

Owner's Manual

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NOTE TO EQUIPMENT OWNER:

Please read this Owner's Information Manual carefully before installing and using this appliance and keep this manual for future reference.

For your convenience, please record the model and serial numbers of your new equipment in the spaces provided. This information, along with the installation data and dealer contact information, will be helpful should your system require maintenance or service.

UNIT INFORMATION

Model # _____

Serial # _____

INSTALLATION INFORMATION

Date Installed _____

DEALERSHIP CONTACT INFORMATION

Company Name: _____

Address: _____

Phone Number: _____

Technician Name: _____

A NOTE ABOUT SAFETY

Any time you see this symbol  in manuals, instructions and on the unit, be aware of the potential for personal injury. There are three levels of precaution:

DANGER identifies the most serious hazards which will result in severe personal injury or death.

WARNING signifies hazards that could result in personal injury or death.

CAUTION is used to identify unsafe practices which could result in minor personal injury or product and property damage.

NOTE is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

WARNING

PERSONAL INJURY, DEATH AND / OR PROPERTY DAMAGE HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

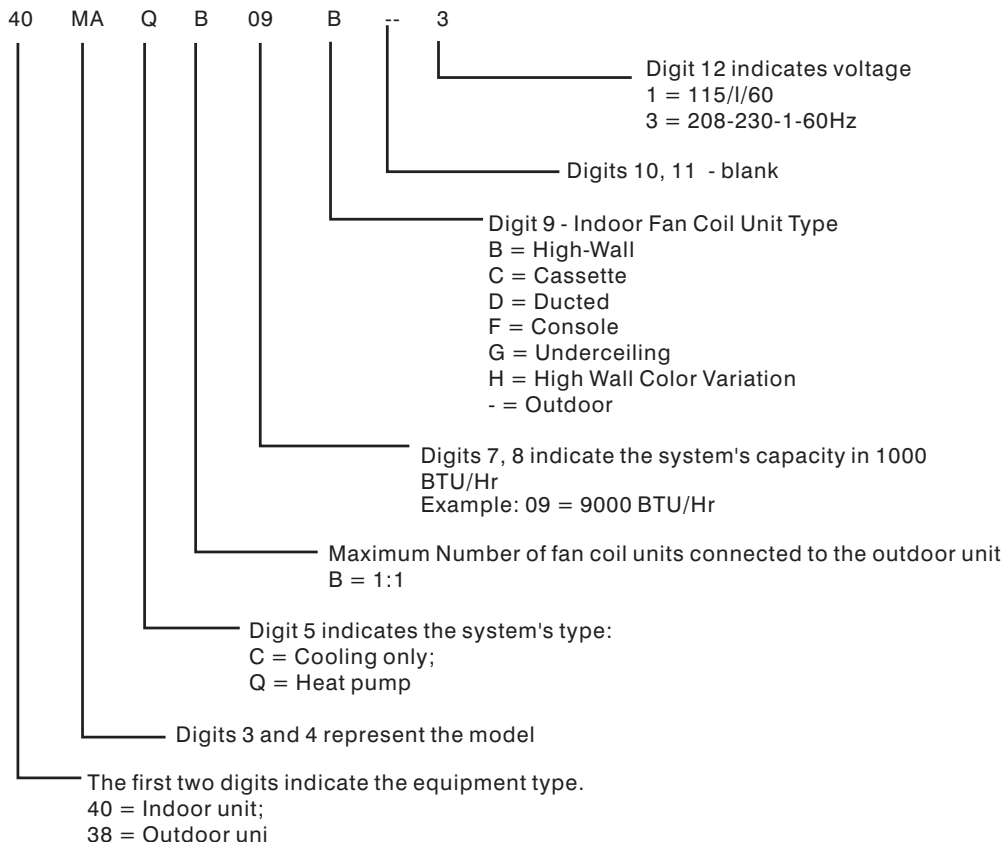
Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or service agency must use factory-authorized kits or accessories when modifying this product.

Read and follow all instructions and warnings, including labels shipped with or attached to unit before operating your new air conditioner.

Model Numbers

Unit Tons	Unit Btuh	Volt-Ph @ 60Hz	Indoor Model Number
0.75	9,000	208/230-1	40MBQB09F--3
1	12,000	208/230-1	40MBQB12F--3

Model number Nomenclature



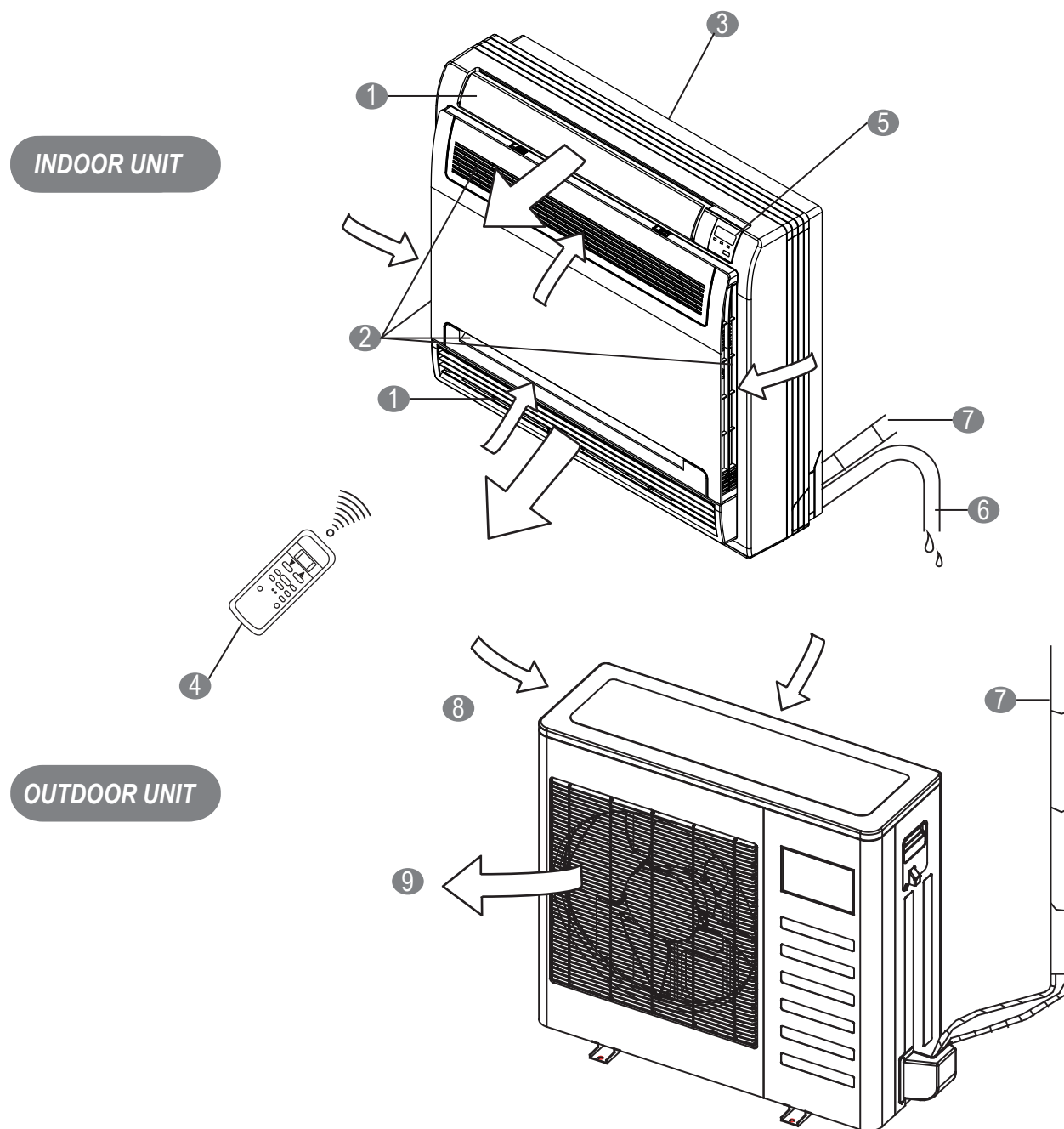


Fig.1

INDOOR UNIT

- ① Air flow louver (at air outlet)
- ② Air inlet (with air filter in it)
- ③ Installation part
- ④ Remote controller
- ⑤ Display panel
- ⑥ Drain pipe

OUTDOOR UNIT

- ⑦ Connecting pipe
- ⑧ Air inlet
- ⑨ Air outlet



NOTE

All the pictures in this manual are for illustration purpose only. They may differ slightly from the air conditioner you purchased (depending on model).

- If this product is meant for multi-unit use, please refer to the installation and operation manuals that are packed with the outdoor unit.

1. IMPORTANT SAFETY INFORMATION

To prevent injury to the user or damage to property, the following instructions must be closely followed. Failure to follow instructions may cause harm or damage.

The safety instructions listed within this manual are divided into two categories. In either case, important safety information is listed which must be read carefully.



WARNING

The appliance must be installed in accordance with national wiring regulations. Failure to observe a warning may result in death.



CAUTION

Failure to observe a caution may result in injury or damage to the equipment.



WARNING

Ask your dealer to install the air conditioner.

Incomplete installation performed by inexperienced individuals may result in a water leakage, electric shock, and fire.

Ask your dealer about upgrades, repairs, and maintenance of this unit.

Incomplete upgrades, repair, or maintenance may result in a water leakage, electric shock, and fire.

In order to avoid electric shock, fire or injury, or if you detect any abnormality such as burning smell, turn off the power supply and call your dealer for instructions.

Keep the indoor unit and the remote controller away from water or any wet substance.

It may cause an electric shock or a fire.

Never press the button of the remote controller with a hard, pointed object.

The remote controller may be damaged.

In the event of a blown fuse, always use the same rated fuse or wires as the original equipment.

Use of wire or copper wire may cause the unit to break down or cause a fire.

Body exposure to the air flow for extended periods of time is dangerous.

Do not insert fingers, rods or other objects into the air inlet or outlet.

When the fan is rotating at high speed, it will cause injury.

Never use a flammable spray such as hair spray or lacquer or paint near the unit.

Aerosols or paints may cause a fire.

Never touch the air outlet or the horizontal blades while the swing flap is in operation.

Fingers can get caught or the unit may break down.

Never put any objects into the air inlet or outlet.

Objects touching the fan at a high speed can be dangerous.

Never inspect or service the unit by yourself.

Ask a qualified service person to perform this work.

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and seep into the food chain, damaging your health and well-being.

To prevent refrigerant leak, contact your dealer.

When the system is installed and runs in a small room, it is required to keep refrigerant concentration, from leaking, or dropping the limit. Otherwise, oxygen in the room may be affected, which may cause a health risk.

The refrigerant in the air conditioner is safe and normally does not leak.

If the refrigerant leaks in the room, and comes in contact with flames from a burner, a heater or a cooker a harmful gas may be produced which may cause injury to humans.

Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.

Do not use the air conditioner until a service person confirms that the portion where the refrigerant leaked is repaired.



CAUTION

Do not use the air conditioner for other purposes.

In order to avoid any quality deterioration, do not use the unit for cooling precision instruments, food, plants, animals or works of art.

Before cleaning the unit, be sure to stop the operation, turn the breaker off or pull out the power supply cord.

Otherwise, an electric shock and injury may occur.

In order to avoid electric shock or fire, make sure that an earth leak detector is installed.

Be sure the air conditioner is grounded.

In order to avoid electric shock, make sure that the unit is grounded and that the earth wire is not connected to the gas or water pipe, lightning conductor or telephone earth wire.

In order to avoid injury, do not remove the fan guard of the outdoor unit.

Do not operate the air conditioner with a wet hand.

An electric shock may occur.

Do not touch the heat exchanger fins.

The fins are sharp and touching them could result in injury.

Do not place items which might be damaged by moisture under the indoor unit.

Condensation may form if the humidity is above 80%, the drain outlet is blocked or the filter is polluted.

After a long use, check the unit stand and fitting for damage.

If damaged, the unit may fall and result in injury.

To avoid oxygen deficiency, ventilate the room sufficiently if equipment with a burner is used together with the air conditioner.

Arrange the drain hose to ensure smooth drainage.

Poor drainage may cause water damage to the building, furniture etc.

Never touch the internal parts of the controller.

Do not remove the front panel. Some internal parts are dangerous to touch, and damage to the unit may occur.

Never expose little children, plants or animals directly to the air flow.

Injury to children, pets, or damage to plants may occur if exposed to the unit's direct air flow.

Do not allow a child to mount the outdoor unit and avoid placing objects on it.

Falling or tumbling of the unit may result in injury.

Do not operate the air conditioner when using a room fumigation - type insecticide.

Failure to observe the safety precautions could cause the chemicals to become deposited in the unit, which could endanger the health of those who are hypersensitive to chemicals.

Do not place appliances which produce open flames in places exposed to the unit's air flow or under the indoor unit.

Doing so may cause incomplete combustion or deformation of the unit due to the heat.

Do not install the air conditioner anywhere flammable gas may leak.

If the gas leaks out and remains near the air conditioner, a fire may occur.

The appliance is not intended for use by young children or infirm persons without supervision.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use safe of the appliance and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be performed by children without supervision.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

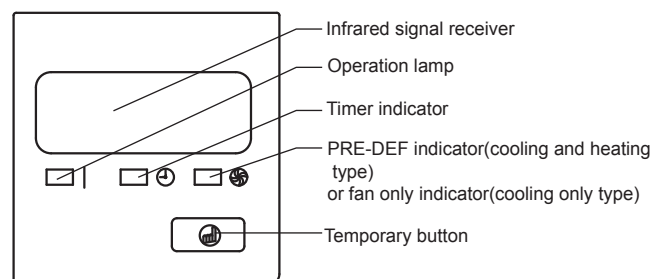
If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Do not operate your air conditioner in a wet room such as a bathroom or laundry room.

2. PARTS NAMES

The air conditioner consists of the indoor unit, the outdoor unit, the connecting pipe and the remote controller. (Refer to Fig. 1)

■ Function indicators on indoor unit display panel



Display panel

Fig. 2-1

This function is used to operate the unit temporarily in case you misplace the remote controller or if batteries are exhausted. Two modes including AUTO and FORCED COOL can be selected through the TEMPORARY BUTTON on the display panel. Once you push this button, the air conditioner runs in the following order: AUTO, FORCED COOL, (COOLING TEST HEATING TEST,) OFF, and back to AUTO.

1 AUTO

The OPERATION lamp is lit, and the air conditioner will run in AUTO mode. The remote controller operation is enabled to operate according to the received signal.

2 FORCED COOL

The air conditioner turns to AUTO after it is enforced to cool with a LOW wind speed for 30 minutes. Once achieved, the remote controller operation is disabled.

3 OFF

The OPERATION lamp turns off. The air conditioner is OFF while the remote controller operation is enabled.

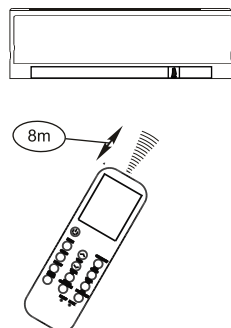


NOTE

This manual does not include Remote Controller Operations, see the <<Remote Controller Owner's manual>> packed with the unit for details.

3. REMOTE CONTROL OPERATION

Handling the remote controller



Location of the remote controller.

- Use the remote controller within a distance of 8 meters from the appliance, pointing it towards the receiver. Reception is confirmed by a beep.
- Keep the remote controller where its signals can reach the receiver of the unit.

⚠ CAUTIONS

- The air conditioner will not operate if curtains, doors or other materials block the signals from the remote controller to the indoor unit.
- Prevent any liquid from falling into the remote controller. Do not expose the remote controller to direct sunlight or heat.
- If the infrared signal receiver on the indoor unit is exposed to direct sunlight, the air conditioner may not function properly. Use curtains to prevent the sunlight from falling on the receiver.
- If other electrical appliances react to the remote controller, either move these appliances or consult your local dealer.

Replacing batteries

The remote controller is powered by two dry batteries(R03/LR03X2) housed in the rear part and protected by a cover.

- (1) Remove the cover by pressing and sliding off.
- (2) Remove the old batteries and insert the new batteries, placing the(+) and (-) ends correctly.
- (3) Reattach the cover by sliding it back into position.

NOTE: When the batteries are removed, the remote controller erases all programming. After inserting new batteries, the remote controller must be reprogrammed.

⚠ CAUTIONS

- Do not mix old and new batteries or batteries of different types.
- Do not leave the batteries in the remote controller if they are not going to be used for 2 or 3 months.
- Do not dispose batteries as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.

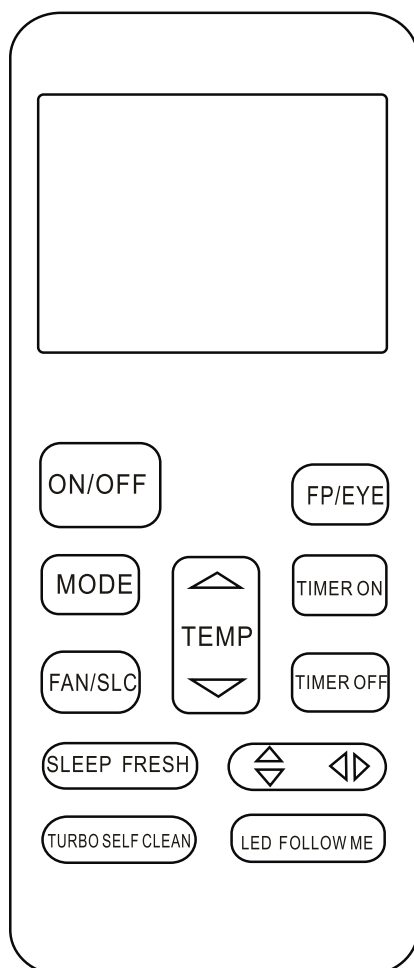
4. REMOTE CONTROL FUNCTIONS

Remote Controller Specifications

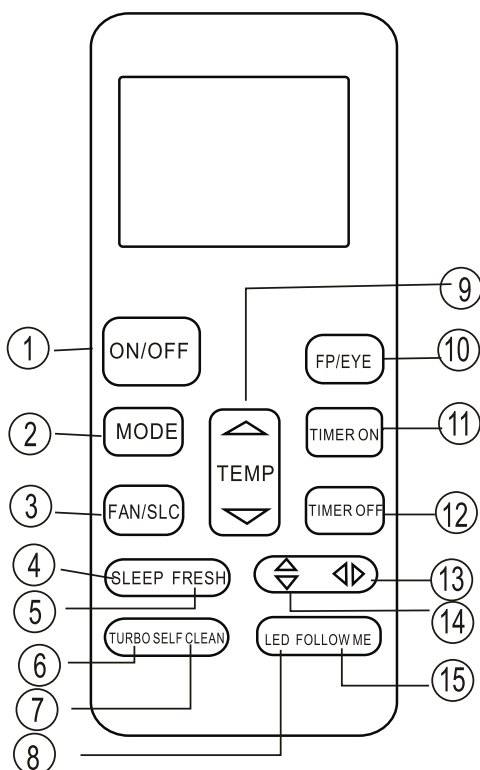
Model	RG52F2/BGEFU1.
Rated Voltage	3.0V(Dry batteries R03/LR03×2)
Signal Receiving Range	8m
Environment	23F ⁰ ~ 140F ⁰

Performance Feature

1. Operating Mode: AUTO, COOL, DRY, HEAT(enabled on cooling& heating models only) and FAN.
2. Timer Setting Function in 24 hours.
3. Indoor Setting Temperature Range : 62°F~86°F.
4. Full function of LCD (Liquid Crystal Display).



Function buttons



❶ ON/OFF Button

Operation starts when this button is pressed and stops when this button is pressed again.

❷ MODE Button

Each time the button is pressed, the operation mode is selected in a sequence of following:

→ AUTO → COOL → DRY → **HEAT** → FAN

NOTE: Please do not select HEAT mode if the machine you purchased is cooling only type. Heat mode is not supported by the cooling only appliance.

❸ FAN/SLC Button

- Used to select the fan speed in four steps:
→ AUTO → LOW → MED → HIGH
- If pushing more than 2 seconds, the Silence function will be activated, pushing more than 2 seconds again to disable.
- When the Silence function is activated, the compressor will operate at low frequency and the indoor unit will bring faint breeze, which will reduce the noise to the lowest level and create a quiet and comfortable room for you. Due to low frequency operation of compressor, it may result in insufficient cooling and heating capacity.

❹ SLEEP Button

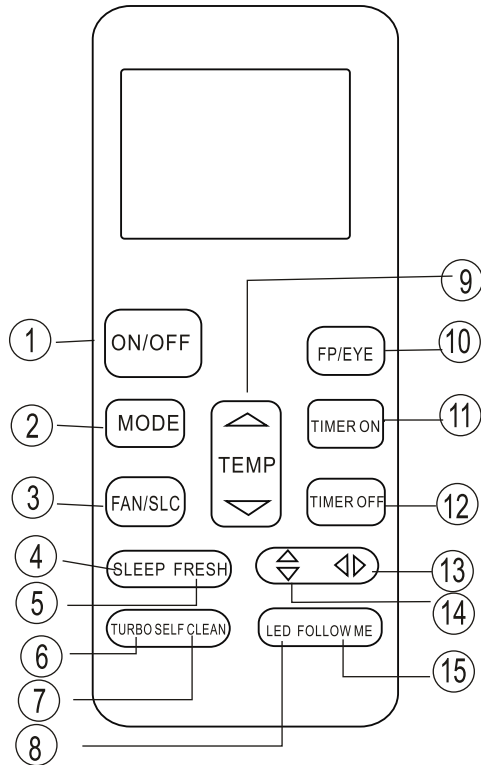
Active/Disable sleep function. It can maintain the most comfortable temperature and save energy. This function is available on COOL, HEAT or AUTO mode only.

For the details, please see "sleep operation" in "USER'S MANUAL".

NOTE: While the unit is running under SLEEP mode, it would be cancelled if MODE, FAN SPEED or ON/OFF button is pressed.

❺ FRESH Button

Pushing this button to activate the FRESH function. Pushing it again to disable.



⑥ **TURBO Button**

Active/Disable Turbo function. Turbo function enables the unit to reach the preset temperature at cooling or heating operation in the shortest time(if the indoor unit does not support this function, there is no corresponding operation happened when pressing this button.)

⑦ **SELF CLEAN Button**

Active/Disable Self Clean function. For details, please see "Special functions" in "USER'S MANUAL".

⑧ **LED Button**

Disable/Active indoor screen Display. When pushing the button, the indoor screen display is cleared, press it again to light the display.

⑨ **UP Button()**

Push this button to increase the indoor temperature setting in 1°F increments to 86°F.

DOWN Button()

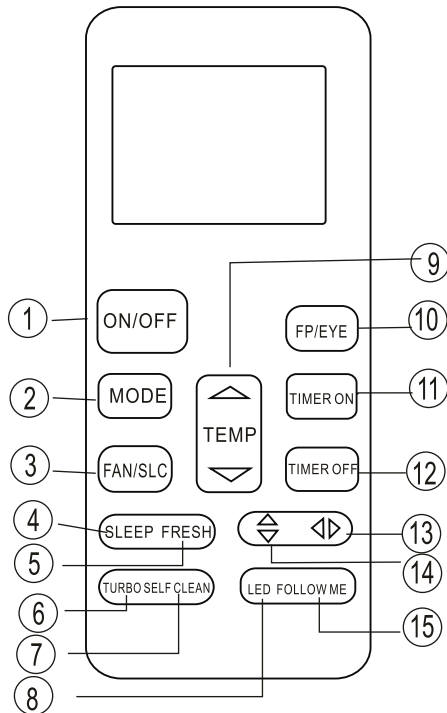
Push this button to decrease the indoor temperature setting in 1°F increments to 62°F.

NOTE: Press and hold " " and " " buttons together for 3 seconds will alternate the temperature display between the °C & °F scale.

⑩ **FP/EYE Button**

- Active/Disable freeze protection function. If pushing more than 2 seconds, the Intelligent eye function will be activated, pushing more than 2 seconds again to disable.
- During the heating operation(only when the setting mode is HEAT),If pushing this button more than 2 seconds, the freeze protection function is activated. The unit will operate at high fan speed with the temperature automatically set to 8°C.The display window of indoor unit will display 'FP'. For the unit without display area, the Defrost indicator light will be

5. USING THE REMOTE CONTROL



keeping on for 2 seconds, and then be off for 2 seconds by turns. Press ON/OFF, SLEEP, FP, MODE, FAN SPEED, UP, DOWN button while operating will cancel the freeze protection function.

- Under Intelligent eye function, with the built-in infrared sensor, the unit can detect existence of humans in the room. If the unit keep detecting no human activity for 30 min, it will automatically enters standby (monitor) status in order to save electricity. And the unit will automatically start and resume operation if sensing human activity again.

11 TIMER ON Button

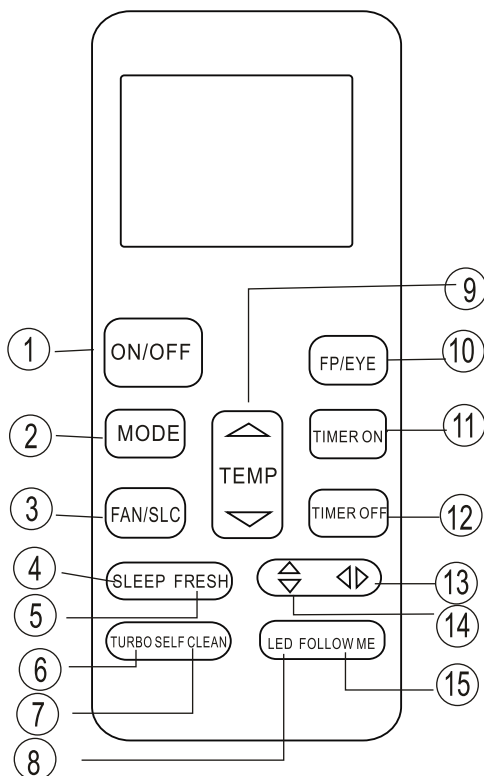
Press this button to initiate the auto-on time sequence. Each press will increase the auto-timed setting in 30 minutes increments. When the setting time displays 10, each press will increase the auto-timed setting 60 minutes increments. To cancel the auto-timed program, simply adjust the auto-on time to 0.0.

12 TIMER OFF Button

Press this button to initiate the auto-off time sequence. Each press will increase the auto-timed setting in 30 minutes increments. When the setting time displays 10, each press will increase the auto-timed setting 60 minutes increments. To cancel the auto-timed program, simply adjust the auto-off time to 0.0

13 Swing <> Button

Used to stop or start vertical louver movement and set the desired left/right air flow direction. The vertical louver changes 6 degree in angle for each press. And the temperature display area of indoor unit displays ' 𐀀𐀀 ' for one second. If keep pushing more than 2 seconds, the vertical louver swing feature is activated. And the display area of indoor unit displays ' IIII ', flashes four times, then the temperature setting reverts back. If the vertical louver swing feature is stopped, it displays ' LC ' and remains on for 3 seconds.



14 Swing Button

Used to stop or start horizontal louver movement or set the desired up/down air flow direction. The louver changes 6 degree in angle for each press. If keep pushing more than 2 seconds, the louver will swing up and down automatically.

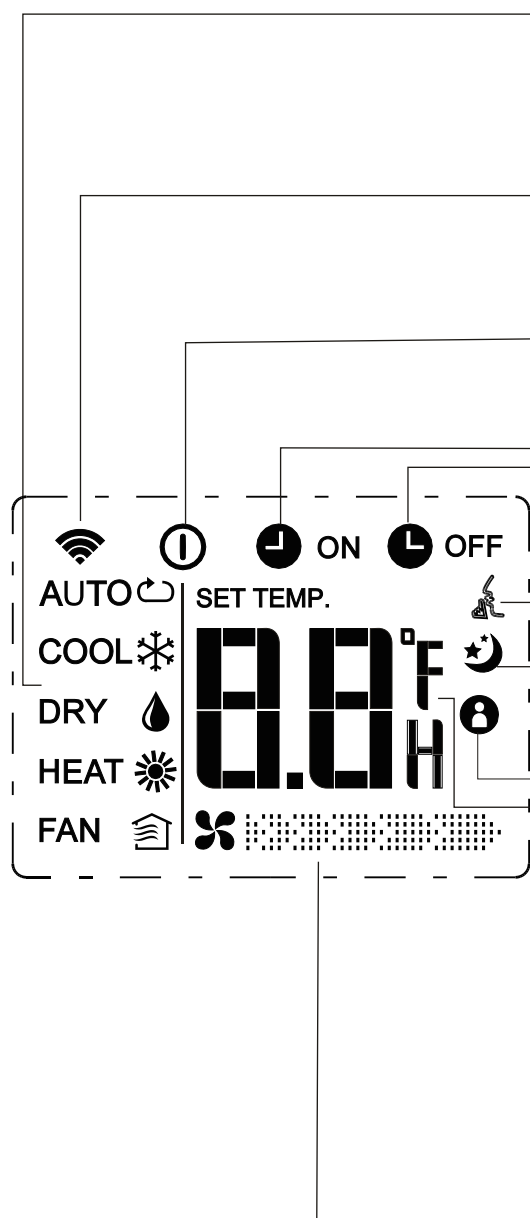
15 FOLLOW ME Button:

Push this button to initiate the Follow Me feature, the remote display is actual temperature at its location. The remote control will send this signal to the air conditioner every 3 minutes interval until press the Follow Me button again. The air conditioner will cancel the Follow Me feature automatically if it does not receive the signal during any 7 minute interval.

NOTE:

- Buttons design might be slightly different from the actual one you purchased
 - depending on individual models.
- All the functions described are accomplished by the indoor unit. If the indoor unit has no this feature, there is no corresponding operation happened when press the relative button on the remote controller.

Indicators on LCD



Mode display

Displays the current operation mode. Including auto(), cool(), dry(), heat() (be applicable to cooling & heating models only), fan() and back to auto().

Transmission Indicator

This transmission indicator lights when remote controller transmits signals to the indoor unit.

ON/OFF display

Displayed by pressing the ON/OFF button. Press the ON/OFF button again to remove.

TIMER ON display

Displayed when TIMER ON time is set.

TIMER OFF display

Displayed when TIMER OFF time is set.

SILENCE display

Displayed when SILENCE function is activated.

Sleep Display

Displayed under sleeping operation. Press the SLEEP button again to remove.

FOLLOW ME Display (on some models)

Displayed when FOLLOW ME function is activated.

Temp./Timer display

Displays the temperature setting (62°F ~ 86°F). When you set the operating mode to FAN, no temperature setting is displayed. And if in the TIMER mode, shows the ON and OFF settings of the TIMER.

Fan speed display

Displays the selected fan speed, AUTO (no display) and three fan speed levels "  " (LOW) "  " (MED) "  " (HIGH) can be indicated. The fan speed is AUTO when the operating mode is either AUTO or DRY.

Note:

All indicators shown in the figure are for the purpose of clear presentation. But during the actual operation only the relative functional signs are shown on the display window.

How to use the buttons

Auto operation

Ensure the unit is plugged in and power is available. The OPERATION indicator on the display panel of the indoor unit starts flashing.

1. Press the **MODE** button to select Auto.
2. Press the **UP/DOWN** button to set the desired temperature. The temperature can be set within a range of 62°F~ 86°F in 1°F increments.
3. Press the **ON/OFF** button to start the air conditioner.

NOTE

1. In the Auto mode, the air conditioner can logically choose the mode of Cooling, Fan, and Heating by sensing the difference between the actual ambient room temperature and the setting temperature on the remote controller.
2. In the Auto mode, you can not switch the fan speed. It has already been automatically controlled.
3. If the Auto mode is not comfortable for you, the desired mode can be selected manually.

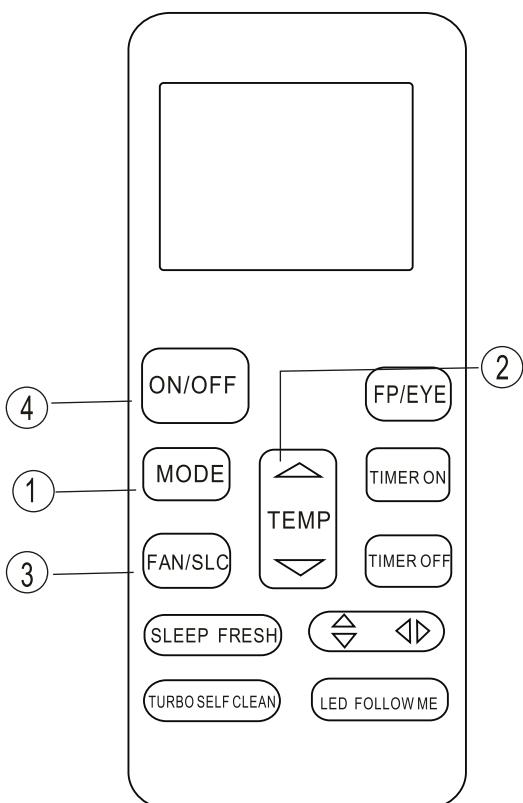
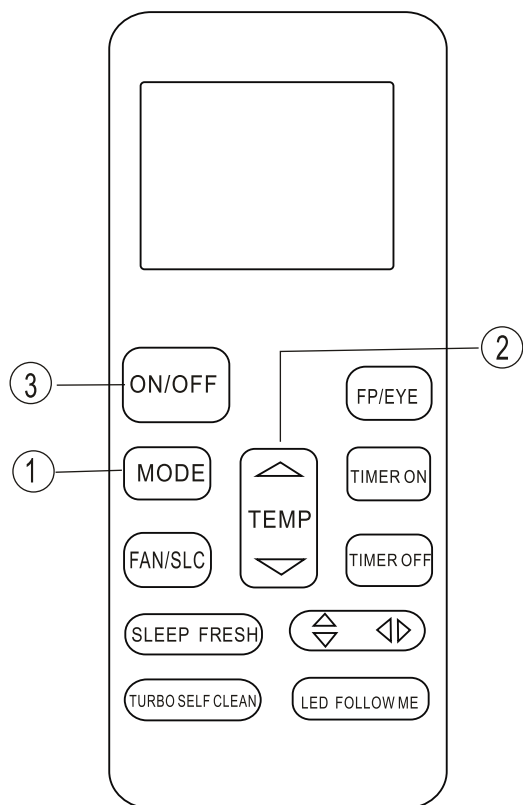
Cooling /Heating/Fan operation

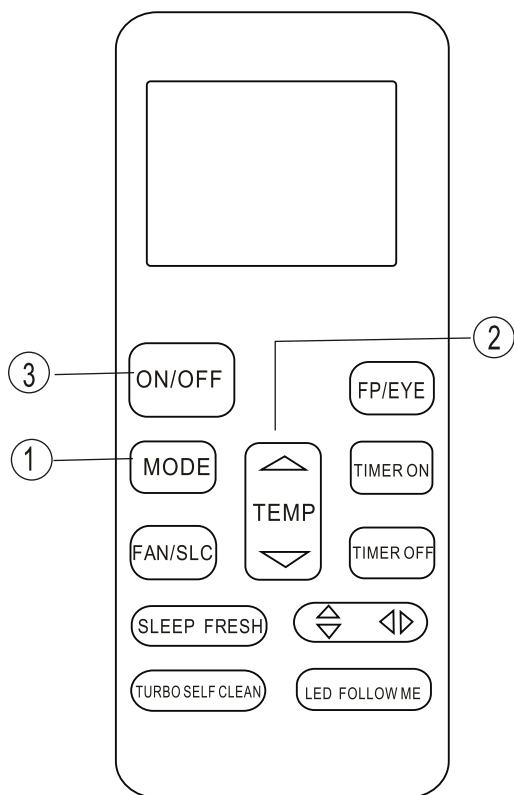
Ensure the unit is plugged in and power is available.

1. Press the **MODE** button to select COOL, HEAT(cooling & heating models only) or FAN mode.
2. Press the **UP/DOWN** buttons to set the desired temperature. The temperature can be set within a range of 62°F~ 86°F in 1°F increments.
3. Press the **FAN** button to select the fan speed in four steps- Auto, Low, Med, or High.
4. Press the **ON/OFF** button to start the air conditioner.

NOTE

In the FAN mode, the setting temperature is not displayed in the remote controller and you are not able to control the room temperature either. In this case, only step 1, 3 and 4 may be performed.





Dehumidifying operation

Ensure the unit is plugged in and power is available. The OPERATION indicator on the display panel of the indoor unit starts flashing.

1. Press the **MODE** button to select DRY mode.
2. Press the **UP/DOWN** buttons to set the desired temperature. The temperature can be set within a range of 62°F~ 86°F in 1°F increments.
3. Press the **ON/OFF** button to start the air conditioner.

NOTE

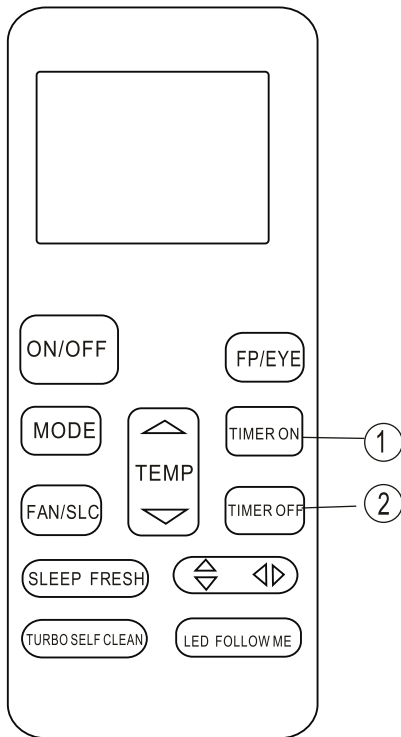
In the Dehumidifying mode, you can not switch the fan speed. It has already been automatically controlled.

Adjusting air flow direction

Use the SWING  and SWING  buttons to adjust the desired airflow direction.

1. When push the SWING  button, the horizontal louver changes 6 degree in angle for each push. If pushing more than 2 seconds, the louver will automatically swing up and down.
2. When push the SWING  button, the vertical louver changes 6 degree in angle for each push. If pushing more than 2 seconds, the louver will automatically swing left and right.

NOTE: When the horizontal/vertical louver swing or move to a position which would affect the cooling or heating effect of the air conditioner, it would automatically change the swing/moving direction.



Timer operation

Press the TIMER ON button can set the auto-on time of the unit. Press the TIMER OFF button can set the auto-off time of the unit.

To set the Auto-on time.

1. Press the TIMER ON button. The remote controller shows TIMER ON, the last Auto-on setting time and the signal "H" will be shown on the LCD display area. Now it is ready to reset the Auto-on time to START the operation.
2. Push the TIMER ON button again to set desired Auto-on time. Each time you press the button, the time increases by half an hour between 0 and 10 hours and by one hour between 10 and 24 hours.
3. After setting the TIMER ON ,there will be a one second delay before the remote controller transmits the signal to the air conditioner. Then, after approximately another 2 seconds, the signal "h" will disappear and the set temperature will re-appear on the LCD display window.

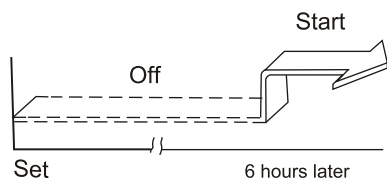
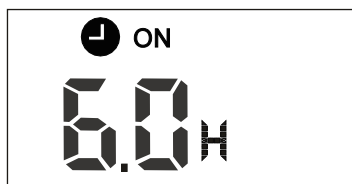
To set the Auto-off time.

1. Press the TIMER OFF button. The remote controller shows TIMER OFF, the last Auto-off setting time and the signal "H" will be shown on the LCD display area. Now it is ready to reset the Auto-off time to stop the operation.
2. Push the TIMER OFF button again to set desired Auto-off time. Each time you press the button, the time increases by half an hour between 0 and 10 hours and by one hour between 10 and 24 hours.
3. After setting the TIMER OFF ,there will be a one second delay before the remote controller transmits the signal to the air conditioner. Then, after approximately another 2 seconds, the signal "H " will disappear and the set temperature will re-appear on the LCD display window.

⚠ CAUTION

- The effective operation time set by the remote controller for the timer function is limited to the following settings: 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0, 9.5, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 and 24.

Example of timer setting



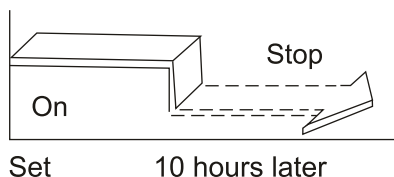
**TIMER ON
(Auto-on Operation)**

The TIMER ON feature is useful when you want the unit to turn on automatically before you return home. The air conditioner will automatically start operating at the set time.

Example:

To start the air conditioner in 6 hours.

1. Press the TIMER ON button, the last setting of starting operation time and the signal "H" will show on the display area.
2. Press the TIMER ON button to display "6.0H" on the TIMER ON display of the remote controller.
3. Wait for 3 seconds and the digital display area will show the temperature again. The "TIMER ON" indicator remains on and this function is activated.



TIMER OFF **(Auto-off Operation)**

The TIMER OFF feature is useful when you want the unit to turn off automatically after you go to bed. The air conditioner will stop automatically at the set time.

Example:

To stop the air conditioner in 10 hours.

1. Press the TIMER OFF button, the last setting of stopping operation time and the signal "H" will show on the display area.
2. Press the TIMER OFF button to display "10H" on the TIMER OFF display of the remote controller.
3. Wait for 3 seconds and the digital display area will show the temperature again. The "TIMER OFF" indicator remains on and this function is activated.

COMBINED TIMER

(Setting both ON and OFF timers simultaneously)

TIMER OFF → TIMER ON

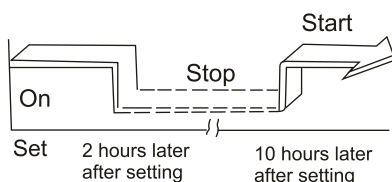
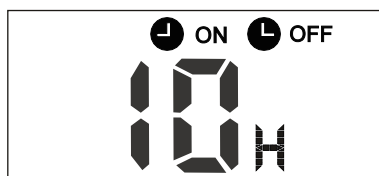
(On → Stop → Start operation)

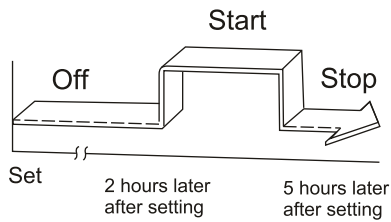
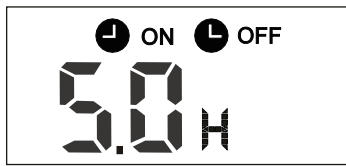
This feature is useful when you want to stop the air conditioner after you go to bed, and start it again in the morning when you wake up or when you return home.

Example:

To stop the air conditioner 2 hours after setting and start it again 10 hours after setting.

1. Press the TIMER OFF button.
2. Press the TIMER OFF button again to display 2.0H on the TIMER OFF display.
3. Press the TIMER ON button.
4. Press the TIMER ON button again to display 10H on the TIMER ON display .
5. Wait for 3 seconds and the digital display area will show the temperature again. The "TIMER ON OFF" indicator remains on and this function is activated.





TIMER ON → TIMER OFF

(Off → Start → Stop operation)

This feature is useful when you want to start the air conditioner before you wake up and stop it after you leave the house.

Example:

To start the air conditioner 2 hours after setting, and stop it 5 hours after setting.

1. Press the TIMER ON button.
2. Press the TIMER ON button again to display 2.0H on the TIMER ON display.
3. Press the TIMER OFF button.
4. Press the TIMER OFF button again to display 5.0H on the TIMER OFF display .
5. Wait for 3 seconds and the digital display area will show the temperature again. The "TIMER ON OFF" indicator remains on and this function is activated.

NOTE: The timer setting(TIMER ON or TIMER OFF) that in sequence occurs directly after the set time will be activated first.

6. AIR CONDITIONER OPERATIONS AND PERFORMANCE

Use the system in the following temperature for safe and effective operation. The Max operation temperature for the air conditioner. (Cooling/Heating)

Table 3-1

Mode \ Temperature	Outdoor temperature	Room temperature
Cooling operation	32 °F ~ 122 °F / 0 °C ~ 50 °C	62 °F ~ 90 °F (17 °C ~ 32 °C)
	5 °F ~ 122 °F / -15 °C ~ 50 °C (for the models with low temperature cooling system)	
Heating operation (cooling only type without)	5 °F ~ 76 °F / -15 °C ~ 24 °C	32 °F ~ 86 °F / 0 °C ~ 30 °C
Drying operation	32 °F ~ 122 °F / 0 °C ~ 50 °C	62 °F ~ 90 °F (17 °C ~ 32 °C)



CAUTION

- 1 If air conditioner is used outside the above conditions, the unit may function abnormally.
- 2 Room relative humidity should be less than 80%. If the relative humidity exceeds 80%, the surface of the air conditioner may condense water. Please set the vertical air flow louver to its maximum angle (vertical to the floor), and set the speed to "HIGH".
- 3 Optimum performance is achieved within this operating temperature range.

■ Three-minute protection feature

A protection feature prevents the air conditioner from activating for approximately 3 minutes when it restarts immediately after operation.

■ Power failure

A power failure during an operation will stop the unit completely.

- The OPERATION lamp on the indoor unit will flashing when power is restored.
- To restart an operation, push the ON/OFF button on the remote controller.
- Lightning or a mobile telephone operating nearby may cause the unit to malfunction.

Disconnect the unit from its power source and then connect the unit to the power source again. Push the ON/OFF button on the remote controller to restart the operation.

■ Refrigerant Leakage Detection(optional):

With this new technology, the display area display 'EC' (if applicable) and the LED indication lamps continue to flash when the outdoor unit detects refrigerant leakage.

■ Louver Angle Memory Function(optional):

For some models, the machine is special designed with the louver angle memory function. Power failure during operation or pressing the ON/OFF button on the remote controller will stop the unit completely. When the power restores or pressing the ON/OFF button on the remote controller again, the unit restarts automatically with the previous open angle of the horizontal louver retained by the memory function. So we strongly recommend that you do not set the open angle of the horizontal louver too low in case the condensed water forms and drops from the horizontal louver. Press the Manual control button and the open angle of the horizontal louver will return to the standard angle.

7. HINTS FOR ECONOMICAL OPERATION

The following should be reviewed to ensure an economical operation. (Refer to corresponding chapter put a space between chapter and for details)

- Adjust the air flow direction properly to avoid wind flowing toward your body.
- Adjust the room temperature properly to avoid over cooling and over heating.
- When cooling, close the curtains to avoid direct sunlight.
- To keep cool or warm air in the room, refrain from opening doors or windows unnecessarily.
- Set the timer for the desired operating time.
- Never put obstructions near the air outlet or the air inlet. Doing so will cause lower efficiency, even a sudden stop.
- If you don't plan to use the unit for a long time, please disconnect power and remove the batteries from the remote controller. When the power switch is connected, some energy will be consumed, even if the air conditioner isn't in operation. Also, switch the power on 12 hours before you restart the unit to ensure a smooth operation.
- A clogged air filter will reduce cooling or heating efficiency, so clean it once every two weeks.

8. ADJUSTING AIR FLOW DIRECTION

Auto-swing

Press the SWING button, the louver will swing up and down automatically.

Manual Swing

Press the Air Direction button, the louver can be fixed at a desired angle. The louver swings (upward or downward) to a certain angle for each press.

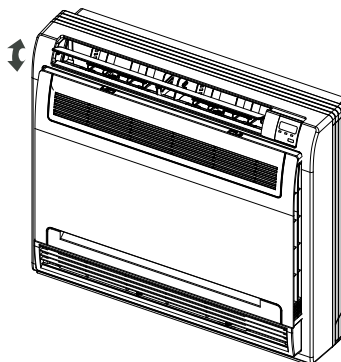


Fig. 5-1

When cooling

Adjust the louver downwards. (horizontally) (Refer to Fig. 5-2).

When heating

Adjust the louver vertically (Refer to Fig. 5-3).

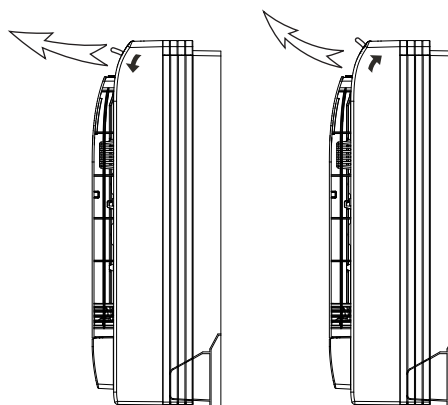


Fig. 5-2

Fig. 5-3



CAUTION

Do not try to adjust the horizontal louver by hand.
When adjusting by hand, the mechanism may not operate properly or condensation may drip from the air outlets.

Adjust the Air Flow Direction Left and Right

Hold the knob and move the louver.

You will find knobs on the left-side and the right-side of the blades. (Refer to Fig.5-4)

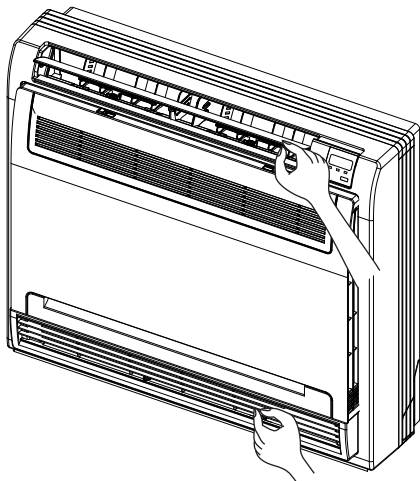


Fig. 5-4

9. AIR FLOW SELECTION

- Open the front panel.
How to open the front panel: (Refer to Fig.7-1).



CAUTION

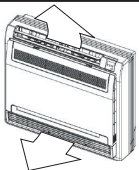
Before opening the front panel, be sure to stop the operation and turn the breaker OFF.
Do not touch the metal parts on the inside of the indoor unit, as it may result in injury.

- Select the air flow best suits you.
(Please refer to Fig. 7-2.)

When setting the air flow selection switch to

- The air conditioner automatically decides the appropriate blowing pattern depending on the operating mode/situation.

Table 6-1

Operating mode	COOL mode		HEAT mode	
Situation	When the room has become totally cool, or when one hour has passed since turning on the air conditioner.	At start of operation or other times when the room is not fully cooled.	At times other than below. (Normal time.)	At start or when air temperature is low.
Blowing pattern	So the air does not come into direct contact with people, air is blown through the upper air outlet, room temperature is equalized.			So the air does not come into direct contact with people. Air is blown upper air outlet.

- During Dry mode, so that the cold air does not come into direct contact with people, air is blown through the upper air outlet.

When setting the air outlet selection switch to

- Regardless of the operating mode or situation, air blows from the upper air outlet.
- Use this switch when you do not want air coming out of the lower air outlet. (For example when occupants are sleep.)

10. MAINTENANCE



CAUTION

Before you clean the air conditioner, be sure the power supply is off.

Check if the wiring is damaged or disconnected.

Use a dry cloth to wipe the indoor unit and remote controller.

A wet cloth may be used to clean the indoor unit only if it is very dirty.

Never use a damp cloth on the remote controller.

Do not use a chemically-treated duster for wiping. Never leave cleaning material on the unit for a long time because it may damage or fade the surface of the unit.

Do not use benzine, thinner, polishing powder, or similar solvents for cleaning.

These may cause the plastic surface to crack or deform.

■ Maintenance after a long off period

Check and remove everything that might be blocking the inlet and outlet vents of the indoor units and outdoor units.

Clean the air filters and casings of indoor units.

Refer to "Cleaning the air filter" for details on how to proceed and make sure to install clean air filters in the proper position.

Turn on the power at least 12 hours before operating the unit to ensure smoother operation. As soon as the power is turned on, the remote controller display appear.

■ Maintenance before a long stop period

Let the indoor units run in fan only operation for about half a day in order to dry the unit's interior.

Clean the air filters and casings of the indoor units. Refer to "Cleaning the air filter" for details on how to proceed and make sure to install clean air filters in the proper position.

■ Cleaning the air filter

In case of filter blockage, the working efficiency of the air conditioner may greatly decrease. The air filter can prevent the dust or other particulate from going inside. Therefore, the filter must be cleaned once every two weeks during long time use.

If the air conditioner is installed in a dusty place, clean the air filter frequently.

If the accumulated dust is too heavy to be cleaned, please replace the filter with a new one (a replaceable air filter is an optional fitting).

1 **Open the front panel.**(Refer to Fig.7-1)

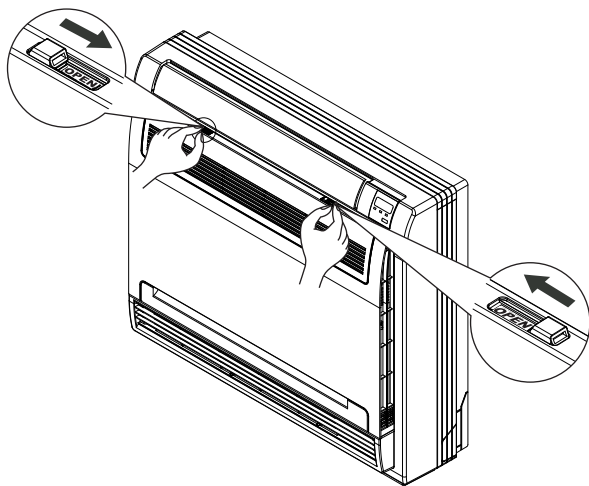


Fig.7-1

2 **Remove the air filter.**

Press the claws on the right and left of the air filter down slightly, then pull upward. (Refer to Fig.7-2)

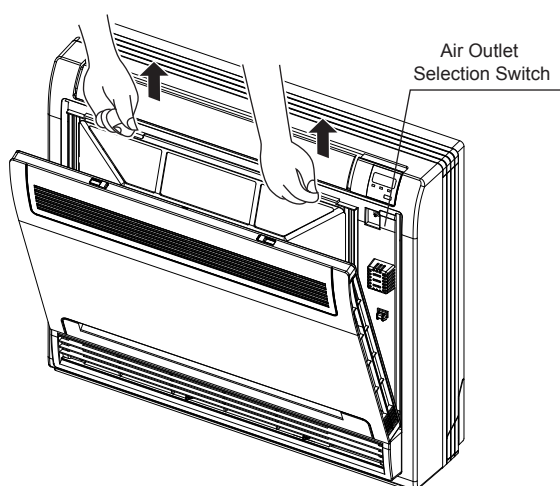


Fig.7-2

3 **Take off the special function filter.**

Hold the tabs of the frame, and remove the claws in 4 places. (Refer to Fig.7-3)

(The special function filter can be cleaned by washing it with water once every 6 months. We recommend replacing it once every 3 years.)

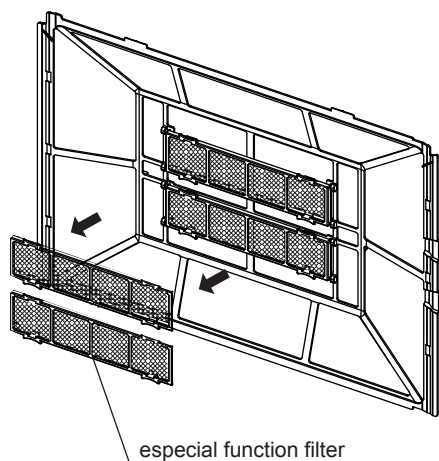


Fig.7-3

4 **Clean the air filter.**

Vacuum cleaner or pure water may be used to clean the air filter. If the dust accumulation is too heavy, please use soft brush and mild detergent to clean it and dry out in cool place.

The air-in side should face up when using the vacuum cleaner. (Refer to Fig.7-4)

The air-in side should face down when using water. (Refer to Fig.7-5)

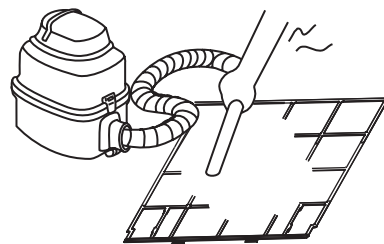


Fig.7-4

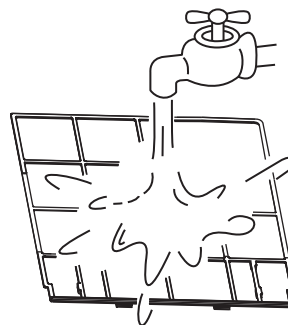


Fig.7-5

5 **Set the air filter and the especial function filter as they were and close the front panel.**

Operation without air filters may cause damage as dust will accumulate inside the indoor unit.



CAUTION

Do not dry out the air filter under direct sunshine or with fire.

11. FOLLOWING SYMPTOMS ARE NOT AIR CONDITIONER TROUBLES

Symptom 1: The system does not operate

- The air conditioner does not start immediately after the ON/OFF button on the remote controller is pressed.
If the operation lamp illuminates, the system operation is normal. To prevent compressor motor overload, the air conditioner starts 3 minutes after it is turned ON.
- If the operation lamp and the "PRE-DEF indicator (cooling and heating type) or fan only indicator (cooling only type)" illuminate, it means you choose the heating model. When starting, if the compressor has not started, the indoor unit displays an "anti cold wind" protection message because of the overflow outlet temperature.

Symptom 2: Change into the fan mode during cooling mode

- In order to prevent the indoor evaporator from freezing, the system will change into fan mode automatically, and then restore to the cooling mode after soon.
- When the room temperature drops to the set temperature, the compressor turns off and the indoor unit switches to fan mode; when the temperature increases, the compressor starts again. The same event occurs when the unit is in the heat mode.

Symptom 3: White mist comes out of a unit

Symptom 3.1: Indoor unit

- When the humidity is high during the cooling operation and the interior of an indoor unit is extremely contaminated, the temperature distribution inside a room becomes uneven. It is then necessary to clean the interior of the indoor unit. Ask your dealer for details on cleaning the unit. This operation requires a qualified service technician.

Symptom 3.2: Indoor unit, outdoor unit

- When the system changes over to the heating operation after a defrost operation, moisture generated by the defrost process becomes steam and is exhausted.

Sptom 4: Noise of air conditioners cooling

Symptom 4.1: Indoor unit

- A continuous low "shah" sound is heard when the system is in the cooling operation or at a stop.
When the drain pump (optional accessories) is in operation, this noise is heard.
- A "pishi-pishi" squeaking sound is heard when the system stops after a heating operation.
Expansion and contraction of plastic parts caused by a temperature change produce this noise.

Symptom 4.2: Indoor unit, outdoor unit

- A continuous low hissing sound is heard when the system is in operation.
This is the sound of refrigerant gas flowing through both the indoor and the outdoor units.
- A hissing sound which is heard at the start or immediately after a stopping operation or defrost operation.
This is the noise of the refrigerant caused by flow stop or flow change.

Symptom 4.3: Outdoor unit

- When the tone of operating noise changes.
This noise is caused by the change of frequency.

Symptom 5: Dust comes out of the unit

- When the unit is used for the first time in a long time.
This is because dust has accumulated within the unit.

Symptom 6: The unit emits odors.

- The unit can absorb the smell of rooms, furniture, cigarettes, etc., and then emit them.

Symptom 7: The outdoor unit fan does not spin.

- During operation. The speed of the fan is controlled in order to optimize product operation.

12. TROUBLESHOOTING

12.1. Troubles and causes of air conditioner malfunctions

If one of the following malfunctions occur, stop the operation, shut off the power, and contact with your dealer.

- The operation lamp is flashing rapidly (5Hz). The lamp is still flashing rapidly after you turn off the power and then turn it on again. (Refer to Table 9-1)
- The remote controller malfunctions or the button does not work.
- A safety device such as a fuse, a breaker frequently actuates.
- Obstacles or water enter the unit.
- Water leaks from an indoor unit.
- Another malfunction occurs.

If the system does not properly operate the above mentioned cases or one of the above mentioned malfunctions is evident, investigate the system according to the following procedures. (Refer to Table 9-2)

Table 9-1

NO.	Malfunction	display (nixie tube)	timer lamp	running lamp (flashes per second)
1	Indoor EEPROM error	E0	OFF	1
2	Communication malfunction between indoor and outdoor units	E1	OFF	2
3	Indoor fan speed malfunction	E3	OFF	4
4	Indoor room temperature sensor open circuit or short circuit	E4	OFF	5
5	Evaporator coil temperature sensor open circuit or short circuit	E5	OFF	6
6	Refrigerant leakage detection malfunction	EC	OFF	7
7	Water-level alarm malfunction	EE	OFF	8
8	Communication malfunction between two indoor units (for twins model)	E8	OFF	9
9	Other malfunction of twins model	E9	OFF	10
10	Current overload protection	F0	ON	1
11	Outdoor room temperature sensor open circuit or short circuit	F1	ON	2
12	Outdoor condenser pipe temperature sensor error	F2	ON	3
13	Discharging air temperature sensor error	F3	ON	4
14	Outdoor EEPROM error	F4	ON	5
15	Outdoor fan speed malfunction (Only for DC fan motor)	F5	ON	6
16	T2b sensor error	F6	ON	7
17	Inverter module IPM protection	P0	Flash	1
18	High/Low voltage protection	P1	Flash	2
19	High temperature protection of compressor top	P2	Flash	3
20	Outdoor low temp. protection	P3	Flash	4
21	Compressor drive error	P4	Flash	5
22	Mode conflict	P5	Flash	6

Table 9-2

Symptoms	Causes	Solution
Unit does not start	- Power failure. - Power switch is off. - Fuse may have burned. - Batteries of remote controller exhausted or other problem of controller.	- Wait for the return of power. - Switch on the power. - Replace the fuse. - Replace the batteries or check the controller.
Air is flowing normally however the unit is not cooling	- Temperature is not set correctly. - The compressor is on 3 minute protection mode cycle.	- Set the temperature properly. - Wait.
Units starts or stops frequently	- Refrigerant is too low or too high. - Air or no concentrating gas in the refrigerating circuit. - Compressor has malfunctioned. - Voltage is too high or too low. - System circuit is blocked.	- Check for leaks, and recharge refrigerant levels accordingly. - Vacuum and recharge refrigerant. - Repair or change compressor. - Install manostat. - Find reasons and address issue(s) accordingly.
Low cooling effect	- Outdoor and indoor units heat exchanger are dirty. - The air filter is dirty. - Inlet/outlet of indoor/outdoor units are blocked. - Doors and windows are open. - Sunlight shines directly on indoor unit. - The heat resource is extremely high. - Outdoor temperature is too high. - Refrigerant leak or lack of refrigerant.	- Clean the heat exchangers. - Clean the air filter. - Eliminate the dirt. - Close doors and windows. - Arrange the curtains to shelter from sunshine. - Reduce heat source. - AC cooling capacity reduces (normal). - Check leakage and recharge refrigerant.
Low heating effect	- Outdoor temperature is lower than 7°C - Doors and windows not are completely closed. - Refrigerant leak or lack of refrigerant.	- Use heating device. - Close doors and windows. - Check leakage and rightly recharge refrigerant.

12.2 Troubles and causes of remote controller

contacting your service professional review the following causes and solutions.

(Refer to Table 9-3)

Table 9-3

Symptoms	Causes	Solution
The fan speed can not be changed.	● Check whether the MODE indicated on the display is set to "AUTO".	When the "AUTO" mode is selected, the air conditioner automatically changes the fan speed.
	● Check whether the MODE indicated on the display is set to "DRY".	When the "DRY" operation is selected, the air conditioner automatically changes the fan speed. The fan speed can be selected during the "COOL", "FAN ONLY", and "HEAT" modes.
The remote controller signal does not transmit when the ON/OFF button is pushed.	● Check whether the batteries in the remote controller are exhausted.	The power supply is off.
The TEMP. indicator does not come on.	● Check whether the MODE indicated on the display is FAN ONLY.	The temperature cannot be set during FAN mode.
The indication on the display disappears after some time.	● Check whether the timer operation has come to an end when the TIMER OFF message appears on the display.	The air conditioner operation will stop at the set time.
The TIMER ON indicator goes off after a certain time.	● Check whether the timer operation is starts when the TIMER ON message appears on the display.	Up to the set time, the air conditioner will automatically start and the appropriate indicator will appear.
The indoor unit fails to produce receiving tones even when the ON/OFF button is pressed.	● Check whether the signal transmitter of the remote controller is properly aimed at the infrared signal receiver of the indoor unit when the ON/OFF button is pressed.	Directly aim the signal transmitter of the remote controller to the infrared signal receiver of the indoor unit, and then repeatedly push the ON/OFF button twice.

