LG
Life's Good

OWNER'S MANUAL

AIR-TO-WATER HEAT PUMP

Please read this manual carefully before operating
your set and retain it for future reference.

THERMA V™

Original instruction
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www.lg.com

P/NO : MFL68680905

TABLE OF CONTENTS

FOR YOUR RECORDS

Write the model and serial numbers here:

Model #

Serial #

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

Installer's Name

Purchased Date

■ Staple your receipt to this page in the event you need it to prove date of purchase or for warranty issues.

READ THIS MANUAL

Inside you will find many helpful hints on how to use and maintain your AWHP properly. Just a little preventive care on your part can save you a great deal of time and money over the life of your product.

You'll find many answers to common problems in the chart of troubleshooting tips. If you review our chart of

Troubleshooting Tips first, you may not need to call for service at all.

⚠ PRECAUTION

· **Contact the authorized service technician for repair or maintenance of this unit.**

· **Contact the installer for installation of this unit.**

· **AWHP is not intended for use by young children or invalids without supervision.**

· **Young children should be supervised to ensure that they do not play with AWHP.**

· **When the power cable is to be replaced, replacement work shall be performed by authorized personnel only using only genuine replacement parts.**

· **Installation work must be performed in accordance with the National Electric Code by qualified and authorized personnel only.**
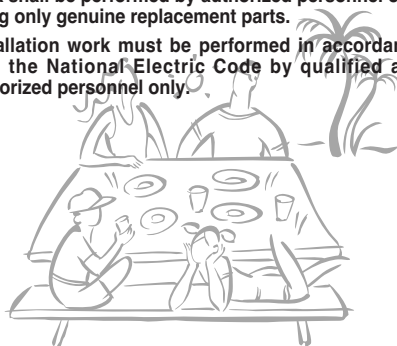
Safety Precautions

To prevent injury to the user or other people and property damage, the following instructions must be followed.
■ Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠**WARNING**   This symbol indicates the possibility of death or serious injury.

⚠**CAUTION**   This symbol indicates the possibility of injury or damage.

⚠**WARNING**

• Always ground the product.
  - There is a risk of electric shock.

• Do not use a defective or underrated circuit breaker. Use the correctly rated breaker and fuse.
  - There is risk of fire or electric shock.

• Do not use a multi outlet. Always use this appliance on a dedicated circuit and breaker.
  - There is risk of fire or electric shock.

• For electrical work, contact the dealer, seller, a qualified electrician, or an Authorized Service Center. Do not disassemble or repair the product by yourself.
  - There is risk of fire or electric shock.

• Always ground the product as per the wiring diagram. Do not connect the ground wire to gas or water pipes lightening rod or telephone ground wire.
  - There is risk of fire or electric shock.

• Install the panel and the cover of control box securely.
  - There is risk of fire or electric shock due to dust, water etc.

• Use the correctly rated breaker or fuse.
  - There is risk of fire or electric shock.

• Do not modify or extend the power cable. If the power cable or cord has scratches or skin peeled off or deteriorated then it must be replaced.
  - There is risk of fire or electric shock.

• For installation, removal or reinstall , always contact the dealer or an Authorized Service Center.
  - There is risk of fire, electric shock, explosion, or injury.

- Do not install the product on a defective installation stand. Be sure that the installation area does not deteriorate with age.
  - It may cause product to fall.
- Never install the unit on a moving base or a place from where it can fall down.
  - The falling unit can cause damage or injury or even death of a person.
- When the product is soaked (flooded or submerged) in water, contact an Authorized Service Center for repair before using it again.
  - There is risk of fire or electric shock.
- Be sure to check the refrigerant to be used. Please read the label on the product.
  - Incorrect refrigerant can prevent the normal operation of the unit.
- Don't use a power cord, a plug or a loose socket which is damaged.
  - Otherwise it may cause a fire or electrical shock.
- Do not touch , operate, or repair the product with wet hands.
  - There is risk of electric shock or fire.
- Do not place a heater or other heating appliances near the power cable.
  - There is risk of fire and electric shock.
- Do not allow water to run into electric parts. Install the unit away from water sources.
  - There is risk of fire, failure of the product, or electric shock.
- Do not store or use or even allow flammable gas or combustibles near the product.
  - There is risk of fire.
- Wiring connections must be secured tightly and the cable should be routed properly so that there is no force pulling the cable from the connection terminals.
  - Improper or loose connections can cause heat generation or fire.
- Safely dispose off the packing materials. Like screws, nails, batteries, broken things etc after installation or service and then tear away and throw away the plastic packaging bags.
  - Children may play with them and cause injury.
- Make sure to check that the power device is not dirty, loose or broken and then turn on the power.
  - Dirty, loose or broken power device can cause electric shock or fire.
- In unit the step-up capacitor supplies high voltage electricity to the electrical components. Be sure to discharge the capacitor completely before conducting the repair work.
  - An charged capacitor can cause electrical shock.

• When installing the unit, use the installation kit provided with the product.
  - Otherwise the unit may fall and cause severe injury.

• Be sure to use only those parts which are listed in the service parts list.
  Never attempt to modify the equipment.
  - The use of inappropriate parts can cause an electrical shock, excessive
    heat generation or fire.

• Do not use the product in a tightly closed space for a long time. Perform
  ventilation regularly.
  - Oxygen deficiency could occur and hence harm your health.

• Do not open the front cover or grille of the product during operation.
  (Do not touch the electrostatic filter, if the unit is so equipped.)
  - There is risk of physical injury, electric shock, or product failure.

• If strange sounds, smell or smoke comes from product, immediately turn the
  breaker off or disconnect the power supply cable.
  - There is risk of electric shock or fire.

• Ventilate the product room from time to time when operating it together with
  a stove, or heating element etc.
  - Oxygen deficiency can occur and hence harm your health.

• Turn the main power off when cleaning or repairing the product.
  - There is risk of electric shock.

• Take care to ensure that nobody especially kids could step on or fall onto
  the unit.
  - This could result in personal injury and product damage.

• Take care to ensure that power cable could not be pulled out or damaged
  during operation.
  - Almost the antifreeze is a toxic product.

• Do not touch any electric part with wet hands. you should be cut power
  before touching electric part.
  - There is risk of electric shock or fire.

• Do not touch refrigerant pipe and water pipe or any internal parts while the
  unit is operating or immediately after operation.
  - There is risk of burns or frostbite, personal injury.

• If you touch the pipe or internal parts, you should be wear protection or wait
  time to return to normal temperature.
  - Otherwise , it may cause burns or frostbite, personal injury.

• Do not touch leaked refrigerant directly.
  - There is risk of frostbite.

• Make sure to install mixing valve (field supply). The mixing valve is setting the water temperature. The hot water temperature maximum values shall be selected according to the applicable legislation.

• Do not heated to a temperature of more than provided by the product.
 - Otherwise, it may cause fire or damage of product.

⚠CAUTION

• Two or more people must lift and transport the product.
  - Avoid personal injury.

• Do not install the product where it will be exposed to sea wind (salt spray) directly.
  - It may cause corrosion on the product.

• Keep level even when installing the product.
  - To avoid vibration or noise.

• Do not install the product where the noise or hot air from the unit could damage or disturb the neighborhoods.
  - It may cause a problem for your neighbors and hence dispute.

• Always check for gas (refrigerant) leakage after installation or repair of product.
  - Low refrigerant levels may cause failure of product.

• Do not use the product for special purposes, such as preserving foods, works of art, etc. It is a consumer AWHP, not a precision refrigeration system.
  - There is risk of damage or loss of property.

• Do not block the inlet or outlet of air flow.
  - It may cause product failure.

• Use a soft cloth to clean. Do not use harsh detergents, solvents or splashing water etc.
  - There is risk of fire, electric shock, or damage to the plastic parts of the product.

• Do not step on or put anyting on the product.
  - There is risk of personal injury and failure of product.

• Do not insert hands or other objects through the air inlet or outlet while the product is operating.
  - There are sharp and moving parts that could cause personal injury.

• Be cautious when unpacking and installing the product.
  - Sharp edges could cause injury.

• If the refrigerant gas leaks during the repair, do not touch the leakaing refrigerant gas.
  - The refrigernat gas can cause frostbite (cold burn).

• Do not tilt the unit when removing or uninstalling it.
  - The condensed water inside can spill.

• Do not mix air or gas other than the specified refrigerant used in the system.
  - If air enters the refrigerant system, an excessively high pressure results, causing equipment damage or injury.

• If the refrigerant gas leaks during the installation, ventilate the area immediately.
  - Otherwise it can be harmfull for your health.

• Dismantling the unit, treatment of the refrigerant oil and eventual parts should be done in accordance with local and national standards.

• Do not expose your skin or kids or plants to the cool or hot air draft.
  - This could harm to your health.

• Use a firm stool or ladder when cleaning, maintaining or repairing the product at an height.
  - Be careful and avoid personal injury.

• The hot water may not be available immediately, during disinfection operation or depending on the amount of hot water.

• During floor heating operation it is important to limit the minimum/maximum water temperature.

Product Introduction

Typical Installation Scene

Water Out

Water In
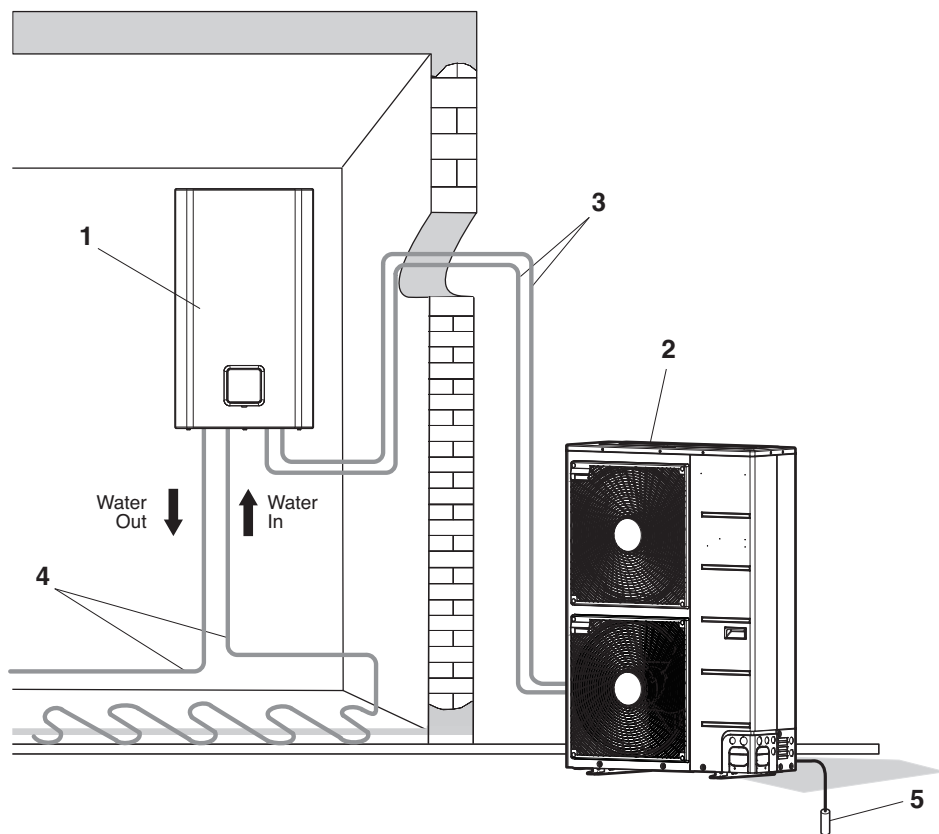
1. Indoor unit

2. Outdoor unit

3. Refrigerant pipe and connecting cable

4. Water pipe

5. Ground wire to ground outdoor unit to prevent electrical shocks.

*The shape of products can be chaged according to the model capacity and type.

Remote Controller

Operation display window

Back button

Up/Down/Left/Right Button

On/Off Button
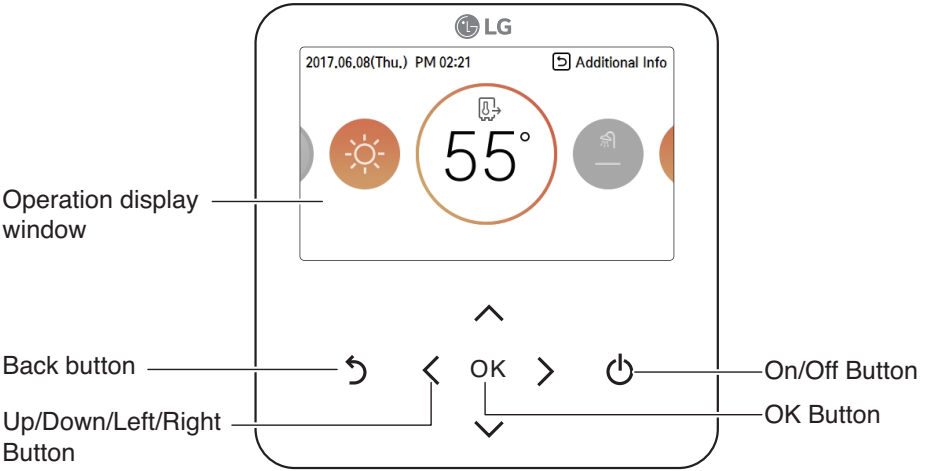
OK Button

Operation display window	Operation and Settings status display
Back button	When you move to the previous stage from the menu's setting stage
Up/down/left/right button	When you change the menu's setting value
OK button	When you save the menu's setting value
On/Off button	When you turn ON/OFF the air conditioner

Operation Setting

Operation mode

You can easily control the desired operation mode.
In the main screen, press [<, > (left/right)] button to select the operation mode or home leave or hold category, and press [∧ , ∨ (up/down)] button to set the operation mode.
※ Some products may not support some operation modes.

| Mode	Description
Cool	The product yields cool water to use in FCU cooling.
Heat	The product yields hot water to use in under floor heating or FCU heating.
AI / Auto	In this mode, heating setpoint is automatically determined by pre-defined temperature profile.

AI / Auto operation

This mode is only applied to heating.
In order to save energy and to give highest comfort, setting temperature will follow outside temperature. If outdoor temperature decreases, heating capacity for the house will increase automatically in order to keep same room temperature. All parameters will be set by installer during start-up procedure and will be adapted to the site characteristic.

1. Select AI / Auto mode.
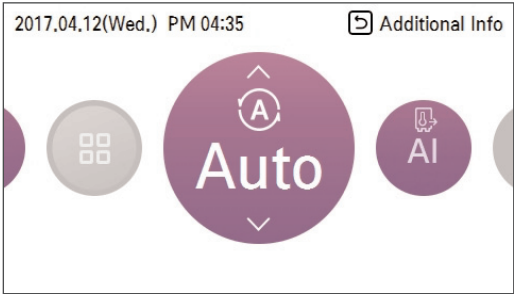
2. Select the desired temperature category
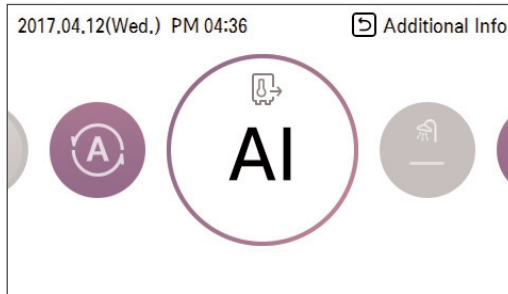
3. Adjust the desired temperature level by press [∧ , ∨ (up/down)] button.

❄ Note
Decreasing temperature profile by 3°C (based on room air temperature)
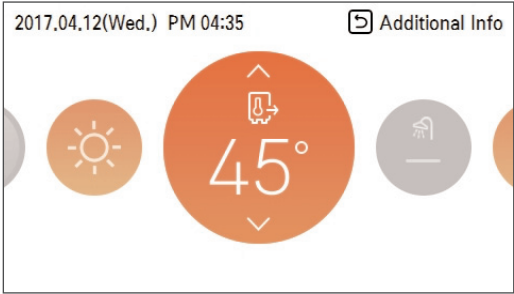<Temperature adjust step (unit : °C)>
-5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5
← Cold   Hot →

Temperature Setting

You can easily control to the desired temperature.

• In the main screen, press [<, > (left/right)] button to select the desired temperature category, and press [∧ , ∨ (up/down)] button to set the desired temperature.

 - In the cooling, heating, and AI/auto mode, the desired temperature control is possible.

Mode	Description
Room temperature	Room temperature setting is available when remote room air sensor (sold separately) is installed
Leaving water temperature	If the desired temperature is lower than the water temperature, the heating is not performed. Set the desired temperature higher than the water temperature.
DHW tank temperature	DHW tank temperature setting is available when DHW tank is installed.

DHW Heating Operation

Funtion to set whether or not to use a installed DHW tank
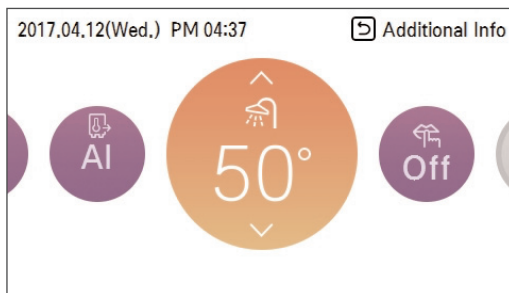
<Note>
• This function is not used when the DHW tank is not installed.
• If you want to know more information, refer function on installation information section.

Quick DHW Tank Heating

If there is urgent DHW heating demand, Quick DHW Tank Heating mode can be used to reduce the time to reach target DHW tank temperature by forcibly turning on DHW tank heater.
After reaching target DHW tank temperature or by user's input to stop, Quick DHW Tank Heating mode will be finished.

1. Press down [Back] button for a second focused on DHW Heating Operation.
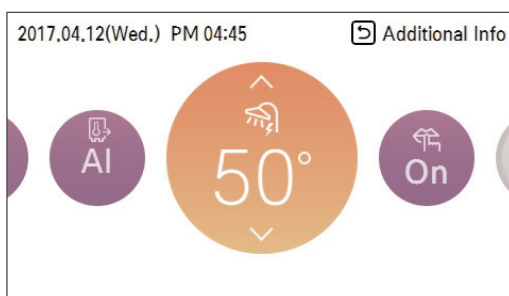
View Temperature

You can check the current temperature.
• In the main screen, you can enter the monitoring screen by pressing [Back] button.
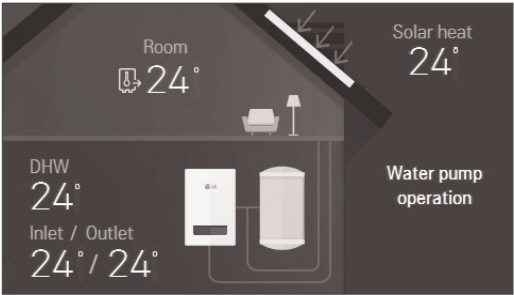

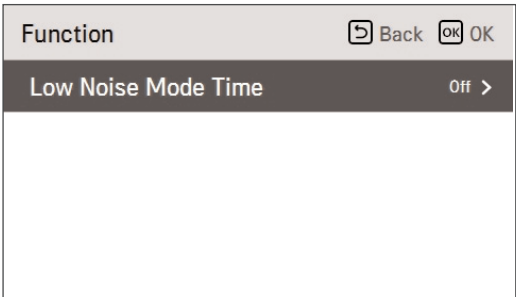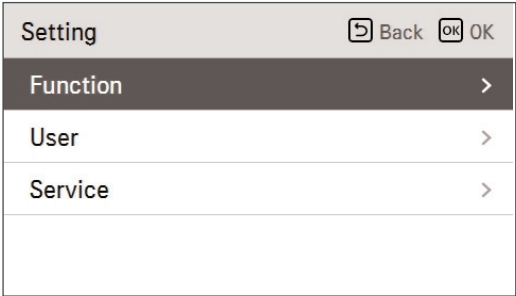| Mode	Description
Room temperature	View room temperature
Inlet temperature	View inlet temperature
Outlet temperature	View outlet temperature
DHW temperature	View DHW temperature (Only displayed when DHW heating mode)
Solar heat temperature	View solar power temperature (Only displayed when DHW water heating mode)

Low Noise mode

Low Noise mode is that the unit works at reduced capacity so that the noise produced by the unit drops.
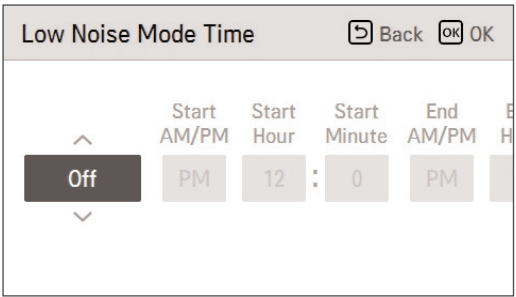
1. In the menu screen, press [<, > (left/right)] button to select "setting" category, and press [OK] button to move to the setting list screen.

OK
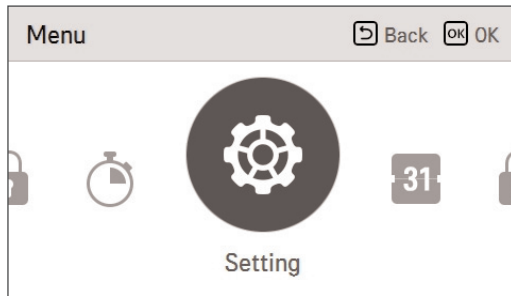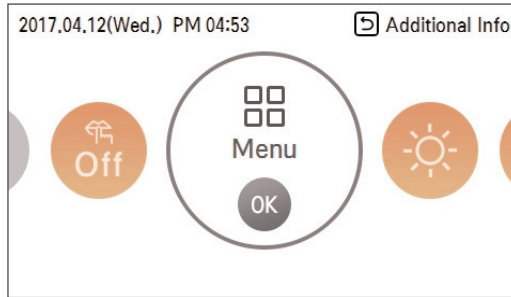
2. In the setting list, if you press [∧ , ∨ (up/down)] button, you can turn on/off Low Noise Mode.

Setting	⤺ Back OK OK
Function	>
User	>
Service	>

⬇ OK

Function	⤺ Back OK OK
Low Noise Mode Time	Off >

3. Press [<, > (left/right)] button to select the parts and press [∧ , ∨ (up/down)] button to adjust the time

| Low Noise Mode Time				⤺ Back OK OK	
	Start AM/PM	Start Hour	Start Minute	End AM/PM	E H
∧ Off ∨	PM	12 :	0	PM	

🛇 **This implies that the heating and cooling capacity will also drop. Beware of this when a certain level of heating or cooling is required.**

🛇 **Low Noise mode operation may not work while the product is proceeding higher priority operation such as defrost operation, anti-freezing operation, and etc.**

Lock Setting

Lock setting – all, on/off, mode, DHW lock

· It is the function to lock the button operation of the remote controller so that children or other persons cannot use it without permission.
· It is the function to limit the desired temperature range that can be set in the wired remote controller.

1. In the menu screen, press [<, > (left/right)] button to select "lock setting" category, and press [OK] button to move to the lock setting list screen.
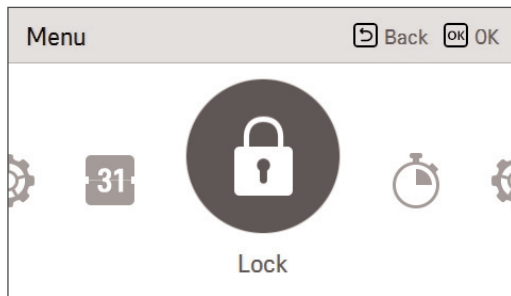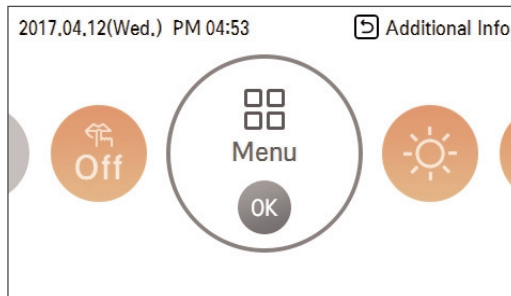
2. In the lock setting list, if you press [∧ , ∨ (up/down)] button, you can turn on/off the corresponding lock function.

Lock	↩ Back [OK] OK
All Lock	‹ Release ›
On/Off Lock	‹ Release ›
Mode Lock	‹ Release ›
DHW Lock	‹ Release ›

Mode	Description
All lock	It locks all button operation of the remote controller.
On/Off lock	It locks the On/Off button operation of the remote controller.
DHW lock	It locks the DHW On/Off button operation of the remote controller.
Mode lock	It locks the operation mode button operation of the remote controller.

Date setting

Set the date displayed on the remote controller.

· In the user setting list, select the date category, and press [OK] button to move to the detail screen.

· After the setting, if you press [OK] button, the setting is saved and moves to the previous screen.

User	⤺ Back OK OK
External Device	>
Date	2016.5.18(Wed.) >
Time	PM 02:02 >
Summer Time	Off >
Password	Off >

OK

Date	⤺ Back OK OK

	Month	Day
∧		
2016	5	18
∨		

Timer Setting

Set the time displayed on the remote controller.

• In the user setting list, select the time category, and press [OK] button to move to the detail screen.

• After the setting, if you press [OK] button, the setting is saved and moves to the previous screen.

User	⮌ Back OK OK
External Device	⟩
Date	2016.5.18(Wed.) ⟩
Time	PM 02:04 ⟩
Summer Time	Off ⟩
Password	Off ⟩

⬇ OK

Time	⮌ Back OK OK

⌃ Hour Minute

PM 2 : 5

⌄

Simple timer

You can easily set the timer in the range of 1~7 hours in the units of 1 hour.

Timer	⤺ Back	OK OK
Simple Timer		Off >
Sleep Timer		Off >
Turn-Off Reservation		Off >
Turn-On Reservation		Off >

⬇ OK

Simple Timer	⤺ Back	OK OK

⌃
1 hours, left to stop. ▶ Start
⌄

❊ Note
If the product operation is On, the easy timer turns off the operation after the corresponding time.
If the product operation is Off, the easy timer turns on the operation after the corresponding time.
If the easy timer operation is turned On/Off before the timer operation, the set timer will be cleared.

Sleep timer

Sleep timer is the function to operate the air conditioner in sleep mode before going to sleep for certain hours and stop the operation.

Timer	⤺ Back OK OK
Simple Timer	Off >
Sleep Timer	Off >
Turn-Off Reservation	Off >
Turn-On Reservation	Off >

⬇ OK

Sleep Timer	⤺ Back OK OK

∧
1   hours, left to stop.   ▶ Start
∨

❋ Note
You can set the sleep timer while the product is in operation.
If the sleep timer operation is turned On before the timer operation, the set timer will be cleared.

Turn-off Reservation

The product is automatically turned Off at the set timer time.

Timer	⮌ Back	OK OK
Simple Timer		Off ›
Sleep Timer		Off ›
Turn-Off Reservation		**Off** ›
Turn-On Reservation		Off ›

OK

Turn-Off Reservation	⮌ Back	OK OK

	Hour	Minute	
∧			
AM	1 :	0	▶ Start
∨			

❋ Note
Even if the Turn-off Reservation operation is turned On/Off after the setting and before the timer operation, the set timer is not cleared.

Turn-on Reservation

The product is automatically turned On at the set timer time.

Timer	↩ Back OK OK
Simple Timer	Off >
Sleep Timer	Off >
Turn-Off Reservation	Off >
Turn-On Reservation	**Off >**

⬇ OK

Turn-On Reservation	↩ Back OK OK

	Hour	Minute	
∧			
AM	1 : 0		▶ Start
∨			

❈ Note
Even if the Turn-on Reseravation operation is turned On/Off after the setting and before the timer operation, the set timer is not cleared.

Schedule Setting

How to enter schedule

· In the menu screen, press [<, >(left/right)] button so select the schedule category, and press [OK] button to move to the schedule setting list screen.
· In the schedule setting list screen, press [∧ , ∨ (up/down)] button to select the menu to set, and press [OK] button to move to the detail screen.

2017.04.12(Wed.) PM 04:53   ⤺ Additional Info

    Off   □□
               □□
              Menu
              (OK)

OK ⬇

Menu   ⤺ Back OK OK

              31
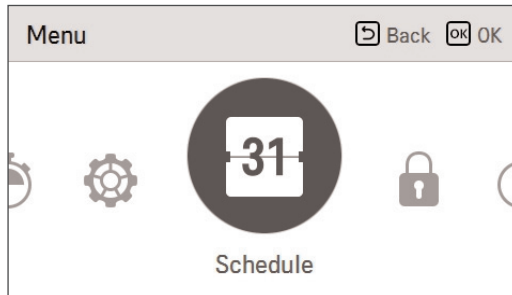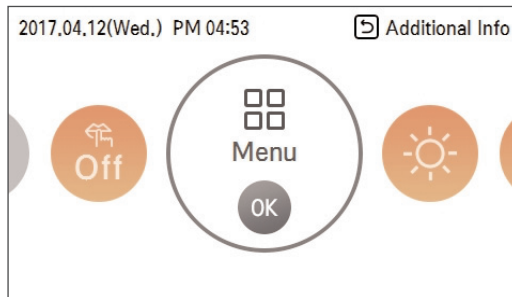
            Schedule

Daily Schedule

It is the function that can check the status of the timer (schedule) saved in the remote controller.
· In the schedule list, select the daily schedule status category, and press [OK] button to move to the detail daily schedule status screen.
· You can use the remote controller's [<, > (left/right)] button to check the timer information of other dates.
· You can use the remote controller's [∧ , ∨ (up/down)] button to check the corresponding date's other timer information.
· Select the timer information, and press [OK] button to move to the corresponding timer's edit screen.

Schedules & Edit

It is the function that can check the status of the timer (schedule) saved in the remote controller.
· In the schedule list, select the daily schedule status category, and press [OK] button to move to the daily schedule status detail screen.
· You can use the remote controller's [<, > (left/right)] button to check other date's timer information.
· You can edit the saved schedule's timer information.
  - Select the schedule to edit using [∧, ∨ (up/down)] button, and press [OK] button to move to the edit screen.
· Select the timer information, and press [OK] button to move to the corresponding timer's edit screen.

Schedules & Edit – Add schedule

Description of each stage in Add schedule
In 'Stage 1', it sets the period to perform the timer.
In 'Stage 2', it sets the day of week to perform the timer.
- You can select 'Everyday / Weekend / Weekdays / Individual selection'.
  In 'Stage 3', it sets the start time for the timer.
  In 'Stage 4', it sets the timer operation information.
- If 'Stop' is selected, you cannot set the mode / temperature / fan speed.
  When stages 1~4 are completed, along with the message of 'schedule is added', it moves to View and edit schedule screen.

Exception day

It is the function to automatically stop the operation on the set timer day.
· In the schedule list, select the exception day category, and press [OK] button to move to the Exception day designation detail screen.
· In the exception day, you can check, and add/change/delete the exception day information saved in the remote controller.
  - To add an exception day, in the Exception day registration detail screen, designate year/month/day, and press [OK] button to save the Exception day.
  - Select the Exception day to edit using [∧, ∨ (up/down)] button, and press [OK] button to move to the edit screen.
  - In the exception day edit screen, you can check, delete/change the corresponding exception day's setting contents.
  - When you change the exception day information, you need to save it after the change.

DHW Tank Heating & DHW Tank Heater Operation

This function is schedule programming about DHW tank heating and DHW tank heater operation.
Two schedule programming for DHW tank heating and another Two schedule programming for DHW tank heater operation are possible.

Using Thermostat

The term "thermostat", which is widely used in this chapter, is a kind of 3rd party accessory.
LG Electronics does not supply thermostat and it should be supplied 3rd party manufacturers.
Room thermostat can be used for easy and convenience control. To utilize thermostat more efficiently and correctly, this chapter presents information about using thermostat.

⚠CAUTION

1. Some electro-mechanical type thermostat has internal delay time to protect compressor. In that case, mode change can takes time more than user's expectation. Please read thermostat manual carefully if the product does not response quickly.
2. Setting temperature range by thermostat can be different with that of the product. The heating or cooling set temperature should be chosen within the setting temperature range of the product.

How to use Thermostat

To find how to turn on and off, how to set target temperature, how to change operating mode, etc, please refer thermostat operating manual provided by thermostat manufacturer.

Emergency Operation

· **Definition of terms**

- Trouble : a problem which can stop system operation, and can be resumed temporally under limited operation without certificated professional's assist.

- Error : problem which can stop system operation, and can be resumed ONLY after certificated professional's check.

- Emergency mode : temporary heating operation while system met trouble.

· **Objective of introducing 'Trouble'**

- Not like airconditioning product, Air-to-Water heat pump is generally operation in whole winter season without any system stopping.

- If system found some problem, which is not critical to system operating for yielding heating energy, the system can temporarily continue in emergency mode operation with end user's decision.

· **Classified trouble**

- Trouble is classified two levels according to the seriousness of the problem. : Slight trouble and Heavy trouble

- Slight trouble : Sensor trouble. In most case, this trouble is concerned with sensor problems. The unit is operating under emergency mode operation(level 1).

- Heavy trouble : Compressor cycle trouble. Emergency mode operation(level 2) is performed by optional electric heater.

- Option trouble : a problem is found for option operation such as water tank heating. In this trouble, the troubled option is assumed as if it is not installed at the system.

· **Emergency operation level**

- When system met trouble, it stops operation and wait for user's decision : Calling service center or starting emergency operation.

- To start emergency operation, user simply push ON / OFF button once more.

- Two different levels are prepared for emergency operation : High temperature cycle and low temperature cycle.

- In emergency operation mode, user can not adjust target temperature.

※ It can not be operated, if the electric heater accessory is not installed.

	Dip Switch (#4)	Target Leaving Water Temperature	Target Room Air Temperature	Target Sanitary Water Temperature
High temperature cycle	OFF	50°C	24°C	70°C
Low temperature cycle	ON	30°C	19°C	50°C

· **Duplicated trouble : Option trouble with slight or heavy trouble**
- If option trouble is occurred with slight (or heavy) trouble at the same time, the system puts higher priority to slight (or heavy) trouble and operates as if slight (or heavy) trouble is occurred.
- Therefore, sometimes sanitary water heating can be impossible in emergency operation mode. When sanitary water is not warming up while emergency operation, please check if sanitary water sensor and related wiring are all Ok.

· **Emergency operation is not automatically restarted after main electricity power is reset.**
- In normal condition, the product operating information is restored and automatically restarted after main electricity power is reset.
- But in emergency operation, automatic re-start is prohibited to protect the product.
- Therefore, user must restart the product after power reset when emergency operation has been running.

Maintenance and Service

Maintenance Activities

In order to ensure optimal availability of the unit, a number of checks and inspections on the unit and the field wiring have to be carried out at regular intervals, preferably yearly. This maintenance should be carried out by your local agreed technician.

When the unit is not going....

⚠**CAUTION**
 • If the product is not used for long time, we strongly recommend NOT TO SWITCH OFF THE POWER SUP-PLY to the product.
 • If power is not supplied, some special product-protecting actions (such as water pump anti-locking) will not per-formed.
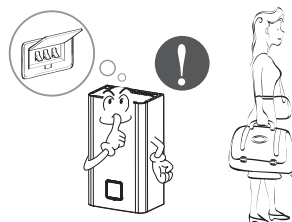
Call the service immediately in the following situations

1. Anything abnormal such as burning smell, loud noise etc. happen. Stop the unit and turn the breaker off. Never try to repair by yourself or restart the system in such cases.
2. Main power cord is too hot or damaged.
3. Error code is generated by self diagnosis.
4. Water leaks from unit.
5. Any switch, breaker (safety, earth) or fuse fails to work properly.

User must carry routine checkup & cleaning to avoid unit's poor performance.
In case of special situation, the job must be carried out by the only service person.

⚠**CAUTION**
 • In the case of water with added brine, the drain valve of shut-off valve must be connected to a recovery container.
 • Do not touch the water stirred with the brine.
 • When the brine in the pipe is leaked, do not operate the unit and contact dealer, seller or an authorized service center.

Troubleshooting Tips! Save Time and Money!

Check the following points before requesting repairs or service.... If the malfunction persist, please contact your dealer.

Case	*Explanation*
AWHP does not operate.	• Have you made a mistake in timer operation?
	• Has the fuse blown or has the circuit breaker been tripped?
	• If 'CH 14'is displayed in the display panel, check whether the water pipe is frost or remove the air in the PHEX by opening the air vent.
The room has a peculiar odor.	• Check that this is not a damp smell exuded by the walls, carpet, furniture or cloth items in the room.
AWHP does not operate for about 3 minutes when restart.	• This is the protector of the mechanism.
	• Wait about three minutes and operation will begin.
Does not cool or heat effectively.	• The room may have been very hot when the AWHP was first turned on. Allow time for it to cool down.
	• Has the setting temperature been set incorrectly?
The unit operation is noisy.	• Refrigerant flow sound - While the system is being started or stopping, sound from the refrigerant flow may be heard. • Water noise - During starting or stopping of the unit, noise can appear in water piping. • During defrost - Noise can appear in unit due to defrosting of water. • Sound for the unit heat exchanger - Durig the cooling operation, a sound may be heard from the indoor unit heat exchanger due to water freezing or melting.
Steam is raised in unit.	• Steam from heat exchanger - During defrosting operation, ice on the heat exchanger is melted, result- ing in making steam.
Control panel display is faint, or no display at all.	• Has the circuit breaker been tripped?