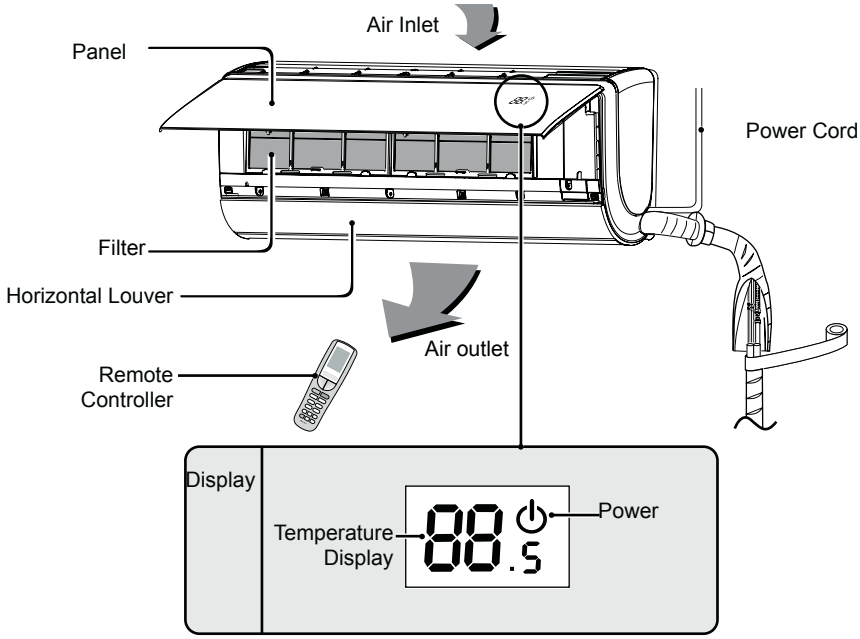
	Indoor Temp. DB/WB °C(°F)	Outdoor Temp. DB/WB °C(°F)
Maximum cooling	26.7/19.4(80/66.9)	46.1/23.9(115/75)
Maximum heating	26.7/-(80/-)	23.9/18.3(75/64.9)

NOTICE:

• The operating temperature range (outdoor temperature) for cooling only unit is -18°C(-0.4°F) ~ 54°C(129°F); for heat pump unit is -30°C(-22°F) ~ 54°C(129°F).

Parts

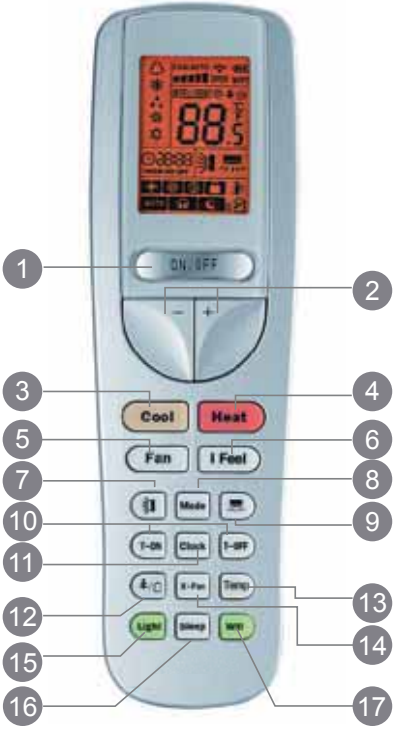
Indoor Unit



NOTICE:

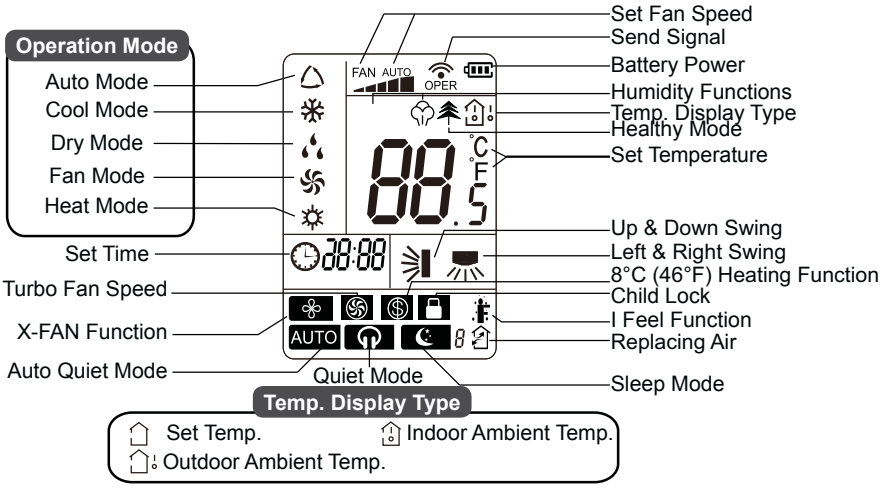
Illustrations provided apply to different models and are for reference only. Actual equipment may look slightly different.

Remote Control Buttons



1. ON/OFF Button
2. + / - Buttons
3. Cool Button
4. Heat Button
5. Fan Button
6. I Feel Button
7. Up/Down Swing Button
8. Mode Button
9. Left/Right Swing Button
10. T-ON/T-OFF Button
11. Clock Button
12. / Button
13. Temp Button
14. X-Fan Button
15. Light Button
16. Sleep Button
17. WIFI Button

Display Screen Icons



Remote Control Button Description

Note:

- This remote can control different air conditioning models. Some models may not have all functions shown on remote. Pressing the buttons for these functions will have no effect on the air conditioner.
- After turning on the power, the air conditioner will emit a sound. Power indictor ⏻ will be ON (red indicator). After that, you can operate the air conditioner by using remote controller.
- In ON status, when pressing a button on the remote controller, the signal icon ((•)) will blink once, and the air conditioner emit a sound indicating the signal has been sent and receive.

1 ON/OFF Button

Press this button to turn on or turn off the air conditioner. After turning on the air conditioner, operation indicator ⏻ on indoor unit will display (green indicator - color may be different on different models), and indoor unit will emit a sound.

2 + / - Button

- Press + or - button once to increase or decrease the temperature 0.5°C/F. Holding + or - button more than 2 seconds will change the set temperature more quickly. On releasing the button after desired set temperature is reached, the temperature indicator on the indoor unit will change accordingly. (NOTE: Temperature can't be adjusted under Auto Mode.)
- When setting TIMER, press + or - button to adjust time.

3 Cool Button

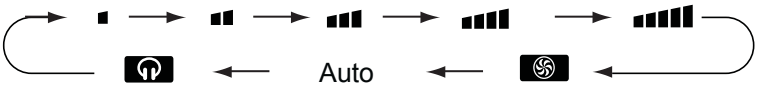
- Press for the unit to operate in cooling mode.

4 Heat Button

- Press for the unit to operate in heating mode.

5 FAN Button

Press this button to set fan speed: low(▮), low medium (▮▮), medium (▮▮▮), medium high(▮▮▮▮), high(▮▮▮▮▮), super(֍), auto (AUTO), or quiet(🎧).



Note:

- Turbo function is not available in dry or auto modes.
- In dry mode the unit will operate in low speed only.

- Under AUTO speed, air conditioner will select proper fan speed automatically based on the ambient temperature.
- Automatically enters quiet speed when starting sleep function.

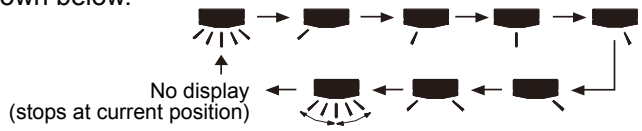
6 I FEEL Button

Press this button to start I FEEL function. The icon will be displayed on the remote controller. When function is set, the remote controller will send the detected ambient temperature to the controller. The unit will automatically adjust the indoor temperature according to the detected temperature. Press this button again to exit I FEEL function and the icon will disappear.

- Please put the remote controller near user when this function is set. Do not put the remote controller near the object of high temperature or low temperature in order to avoid detecting inaccurate ambient temperature.

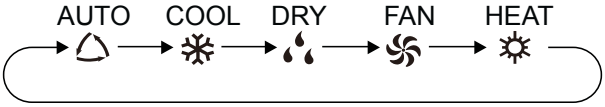
7 Button

- Under simple swing mode, press this button to turn on the Left/Right Sing function. The icon will display on remote.
- Under OFF status, press the + and button simultaneously to switch between simple swing and fixed mode. During the switching process, the icon will flash twice.
- Under fixed angle mode, press this button to switch between the settings in the sequence shown below.



8 Mode Button

Press the Mode button to select your desired operation.



- When selecting auto mode, air conditioner will operate automatically according to ambient temperature. Set temperature can't be adjusted and will not be displayed. Press "FAN" button to adjust fan speed. Press / buttons to adjust louver angle.
- After selecting cool mode, air conditioner will operate under cool mode. Press + or - button to adjust set temperature. Press FAN button to adjust fan speed. Press / buttons to adjust louver angle.
- When selecting dry mode, the air conditioner will operates at low speed. Under

dry mode, fan speed can't be adjusted. Press / buttons to adjust louver angle.

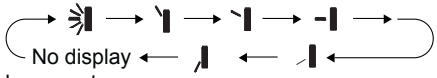
- When selecting fan mode, only the fan will operate, no cooling and no heating. Press "FAN" button to adjust fan speed. Press / buttons to adjust louver angle.
- When selecting heating mode, the air conditioner operates under heat mode. Press + or - button to adjust set temperature. Press "FAN" button to adjust fan speed. Press / buttons to adjust louver angle. (Cooling only unit won't react to heating mode signal. If setting heat mode with remote, pressing ON/OFF button won't start up the unit.)

Note:

- For preventing cold air, after starting up heating mode, indoor unit will delay 1~5 minutes to blow air (actual delay time is depend on indoor ambient temperature).
- Set temperature range from remote controller: 16~30°C(61~86°F).
- When Auto run mode is selected, the setting temperature will not be displayed. The unit will sense the room temperature and automatically select a suitable running method to make the ambient temperature comfortable.

9 Button

- Under simple swing mode, press this button to engage Up/Down Swing function. The icon will display on the remote.
- Under OFF status, press + and buttons simultaneously to switch between simple swing mode and fixed louver mode. During the switching process, the icon will flash twice.
- Under fixed swing mode, press this button to switch between the settings in the sequence shown below.



(horizontal louvers stops at current position)

10 T-ON/T-OFF Button

- T-ON button

T-ON button is for setting the TIMER ON function. After pressing this button, the icon disappears and the word ON begins blinking on the remote. Press + or - button to adjust T-ON setting. Press the + or - button, once to increase or decrease TIMER ON setting by 1 min. Hold + or - button, for more than 2 seconds to change the time more quickly. Release the button when you reached desired time. Press T-ON to confirm. The word ON will stop blinking. The icon will be display again. Pressing the T-ON button again will cancel the setting.

Remote Control Button Description

• T-OFF button

T-OFF button is for setting the time for the unit to be turned off. After pressing this button the ◷ icon disappears and the word OFF begins blinking on the remote. Press the + or - button, once to increase or decrease TIMER-OFF setting by 1 min. Hold + or - button, for more than 2 seconds to change the time more quickly. Release the button when you reached desired time. Press T-OFF to confirm. The word OFF will stop blinking. The ◷ icon will be display again. Pressing the T-OFF button again to cancel.

11 CLOCK Button

Press this button to set clock time. The ◷ icon on remote controller will blink. Press + or - button within 5 seconds to set clock time. Press the + or - button, once to increase or decrease by 1 minute. Hold the + or - button, more than 2 seconds to change time more quickly. Release this button when reaching the correct time. Press CLOCK button to confirm the time. The◷ icon will stop blinking.

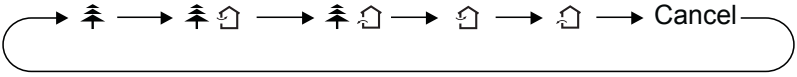
Note:

• Clock time defaults to 24-hour mode.

• If no button is pressed for 5 seconds, remote controller will quit setting status. Operation for TIMER ON/TIMER OFF is the same.

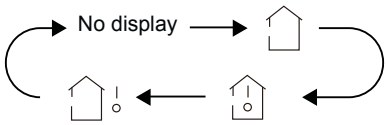
12 / Button

Press this button to activate the health function. The icon will display. Press this button again to activate and health and air in function, and the and icons will display. Press this button a third time to activate the health and air out function, and the and icons will display. Press this button a fourth time to activate the air in function only, and the icon will display. Press this button a fifth time to activate the air out function only, and the icon will display. Press this button a sixth time to exit the health function. See sequence below:



13 TEMP Button

By pressing this button, you can see indoor set temperature, indoor ambient temperature or outdoor ambient temperature on indoor unit's display. As shown below:



- When selecting ⌂ or no display with remote controller, temperature indicator on indoor unit displays set temperature.
- When selecting ⌂ with remote controller, temperature indicator on indoor unit displays indoor ambient temperature.
- When selecting ⌂ with remote controller, temperature indicator on indoor unit displays outdoor ambient temperature.

Note:

- Outdoor temperature display is not available for some models. These models will display the indoor set temperature when outdoor temperature (⌂) is selected.
- The default setting is the set temperature. The temperature will only be displayed after a set temperature is set up.
- Until set temperature is set up, remote will display “88”.
- When selecting indoor or outdoor ambient temperature, indoor temperature indicator displays current temperature and automatically returns to display set temperature after three to five seconds.

14 X-Fan Button

Pressing this button in COOL or DRY modes, the ✿ icon is displayed and the indoor fan will continue to operate for 2 minutes blowing even if the user selects to turn the unit off. The continued air movement helps to dry out the indoor coil avoiding the growth of mold.

The X-Fan function is defaulted to off status when the unit is first started up. X-Fan is not available in AUTO, Fan or Heat modes.

- With X-Fan setting ON, after turning off the unit by pressing the ON/OFF button, the fan will continue to blow at low speed for 2 minutes. To turn off the X-Fan function during this 2 minute interval, press the X-Fan button to cancel this function, and the unit will turn off.
- With X-Fan setting OFF, the unit will turn off right after the OFF button is pressed.

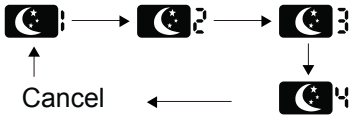
15 Light Button

Press this button to turn off display light on indoor unit. Press this button again to turn on display light.

Remote Control Button Description

16 Sleep Button

Press this button to select Sleep 1, Sleep 2, Sleep 3, Sleep 4 settings or to cancel the sleep settings. See the sequence below:



- Sleep 1 and Sleep 2 are preset temperature curves.
- Sleep 3 - the sleep curve can be set by the user as follows
  1) Under Sleep 3 mode, press and hold the Temp button. The timer will display “1 hr” and the set temperature will blink displaying the last sleep curve setting. The first time Sleep 3 is set up, it will display the default setting
  2) Press + or - to adjust the temperature setting. Press the Temp button to confirm setting.
  3) The timer will automatically increase to the next hour (That is, 1 hr will change to 2 hr.; 2 hr, to 3 hr, etc.). The temperature will blink displaying the last temperature setting.
  4) Repeat steps 2 and 3 above until 8 hours of sleep setting data has been entered. Once successfully entered, the timer and temperature display will return to normal.
  5) To check the sleep curve setting under Sleep 3, enter the sleep setting mode as described above, but do not change the temperature setting. Press the Temp button each time to confirm the setting and review the next setting. NOTE: If no button is pressed for 10 seconds the remote will exit the sleep setting. If ON/OFF, Mode, Timer, Sleep, Cool, or Heat buttons are pressed during sleep setting, the remote will exit and return to normal display.
- Sleep 4 is Siesta mode. Siesta mode is a preset temperature curve.
- If power to the air conditioner is lost while in Sleep mode, once power is restored, Sleep function will be turned off.
- Sleep function cannot be set while in Auto mode.

17 WiFi Button

- Press and hold this button for 3 seconds to turn WiFi function on or off.
- Under OFF status, press mode and Wifi button to reset and open WiFi function.

Combination Button Functions

Lock Remote

Press + and - buttons simultaneously to lock or unlock the remote buttons. If the remote controller is locked, the icon will be displayed. When locked pressing any button on the remote in which case, press any button, the will blink three times. If the not displayed, the remote buttons are unlocked.

Switch Temperature Scale

Under OFF status, press Mode and - buttons simultaneously to switch between °C and °F.

Energy-Saving Function

Under cooling mode, press the Temp and Clock buttons simultaneously to turn on energy-saving function. When energy-saving function is started up, “SE” will be displayed on remote controller, and air conditioner will adjust the set temperature automatically according to factory default setting to achieve the best energy-saving operation. Press Temp and Clock buttons simultaneously again to exit energy-saving function.

Note:

- Under energy-saving function, fan speed defaults to auto and can’t be changed.
- Under energy-saving function, set temperature can’t be adjusted.
- Sleep function and energy-saving function can’t operate at the same time. If energy-saving function has been set under cooling mode, pressing sleep button will cancel energy-saving function. If sleep function has been set under cooling mode, starting energy-saving function will cancel sleep function.

8°C (46°F) Heating Function

Under heating mode, press Temp and Clock buttons simultaneously to turn on 8°C (46°F) heating function. When this function is on, the icon and 8°C (or 46°F) will be displayed on the remote controller. The equipment will maintain 8°C(46°F). Press Temp and Clock buttons simultaneously again to exit 8°C (46°F) heating function.

Note:

- Under 8°C (46°F) heating function, fan speed defaults to auto, and it can’t be changed.
- Under 8°C (46°F) heating function, set temperature can’t be adjusted.
- Sleep function and 8°C (46°F) heating function can’t operate at the same time. If 8°C (46°F) heating function has been set under heating mode, pressing the sleep button will cancel 8°C (46°F) heating function. If sleep function has been set under heating mode, starting the 8°C (46°F) heating function will cancel sleep function.

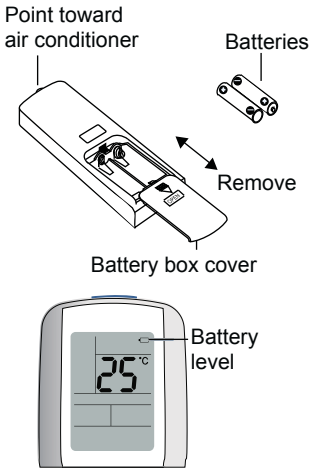
Operation Guide

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

Replacing Batteries in Remote

1. Press the back side of remote controller marked OPEN, and push the battery cover as shown in the figure to the right.
2. Replace two 7# (AAA 1.5V) dry batteries, and make sure the position of + and - poles are aligned correctly.
3. Reinstall the battery cover.

Battery level will be displayed on the remote controller. When the icon is flickering, battery needs replacing.



Notice

- During operation, point the remote control signal sender at the receiving window on indoor unit.
- The distance between signal sender and receiving window should be no more than 8m (25 ft), and there should be no obstacles in the path.
- Florescent lamp, wireless telephone or other devices may interfere with the remote signal. If this is the case, move the remote closer to the air conditioner.
- When replacing batteries use the same type of new batteries.
- When you don't use remote controller for a long time, please take out the batteries.
- If the display on remote controller is fuzzy or there's no display, please replace batteries.

Operation with Smart Phone, Tablet, etc.

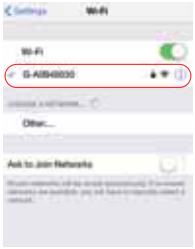
Special Function

This equipment can be controlled with smart phone, tablet, or similar device. The device must use standard Android or iOS operating system. A maximum of 4 control devices can be used.

1. Install G-Life on your device. Use one of the following methods.
   Go to the App Store for iOS operating system, or the Google Play App on Android devices and search for G-Life. After successfully installing, the app icon will appear similar to the one shown below.
   The examples shown in this manual are from the iPhone 6. Your display may look slightly different. Also, display will look different if the app has been upgraded since the release of this manual. If there is a difference, follow the instructions that come with the software/app over those listed in this manual. Examples are also shown with Celsius temperatures; however the app can convert to Fahrenheit.

Operation with Smart Phone, Tablet, etc.

2. Turn on the AC WiFi:
   1) Turn the AC on. Make sure the remote controller matches the air conditioner.
   2) Press and hold the WiFi button on the remote controller for at least 3 seconds. If WiFi icon is shown, the WiFi function is turned on.
3. Go to the WiFi setting of your phone and search for the wireless network, for example G-A0B40030. Connect the network.



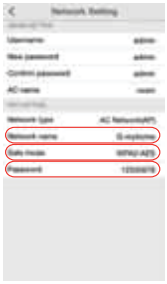
4. Input the default password 12345678 to connect the network.

5. Open the application software and click “Refresh”, and the system will link with the air conditioner automatically.
   1) Click ⏻ to turn on the control function.
   2) Click any position, and then software will switch to the remote control interface.

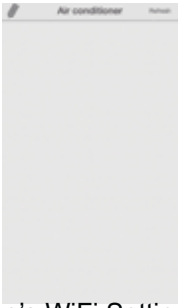
Operation with Smart Phone, Tablet, etc.

Attention: for security, change the network settings!

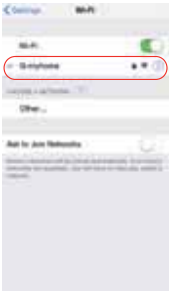
6. Changing settings.
   1) Click on “Settings” in the lower left side of the screen.
   2) Click “Network Setting” to input user name and password (the default user name and password is “admin”) in the “Login” dialog box
   3) Go to “Network Setting” to modify network name (e.g. G-myhome) and password (refer to the attachment: safe mode and password instruction).



7. After modifying name and password, click to exit. Click “OK” in the prompt box. Click “OK” again to finish the modification. The screen return to the air conditioner screen, and the AC list will be blank.



8. Exit the application and enter your device’s WiFi Setting. Then you will see the network you just named “G-myhome”. Click it and input the password entered in step 6 to join the network.



9. Open the app again. Setup of the short-distance remote control setting for your air conditioner should be finished.

How to reset the AC WiFi module:

Turn off air conditioner with the remote controller and disconnect the power. Re-connect power supply, and wait for 1 minute. Press WiFi and Mode buttons simultaneously on remote. The air conditioner should emit a beeping sound indicating the WiFi module is successfully reset.

NOTE: Setup must be completed within 2 minutes.

If short-distance control fails, please check the following items.

• Troubleshooting Common Network Setting Failure
  - Make sure power is turned on to air conditioner;
  - Make sure air conditioner WiFi function is turned on;
  - Make sure your phone's WiFi selects the corresponding air conditioning unit;
  - Reset the air conditioner with the remote controller, and go back to step 3 (Go to WiFi setting on your phone...).

Reminders

1. The air conditioner WiFi function needs about 1 minute to start up.
2. The air conditioner has a memory function.
3. This WiFi function is for short distance control only.

Operation with Smart Phone, Tablet, etc.

Main Screen Selection and Descriptions

1. Mode: sets operation mode for air conditioner. You can select Auto, Cool, Dry, Fan, or Heat. Refer to the Mode setting in the remote control section for more information.

2. Temperature: Select the indoor temperature setting.

3. Fan: Sets the fan speed. If the unit is operating in quiet fan speed in heating or cooling mode, adjusting the fan speed here will cancel the quiet fan speed setting. Refer to Fan operation in the remote control section.

Operation with Smart Phone, Tablet, etc.

App Key Instructions

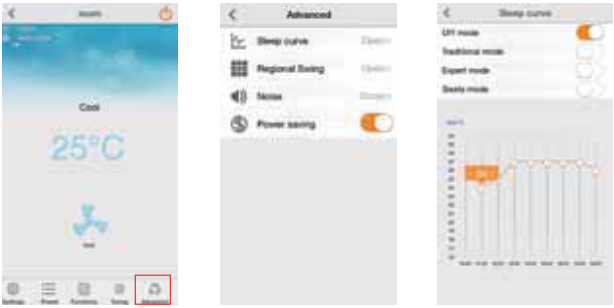
1. Preset: Sets the Timer On and Timer Off function.

2. Functions: Sets the Light, X-Fan, Quiet, Purify, and other functions. Please refer to the remote control section of this manual for more details on these functions. Note: Purify, Humidify, Air Exchange functions require additional, optional features added to the air conditioner . E-heater is not available for this model.

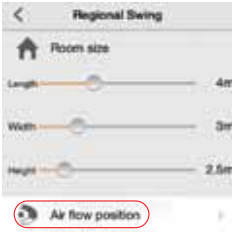
3. Swing: Sets the oscillation angle of the louvers for Up/Down or Left Right Swing. Slide the blocks all the way apart for full oscillation. Slide them together to decrease the air flow angle. When setting Left/Right Swing, the Regional Swing settings will be maintained. When setting Up/Down Swing, the Regional Swing settings will be lost. See Advanced section (next) for more details on Regional Swing.

4. Advanced: Sets Sleep, Regional Swing, Noise and Power Saving functions.

4.1. Sleep curve: Sets Sleep Function. Select a preprogrammed (Traditional) mode or customize your settings with DIY mode.
Note: Sleep function can't be set under Auto or Fan Mode. Only Traditional Sleep function can be selected under Dry mode.



4.2. Regional Swing: First set the size of the room. Then click "Air flow position" to adjust the air coverage area by moving the air conditioner icon to match actual installation location.



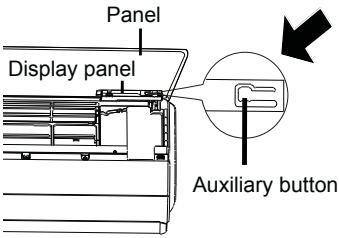
4.3. Move the person icon to reflect relative location of people to the air conditioner to adjust air flow coverage area. If the Up/Down Swing setting is reset, the Regional Swing setting will be turned off.
Up/Down Swing and Regional Swing can only be selected under cooling or heating modes. The Left/Right Swing settings will automatically be set based on the inputs to the control device. The Left/Right Swing need not be symmetrical to the air conditioner.
The "Avoid people" function can be turned on or off based on personal preference. There may be a deviation based on the air conditioner location, size of the room, and other settings.

4.4. Noise: Sets the sound level output of the air conditioner. Sound level selections vary by model and size.

4.5. Power saving: Adjusts the air conditioner frequency, fan speed and temperature setting automatically to use the least amount of energy based on actual indoor and outdoor temperature.

Emergency Operation

If remote controller is lost or damaged, the auxiliary button (see figure below) will turn on or turn off the air conditioner. Lift display panel to access auxiliary button. When air conditioner is turned on with auxiliary button, it will operate under auto mode.



⚠ WARNING

Use insulated object to press the auxiliary button

Cleaning & Maintenance

⚠ WARNING

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

Clean Surface of Indoor Unit

Clean surface of indoor unit with soft dry cloth.

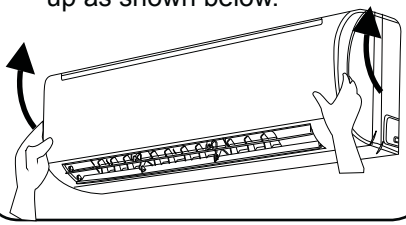
NOTICE:

- Do not remove the panel when cleaning.

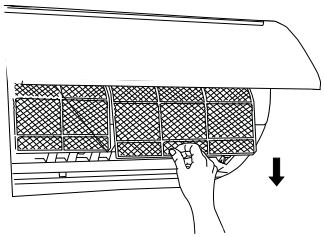
Cleaning & Maintenance

Cleaning the Filter

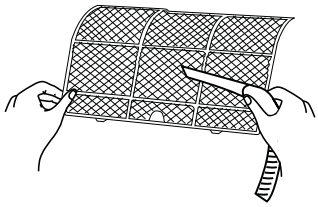
1. Open Panel
   Pull out the panel and raise it up as shown below.



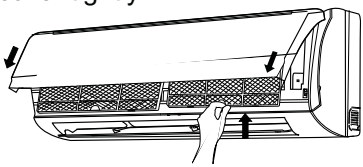
2. Remove Filter
   Remove the filter as shown below



3. Clean Filter
   Use dust catcher to clean the filter. If the filter is very dirty, use water. Note: water can not be warmer than 45°C (113°F). Let filter sit in cool dry place until dry.



4. Reinstall Filter
   Install the filter, and close the panel cover tightly.



⚠ WARNING

- The filter should be cleaned every three months. If air conditioner is exposed to very dusty conditions, please clean the filter more frequently.
- After removing the filter, do not touch fins to avoid personal injury and damage to the unit.
- Never dry filter over open flame or with hair dryer to avoid warping or fire.

Cleaning and Maintenance

Notice: Preseason Checklist

1. Check whether air inlets and air outlets are blocked.
2. Check whether circuit break, plug and socket are in good condition.
3. Check to make sure filter is clean.
4. Check if drainage pipe is damaged.

Notice: Post-Season Checklist

1. Disconnect power supply.
2. Clean filter and indoor unit panel.

Disposal and Recycling

1. Many packing materials are recyclable. Please dispose or recycle responsibly.
2. Contact local dealer or service center for the proper disposal method.

Troubleshooting

General Analysis

Please check below items before asking for maintenance. If the malfunction persists, please contact a local dealer or other qualified professional.

Malfunction	Check Items	Solutions
Wireless controller won't work	• The air conditioner may be receiving false signals from other electromagnetic sources. Or, too many signals have been sent too rapidly from the wireless controller	• Unplug the air conditioner. Wait 3 minutes and plug it in again. Turn unit back on.
	• Is the remote controller within the signal receiving range?	• Signal receiving range is 8M (25 ft).
	• Are there obstacles between remote and air conditioner?	• Remove obstacles.
	• Is remote controller pointing at the receiving window?	• Select proper angle and point the remote controller at the receiving window on indoor unit.
	• Is sensitivity of remote controller low; fuzzy display or no display?	• Check the batteries. Replace them if needed.
	• No display when operating remote controller?	• Check whether remote controller appears to be damaged. If yes, replace it.
	• Fluorescent lamp in room?	• Move the remote controller closer to indoor unit. • Turn off the fluorescent lamp and then try it again.
The indoor unit is on, but will not run	• Is the air inlet or outlet of the indoor unit blocked?	• Eliminate obstacles.
	• Under heating mode, indoor temperature is reached to set temperature?	• After reaching to set temperature, indoor unit will stop.
	• Was heating mode just turned on?	• In order to prevent blowing out cold air, indoor unit waits until heating element has warmed up.

Troubleshooting

Malfunction	Check Items	Solutions
Air conditioner won't run	• Power failure?	• Wait until power recovery.
	• Is plug loose?	• Reinsert the plug.
	• Circuit break trips off or fuse is burnt out?	• Ask professional to replace circuit break or fuse.
	• Wiring malfunction?	• Call professional for repair.
	• Unit has restarted immediately after stopping operation?	• Wait for 3 min, and then turn on the unit again.
	• Is the function setting for remote controller is correct?	• Reset the function.
Mist emitted from indoor unit air outlet	• Is indoor temperature and humidity high?	• Mist is formed when indoor air is humid and cooled rapidly. After air conditioner runs a while, indoor temperature and humidity will decrease and mist will disappear.
Set temperature can't be adjusted	• Is unit operating under auto mode?	• Temperature can't be adjusted under auto mode. Switch the operation mode if you need to adjust temperature.
	• Does the desired temperature exceeds the set temperature range?	• Set temperature range: 16~30°C (61~86°F).
Poor cooling (heating performance	• Is the supply voltage too low?	• If temporary occurrence, wait until voltage returns to normal. • Contact a qualified electrician.
	• Is the filter dirty?	• Clean filter.
	• Is the set temperature in allowable range?	• Adjust temperature to proper range.
	• Are doors or windows open?	• Close door or window.
Odor emitted	• Is there an odor source in the room such as cigarettes?	• Eliminate source of odor. • Clean filter.
Air conditioner operates erratically	• Is there interference, such as thunder, wireless devices, etc	• Turn unit off. Turn off power supply. Reconnect power after a few seconds. Turn unit back on. If problem persists, contact a qualified service technician.

Troubleshooting

Malfunction	Check Items	Solutions
Water flowing noise	• Has air conditioner just been turned on or turned off?	• The noise is the sound of the unit, which is normal.
Cracking noise	• Has air conditioner just been turned on or turned off?	• This is the sound of friction caused by expansion and/or contraction of panel or other parts due to the change of temperature.

Error Codes

When air conditioner malfunctions, the temperature indictor on indoor unit will blink displaying the corresponding error code. Please refer to the below list for required action to be taken.

Error Code	Troubleshooting
C5	Please contact qualified professional for service.
E5	It can be eliminated after restarting the unit. If not, please contact qualified professional for service.
E6	It can be eliminated after restarting the unit. If not, please contact qualified professional for service.
E8	It can be eliminated after restarting the unit. If not, please contact qualified professional for service.
F1	Please contact qualified professional for service.
F2	Please contact qualified professional for service.
H6	It can be eliminated after restarting the unit. If not, please contact qualified professional for service.
U8	It can be eliminated after restarting the unit. If not, please contact qualified professional for service.

Note:

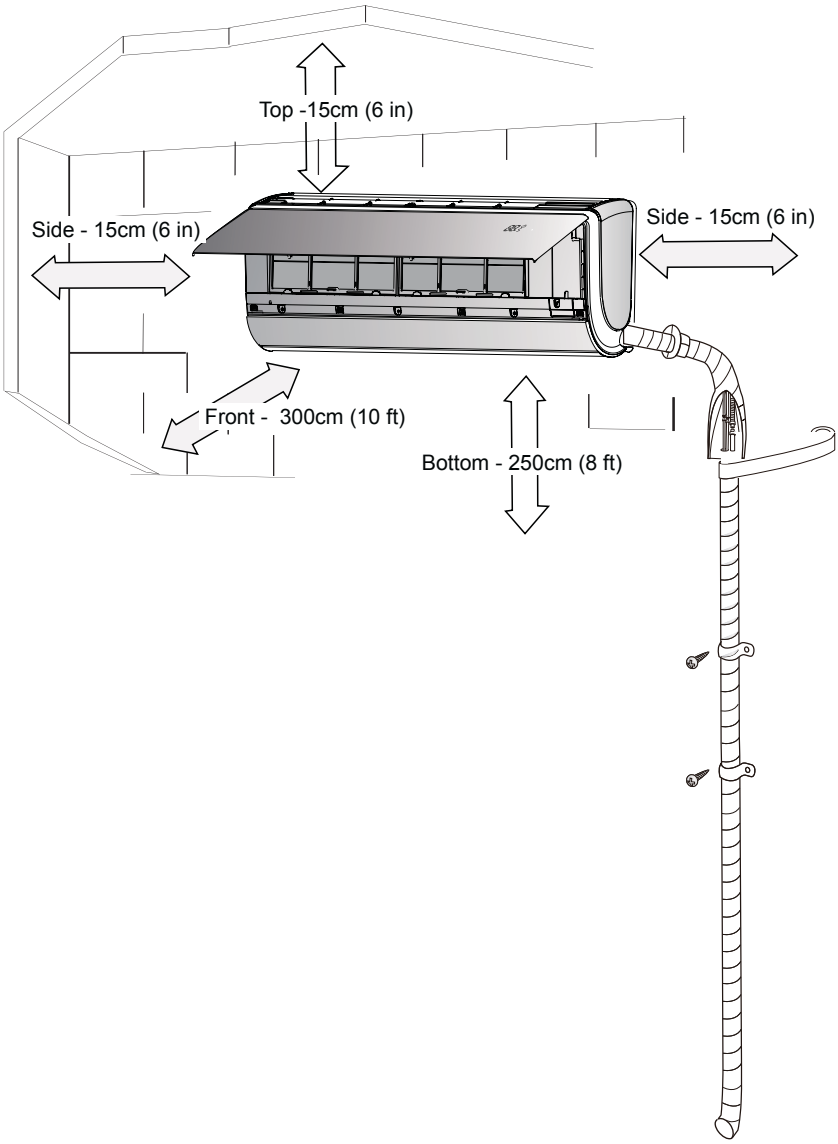
For any other error codes contact qualified professional for service.

⚠ WARNING

- When any of the following situations occur, turn off air conditioner, disconnect power immediately, and contact a qualified professional for service.
  - Power cord is overheating or damaged.
  - There's abnormal sound during operation.
  - Circuit breaker 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 continues to operate while malfunctioning, it may be damaged beyond repair or cause electrical shock or fire.

Installation Clearances

Dimension below show minimum clearances from obstacles, walls, ceiling, floor, etc. allowed around indoor unit.



Tools for Installation

1. Level
2. Screwdriver
3. Impact drill
4. Drill bit
5. Pipe expander
6. Torque wrench
7. Open-end wrench
8. Pipe cutter
9. Leak detector
10. Vacuum pump
11. Pressure Meter
12. Universal meter
13. Alan wrench
14. Measuring tape

Note:

- Contact qualified professional for installation
- Proper power cord must be used.

Installation Location Selection

Basic requirement:

Installing the unit in the following places may cause malfunction.

1. Places with strong heat sources, vapors, flammable or explosive gasses, or volatile objects spread in the air.
2. Places with high-frequency devices (such as welding machine, medical equipment).
3. Coastal regions.
4. Place with oil or other fumes in the air.
5. Places with high sulfur gas concentration in the air.
6. Other places with special circumstances.
7. Do not use the unit in a laundry.

Indoor Unit

1. There should be no obstruction near air inlet and air outlet.
2. Select a location where the condensation water can be drained easily and won't drip on people, animals, other's property, etc.
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 support structure should have sufficient load-carrying capacity to support the weight of the unit. The unit should be securely mounted to avoid vibration.
6. The air conditioner must be installed 2.5m (8 ft) above the floor.
7. Don't install the indoor unit right above an electric appliance.
8. It's best to keep unit as far as possible from fluorescent lamps.

Electrical Requirements

Safety Precautions

1. Follow all electric safety regulations when installing the unit.
2. Use approved power supply, circuit and circuit breaker as required by local regulations.
3. Make sure the power supply matches with the requirement listed on the name-plate. Unstable power supply or incorrect wiring will cause malfunction. Use approved power supply cable.
4. Properly connect the live wire, neutral wire and grounding wire.
5. Turn off the power supply before performing any work related to electricity and safety.
6. Complete all installation requirements before connecting power supply.
7. If the power cord is damaged, it must be replaced by qualified personnel.
8. The refrigerant piping will be hot. Be sure to keep all cables away from copper tubing.
9. The appliance shall be installed in accordance with national wiring regulations.

Grounding Requirement

1. The air conditioner is a Class I electric appliance. It must be properly grounded with specialized grounding device by a professional, or it may cause electric shock.
2. The yellow-green wire in air conditioner can only be used as the grounding wire.
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 (1/8 in) in all poles should be connected in fixed wiring. For models with a power plug, make sure the outlet is within reach after installation.

Indoor Unit Installation

Step one: choosing installation location

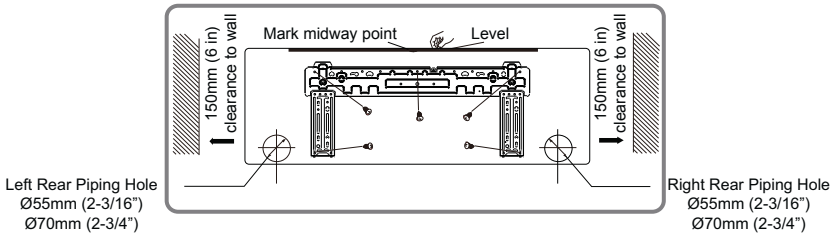
Consult with building owner on installation location, then confirm appropriateness before installing.

Step two: install wall-mounting frame

1. Hang the wall-mounting frame on the wall; make sure it is level. Mark the screw locations on the wall.
2. Drill holes in the wall for screws. Insert plastic expansion or anchor in the hole.
3. Attach the wall-mounting frame on the wall with tapping screws (ST4.2X25TA) and then check if the frame is firmly installed.

Step three: open piping hole

1. Select the location for the outlet pipe and make an opening in the wall. The position of piping hole should be a little lower than the wall-mounted frame, shown as below.

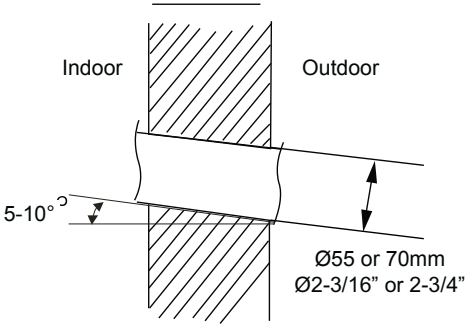


2. Open a piping hole with the diameter of 55mm (2-3/16 in) or 70mm (2-3/4 in) at the selected position. In order to drain smoothly, slope the piping hole on the wall slightly downward to the outdoor side with the gradient of 5-10°.

Indoor Unit Installation

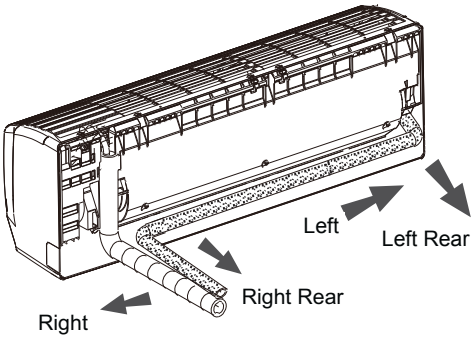
Note:

- Take all appropriate safety precautions when making pipe hole. Try to avoid creating as much dust as possible.
- The plastic expansion anchors are not provided and should be provided by installing contractor.

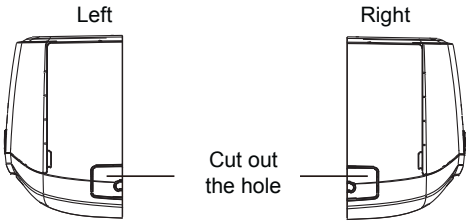


Step four: outlet pipe

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

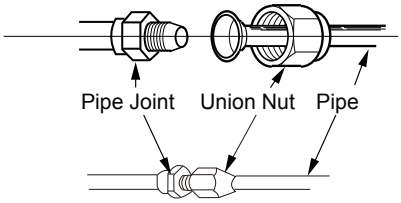


2. After selection position of outlet pipe (left or right), cut off the corresponding hole on bottom of case.

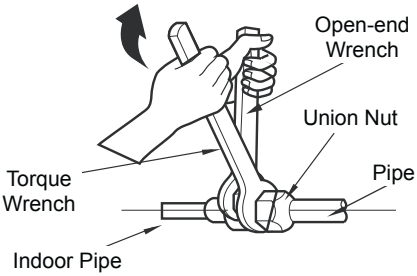


Step five: connect pipe to outdoor unit

1. Align the pipe joint at the corresponding valve.
2. Tighten the union nut by 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.

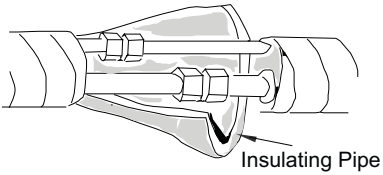


Indoor Unit Installation



Hex Nut Diameter	Tightening Torque (N-m)
Ø6mm (1/4 in)	15~20
Ø9.52mm (3/8 in)	30~40
Ø 12mm (1/2 in)	45~55
Ø16mm (5/8 in)	60~65
Ø19mm (3/4 in)	70~75

4. Wrap the indoor pipe and joint of connection pipe with insulating pipe, and then wrap it with tape.
5. If a 9k/12k/18k indoor unit is to be connected to a Flex Match outdoor unit, a transitional pipe joint (provided) should be added at the indoor unit pipe joint evaporator assembly. The pipe joints of evaporator assembly have a pipe diameter of Φ12/ Φ12/Φ16. Please refer back to step 1-4.

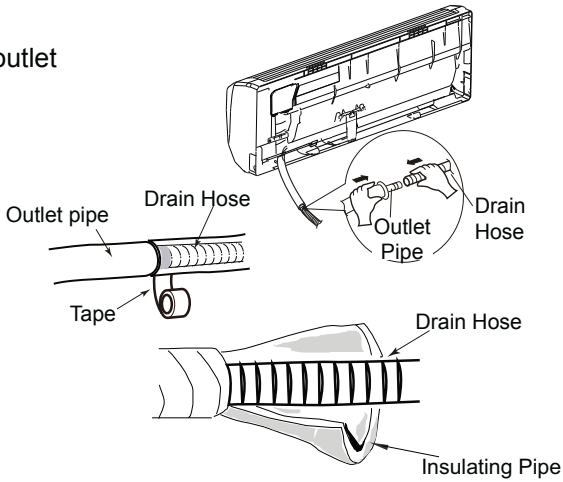


Step six: install drain hose

1. Connect the drain hose to the outlet pipe of indoor unit.
2. Secure the joint with tape.

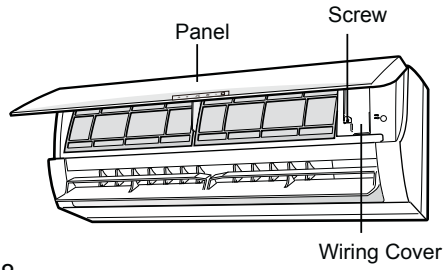
Note:

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



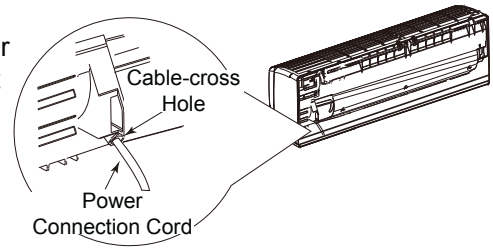
Step seven: connect wire of indoor unit

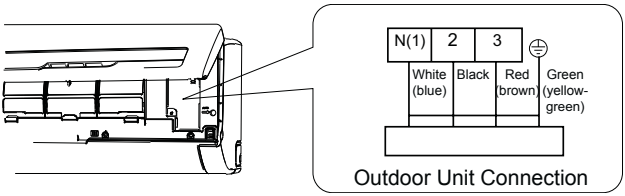
1. Open the panel, remove the screw on the wiring cover and then take down the cover.



Indoor Unit Installation

2. Lead the power wire 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 secure the power cable with the wire clip.
   After finishing the wiring clamp the grounding wire (yellow-green wire) into the groove (as shown in the photo below) to avoid pinching the wire when closing the electrical box cover.





4. Replace wiring cover and tighten the screw.
5. Close the panel.

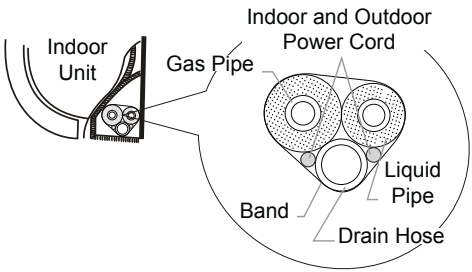
Note:

- All wires of indoor unit and outdoor unit should be connected by a professional.
- Only single unbroken electrical wires should be used. Spliced wires are not allowed.
- For air conditioner models with electrical plug, the outlet must be reachable after finishing installation.
- For air conditioner models without plug, a circuit breaker must be installed in the line. The circuit breaker should be all-pole parting and the contact parting distance should be more than 3mm (1/8 in).

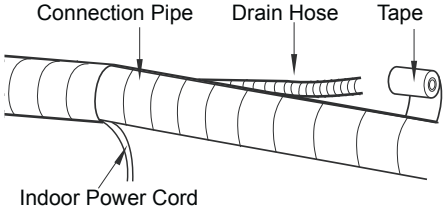
Indoor Unit Installation

Step eight: bind up pipe

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



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.



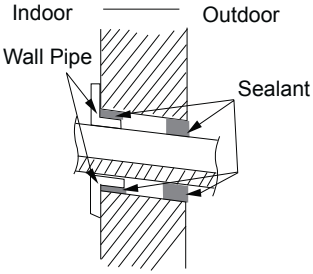
3. Bind them evenly.
4. The liquid pipe and gas pipe should be bound separately at the end.

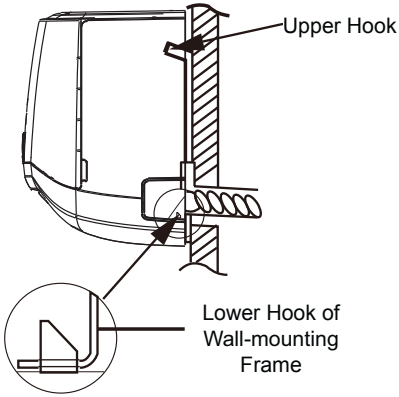
Note:

- 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 lead through the wall hole.
2. Hang the indoor unit on the wall-mounting frame.
3. Fill the gap between pipes and wall hole with sealer to prevent drafts.
4. Secure the wall pipe.
5. Check that the indoor unit is securely installed against the wall.



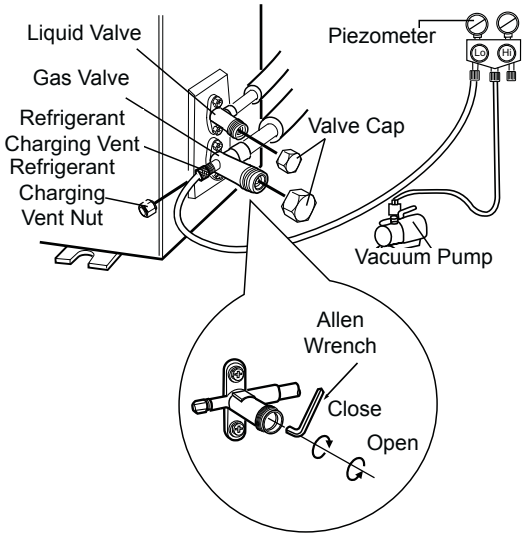


Note:

- Keep bends in drain line to a minimum number and degree to prevent blockage.

Vacuum Pumping

1. Remove the valve caps on the liquid valve and gas valve and the nut of refrigerant charging vent.
2. Connect the charging hose refrigerant charging of manifold gauge to the refrigerant charging vent of gas nut of refrigerant valve and then connect the other charging hose to the vacuum pump.
3. Open the manifold gauge completely and operate for 10-15 min to check if the pressure of manifold gauge remains at -0.1MPa.
4. Close the vacuum pump and maintain this status for 1-2 min to check if the pressure of manifold gauge remains at -0.1MPa. If the pressure decreases, there may be leakage.



5. Remove the manifold gauge, open the valve core of liquid valve and gas valve completely with hexagon wrench.
6. Tighten the screw caps of valves and refrigerant charging vent.
7. Reinstall the handle.

Leak Detection

1. With leakage detector:
   Check if there is leakage with leakage detector.
2. With soapy water:
   If leakage detector is not available, please use soapy water for leakage detection. Apply soapy water at the suspected leak location and keep it there for more than 3min. If you see air bubbles, there is a leak.

After Installation Checklist

• Check according to the following requirement after completing installation.

Items to check	Possible result
Has the unit been installed securely ?	The unit may fall, 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.
Will water easily drain?	It may cause condensation and water dripping.
Does the voltage match voltage marked on the nameplate?	It may cause malfunction or damage.
Is electric wiring and pipeline installed correctly?	It may cause malfunction or damage.
Is the unit grounded securely?	It may cause short circuit.
Does the power cord match the specification?	It may cause malfunction or damage
Is there any obstruction in the air inlet and outlet?	It may cause insufficient cooling (heating) capacity.
Is the dust and debris from installation removed?	It may cause malfunction or damage
Are the gas valve and liquid valve of connection pipe open completely?	It may cause insufficient cooling (heating) capacity.
Is the inlet and outlet of piping hole covered?	It may cause insufficient cooling (heating) capacity or drafts.

Test Operation

1. Before testing operation
   - The client approves the installation.
   - Explain operation and other important notes to client.
2. Testing method
   - Turn on 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 (61°F), the air conditioner can't start cooling

Connection Pipe Configuration

1. Standard length of connection pipe
   - 5m (16 ft), 7.5m (25 ft), 8m (26 ft).
2. Min. length of connection pipe is 3m (10 ft).
3. Maximum length of connection pipe and maximum height difference.

Cooling Capacity	Max length of connection pipe	Max height difference
5000Btu/h (1465W)	15M (50 ft)	5M (16 ft)
7000Btu/h (2051W)	15M (50 ft)	5M (16 ft)
9000Btu/h (2637W)	15M (50 ft)	5M (16 ft)
12000Btu/h (3516W)	20M (65 ft)	10M (33 ft)
18000Btu/h (5274W)	20M (65 ft)	10M (33 ft)

Cooling Capacity	Max length of connection pipe	Max height difference
24000Btu/h (7032W)	25M (65 ft)	10M (33 ft)
28000Btu/h (8204W)	30M (100 ft)	10M (33 ft)
36000Btu/h (10548W)	30M (100 ft)	20M (65 ft)
42000Btu/h (12306W)	30M (100 ft)	20M (65 ft)
48000Btu/h (14064W)	30M (100 ft)	20M (65 ft)

4. The additional refrigerant oil and refrigerant charging required after extending connection pipe
   - After the length of connection pipe is extended for 10m (33 ft) at the basis of standard length, you should add 5ml (3/16 oz) of refrigerant oil for each additional 5m (16 ft) of connection pipe.
   - The calculation method of additional refrigerant amount (on the basis of liquid pipe):
     Additional refrigerant amount = additional length of liquid pipe × additional refrigerant charging amount per foot.
   - Basing on the length of standard pipe, add refrigerant according to the requirement as shown in the table. The additional refrigerant charging amount per foot is different according to the diameter of liquid pipe. See the following table.

Connection Pipe Configuration

Additional refrigerant charging amount for R410A.

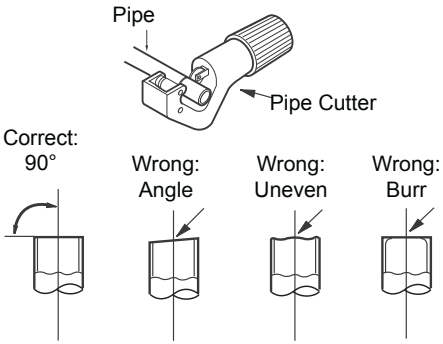
Diameter of connection pipe mm (in)		Outdoor unit throttle g/m (oz/ft)	
Liquid Pipe	Gas Pipe	Cooling Only	Cooling & Heating
Ø 6 (1/4)	Ø 9.52 or 12 (3/8 or 1/2)	15 (1/6)	20 (1/5)
Ø 6 or 9.52 (1/4 or 3/8)	Ø 16 or 19 (5/8 or 3/4)	15 (1/6)	50 (1/2)
Ø 12 (1/2)	Ø 19 or 22.2 (3/4 or 7/8)	30 (1/3)	120 (1-1/3)
Ø 16 (5/8)	Ø 25.4 or 31.8 (1 or 1-1/4)	60(2/3)	120 (1-1/3)
Ø 19 (3/4)	-	250 (2-2/3)	250 (2-2/3)
Ø 22.2 (7/8)	-	350 (3-3/4)	350 (3-3/4)

Pipe Expansion Method

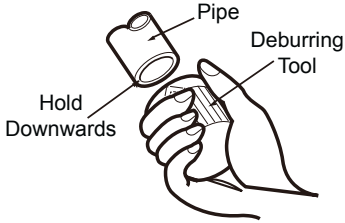
Note:

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 distance between the indoor and outdoor units.
- Cut the required length with pipe cutter.

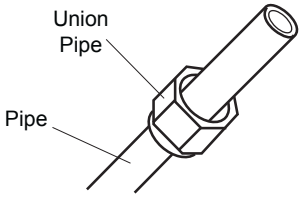


B. Remove the burrs
- Remove the burrs with deburring tool and prevent the burrs from getting into the pipe.

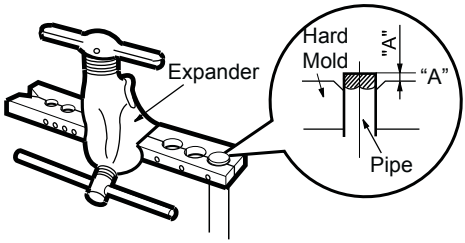


C. Put on suitable insulating pipe

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.



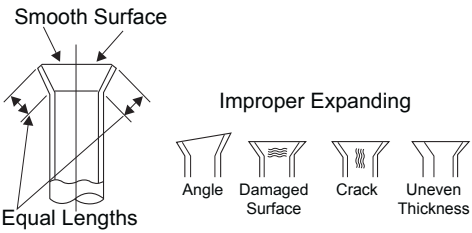
E. Expand the port
- Expand the port with expander.



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

Outer diameter mm (in)	A mm (in)	
	Max	Min
Ø6~6.35 (1/4)	1.3 (1/16)	0.7 (1/32)
Ø9.52 (3/8)	1.6 (1/16)	1.0 (1/16)
Ø12~12.7 (1/2)	1.8 (1/16)	1.0 (1/16)
Ø15.8~16 (5/8)	2.4 (3.32)	2.2 (3/32)

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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