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| Order No. | CWROM-1611-00575 | 작업자               | 연구실 담당자 |
| P/No.     | MFL67713839      | 서연 (055) 252-2906 | 정석환     |

개정일자 : 2016-6-1

- QA 요청사항: 1. 원고에 지시된 대로 작업한 후 이상없이 작업 되었는지 재차 검토 후 PDF 파일을 생성한다. 2. 작업완료 후 담당 연구원에게 수정부분에 대한 검증요청한다.
  - (\*\*\* 반드시 필요 의뢰자가 요청한 의도대로 작업이 정확히 되었는지 반드시 확인이 필요함)
  - 3. 아래 체크리스트에 따라 놓치기 쉬운 사항을 우선으로 한번 더 확인한다.

# \* 필수확인 - QA요구사항

| 작업원고와 수정내용이 일치하는가?<br>(실패사례:영어/비영어 수정사항 동일한지 확인할것.) | <b>×</b> બં |
|---|-------------|
| 언어표시띠의 위치(누락여부)는 바른가?                               | <b>×</b> 01 |
| 약물(기호)이 깨지거나 위치가 어긋 난 곳은 없는가?                       | <b>×</b> ભા |
| 그림이 가려지거나 잘려나간 곳은 없는가?                              | <b>×</b> બ  |
| 바코드와 P/No.가 일치하는가? (바코드 확인)                         | <b>×</b> 04 |
|   |             |

\*최종 확인후 본 체크리스트는 삭제됩니다.

# ENGLISH

LG

# INSTALLATION MANUAL AIR CONDITIONER

TYPE : WALL MOUNTED

## IMPORTANT SAFETY INSTRUCTIONS READ ALL INSTRUCTIONS BEFORE USING THE APPLI-ANCE.

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product.

# **WARNING**

It can result in serious injury or death when the directions are ignored.

# 

It can result in minor injury or product damage when the directions are ignored.

# **WARNING**

- Installation or repairs made by unqualified persons can result in hazards to you and others.
- Air conditioner Shall be installed in accordance with national wiring regulations.
- If the supply cord is damaged, it must be replaced by

the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

- The information contained in the manual is intended for use by a gualified service technician familiar with safety procedures and equipped with the proper tools and test instruments.
- Failure to carefully read and follow all instructions in this manual can result in equipment malfunction, property damage, personal injury and/or death.
- When the power cord is to be replaced, replacement work shall be performed by authorized personnel only using only genuine replacement parts.
- Air conditioner shall be disconnected from its power source during service and when replacing parts.

# Installation

• Always perform grounding.

- Otherwise, it may cause electrical shock. • Don't use a power cord, a plug or a loose socket which is damaged.

- Otherwise, it may cause a fire or electrical shock.

• For installation of the product, always contact the service center or a professional installation agency. - Otherwise, it may cause a fire, electrical shock, explosion or injury.

 Securely attach the electrical part cover to the indoor unit and the service panel to the outdoor unit.

- If the electrical part cover of the indoor unit and the service panel of the outdoor unit are not attached securely, it could result in a fire or electric shock due to dust, water, etc.

# P/No: MFL67713839

- Always install an air leakage breaker and a dedicated switching board.
- No installation may cause a fire and electrical shock. • Do not keep or use flammable gases or combustibles
- near the air conditioner. - Otherwise, it may cause a fire or the failure of product.
- Ensure that an installation frame of the outdoor unit is not damaged due to use for a long time. - It may cause injury or an accident.
- Do not disassemble or repair the product randomly. - It will cause a fire or electrical shock.
- Do not install the product at a place that there is concern of falling down.
- Otherwise, it may result in personal injury. • Use caution when unpacking and installing.
- Sharp edges may cause injury.
- Thickness of copper pipes used are as shown "Flaring work" Table.
- Never use copper pipes thinner than that in the table even when it is available on the market
- Do not use copper pipes having a collapsed.

- Otherwise, the expansion valve or capillary tube may become blocked with contaminants.

- For R410A model, use piping, flare nut and tools which is specified for R410A refrigerant.
- Using of (R22) piping, flare nut and tools may cause abnormally high pressure in the refrigerant cycle (piping), and possibly result in explosion and injury.
- It is desirable that the amount of residual oil less than 40 mg/10m.
- If air enters the refrigerant system, an excessively high pressure results, causing equipment damage or injury.
- Always check for gas (refrigerant) leakage after installation or repair of product. Low refrigerant levels may cause failure of product.
- Ensure that you grab the chassis when you lift the unit.
- If you lift the unit with the panel held, it may result in serious injury or product failure.
- Do not turn on the breaker or power under condition that front panel, cabinet, top cover, control box cover are removed or opened. Otherwise, it may cause fire, electric shock, explosion or death.
- Make the connections securely so that the outside force of the cable may not be applied to the terminals. - Inadequate connection and fastening may generate heat and cause a fire.
- After pump down, power must be turned off before removing the pipe.
- When operating this product without connecting the pipe, there will be high pressure inside the compressor due to the entry of air, possibly causing explosion or injury.

### Operation

- Do not share the outlet with other appliances. - It will cause an electric shock or a fire due to heat generation.
- Do not use the damaged power cord. - Otherwise, it may cause a fire or electrical shock.
- Do not modify or extend the power cable. - Scratches or peeling insulation on the power cables may result in fire or electric shock, and should be replaced.
- Take care so that the power cord may not be pulled during operation.
- Otherwise, it may cause a fire or electrical shock. • Unplug the unit if strange sounds, smell, or smoke
- comes from it. - Otherwise, it may cause electrical shock or a fire. • Keep the flames away.
- Otherwise, it may cause a fire.
- Take the power plug out if necessary, holding the head of the plug and do not touch it with wet hands. - Otherwise, it may cause a fire or electrical shock.
- Do not use the power cord near the heating tools. - Otherwise, it may cause a fire and electrical shock.
- Do not open the suction inlet of the indoor/outdoor unit during operation.
- Otherwise, it may electrical shock and failure. Do not allow water to run into electrical parts. - Otherwise, it may cause the failure of machine or
- electrical shock. Hold the plug by the head when taking it out.
- It may cause electric shock and damage.
- Never touch the metal parts of the unit when removing the filter.
- They are sharp and may cause injury.
- Do not step on the indoor/outdoor unit and do not put anything on it.
- It may cause an injury through dropping of the unit or falling down.
- Do not place a heavy object on the power cord. - Otherwise, it may cause a fire or electrical shock.
- When the product is submerged into water, always contact the service center.
- Otherwise, it may cause a fire or electrical shock.
- Take care so that children may not step on the outdoor unit.
- Otherwise, children may be seriously injured due to falling down.

# 

# Installation

**Fixing Installation Plate** 

igh to prevent vibration

The wall you select should be strong and solid

with type "A" screws. If mounting the unit

by aligning the centerline using Horizontal

1 Mount the installation plate on the wall

on a concrete wall, use anchor bolts. Mount the installation plate horizontally

2 Measure the wall and mark the centerline

ng the location of the installation plate

hrough the wall for piping co nust be done safely.

C Type : 418

C Type: 494 C Type: 504

Routing of the wiring to power outlets is through the walls typically. Drilling the hole

C Type : 418

It is also important to use caution concern

1

- Install the drain hose to ensure that drain can be securely done.
- Otherwise, it may cause water leakage.
- Install the product so that the noise or hot wind from the outdoor unit may not cause any damage to the neighbors.
- Otherwise, it may cause dispute with the neighbors. • Always inspect gas leakage after the installation and repair of product.
- Otherwise, it may cause the failure of product.
- Install at places where it can endure the weight and vibration/noise of the outdoor unit.

Drill a Hole in the Wall

Ð

outdoor side

Indoor

Flaring Work

the following procedure.

- Drill the piping hole with a ø65mm hole core

drill. Drill the piping hole at either the right or

Outdoor

the left with the hole slightly slanted to the

Main cause for gas leakage is due to defect of

flaring work. Carry out correct flaring work in

1 Use the piping kit accessory or the pipes purchased locally.

2 Measure the distance between the indoor and the outdoor unit.

3 Cut the pipes a little longer than measured

4 Cut the cable 1.5 m longer than the pipe

Ο

×

90° Slanted Uneven Rou **Ӭ**҇Ѣ҄ 🖞 🛱 🛱

Cut the pipes and the cable

- Keep level parallel in installing the product. - Otherwise, it may cause vibration or water leakage.
- Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced
- Do not install the product where it could be exposed to sea wind (salty wind) directly. -It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.
- If outdoor unit is installed close to the sea-side, it should avoid direct exposure to the sea wind. -Otherwise it needs additional anticorrosion treatment on the heat exchanger.
- Always install an earth leakage circuit breaker in a wet or moist area.
- The earth wire should be longer than the common wires.
- As for the method of wiring, be guided by the circuit diagram posted on the inside of control cover.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened.
- Confirm that electrical capacity is sufficient.
- The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separation of at least 3mm in each active (phase) conductors.
- Open the terminal cover block before connecting the

# indoor side wire.

• The indoor unit can be dropped from the wall, when the indoor unit is not screwed correct position on the install plate.

- To avoid nitrogen entering the refrigerant system in a liquid state, the top of the cylinder must be higher than its bottom when you pressurize the system.
- Inert gas (nitrogen) should be used when you check plumbing leaks, cleaning or repairs of pipes etc. - If you are using combustible gases including oxygen, product may have the risk of fires and explosions.

## Operation

art articles.

accident.

3 Pull back the tubing holder.

4 Remove pipe port cover and positioning

ndoor unit back side view Tubing holde

2

- Avoid excessive cooling and perform ventilation sometimes.
  - Otherwise, it may do harm to your health.
- Use a soft cloth to clean. Do not use wax, thinner, or a strong detergent.
- The appearance of the air conditioner may deteriorate, change color, or develop surface flaws. • Do not use an appliance for special purposes such as

preserving animals vegetables, precision machine, or

Do not place obstacles around the flow inlet or outlet.

- Otherwise, it may cause the failure of appliance or an

Good case

to the left side slowly.

Press on the tubing cover and unfold the

ward slowly

3

- Otherwise, it may damage your properties.

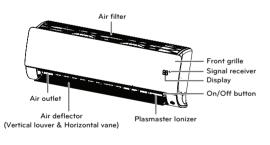
#### Symbols used in this Manual

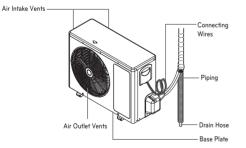
INTRODUCTION

This symbol alerts you to the risk of electric shock

- This symbol alerts you to hazards that may cause harm to the air conditioner.
- This symbol indicates special notes.

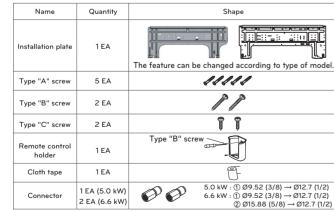
#### Features





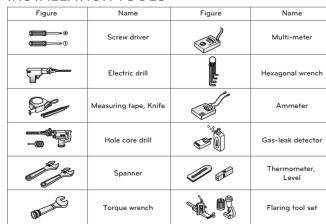
\* The feature can be changed according to type of model

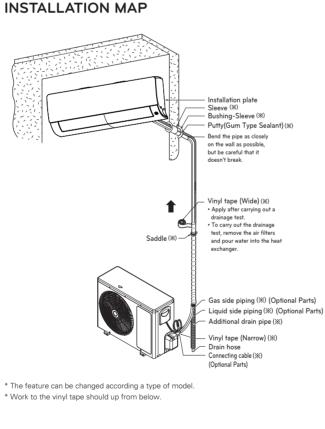
### **INSTALLATION PARTS**



Screws for fixing panels are attached to decoration pane When Indoor unit (5.0/6.6 kW) is connected to the Multi Outdoor unit, use the connector







• You should purchase the installation parts. (It can be changed according to market)

### INSTALLATION

- Make sure that condensation drainage can tly routed away

- Ensure that the interval between a wall and

possible on the wall, allowing a mir

- Use a metal detector to locate studs to pre-

nt unnecessary damage to the wal

the left (or right) of the unit is more than 100mm. The unit should be installed as high

he unit.

round of the unit.

- Do not install near a doorway.

of 200 mm from ceiling.

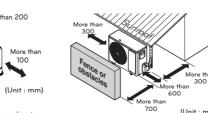
#### Select the best Location Outdoor unit

- If an awning is built over the unit to prevent - There should not be any heat or steam near direct sunlight or rain exposure, make sure that heat radiation from the condenser is not - Select a place where there are no obstacles restricted.

> Ensure that the space around the back and sides is more than 300 mm. The space in front of the unit should be more than 700 mm of space.

- Do not place animals and plants in the path of the warm air. Take the weight of the air conditioner into

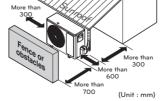
account and select a place where noise and vibration are minimum. Select a place where the warm air and noise from the air conditioner do not disturb



neiahbors.

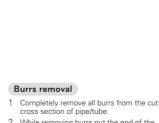
\* The feature can be changed according to type of model.

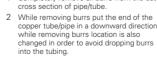
NOTE-The gap between the indoor unit and ceiling is needed more than 200 mm for disassemble the air filter.



\* The feature can be changed according to

5

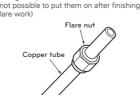








Putting nut on Remove flare nuts attached to indoor and outdoor unit, then put them on pipe/tube having completed burr remova

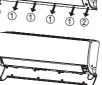




#### Flaring work

1 Firmly hold copper pipe in a bar with the dimension shown in below table 2 Carry out flaring work with the flaring tool

Outside diameter A Thickness inch mm mm Ø6.35 1/4 1.1~1.3 0.7 Ø9.52 3/8 1.5~1.7 0.8 Ø12.7 1/2 1.6~1.8 0.8 Ø15.88 5/8 1.6~1.8 1.0



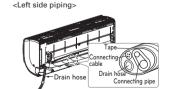
\* The feature can be changed according to type of mode Assembly of chassis cover 1 Insert 4 hooks of the chassis cover into gap of the chassis certainly \* The feature can be changed according to type of model. Bad case Following bending case from right to left directly may cause damage to the tubing. 2 Push the 6 point hook to assemble chassis cover. Push the chassis cover  $(1) \rightarrow (2)$ . \* The feature can be changed according to type of model NOTE-



Installation Information. For right piping. Follow the instruction above

#### Installation of Indoor Unit

Hook the indoor unit onto the upper por tion of the installation plate.( engage the three hooks at the top of the indoor unit with the upper edge of the installatio plate) Ensure that the hooks are prop seated on the installation plate by mo left and right





2 Unlock the tubing holder from the chassis and mount between the chassis and instal ation plate in order to separate the botton side of the indoor unit from the wal



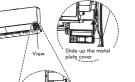
Piping



<Right side piping

\* The feature can be changed according to the type of model

 Insert the connecting cable through the bottom side of indoor unit and connect the cable (You can see detail contents in long setting the cabled long time) 'Connecting the cables' section) <Left side piping>



1(L) 2(N) 3(C)

with the cable retainer. Tape the tubing pipe, drain hose and the connection cable. Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause overflow from the drain pan through the inside of the unit.

2 Secure the cable onto the control board

Check

bv.

Smooth all round

1 Compare the flared work with the figure

2 If a flared section is defective, cut it off

NRRM

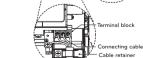
and do flaring work again

Connecting the Piping



7

<Right side piping>





## 2 When installing on the wall, roof or rooftop, anchor the mounting base secure-ly with a nail or wire assuming the influ-ence of wind and earthquake. 3 If the vibration of the unit is transmitted to the pipe, secure the unit with an anti-vibra

tion rubber

#### Evaluation of the performance

Tubing o

Operate the unit for 15~20 minutes, then check the system refrigerant charge:

- 1 Measure the pressure of the gas side service valve. 2 Measure the air temperature from inlet
- and outlet of air conditioner.
- 3 Ensure the difference between the inlet and outlet temperature is more than 8 °C. 4 For reference; the gas side pressure at optimum condition is shown on table (cooling)

The air conditioner is now ready to use.



\* The feature can be changed according a type of model

| u type (    | 51 11100001.             |  |
|-------------|--------------------------|--|
| Refrigerant | Outside ambient<br>TEMP. | The pressure of the<br>gas side service valve.     |
| R22         | 35 °C (95 °F)            | 4~5 kg/cm <sup>2</sup> G<br>(56.8~71.0 P.S.I.G.)   |
| R410A       | 35 °C (95 °F)            | 8.5~9.5 kg/cm <sup>2</sup> G<br>(120~135 P.S.I.G.) |

# shown, the system is most likely undercharged, and charge should be added.

### Pump Down

This is performed when the unit is relocated or the refrigerant circuit is serviced. Pump Down means collecting all refrigerant into the outdoor unit without the loss of refrigerant

## NOTE-

It may cause explosion or injury.

Pump Down Procedure

After pump down, power must be turned off before removing the pipe. When operating this product without connecting the pipe, there will be high

pressure insidce the compressor due to

the entry of air, possibly causing explosion

Connect a low-pressure gauge manifold hose to the charge port on the gas side service

Open the gas side service valve halfway and purge the air in the manifold hose using the

Turn on the unit's operating switch and start

- When the low-pressure gauge reading becomes 1 to 0.5 kg/cm<sup>2</sup> G(14.2 to 7.1 P.S.I.G.), fully close the gas side valve and

then quickly turn off the unit. Now Pump Down procedure is completed, and all refrig-

erant is collected into the outdoor unit

- Close the liquid side service valve(all the

in the cooling mode.

WARNING

or injury.

valve

refrigerant.

the cooling operation

1 Enter the Installer Code and set the code Be sure to perform Pump Down procedure

12

- - to the indoor unit.

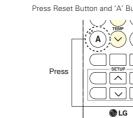
phone

with your smart phone.

Diagnosis of error information

phone.

#### \* How to enter the installer mode



| setup                                      | <ul> <li>Once the function is disable it v<br/>to its normal state.</li> </ul>  |
|--|---|
| the unit with no func-                     | <ul> <li>Code cannot be entered when<br/>operation mode. It must be OF<br/>enter code.</li> </ul>   |
| ode and set the code the code No.48 then,  | <ul> <li>Even if able to enter code in Of<br/>won't function if the code is no<br/>in OFF state.</li> </ul>   |
| os.<br>e unit.<br>wer to the unit after 30 | <ul> <li>At Heating Only Mode, if the pr<br/>gets turned off while the wirele<br/>remote control is set at other th<br/>ing / blowing, the product will n<br/>turned back on. Turn off the pro-<br/>the wireless remote control is s</li> </ul> |
| aller mode                                 | heating / blowing and then turn   |
| nd 'A' Button ( 🔿 )                        |   |
|  |   |

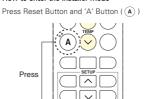
screen of LG AC Smart Diagnosis App on your smart phone.

3 Press 🕑 and hold your smart phone close to the indoor unit.

4 Receive the buzzer beeps from indoor unit with your smart phone.

#### 5 The diagnosis of operating information will be displayed on the screen of your smart

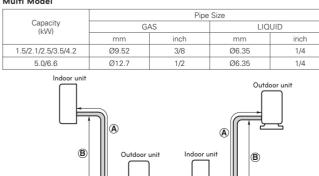
- Be sure to keep ambient noise to a mini-mum or the smart phone may not cor-rectly receive the buzzer beeps from the indexr unit. indoor unit.
- Initialization of diagnosis data may take approximately 1 minute after supplying the AC power .
- The code No. 58 is used for confirming



|                  | Pipe Size                   |       |             | Standard       | Max.          | Max.   |    |                                   |
|------------------|-----------------------------|-------|-------------|----------------|---------------|--------|----|-----------------------------------|
| Capacity<br>(kW) | GA                          | AS    | LIQ         | UID            | Length Length | Length |    | Additional Re-<br>frigerant (g/m) |
| ((()))           | mm inch mm inch (m) (A) (m) | (m) ( | (m) (B) (m) | ingerant (g/m/ |               |        |    |                                   |
| 2.5/3.5          | Ø9.52                       | 3/8   | Ø6.35       | 1/4            | 7.5           | 20     | 10 | 20                                |
| 5.0              | Ø12.7                       | 1/2   | Ø6.35       | 1/4            | 7.5           | 20     | 10 | 20                                |
| 6.6              | Ø15.88                      | 5/8   | Ø6.35       | 1/4            | 7.5           | 30     | 15 | 30                                |

\* During the installation and binding of Multi model, refer to Multi outdoor unit installation manual

#### Multi Model



#### CAUTION

Capacity is based on standard length and maximum allowable length is on the basis of reliability, Additional refrigerant must be charged after 12.5 m (2.5/3.5 kW Model) / 7.5 m (5.0/6.6 kW Model)

#### Operation ranges

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The table below indicates the temperature ranges the air conditioner can be Operated within.

| Capacity   | Mode    | Indoor temperature | Outdoor temperature |
|------------|---------|--------------------|---------------------|
|            | Cooling | 18 °C ~ 32 °C      | -15 °C ~ 48 °C      |
| 2.5/3.5 kW | Heating | 16 °C ~ 30 °C      | -15 °C ~ 24 °C      |
| 5.0/6.6 kW | Cooling | 18 °C ~ 32 °C      | -15 °C ~ 48 °C      |
|            | Heating | 16 °C ~ 30 °C      | -10 °C ~ 24 °C      |

#### 14

3 Push down hooks to a mble the air filter E 4 Check side of the front grille for the air filter assembled correctly. NOTE -If the air filter is not assembled correctly, Dust

#### and other substance come into the indoor unit If look at the indoor unit from higher than it, can assemble the air filter easily.

If tubing length is

longer than 10 m

(33 ft)

11

# Precautions about installation in regions with extreme snowfall and cold temper-

To ensure the outdoor unit operates properly, certain measures are required in locations where there is a possibility of heavy snowfall or severe wind chill or cold :

- 1 Prepare for severe winter wind chills and heavy snowfall, even in areas of the country where these
- 2 Position the outdoor unit so that its airflow fans are not buried by direct, heavy snowfall. If snow piles up and blocks the airflow, the system may malfunction
- 3 Remove any snow that has accumulated 100 mm or more on the top of the outdoor unit.
- 4 Place the outdoor unit on a raised platform at least 500 mm higher than the aver- age annual snowfall for the area. If the frame width is wider than the outdoor unit, snow may accumulate.
- 5 Install a snow protection hood.
- 6 To prevent snow and heavy rain from entering the outdoor unit, install the suction and dis- charge ducts facing away from direct winds.
- 7 Additionally, the following conditions should be taken into consideration when the unit operates in defrost mode
- If the outdoor unit is installed in a highly humid environment (near an ocean, lake, etc.), en-sure that the site is well-ventilated and has a lot of natural light. (Example: Install on a rooftop.)

### TIPS FOR SAVING ENERGY

Here are some tips that will help you minimize the power consumption when you use the air conditioner. You can use your air conditioner more efficiently by referring to the instructions below:

- Do not cool excessively indoors. This may be harmful for your health and may consume more electricity.
- Block sunlight with blinds or curtains while you are operating the air conditioner.
  Keep doors or windows closed tightly while you are operating the air conditioner
- · Adjust the direction of the air flow vertically or horizontally to circulate indoor air
- Speed up the fan to cool or warm indoor air quickly, in a short period of time.
- Open windows regularly for ventilation as the indoor air guality may deteriorate if the air conditioner is used for many hours.
- Clean the air filter once every 2 weeks. Dust and impurities collected in the air filter may block the air flow or weaken the cooling / dehumidifying functions.

#### For your records

Staple your receipt to this page in case you need it to prove the date of purchase or for warranty purposes. Write the model number and the serial number here

Model number Serial number

You can find them on a label on the side of each unit

Dealer's name : Date of purchase :

The code No. 57 is used for confirming the diagnosis data which is updated on while the indoor unit is operating

- the diagnosis data which is the occurred time of Error Code.
- 2 Click the "Receive" button on the main screen of LG AC Smart Diagnosis App on your smart phone.

- 5 The diagnosis of operating information will be displayed on the screen of your smart
- 3 Press 🕐 and hold your smart phone close
- 4 Receive the buzzer beeps from indoor unit