

The Advantage Series is **NOT** designed for amateur installation. Installation **SHOULD** be performed by an authorized technician. Please read this manual carefully before installation and keep it for future reference.

# User Manual



**MRCOOL®**

**COMFORT MADE SIMPLE**

## Advantage Series

The Advantage Series is **NOT** designed for amateur installation. Installation **SHOULD** be performed by an authorized technician. Please read this manual carefully before installation and keep it for future reference.

# Read Before Operation

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

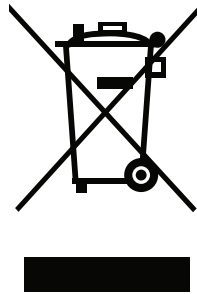
This appliance contains refrigerant and other potentially hazardous materials. When disposing of this appliance, the law requires special collection and treatment. **DO NOT** dispose of this product as household waste or unsorted municipal waste.

When disposing of this appliance, you have the following options:

- Dispose of the appliance at a designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will receive the old appliance free of charge.
- The manufacturer will receive the old appliance free of charge.
- Sell the appliance to certified scrap metal dealers.

## Special notice

Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.



<b>!</b>	<b>Safety Precautions</b>	
	Warnings .....	3
	Cautions .....	4
<b>1</b>	<b>Overview</b>	
	Parts Diagram .....	5
	Display Window .....	6
<b>2</b>	<b>Operating Instructions</b>	
	Operating Temperature .....	6
	Manual Operation .....	6
	Airflow Directional Control .....	7
	How the A/C & Heat Pump Work .....	8
	Special Functions .....	9
<b>3</b>	<b>Care and Maintenance</b>	
	Before Maintenance .....	11
	Cleaning the Unit .....	11
	Cleaning the Air Filter(s) .....	11
	Preparation for Extended Non-Operation .....	12
	Pre-Season inspection .....	12
<b>4</b>	<b>Troubleshooting Tips</b>	
	Troubleshooting Tips .....	13
	Troubleshooting Guide .....	14

# Safety Precautions



## Read Before Using

**Incorrect usage may cause serious damage or injury.**

The seriousness of potential damage or injuries is classified as either a **WARNING** or **CAUTION**.



**WARNING**

This symbol indicates ignoring instructions may cause death or serious injury.



**CAUTION**

This symbol indicates that ignoring instructions may cause moderate injury to your person, damage to your unit, or other property.



This symbol indicates that you should **NEVER** perform the indicated action.



## **WARNING**

- ⊘ **DO NOT** modify the length of the power supply cord or use an extension cord to power the unit.
  - ⊘ **DO NOT** share the electrical circuit with other appliances. Improper or insufficient power supply can cause fire or electrical shock.
  - ⊘ **DO NOT** expose your body directly to the cool air for prolonged periods of time.
  - ⊘ **DO NOT** insert fingers or foreign objects into air inlet / outlet vents.
  - ⊘ **DO NOT** attempt to repair, relocate, or modify the unit yourself. Always contact your qualified service professional if any of this is required.
  - ⊘ **DO NOT** allow combustible materials within 3 feet (1 meter ) of unit; or store combustible gas / vapor emitting materials (e.g. gas cans, rags used with solvents) within the same enclosed area as operating unit.
  - ⊘ **DO NOT** allow children to play with the air conditioner. Children should be supervised around the unit at all times.
1. Installation must be performed by an authorized technician according to installation instructions. Improper installation may cause water leakage, electrical shock, or fire.
  2. In North America, installation must be performed in accordance with the requirement of NEC and CEC (by authorized personnel only.) Contact an authorized service technician for repair or maintenance of the unit.
  3. This appliance is not intended for use by children under the age of 8, or persons with reduced physical, sensory or mental capabilities, unless they are supervised or have been given instruction concerning safe usage and understand the hazards involved by a person responsible for their safety.
  4. In the event of any abnormalities, such as the smell of burning, immediate turn off power to the unit and contact an authorized service technician.

## CAUTION

- ⊘ **DO NOT** touch switches with a wet hand. It may cause electric shock.
  - ⊘ **DO NOT** use the device for any other purpose than intended use.
  - ⊘ **DO NOT** expose plants or animals directly to the airflow.
  - ⊘ **DO NOT** place food, precision instruments, plants, animals, paint, etc. on the unit.
  - ⊘ **DO NOT** clean the interior unit with water.
  - ⊘ **DO NOT** use combustible cleaning agents as this could cause fire or deformation.
  - ⊘ **DO NOT** place burning objects near the unit or indirectly in the path of its airflow.
  - ⊘ **DO NOT** step on or place objects on exterior unit.
  - ⊘ **DO NOT** allow unit to run for extended periods with doors and/or windows open or in extreme humidity.
1. If the unit is to be used in conjunction with other heaters, the air should be refreshed periodically, otherwise there is a risk of reduced oxygen.
  2. Switch unit off during storms to avoid electrical damage.
  3. On the interior unit, check that the drainage line is correctly connected to avoid leakage.
  4. On the exterior unit, check that condensation water can run off unhindered to avoid damage.
  5. The unit must be earthed (grounded) in accordance with local codes.
  6. For electrical safety, we recommend that you install an earth leakage circuit-breaker.
  7. If the power cable is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

## Note about Flourinated Gasses:

1. This air-conditioning unit contains flourinated gases.
2. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself.
3. Installation, service, maintenance and repair of this unit must be performed by a certified technician.
4. Product uninstallation and recycling must be performed by a certified technician.
5. If the system has a leak-detection system installed, it should be checked for leaks at least every 12 months.
6. Keep a record of all leak checks for the lifetime of the unit.

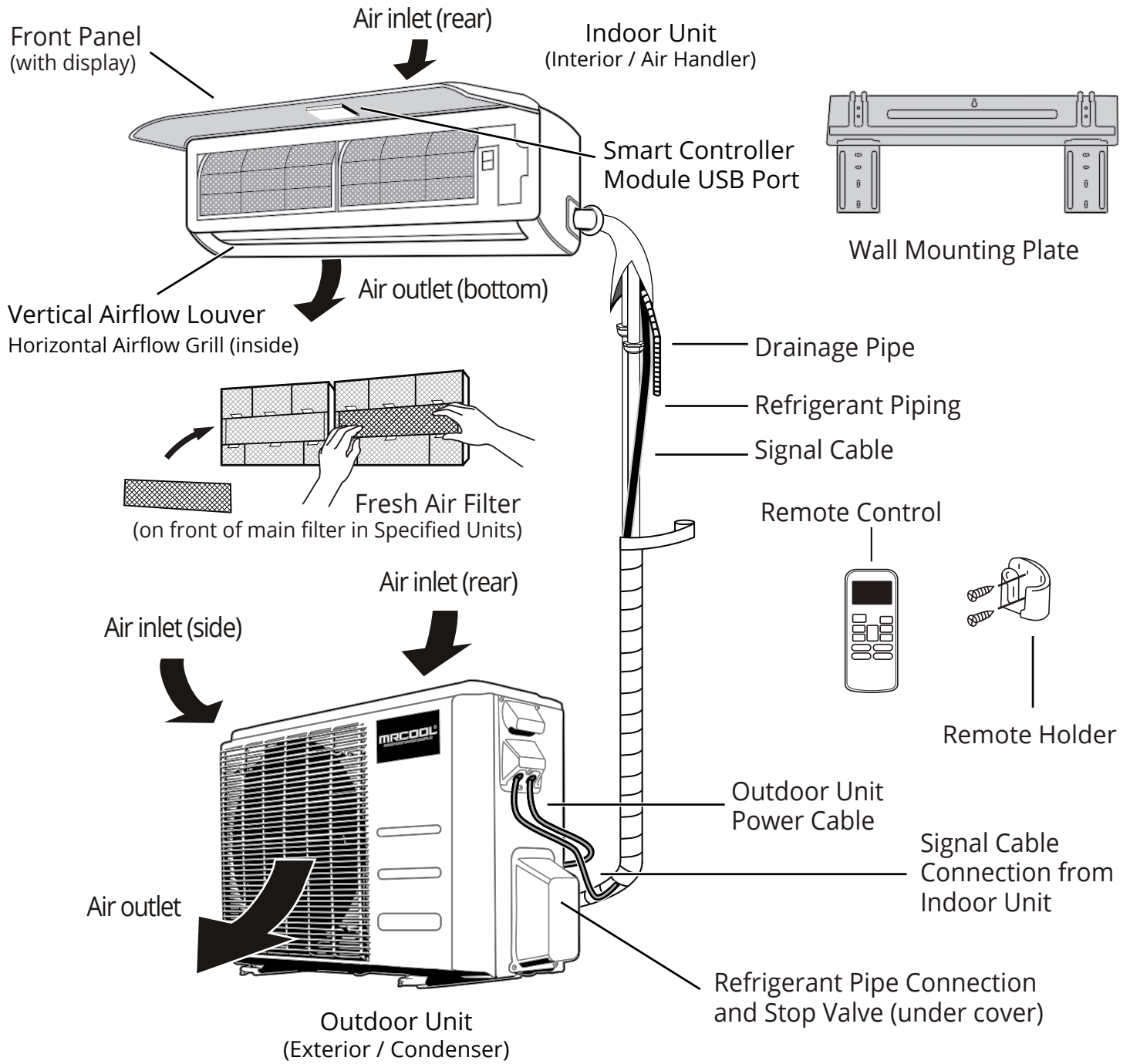


fig. 1.1

## NOTE ON ILLUSTRATIONS

Illustrations in this manual are for explanatory purposes. The actual shape of your unit may vary.

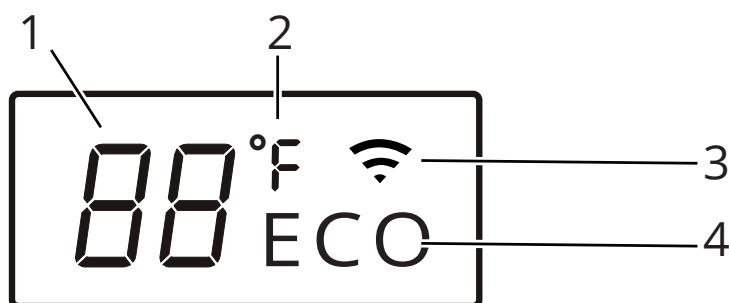


fig. 1.2

## Display (on front panel of indoor unit) see fig. 1.2

### 1. Digital Display

Displays the Temperature Setting when the air conditioner is operational.

Displays the Room Temperature when in **FAN** mode.

Displays the self-diagnostic codes.

Displays "**ON**" for three seconds when the **Timer** is **ON** and/or **Fresh, Swing, Turbo** or **Silence** feature is activated.

Displays "**OF**" for three seconds when the **Timer** is switched **OFF**.

Displays "**OF**" for three seconds when the **Fresh, Swing, Turbo** or **Silence** feature is cancelled.

Displays "**dF**" when **Defrosting** operation is active.

Displays "**cF**" when **Anti-Cold Air** feature is active in **HEAT** mode (when air temp is low).

Displays "**SC**" during **Self Clean** operation (if feature is available).

Displays "**FP**" when **Freeze Protection** is active, operating under 46.4 °F (8 °C) (if feature is available).

### 2. Units of Measurement:

Displays "°C" for Celsius or "°F" for Fahrenheit. Default units are "°F" (Fahrenheit) and can be switched by simultaneously press and hold both the up and down buttons on the remote control.

According to the operation mode (heat / cool, etc.), the Units of Measurement will display in different colors;

- Under Cool or Dry mode, it always displays as cool colors.
- Under Heat mode, it always displays as a warm color.

### 3. Wireless Mode:

Displays when the wireless control feature is activated.

**NOTE:** A guide for using the infrared remote - "Remote Manual" - is included in this literature package.

### 4. Energy Saving Mode (optional):

Displays when Energy Saving Feature is active. Not available when the unit does not have Energy Saving Mode

	Cooling Operation	Heating Operation	Drying Operation
Room Temperature	(17°C~32°C) 62°F~90°F	(0°C~30°C) 32°F~86°F	(10°C~32°C) 50°F~90°F
Outdoor Temperature	(0°C~50°C) 32°F~122°F	(-15°C~30°C) 5°F~86°F	(0°C~50°C) 32°F~122°F
	5°F~122°F / -15°C~50°C (For the models with low ambient cooling system)		

**NOTE:**

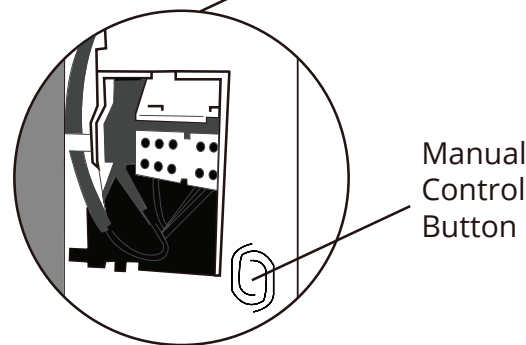
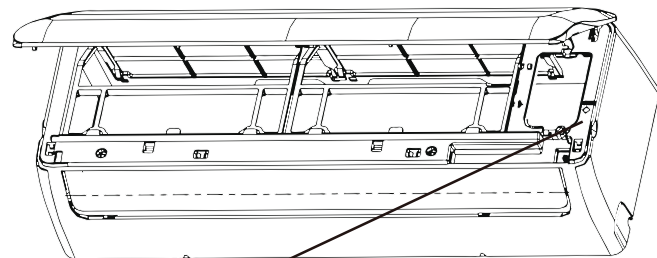
1. Optimum performance will be achieved within these operating temperatures. If air conditioner is used outside of the above conditions, certain safety protection features might come into operation and cause the unit to function abnormally.
2. If the air conditioner runs for a long time in cooling mode and the humidity is high (over 80%), condensed water may drip out of the unit. In this case, set the vertical air flow louver to its maximum angle (vertical toward the floor), and set it to HIGH fan mode.

### Manual Operation

Units are equipped with a switch to run emergency operation mode. It can be accessed by opening the front panel. This switch is used for manual operation in case the remote fails to work or maintenance is necessary.

**NOTE:** The unit must be turned off before operating the manual control button. If the unit is operational, continue pressing the manual control button until the unit is off.

1. Open and lift the front panel up to an angle until it remains fixed with a clicking sound.
2. One press of the manual control switch will lead to the forced AUTO operation. If the switch is pressed twice within five seconds, the unit will operate under forced COOL operation.
3. Close the panel firmly to its original position.



Manual Control Button

fig2.1

### **!** CAUTION

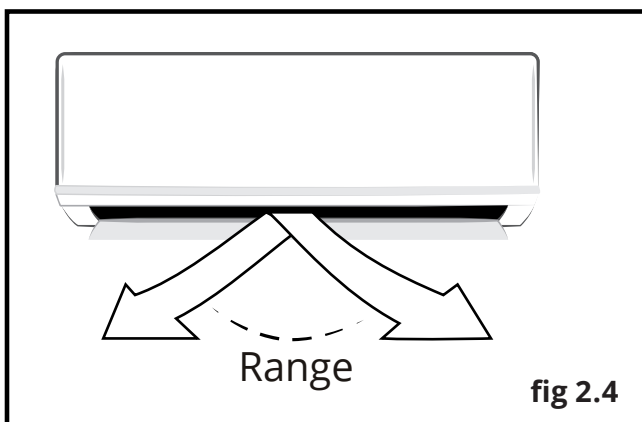
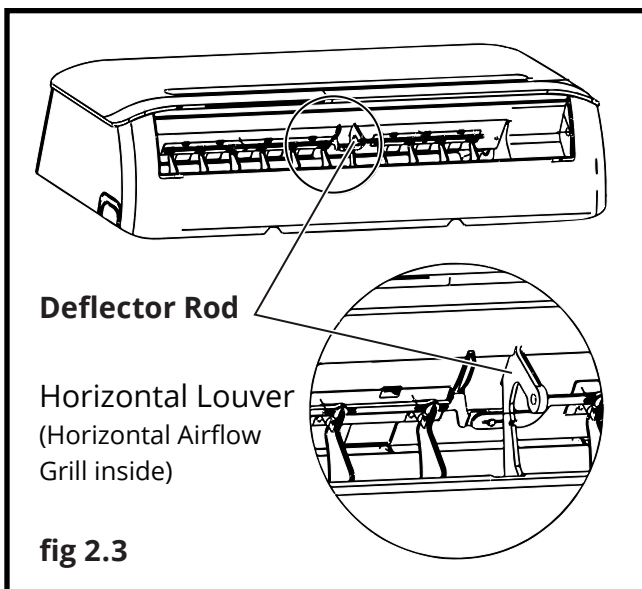
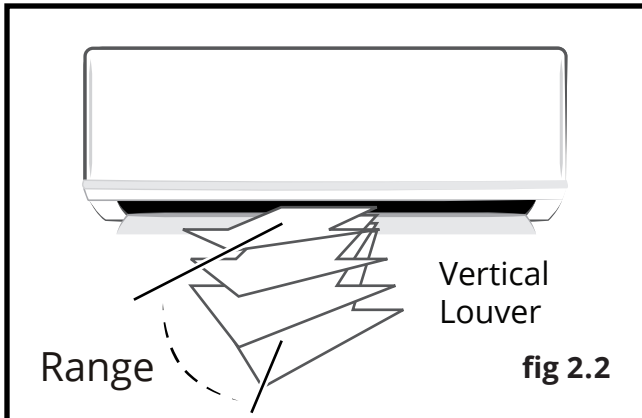
- This switch is used for testing purposes only. Please do not use it unless necessary.
- To restore the remote control operation, use the remote control directly.



# Operating Instructions

## Airflow Directional Control

- Adjust the airflow direction properly. Otherwise, it might cause discomfort or uneven room temperatures.
- Adjust the vertical louver using the remote.
- Adjust the horizontal louver manually.



## Adjust Vertical (Up / Down) Air Flow using Vertical Louver (fig2.2):

Perform this function while the unit is in operation. Use the remote control to adjust the Vertical Louver / Vertical Air Flow direction. The vertical louver can move in small increments for each press, or continuously swing up and down automatically. Please refer to the "REMOTE CONTROL USER MANUAL" for details.

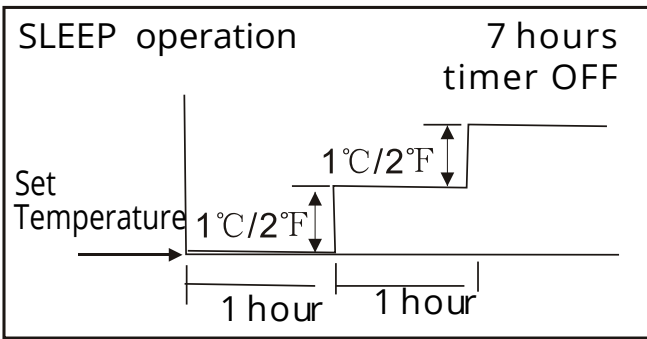
## Adjust Horizontal (Left/ Right) Airflow using Horizontal Louver (fig 2.3, fig 2.4):

Move the Deflector Rod manually to adjust the air flow side to side (left / right) as desired.

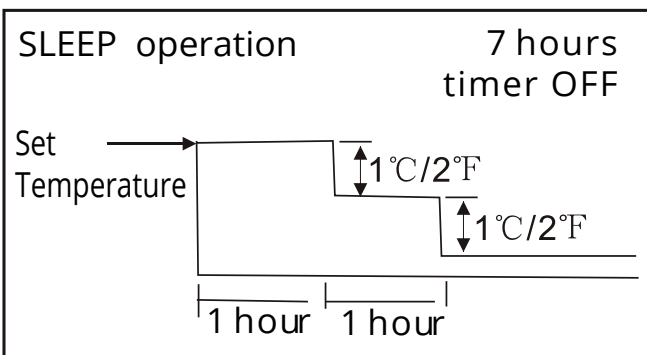
### ! CAUTION

- ⊘ **DO NOT** Do not put your fingers into the panel of the blower and suction side. The high speed fan inside may cause injury.
  - ⊘ **DO NOT** operate the unit for long periods of time with the airflow direction set downward in cooling or dehumidifying mode. Otherwise, condensation might occur on the surface of the vertical louver causing moisture to drop on to the floor or furnishings .
  - ⊘ **DO NOT** move the vertical louver manually. Otherwise, the vertical louver will be out of sync. IF this happens, cease operation, turn off power to the unit, remove the wireless module from the front cover, turn off power to the circuit (at the breaker), wait for a few seconds and turn power back on at the breaker, reinstall wireless module and power the unit back on.
1. After a quick restart, the vertical louver may remain static for approximately 10 seconds.
  2. Open angle of the vertical louver should not be set too small, as it will restrict airflow and reduce COOLING and HEATING performance.

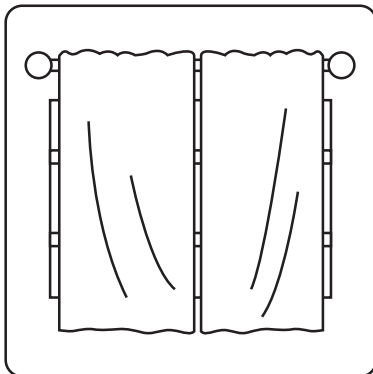
## How the air conditioner works



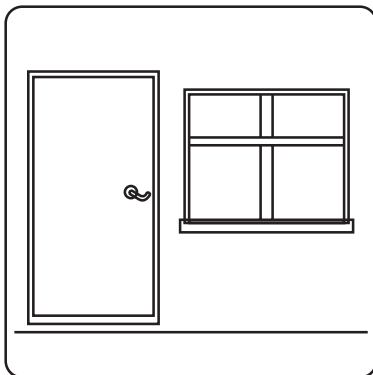
### Cooling



### Heating



Closing the curtains while heating also helps keep the heat in



Doors and windows should be kept closed

### Basic Operation MODEs:

AUTO / COOL / DRY / HEAT (Model dependent).

### Auto Operation:

When you set the air conditioner in AUTO mode, it will automatically select cooling, heating or fan-only operation depending on set temperature and room temperature. The unit will control the room temperature automatically, according to the temperature point you set.

### SLEEP Operation:

When selected, the temperature will increase while cooling or decrease while heating by 1C / 2F per hour for the first 2 hours. There after it keeps this new temperature for 5 hours before SLEEP mode switches off.

### DRYING Operation:

The temperature is regulated while dehumidifying by intermittently switching the cooling or fan-only operation on and off. The fan speed is set to LOW.

### HEATING Operation:

This unit is a heat pump by design. By reversing the air conditioning process, it absorbs heat from outdoors and transfers it to the indoor unit. As a result, the operating performance and efficiency is reduced as the outdoor air temperature drops. If you feel that the heating performance is insufficient, it is recommended that you supplement heating with other appliances.

### Optimal Operation:

To achieve optimal performance, please note the following:

- Adjust the airflow direction correctly, so that it is not towards people or at an extreme angle.
- Adjust the temperature to achieve moderate comfort levels. An excessively low or high temperature setting wastes energy.
- Keep windows and doors closed, as this improves performance.
- Limit energy usage (run time) by using the TIMER function.
- Do not put any objects near the air inlets / outlets. Doing so would impair performance and possible shut down the unit.
- Inspect the air filters periodically, and clean them as needed.

## Special Functions

### **Refrigerant Leakage Detection (optional):**

When refrigerant leakage is detected, the indoor unit will display "EC" code or flash LEDs, depending on the model.

### **Louver Angle Memory Function (optional):**

Within the scope of the safe operation angle, the horizontal louver angle is memorized and return to the position last selected by the user. If it exceeds the safe operation angle, it will default within the safe operation range. However, it will not return to safe operation angle when Turbo mode is set or the unit is in manual control or after a power interruption. Subsequently, it is strongly recommended that the horizontal louver angle not be set too small, to avoid possible condensation leakage.

### **Self Clean Function:**

Airborne bacteria can grow in the moisture on indoor heat exchangers. Regular drying of the exchanger prevents growth. By simply pressing the SELF CLEAN button on the remote, the system will automatically manage the process. This cleaning function can be performed as often as desired.

- The unit will operate in the following sequence:  
FAN mode on LOW then HEAT mode with LOW fan speed then FAN mode on LOW then STOP operation and turn off.
- This function can only be activated in COOL or DRY modes
- It is recommended to allow the unit to run in COOL mode for at least 30 minutes before activation.
- Pressing the SELF CLEAN button again will cancel the operation.

### **Clean Air Function (optional):**

Improving the quality of indoor air is one of the purposes of an air conditioner. This unit is equipped with an ionizer or plasma dust collector, depending on the model. The ionizers generates anions to circulate natural healthy air. The plasma dust collector generates a high voltage ionization zone. Most dust, smoke, and pollen particles are captured by the electrostatic filter.

### **Anti-Mildew Function (optional):**

When the unit is turned off, in COOL, DRY, AUTO (cool) modes, it will continue to run for about 10 minutes with a low fan airflow. This aids in drying up any condensation inside the unit to prevent mildew growth. Do not restart the air conditioner until the unit is completely off.

### **Optimal Operation:**

In the event of a power interruption such as a blackout, the air conditioner will stop. It will then restart automatically and resume the previous operation when the power supply returns.

## Special Functions Continued

### WiFi Control Function

Connect the wireless control module via the USB port in the back of the front cover of the indoor unit for the unit to be controlled by remote control and/or smartphone app.

### Clean Air Filter Reminder (optional)

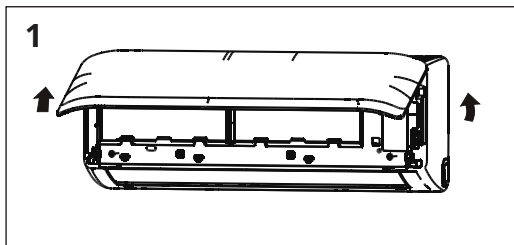
After 240 hours of operation, the indoor display window will display and flash "CL" as a reminder to CLEAN the air filter for more efficient operation. After 15 seconds, the system will revert back to the previous display again. When the "CL" indicator appears and flashes, please press the LED button on the remote control 4 times or press the manual control button 3 times to reset the hours.

### Replace Air Filter Reminder (optional)

After 2880 hours of operation, the indoor display window will display and flash "nF" as a reminder to REPLACE the air filter for more efficient operation. After 15 seconds, the system will revert back to the previous display again. When the "CL" indicator appears and flashes, please press the LED button on the remote control 4 times or press the manual control button 3 times to reset the hours.

### Mute Function (optional)

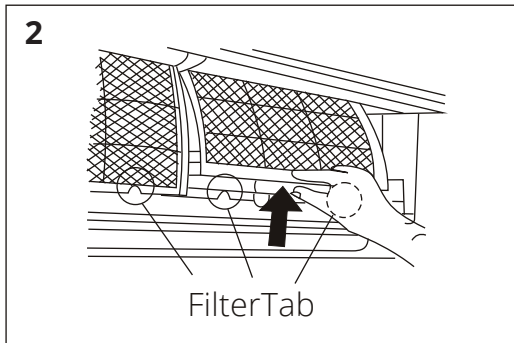
Press the LED button on the remote to turn off the LED display and silence the buzzer of the indoor unit, creating a quiet comfortable environment.



**Before maintenance turn the power off to the unit. Then, disconnect the power to the circuit at the breaker.**

### Cleaning the Unit:

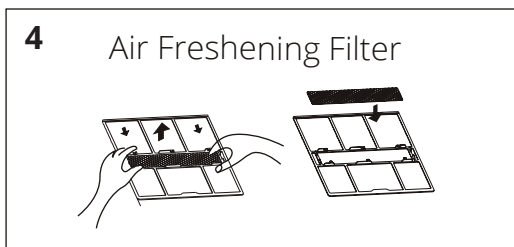
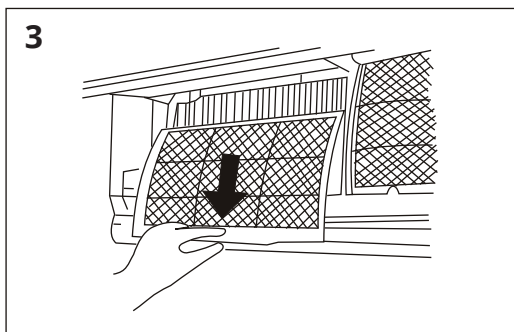
Wipe the unit with a soft dry cloth. If the unit is very dirty, wipe it with a cloth soaked in warm water. Do not use bleach or abrasives.



### Cleaning the Air Filter and Air Freshener:

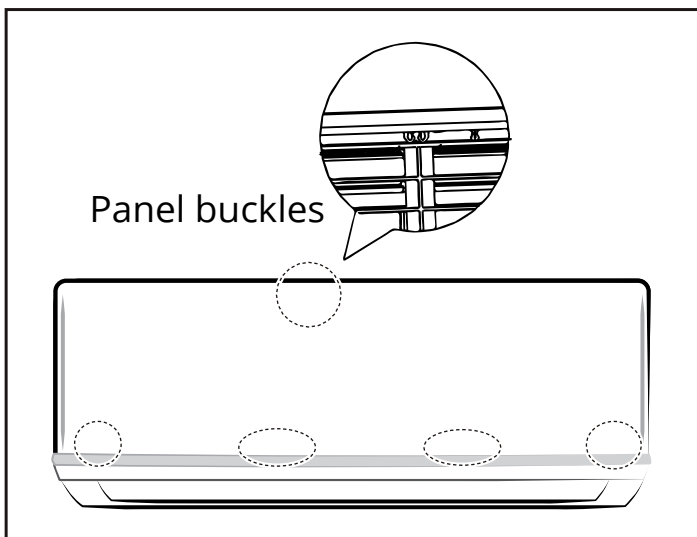
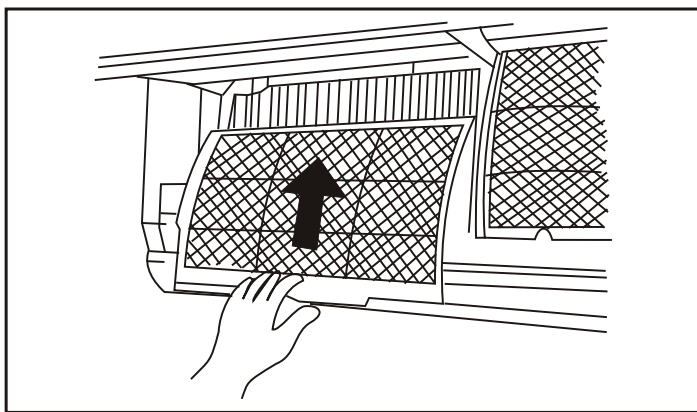
A clogged air filter can greatly reduce the heating and cooling efficiency of this unit. It is recommended to clean the unit every 2 weeks.

1. Open the front panel by carefully lifting both ends at the same time. At a certain angle, there will be an audible click and the lid becomes self-supporting. For some models suspension bars are provided and required to prop up the lid.
2. Use the filter tabs to lift the filter slightly upward and then toward you.
3. Then, extract the filter by gently drawing it downward. Replace as necessary.
4. Unclip the small air freshening filter from the the larger air filter. Replace as necessary. Otherwise, clean it with a vacuum and clip it back into place after cleaning the larger air filter as outlined in step 5...
5. Clean the large air filter with soapy water. Rinse with fresh water. Shake off excess water and dry in a cool area.
6. Re-clip air freshening filter into large air filter.



## ! CAUTION

- Power supply must be disconnected before attempting to clean or service.
- Do not use benzene, thinner, polishing powder, or similar solvents for cleaning. These may cause the plastic to crack and/or deform.
- Do not use chemically treated cloth or duster to clean the unit.
- Never use water hotter than 40°C / 104°F to clean the front panel, it could cause deformation and/or discoloration.



## **!** CAUTION

- **DO NOT** touch the metal parts of the unit when removing the filter. Injuries can occur when handling the sharp metal edges.
- **DO NOT** use water to clean inside the air conditioner. Exposure to water can destroy the insulation, leading to possible electric shock.
- **DO NOT** wash air filter with water hotter than 40°C / 104°F.
- **DO NOT** expose the filter directly to the sun, it may shrink. Dry it in the shade.

**Before maintenance turn the power off to the unit. Then, disconnect the power to the circuit at the breaker.**

**Before maintenance turn the power off to the unit. Then, disconnect the power to the circuit at the breaker.**

### **Cleaning the Air Filter continued:**

7. Re-fit air filter back into the unit by reversing steps 2 and 3 - gently pushing top up into the unit and then lowering the bottom into place.
8. Close the front panel. Make sure that buckles are fully fit and the panel is completely closed.

### **Preparation for Extended non-Operation:**

If you plan to not run the unit for a long period of time (e.g. from the end of summer to the beginning of the following summer), perform the following:

1. Clean the indoor unit and filters as previously outlined.
2. Operate the unit in FAN only mode for at least 8 hours to dry out the inside of the unit.
3. Turn off the unit. Turn off power to the circuit at the breaker. The unit should be the only appliance on the circuit.
4. Remove the batteries from the remote control.
5. The outdoor unit requires periodic maintenance as well. However, do not attempt this on your own. It is highly recommended that you contact a qualified service professional.

### **Pre-Season Inspection:**

After prolonged non-operation perform the following:

1. Check for Damaged or Disconnected wires.
2. Clean the Indoor Unit and Filters
3. Check for Water and Oil Leaks
4. Check for Blockages in Airflow Inlet and Outlet

# Troubleshooting

The following events may occur during normal operation, and may not indicate malfunction.

Symptom	Cause
<b>Operation is delayed after restart</b>	To prevent blowout of the fuse, the compressor will not operate while the protection circuit is working for about 3 minutes after sudden OFF--ON operation of the power supply.
<b>Fan speed changes - off, very slow and then normal</b>	Automatically happens in heating mode : --prevents cold air blowing onto occupants when heating operation starts --perform automatic defrosting operation, --perform low temperature heating operation
<b>Heating operation stops suddenly and defrost-light blinks</b>	In HEAT mode, the indoor unit temporarily stops for maximum of 10 minutes to perform the automatic defrosting operation.
<b>Mist coming out of the indoor unit</b>	In COOL mode, a mist generated by condensation formed with sudden cooling process may be emitted.
	Mist may generate due to moisture from defrosting process when the air conditioner restarts in HEAT mode operation after defrosting.
<b>Low volume sounds are emitted by the air conditioner</b>	Hissing sound -- during operation or immediately after stopping the air conditioner, refrigerant flowing sound may be heard
	Squeaking sound -- normal expansion and contraction of plastic and metal parts caused by temperature change during the operation.
	Rushing air -- when louver resets its position.
<b>Dust discharges from the unit</b>	May occur when air conditioner is used for the first time or has not been used for a long time
<b>Emits a peculiar odor</b>	Various smells generated from interior textile, furniture, or cigarette smoke absorbed into the air conditioner may be emitted. If not the case, contact a local dealer or your installation contractor.
<b>Changes to fan only while cooling or heating mode</b>	Room temperature reaches the temperature setting of the remote control. If not the case, contact a local dealer or your installation contractor.
<b>Operation is erratic, unpredictable or unresponsive</b>	Interference from cell phone towers and remote boosters may cause the unit to malfunction
	Turn power off on unit and circuit at breaker, wait 10 seconds and power on
	Press the ON/OFF button on the remote controller to restart operation.

*NOTE: If the problem is not resolved, please contact a qualified service professional. Be sure to inform them of the detailed malfunctions and unit model number.*

# Troubleshooting

Before you call to request service assistance, troubleshoot a problem by performing the following checks:

Symptom	Diagnostic
<b>Unit will not operate</b>	-- Is there a power failure?
	-- Has a switch been turned off, a circuit breaker tripped or a fuse blown?
	-- Is the timer operating?
	-- Are the batteries used in the remote controller exhausted?
	-- Are the batteries used in the remote controller loaded properly?
<b>Poor cooling or heating performance</b>	-- Are the air filters dirty?
	-- Is air flow unrestricted in & out of indoor & outdoor units?
	-- Are the temperature and mode settings correct?
	-- Are the windows or doors left opened?
	-- Is fan speed on high and louvers allowing maximum flow?
	-- Is direct or strong sunlight shining into the room in cooling operation?
	-- Are there other heating apparatus or computers operating, or too many people in the room in cooling operation?
-- Is the SILENCE function activated? Under SILENCE operation, noise reduction is prioritized and the air-conditioning performance may become lower.	
<b>Indicator lamps continue flashing</b>	-- The unit may stop operation or continue to run in a safety condition (depending on models). Waiting for about 10 minutes, the fault may be recovered automatically, if not, disconnect the power and then connect it again. If the problem still exists, disconnect the power and contact the nearest customer service center.
<b>Error code appears in the indoor unit, such as: E0,E1,E2.... P1,P2,P3..... or F1, F2,F3.....</b>	

*NOTE: If the problem is not resolved, please contact a qualified service professional. Be sure to inform them of the detailed malfunctions and unit model number.*



## WARNING

**In the case of ANY of the following, turn off the unit immediately!**

- Signal / power cable is damaged or abnormally warm
- Burning odor
- Loud or abnormal sounds
- A power fuse or circuit breaker trips frequently
- Water or other objects fall into or out of the unit

**DO NOT ATTEMPT TO CORRECT THESE ITEMS YOURSELF!**

**CONTACT A SERVICE PROFESSIONAL IMMEDIATELY**



## Indoor Unit Error Display

Operation LED	Timer LED	Display	LED STATUS
☒ 1 time	X	E0	Indoor unit EEPROM parameter error
☒ 2 times	X	E1	Indoor / outdoor units communication error
☒ 3 times	X	E2	Zero-crossing signal detection error
☒ 4 times	X	E3	Indoor fan speed has been out of control
☒ 5 times	X	E4	Indoor room temperature sensor T1 open circuit or short circuit
☒ 6 times	X	E5	Evaporator coil temperature sensor T2 open circuit or short circuit
☒ 7 times	X	EC	Refrigerant leakage detection
☒ 2 times	O	F1	Outdoor ambient temperature sensor T4 open circuit or short circuit
☒ 3 times	O	F2	Condenser coil temperature sensor T3 open circuit or short circuit
☒ 4 times	O	F3	Compressor discharge temperature sensor T5 open circuit or short circuit
☒ 5 times	O	F4	Outdoor unit EEPROM parameter error
☒ 6 times	O	F5	Outdoor fan speed has been out of control
☒ 1 time	☒	P0	IPM malfunction or IGBT over-strong current protec-
☒ 2 times	☒	P1	Over voltage or over low voltage protection
☒ 3 times	☒	P2	High temperature protection of compressor top diagnosis and solution (only for 9k,12k models)
☒ 5 times	☒	P4	Inverter compressor drive error

O (light)

X (off)

☒(flash)



**MRCOOL®**

**COMFORT MADE SIMPLE**

# Advantage Series

ELECTRICIAN and/or HVAC TECHNICIAN:

LICENSE #:

INSTALLATION DATE:

INSTALLATION LOCATION:

SERIAL NUMBER:

The design and specifications of this product and/or manual are subject to change without prior notice. Consult with the sales agency or manufacturer for details.