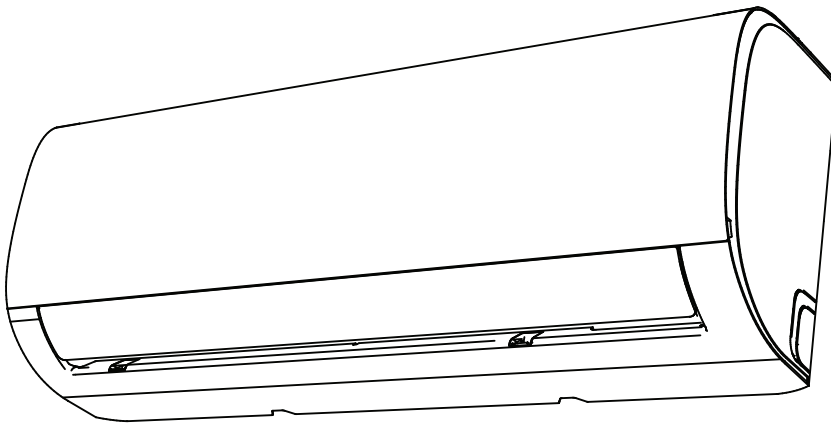


SPLIT-TYPE ROOM AIR CONDITIONER

Owner's Manual

comfee'



MSAF5-09HRDN8-QE-IU

MSAF5-12HRDN8-QE-IU

MSAF5-18HRDN8-QE-IU



IMPORTANT NOTE:

Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

Please check the applicable models, technical data, F-GAS(if any) and manufacturer information from the "Owner's Manual - Product Fiche " in the packaging of the outdoor unit.
(European Union products only)

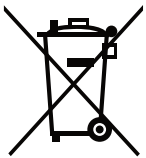
Table of Contents

Owner's Manual

1	Safety Precautions	03
2	Unit Specifications and Features	05
	1. Indoor unit display	05
	2. Other features	07
	3. Normal Operating temperature	08
	4. Setting angle of airflow.....	09
3	Care and Maintenance	10
4	Troubleshooting	12

European Disposal Guidelines

This marking shown on the product or its literature, indicates that waste electrical and electronic equipment should not be mixed with general household waste.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

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 designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will take back the old appliance free of charge.
- The manufacturer will take back 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.

Safety Precautions

1

Read Safety Precautions Before Operation and Installation

Incorrect installation due to ignoring instructions can cause serious damage or injury. The seriousness of potential damage or injuries is classified as either a **WARNING** or **CAUTION**.



WARNING

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



CAUTION

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



WARNING

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 of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision(EN Standard requirements).

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(IEC Standard requirements).

WARNINGS FOR PRODUCT USE

- If an abnormal situation arises (like a burning smell), immediately turn off the unit and disconnect the power. Call your dealer for instructions to avoid electric shock, fire or injury.
- **Do not** insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.
- **Do not** use flammable sprays such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.
- **Do not** operate the air conditioner in places near or around combustible gases. Emitted gas may collect around the unit and cause explosion.
- **Do not** operate your air conditioner in a wet room such as a bathroom or laundry room. Too much exposure to water can cause electrical components to short circuit.
- **Do not** expose your body directly to cool air for a prolonged period of time.
- **Do not** allow children to play with the air conditioner. Children must be supervised around the unit at all times.
- If the air conditioner is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.

CLEANING AND MAINTENANCE WARNINGS

- Turn off the device and disconnect the power before cleaning. Failure to do so can cause electrical shock.
- **Do not** clean the air conditioner with excessive amounts of water.
- **Do not** clean the air conditioner with combustible cleaning agents. Combustible cleaning agents can cause fire or deformation.

CAUTION

- Turn off the air conditioner and disconnect the power if you are not going to use it for a long time.
- Turn off and unplug the unit during storms.
- Make sure that water condensation can drain unhindered from the unit.
- **Do not** operate the air conditioner with wet hands. This may cause electric shock.
- **Do not** use device for any other purpose than its intended use.
- **Do not** climb onto or place objects on top of the outdoor unit.
- **Do not** allow the air conditioner to operate for long periods of time with doors or windows open, or if the humidity is very high.
- How to install the appliance to its support, please refer to the "INSTALLATION MANUAL" for details in "indoor unit installation" and "outdoor unit installation" sections.

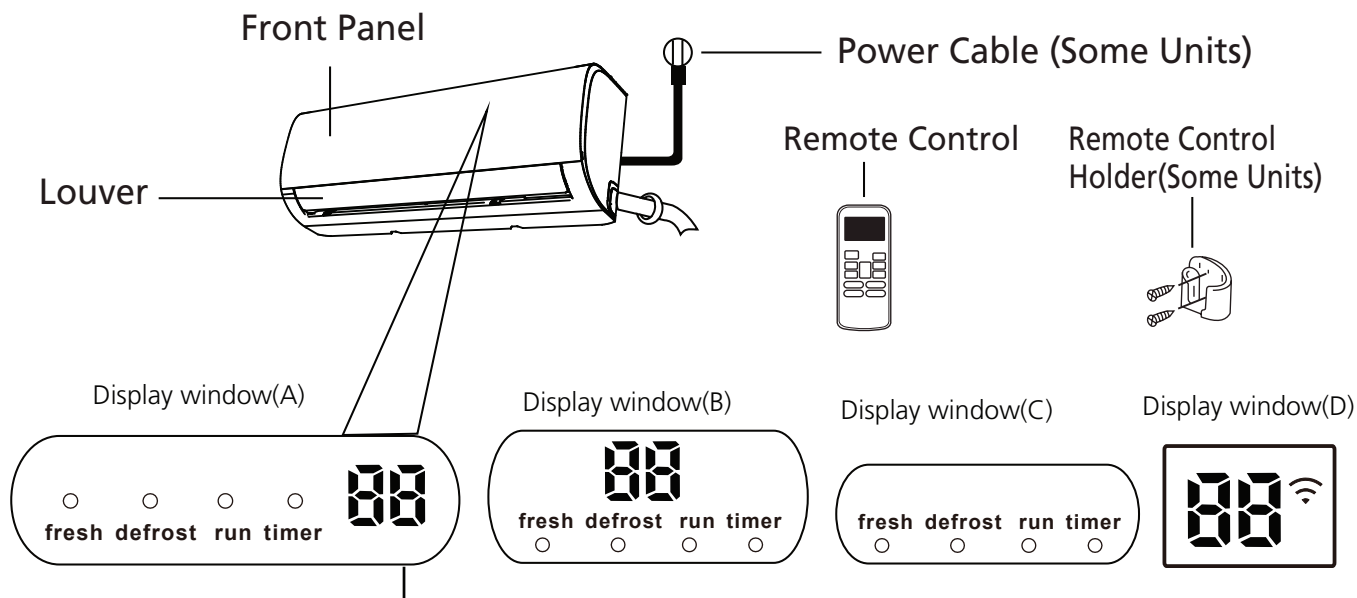
Note about Fluorinated Gasses

1. This air-conditioning unit contains fluorinated greenhouse gasses. For specific information on the type of gas and the amount, please refer to the relevant label on the unit itself or the "Owner's Manual - Product Fiche " in the packaging of the outdoor unit. (European Union products only).
2. Installation, service, maintenance and repair of this unit must be performed by a certified technician.
3. Product uninstallation and recycling must be performed by a certified technician.
4. For equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO₂ equivalent or more, but of less than 50 tonnes of CO₂ equivalent, If the system has a leak-detection system installed, it must be checked for leaks at least every 24 months.
5. When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended.

Unit Specifications and Features

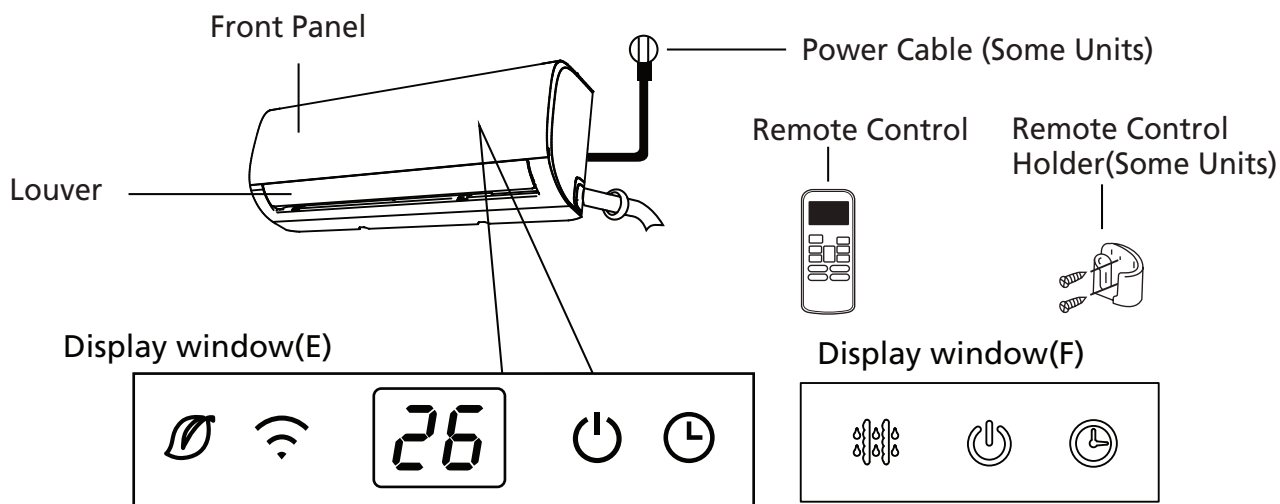
2






Unit Parts



" fresh " when Fresh feature is activated(some units)
"defrost" when defrost feature is activated.
" run " when the unit is on.
" timer " when TIMER is set.
" ̳ " when Wireless Control feature is activated(some units)
" 88 " Displays temperature, operation feature and Error codes:
 When ECO function(some units) is activated, the '88' illuminates gradually one by one as ̳ -- ̳ -- 0 --set temperature -- ̳ in one second interval.
" 01 " for 3 seconds when:
 • TIMER ON is set
 • FRESH, SWING, TURBO, or SILENCE feature is turned on
" 0F " for 3 seconds when:
 • TIMER OFF is set
 • FRESH, SWING, TURBO, or SILENCE feature is turned off
" cF " when anti-cold air feature is turned on
" dF " when defrosting
" 5C " when unit is self-cleaning(some units)
" FP " when 8°C heating feature is turned on(some units)

Display Code Meanings



- " " when Fresh feature is activated(some units)
- " " when Wireless Control feature is activated(some units)
- " " when the unit is on.
- " " when TIMER is set
- " " when defrosting(cooling & heating units).
- " **26** " Displays temperature, operation feature and Error codes:
 When ECO function(some units) is activated, the '88' illuminates gradually one by one as ξ -- ξ -- ξ -- ξ --set temperature -- ξ in one second interval.
- " **00** " for 3 seconds when:
- TIMER ON is set
 - FRESH, SWING, TURBO, or SILENCE feature is turned on
- " **0F** " for 3 seconds when:
- TIMER OFF is set
 - FRESH, SWING, TURBO, or SILENCE feature is turned off
- " **cF** " when anti-cold air feature is turned on
- " **dF** " when defrosting
- " **5C** " when unit is self-cleaning
- " **FP** " when 8°C heating feature is turned on

Display Code Meanings

NOTE: Different models have different front panel and display window. Not all the indicators describing below are available for the air conditioner you purchased. Please check the indoor display window of the unit you purchased.

Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.

A guide on using the infrared remote is not included in this literature package. Not all the functions are available for the air conditioner, please check the indoor display and remote control of the unit you purchased.

Other Features

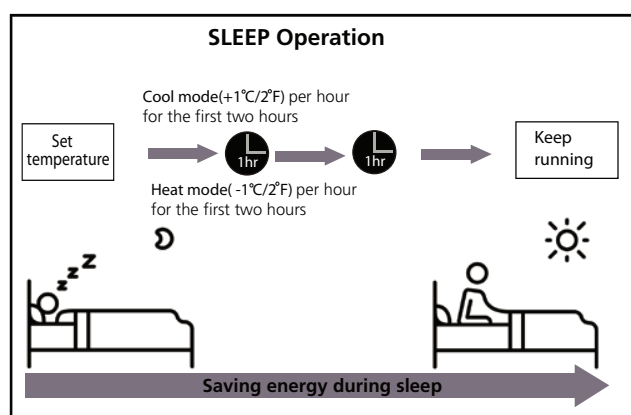
- Auto-Restart(some units)**
 If the unit loses power, it will automatically restart with the prior settings once power has been restored.
- Anti-mildew (some units)**
 When turning off the unit from COOL, AUTO (COOL), or DRY modes, the air conditioner will continue operate at very low power to dry up condensed water and prevent mildew growth.
- Wireless Control (some units)**
 Wireless control allows you to control your air conditioner using your mobile phone and a wireless connection.
 For the USB device access, replacement, maintenance operations must be carried out by professional staff.
- Louver Angle Memory(some units)**
 When turning on your unit, the louver will automatically resume its former angle.
- Refrigerant Leakage Detection (some units)**
 The indoor unit will automatically display "EC" when it detects refrigerant leakage.

• Sleep Operation

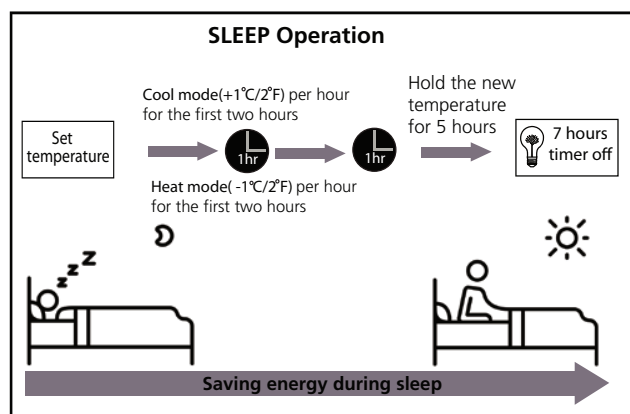
The SLEEP function is used to decrease energy use while you sleep (and don't need the same temperature settings to stay comfortable). This function can only be activated via remote control. And the Sleep function is not available in FAN or DRY mode.

Press the **SLEEP** button when you are ready to go to sleep. When in COOL mode, the unit will increase the temperature by 1°C (2°F) after 1 hour, and will increase an additional 1°C (2°F) after another hour. When in HEAT mode, the unit will decrease the temperature by 1°C (2°F) after 1 hour, and will decrease an additional 1°C (2°F) after another hour.

For some units, the sleep feature will stop after 8 hours and the system will keep running with final situation.



For some units, the unit will turn off after 7 hours.



Normal Operating temperature

When your air conditioner is used outside of the following temperature ranges, certain safety protection features will activate and cause the unit to disable.

Inverter Split Type

	COOL mode	HEAT mode	DRY mode
Room Temperature	17°C - 32°C (63°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)
	-15°C - 50°C (5°F - 122°F) (For models with low temp. cooling systems.)		
	0°C - 52°C (32°F - 126°F) (For special tropical models)		0°C - 52°C (32°F - 126°F) (For special tropical models)

FOR OUTDOOR UNITS WITH AUXILIARY ELECTRIC HEATER

When outside temperature is below 0°C (32°F), we strongly recommend keeping the unit plugged in at all time to ensure smooth ongoing performance.

Fixed-speed Type

	COOL mode	HEAT mode	DRY mode
Room Temperature	17°C-32°C (63°F-90°F)	0°C-30°C (32°F-86°F)	10°C-32°C (50°F-90°F)
Outdoor Temperature	18°C-43°C (64°F-109°F)	-7°C-24°C (19°F-75°F)	11°C-43°C (52°F-109°F)
	-7°C-43°C (19°F-109°F) (For models with low-temp cooling systems)		18°C-43°C (64°F-109°F)
	18°C-52°C (64°F-126°F) (For special tropical models)		18°C-52°C (64°F-126°F) (For special tropical models)

NOTE: Room relative humidity less than 80%. If the air conditioner operates in excess of this figure, the surface of the air conditioner may attract condensation. Please sets the vertical air flow louver to its maximum angle (vertically to the floor), and set HIGH fan mode.

To further optimize the performance of your unit, do the following:

- Keep doors and windows closed.
- Limit energy usage by using TIMER ON and TIMER OFF functions.
- Do not block air inlets or outlets.
- Regularly inspect and clean air filters.

• Setting Angle of Air Flow

Setting vertical angle of air flow

While the unit is on, use the **SWING/DIRECT** button on remote control to set the direction (vertical angle) of airflow. Please refer to the Remote Control Manual for details.

NOTE ON LOUVER ANGLES

When using COOL or DRY mode, do not set louver at too vertical an angle for long periods of time. This can cause water to condense on the louver blade, which will drop on your floor or furnishings.

When using COOL or HEAT mode, setting the louver at too vertical an angle can reduce the performance of the unit due to restricted air flow.

Setting horizontal angle of air flow

The horizontal angle of the airflow must be set manually. Grip the deflector rod (See **Fig.B**) and manually adjust it to your preferred direction.

For some units, the horizontal angle of the airflow can be set by remote control. please refer to the Remote Control Manual.

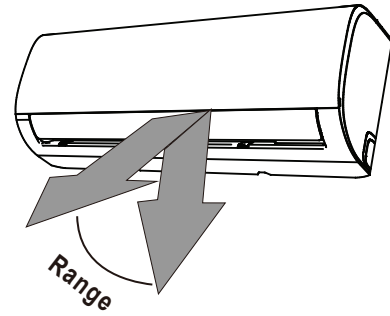
Manual Operation(without remote)

! CAUTION

The manual button is intended for testing purposes and emergency operation only. Please do not use this function unless the remote control is lost and it is absolutely necessary. To restore regular operation, use the remote control to activate the unit. Unit must be turned off before manual operation.

To operate your unit manually:

1. Open the front panel of the indoor unit.
2. Locate the **MANUAL CONTROL button** on the right-hand side of the unit.
3. Press the **MANUAL CONTROL button** one time to activate FORCED AUTO mode.
4. Press the **MANUAL CONTROL button** again to activate FORCED COOLING mode.
5. Press the **MANUAL CONTROL button** a third time to turn the unit off.
6. Close the front panel.



NOTE: Do not move louver by hand. This will cause the louver to become out of sync. If this occurs, turn off the unit and unplug it for a few seconds, then restart the unit. This will reset the louver.

Fig. A



CAUTION

Do not put your fingers in or near the blower and suction side of the unit. The high-speed fan inside the unit may cause injury.

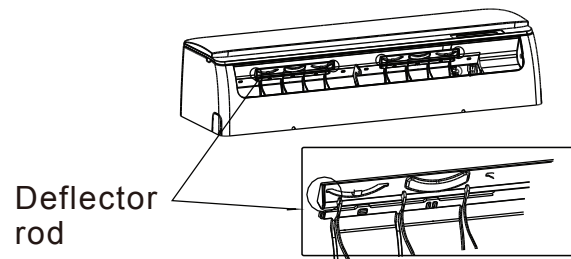
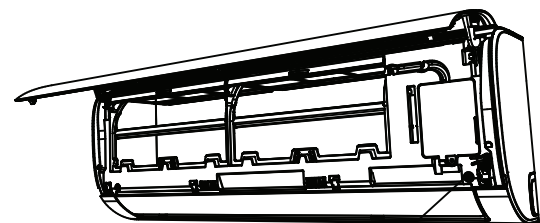


Fig. B



Care and Maintenance

3

Cleaning Your Indoor Unit

BEFORE CLEANING OR MAINTENANCE

ALWAYS TURN OFF YOUR AIR CONDITIONER SYSTEM AND DISCONNECT ITS POWER SUPPLY BEFORE CLEANING OR MAINTENANCE.

CAUTION

Only use a soft, dry cloth to wipe the unit clean. If the unit is especially dirty, you can use a cloth soaked in warm water to wipe it clean.

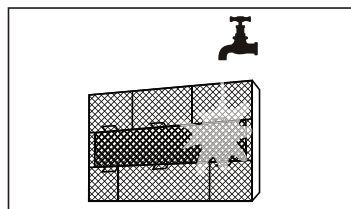
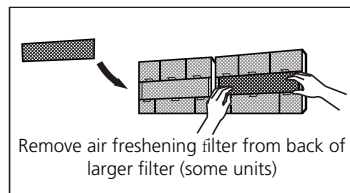
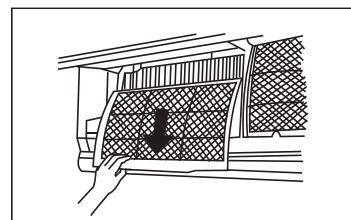
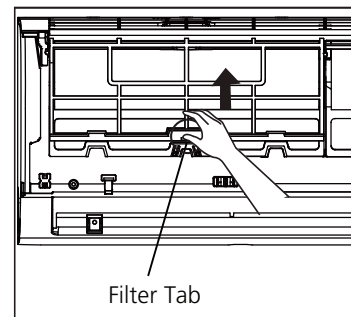
- **Do not** use chemicals or chemically treated cloths to clean the unit
- **Do not** use benzene, paint thinner, polishing powder or other solvents to clean the unit. They can cause the plastic surface to crack or deform.
- **Do not** use water hotter than 40°C (104°F) to clean the front panel. This can cause the panel to deform or become discolored.

Cleaning Your Air Filter

A clogged air conditioner can reduce the cooling efficiency of your unit, and can also be bad for your health. Make sure to clean the filter once every two weeks.

1. Lift the front panel of the indoor unit.
2. First press the tab on the end of filter to loosen the buckle, lift it up, then pull it towards yourself.
3. Now pull the filter out.
4. If your filter has a small air freshening filter, unclip it from the larger filter. Clean this air freshening filter with a hand-held vacuum.
5. Clean the large air filter with warm, soapy water. Be sure to use a mild detergent.

6. Rinse the filter with fresh water, then shake off excess water.
7. Dry it in a cool, dry place, and refrain from exposing it to direct sunlight.
8. When dry, re-clip the air freshening filter to the larger filter, then slide it back into the indoor unit.
9. Close the front panel of the indoor unit.



CAUTION

Do not touch air freshening (Plasma) filter for at least 10 minutes after turning off the unit.

CAUTION

- Before changing the filter or cleaning, turn off the unit and disconnect its power supply.
- When removing filter, do not touch metal parts in the unit. The sharp metal edges can cut you.
- Do not use water to clean the inside of the indoor unit. This can destroy insulation and cause electrical shock.
- Do not expose filter to direct sunlight when drying. This can shrink the filter.

Air Filter Reminders (Optional)

Air Filter Cleaning Reminder

After 240 hours of use, the display window on the indoor unit will flash "CL." This is a reminder to clean your filter. After 15 seconds, the unit will revert to its previous display.

To reset the reminder, press the **LED** button on your remote control 4 times, or press the **MANUAL CONTROL** button 3 times. If you don't reset the reminder, the "CL" indicator will flash again when you restart the unit.

Air Filter Replacement Reminder

After 2,880 hours of use, the display window on the indoor unit will flash "nF." This is a reminder to replace your filter. After 15 seconds, the unit will revert to its previous display.

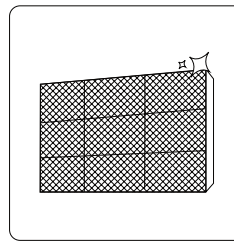
To reset the reminder, press the **LED** button on your remote control 4 times, or press the **MANUAL CONTROL** button 3 times. If you don't reset the reminder, the "nF" indicator will flash again when you restart the unit.

CAUTION

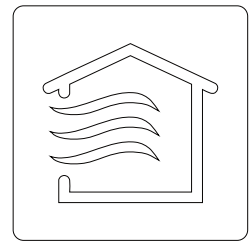
- Any maintenance and cleaning of outdoor unit should be performed by an authorized dealer or a licensed service provider.
- Any unit repairs should be performed by an authorized dealer or a licensed service provider.

Maintenance – Long Periods of Non-Use

If you plan not to use your air conditioner for an extended period of time, do the following:



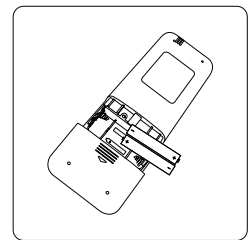
Clean all filters



Turn on FAN function until unit dries out completely



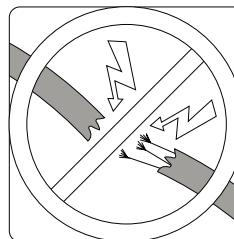
Turn off the unit and disconnect the power



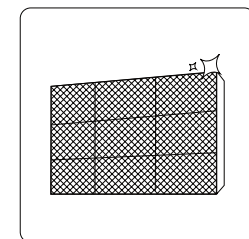
Remove batteries from remote control

Maintenance – Pre-Season Inspection

After long periods of non-use, or before periods of frequent use, do the following:



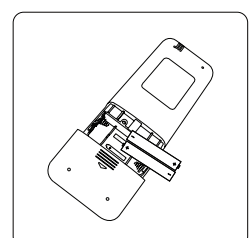
Check for damaged wires



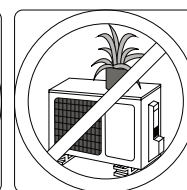
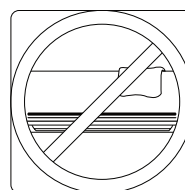
Clean all filters



Check for leaks



Replace batteries



Make sure nothing is blocking all air inlets and outlets

Troubleshooting

4



SAFETY PRECAUTIONS

If ANY of the following conditions occurs, turn off your unit immediately!

- The power cord is damaged or abnormally warm
- You smell a burning odor
- The unit emits loud or abnormal sounds
- A power fuse blows or the circuit breaker frequently trips
- Water or other objects fall into or out of the unit

DO NOT ATTEMPT TO FIX THESE YOURSELF! CONTACT AN AUTHORIZED SERVICE PROVIDER IMMEDIATELY!

Common Issues

The following problems are not a malfunction and in most situations will not require repairs.

Issue	Possible Causes
Unit does not turn on when pressing ON/OFF button	The Unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off.
The unit changes from COOL/HEAT mode to FAN mode	The unit may change its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating in the previously selected mode again.
	The set temperature has been reached, at which point the unit turns off the compressor. The unit will continue operating when the temperature fluctuates again.
The indoor unit emits white mist	In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist.
Both the indoor and outdoor units emit white mist	When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.

Issue	Possible Causes
The indoor unit makes noises	A rushing air sound may occur when the louver resets its position.
	A squeaking sound may occur after running the unit in HEAT mode due to expansion and contraction of the unit's plastic parts.
Both the indoor unit and outdoor unit make noises	Low hissing sound during operation: This is normal and is caused by refrigerant gas flowing through both indoor and outdoor units.
	Low hissing sound when the system starts, has just stopped running, or is defrosting: This noise is normal and is caused by the refrigerant gas stopping or changing direction.
	Squeaking sound: Normal expansion and contraction of plastic and metal parts caused by temperature changes during operation can cause squeaking noises.
The outdoor unit makes noises	The unit will make different sounds based on its current operating mode.
Dust is emitted from either the indoor or outdoor unit	The unit may accumulate dust during extended periods of non-use, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity.
The unit emits a bad odor	The unit may absorb odors from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations.
	The unit's filters have become moldy and should be cleaned.
The fan of the outdoor unit does not operate	During operation, the fan speed is controlled to optimize product operation.
Operation is erratic, unpredictable, or unit is unresponsive	Interference from cell phone towers and remote boosters may cause the unit to malfunction. In this case, try the following: <ul style="list-style-type: none"> • Disconnect the power, then reconnect. • Press ON/OFF button on remote control to restart operation.

NOTE: If problem persists, contact a local dealer or your nearest customer service center. Provide them with a detailed description of the unit malfunction as well as your model number.

Troubleshooting


When troubles occur, please check the following points before contacting a repair company.

Problem	Possible Causes	Solution
Poor Cooling Performance	Temperature setting may be higher than ambient room temperature	Lower the temperature setting
	The heat exchanger on the indoor or outdoor unit is dirty	Clean the affected heat exchanger
	The air filter is dirty	Remove the filter and clean it according to instructions
	The air inlet or outlet of either unit is blocked	Turn the unit off, remove the obstruction and turn it back on
	Doors and windows are open	Make sure that all doors and windows are closed while operating the unit
	Excessive heat is generated by sunlight	Close windows and curtains during periods of high heat or bright sunshine
	Too many sources of heat in the room (people, computers, electronics, etc.)	Reduce amount of heat sources
	Low refrigerant due to leak or long-term use	Check for leaks, re-seal if necessary and top off refrigerant
	SILENCE function is activated(optional function)	SILENCE function can lower product performance by reducing operating frequency. Turn off SILENCE function.

Problem	Possible Causes	Solution
The unit is not working	Power failure	Wait for the power to be restored
	The power is turned off	Turn on the power
	The fuse is burned out	Replace the fuse
	Remote control batteries are dead	Replace batteries
	The Unit's 3-minute protection has been activated	Wait three minutes after restarting the unit
	Timer is activated	Turn timer off
The unit starts and stops frequently	There's too much or too little refrigerant in the system	Check for leaks and recharge the system with refrigerant.
	Incompressible gas or moisture has entered the system.	Evacuate and recharge the system with refrigerant
	The compressor is broken	Replace the compressor
	The voltage is too high or too low	Install a manostat to regulate the voltage
Poor heating performance	The outdoor temperature is extremely low	Use auxiliary heating device
	Cold air is entering through doors and windows	Make sure that all doors and windows are closed during use
	Low refrigerant due to leak or long-term use	Check for leaks, re-seal if necessary and top off refrigerant
Indicator lamps continue flashing	<p>The unit may stop operation or continue to run safely. If the indicator lamps continue to flash or error codes appear, wait for about 10 minutes. The problem may resolve itself. If not, disconnect the power, then connect it again. Turn the unit on.</p> <p>If the problem persists, disconnect the power and contact your nearest customer service center.</p>	
Error code appears in the window display of indoor unit: <ul style="list-style-type: none"> • E0, E1, E2... • P1, P2, P3... • F1, F2, F3... 		

NOTE: If your problem persists after performing the checks and diagnostics above, turn off your unit immediately and contact an authorized service center.

SPLIT TYPE AIR CONDITIONER 

MODEL	MSAF5-09HRDN8-QE	
INDOOR MODEL	MSAF5-09HRDN8-QE-IU	
OUTDOOR MODEL	MSAF5-09HRDN8-QE-OU	
COOLING CAPACITY	8800Btu/h	
HEATING CAPACITY	10000Btu/h	
REFRIGERANT	R32/0.8kg	
EXCESSIVE OPERATING PRESSURE	DISCHARGE	4.3MPa
	SUCTION	1.7MPa
POWER SOURCE	220-240V~ 50Hz, 1Ph	
RATED CURRENT	10.0A	
RATED INPUT	2300W	
OUTDOOR UNIT RESISTANCE CLASS	IP 24	

Contains fluorinated greenhouse gases
GWP: 675; 0.54 tonnes CO₂ equivalent.

Enthält fluorierte Treibhausgase
GWP: 675; 0.54 Tonnen CO₂ Äquivalent.


MIDEA EUROPE GmbH, Eisenstraße 9c, 65428 Rüsselsheim, Germany

comfee'

OUTDOOR UNIT  **CAUTION**

1. Ensure to evacuate the air inside the indoor unit and pipes with vacuum pump.
2. Make sure the additional amount of refrigerant to be charged is based on the pipe size and length, please refer to the INSTALLATION INSTRUCTIONS for details.
3. Incorrect installation due to ignoring of the instruction will cause serious problem to the machine.

SPLIT TYPE AIR CONDITIONER 

MODEL	MSAF5-12HRDN8-QE	
INDOOR MODEL	MSAF5-12HRDN8-QE-IU	
OUTDOOR MODEL	MSAF5-12HRDN8-QE-OU	
COOLING CAPACITY	11000Btu/h	
HEATING CAPACITY	12280Btu/h	
REFRIGERANT	R32/0.8kg	
EXCESSIVE OPERATING PRESSURE	DISCHARGE	4.3MPa
	SUCTION	1.7MPa
POWER SOURCE	220-240V~ 50Hz, 1Ph	
RATED CURRENT	10.0A	
RATED INPUT	2300W	
OUTDOOR UNIT RESISTANCE CLASS	IP 24	

Contains fluorinated greenhouse gases
GWP: 675; 0.54 tonnes CO₂ equivalent.

Enthält fluorierte Treibhausgase
GWP: 675; 0.54 Tonnen CO₂ Äquivalent.


MIDEA EUROPE GmbH, Eisenstraße 9c, 65428 Rüsselsheim, Germany

comfee'

OUTDOOR UNIT  **CAUTION**

1. Ensure to evacuate the air inside the indoor unit and pipes with vacuum pump.
2. Make sure the additional amount of refrigerant to be charged is based on the pipe size and length, please refer to the INSTALLATION INSTRUCTIONS for details.
3. Incorrect installation due to ignoring of the instruction will cause serious problem to the machine.

SPLIT TYPE AIR CONDITIONER 

MODEL	MSAF5-18HRDN8-QE	
INDOOR MODEL	MSAF5-18HRDN8-QE-IU	
OUTDOOR MODEL	MSAF5-18HRDN8-QE-OU	
COOLING CAPACITY	16000Btu/h	
HEATING CAPACITY	19000Btu/h	
REFRIGERANT	R32/1.19kg	
EXCESSIVE OPERATING PRESSURE	DISCHARGE	4.3MPa
	SUCTION	1.7MPa
POWER SOURCE	220-240V~ 50Hz, 1Ph	
RATED CURRENT	13.0A	
RATED INPUT	2500W	
OUTDOOR UNIT RESISTANCE CLASS	IP 24	

Contains fluorinated greenhouse gases
GWP: 675; 0.74 tonnes CO₂ equivalent.

Enthält fluorierte Treibhausgase
GWP: 675; 0.74 Tonnen CO₂ Äquivalent.

MIDEA EUROPE GmbH, Eisenstraße 9c, 65428 Rüsselsheim, Germany

comfee'

OUTDOOR UNIT  **CAUTION**

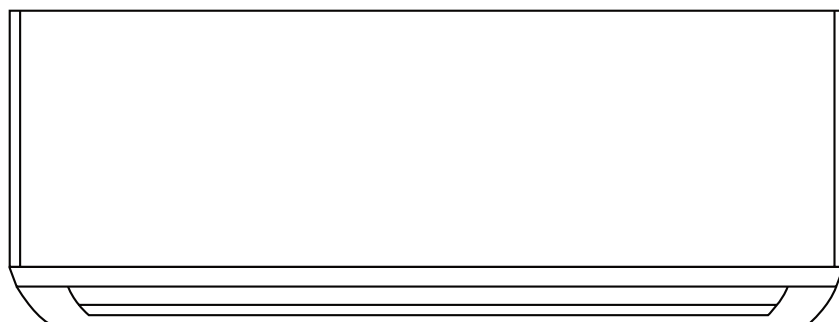
1. Ensure to evacuate the air inside the indoor unit and pipes with vacuum pump.
2. Make sure the additional amount of refrigerant to be charged is based on the pipe size and length, please refer to the INSTALLATION INSTRUCTIONS for details.
3. Incorrect installation due to ignoring of the instruction will cause serious problem to the machine.

The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details. Any updates to the manual will be uploaded to the service website, please check for the latest version.



SPLIT-TYPE ROOM AIR CONDITIONER

Installation Manual



IMPORTANT NOTE:



Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.



Table of Contents

1	Safety Precautions	3
2	Accessories	6
3	Unit Parts	7
4	Indoor Unit Installation	8
	1. Select installation location.....	8
	2. Attach mounting plate to wall.....	8
	3. Drill wall hole for connective piping.....	9
	4. Prepare refrigerant piping.....	10
	5. Connect drain hose.....	13
	6. Connect signal cable.....	14
	7. Wrap piping and cables.....	15
	8. Mount indoor unit.....	15
5	Outdoor Unit Installation	16
	1. Select installation location.....	16
	2. Install drain joint.....	17
	3. Anchor outdoor unit.....	18
	4. Connect signal and power cables.....	19
6	Refrigerant Piping Connection	20
	Connect the Refrigerant pipe to Outdoor unit	20
7	Electrical and Gas Leak Checks	22
8	Test Run	23
9	Information Servicing	25

Safety Precautions

1

Read Safety Precautions Before Operation and Installation

Incorrect installation due to ignoring instructions can cause serious damage or injury. The seriousness of potential damage or injuries is classified as either a **WARNING** or **CAUTION**.



WARNING

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



CAUTION

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

ELECTRICAL WARNINGS

- Only use the specified power cord. If the power cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Keep power plug clean. Remove any dust or grime that accumulates on or around the plug. Dirty plugs can cause fire or electric shock.
- **Do not** pull power cord to unplug unit. Hold the plug firmly and pull it from the outlet. Pulling directly on the cord can damage it, which can lead to fire or electric shock.
- **Do not** modify the length of the power supply cord or use an extension cord to power the unit.
- **Do not** share the electrical outlet with other appliances. Improper or insufficient power supply can cause fire or electrical shock.
- The product must be properly grounded at the time of installation, or electrical shock may occur.
- For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.
- If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have a leakage current that may exceed 10mA, the residual current device(RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

TAKE NOTE OF FUSE SPECIFICATIONS

The air conditioner's circuit board (PCB) is designed with a fuse to provide overcurrent protection. The specifications of the fuse are printed on the circuit board ,such as :

Indoor unit: T3.15AL/250VAC, T5AL/250VAC, T3.15A/250VAC, T5A/250VAC, etc.

Outdoor unit: T20A/250VAC(≤ 18000 Btu/h units), T30A/250VAC(> 18000 Btu/h units)

(Not applicable to the units without circuit board(PCB))

NOTE: For the units with R32 or R290 refrigerant , only the blast-proof ceramic fuse can be used.



WARNINGS FOR PRODUCT INSTALLATION

1. Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire.
2. Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire.
(In North America, installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.)
3. Contact an authorized service technician for repair or maintenance of this unit. This appliance shall be installed in accordance with national wiring regulations.
4. Only use the included accessories, parts, and specified parts for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.
5. Install the unit in a firm location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury and damage.
6. Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.
7. For units that have an auxiliary electric heater, **do not** install the unit within 1 meter (3 feet) of any combustible materials.
8. **Do not** install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause fire.
9. Do not turn on the power until all work has been completed.
10. When moving or relocating the air conditioner, consult experienced service technicians for disconnection and reinstallation of the unit.
11. How to install the appliance to its support, please read the information for details in "indoor unit installation" and "outdoor unit installation"



Cautions for using R32/R290 refrigerant

1. Installation (Space)
 - That the installation of pipe-work shall be kept to a minimum.
 - That pipe-work shall be protected from physical damage.
 - That compliance with national gas regulations shall be observed.
 - That mechanical connections shall be accessible for maintenance purposes.
 - In cases that require mechanical ventilation, ventilation openings shall be kept clear of obstruction.
 - When disposing of the product is used, be based on national regulations, properly processed.
2. Servicing
 - Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorises their competence to handle refrigerants safely in accordance with an industry recognised assessment specification.
 - Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
3. Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

4. The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater)
5. Do not pierce or burn.
6. Be aware that refrigerants may not contain an odour.
7. Be more careful that foreign matter (oil, water, etc) does not enter the piping. Also, when storing the piping, securely seal the opening by pinching, taping, etc.
 For indoor units, use R32 flareless joint assy only when connecting the indoor unit and connecting piping (when connecting indoors). Use of pipes, flareless nut or flare nuts other than specified, may cause product malfunction, burst piping, or injury due to high internal pressure of the refrigerant cycle caused by any inflow air.

! WARNING

Appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.

For R32 refrigerant models:

Appliance shall be installed, operated and stored in a room with a floor area larger than 4m². Appliance shall not be installed in an unventilated space, if that space is smaller than 4m².

For R290 refrigerant models, the minimum room size needed:






<=9000Btu/h units: 13m² , >9000Btu/h and <=12000Btu/h units: 17m²
 >12000Btu/h and <=18000Btu/h units: 24m²
 >18000Btu/h and <=24000Btu/h units: 35m²



Caution: Risk of fire

WARNING: Installation, servicing and decommissioning shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants. For more details, please refer to the section of "Information servicing". (This is only required for the unit adopts R32/R290 Refrigerant).

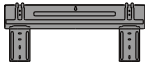









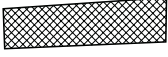


Explanation of symbols displayed on the indoor unit or outdoor unit (For the unit adopts R32/R290 Refrigerant only):

	WARNING	This symbol shows that this appliance used a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire.
	CAUTION	This symbol shows that the operation manual should be read carefully.
	CAUTION	This symbol shows that a service personnel should be handling this equipment with reference to the installation manual.
	CAUTION	
	CAUTION	This symbol shows that information is available such as the operating manual or installation manual.

Accessories

2

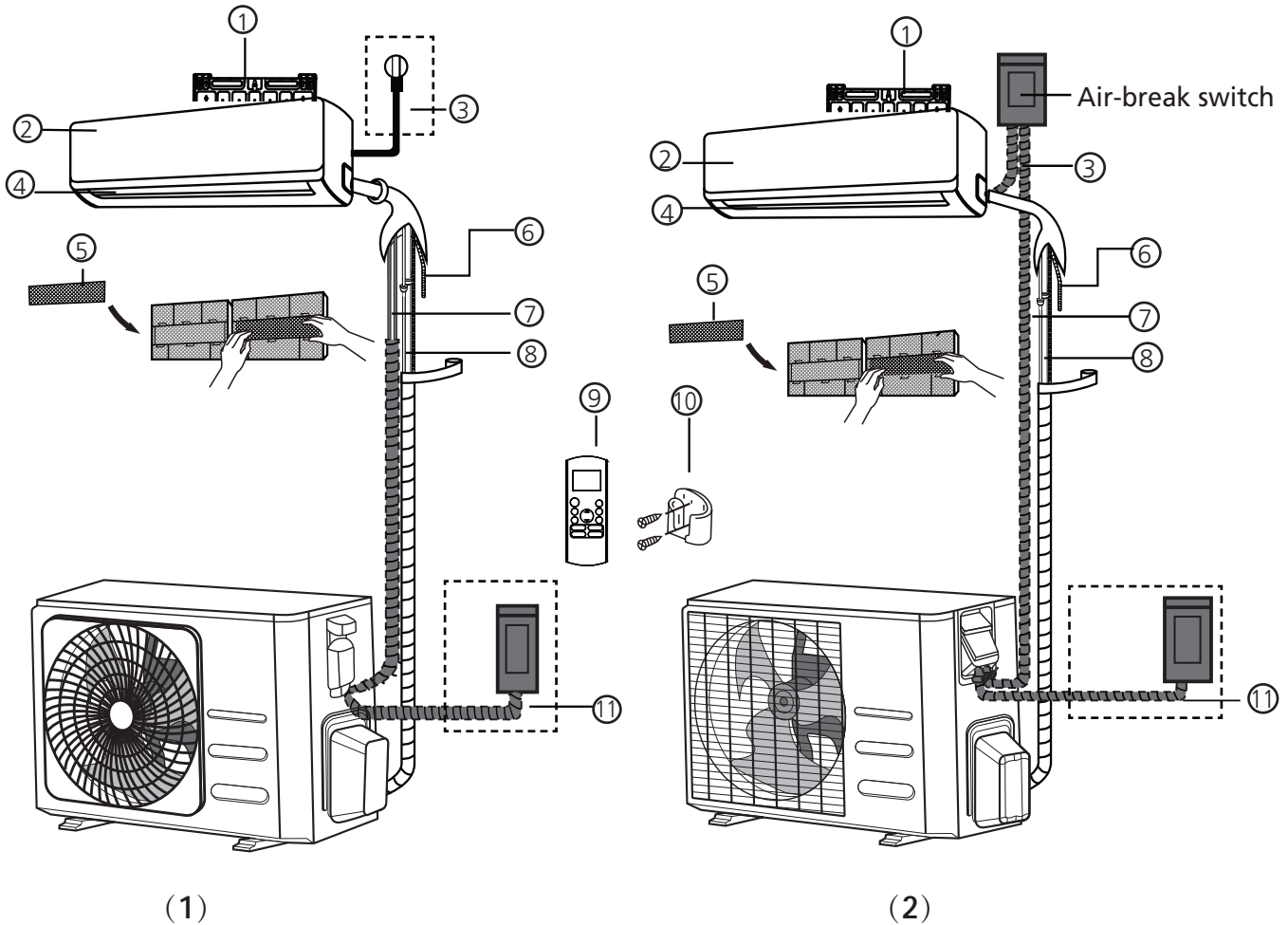
The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail. The items are not included with the air conditioner must be purchased separately.

Name	Shape	Quantity	
Mounting plate		1	
Clip anchor		5	
Mounting plate fixing screw ST3.9 X 25		5	
Remote controller		1	
Fixing screw for remote controller holder		2	Optional Parts
Remote controller holder		1	
Dry battery AAA.LR03		2	
Seal		1 (for cooling & heating models only)	
Drain joint			
Owner's manual		1	
Installation manual		1	
Remote controller illustration		1	
Air freshening filter		1 (used to install on the back of air filter)	
Quick connecting refrigerant pipe		1	
Sound deadening pad		2 (used to wrap up the quick connectors)	

Unit Parts

3

NOTE: The installation must be performed in accordance with the requirement of local and national standards. The installation may be slightly different in different areas.



- ① Wall Mounting Plate
- ② Front Panel
- ③ Power Cable (Some Units)
- ④ Louver
- ⑤ Functional Filter (On Back of Main Filter - Some Units)
- ⑥ Drainage Pipe
- ⑦ Signal Cable
- ⑧ Refrigerant Piping
- ⑨ Remote Controller
- ⑩ Remote controller Holder (Some Units)
- ⑪ Outdoor Unit Power Cable (Some Units)

NOTE ON ILLUSTRATIONS

Illustrations in this manual are for explanatory purposes. The actual shape of your indoor unit may be slightly different. The actual shape shall prevail.

Indoor Unit Installation

4

Installation Instructions – Indoor Unit

PRIOR TO INSTALLATION

Before installing the indoor unit, refer to the label on the product box to make sure that the model number of the indoor unit matches the model number of the outdoor unit.

Step 1: Select installation location

Before installing the indoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

Proper installation locations meet the following standards:

- Good air circulation
- Convenient drainage
- Noise from the unit will not disturb other people
- Firm and solid—the location will not vibrate
- Strong enough to support the weight of the unit
- A location at least one meter from all other electrical devices (e.g., TV, radio, computer)

DO NOT install unit in the following locations:

- Near any source of heat, steam, or combustible gas
- Near flammable items such as curtains or clothing
- Near any obstacle that might block air circulation
- Near the doorway
- In a location subject to direct sunlight

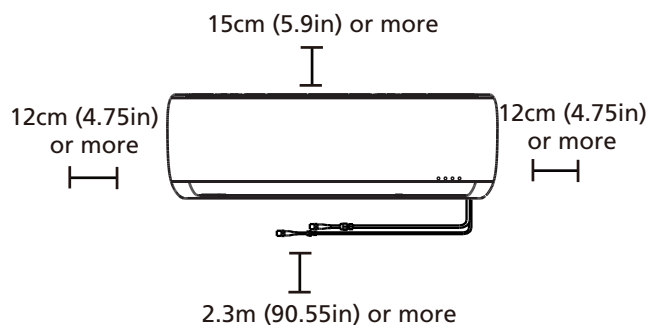
NOTE ABOUT WALL HOLE:

If there is no fixed refrigerant piping:

While choosing a location, be aware that you should leave ample room for a wall hole (see **Drill wall hole for connective piping** step) for the signal cable and refrigerant piping that connect the indoor and outdoor units.

The default position for all piping is the right side of the indoor unit (while facing the unit). However, the unit can accommodate piping to both the left and right.

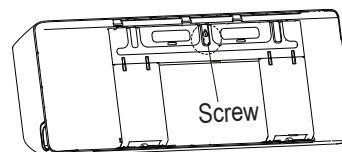
Refer to the following diagram to ensure proper distance from walls and ceiling:



Step 2: Attach mounting plate to wall

The mounting plate is the device on which you will mount the indoor unit.

- Remove the screw that attaches the mounting plate to the back of the indoor unit.



- Secure the mounting plate to the wall with the screws provided. Make sure that mounting plate is flat against the wall.

NOTE FOR CONCRETE OR BRICK WALLS:

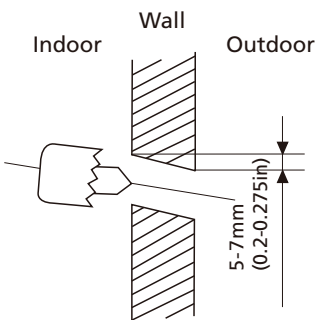
If the wall is made of brick, concrete, or similar material, drill 5mm-diameter (0.2in-diameter) holes in the wall and insert the sleeve anchors provided. Then secure the mounting plate to the wall by tightening the screws directly into the clip anchors.

Step 3: Drill wall hole for connective piping

1. Determine the location of the wall hole based on the position of the mounting plate. Refer to **Mounting Plate Dimensions**.
2. Using a 65mm (2.5in) or 90mm(3.54in) (depending on models)core drill, drill a hole in the wall. Make sure that the hole is drilled at a slight downward angle, so that the outdoor end of the hole is lower than the indoor end by about 5mm to 7mm (0.2-0.275in). This will ensure proper water drainage.
3. Place the protective wall cuff in the hole. This protects the edges of the hole and will help seal it when you finish the installation process.

NOTE: When the gas side connective pipe is $\phi 16\text{mm}(5/8\text{in})$ or more, the wall hole should be $\phi 90\text{mm}(3.54\text{in})$.

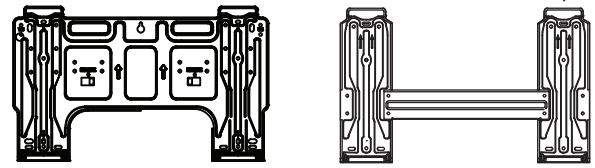
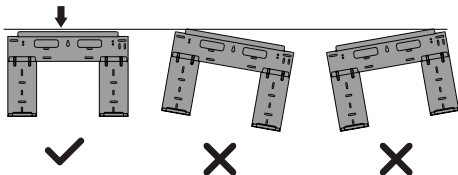
CAUTION
When drilling the wall hole, make sure to avoid wires, plumbing, and other sensitive components.



MOUNTING PLATE DIMENSIONS

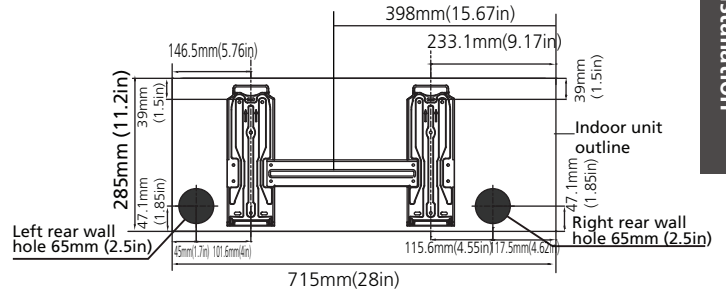
Different models have different mounting plates. For the different customization requirements, the shape of the mounting plate may be slightly different. But the installation dimensions are the same for the same size of indoor unit. See Type A and Type B for example:

Correct orientation of Mounting Plate

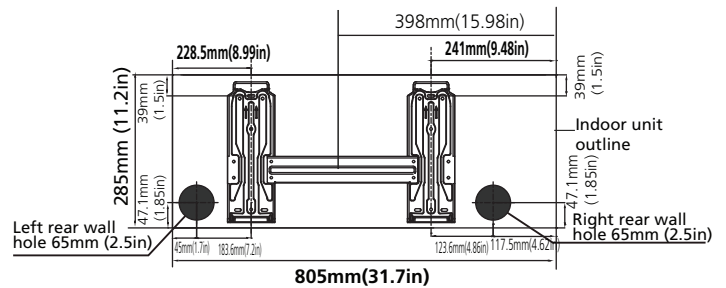


Type A

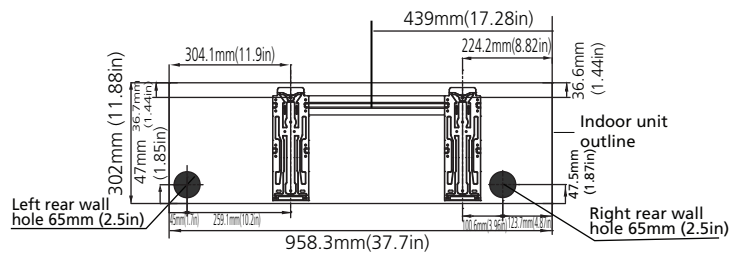
Type B



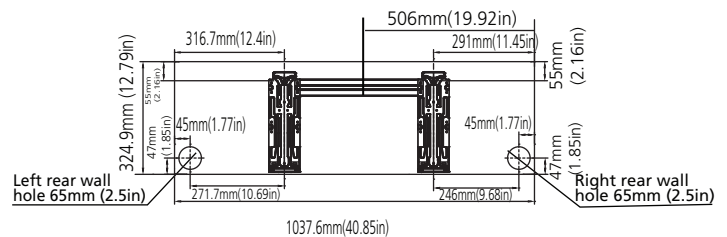
Model A



Model B



Model C



Model D

Step 4: Prepare refrigerant piping

The refrigerant piping is inside an insulating sleeve attached to the back of the unit. You must prepare the piping before passing it through the hole in the wall.

Unit is adjustable

Keep in mind that the hooks on the mounting plate are smaller than the holes on the back of the unit. If you find that you don't have ample room to connect embedded pipes to the indoor unit, the unit can be adjusted left or right by about 30-50mm (1.25-1.95in), depending on the model



Move to left or right

Fig.4.4

4.1 Tools needed

-You will require the following tools to carry out this installation work correctly:

- 1x open-ended spanner, 19 mm
- 1x open-ended spanner, 22 mm/24mm
- 1x open-ended spanner, 24 mm/27mm
- 1x Allen key, 5 mm
- 1x Philips screwdriver
- 1x leak detection spray or alternatively soap suds (water/detergent mix)

4.2 Important information

- Follow the detailed instructions for connecting the refrigerant pipes to the indoor unit and outdoor unit. We can only provide a warranty if the lines are installed correctly as described in the instructions.
- Do not remove the sealing caps and stoppers until immediately before you install the lines.
- To prevent leaks, ensure that the quick-release screw connections are absolutely free of dirt. Moisture or foreign bodies will adversely affect the function of the quick-release connectors, leading to a risk of refrigerant loss (not covered by the warranty).
- Only install refrigerant lines outdoors in dry weather.
- The refrigerant lines must not be installed and then plastered over.

- Please make sure that refrigerant is never allowed to enter the environment. Improper handling of refrigerant may be harmful to health. Always wear work gloves and goggles when handling refrigerant.
- Do not smoke during the installation work. The equipment must never be operated without the refrigerant lines connected, otherwise the equipment will be damaged immediately.
- The screw connections may only be tightened using the appropriate open-ended spanner.

Refrigerant pipe Connectors(both ends):

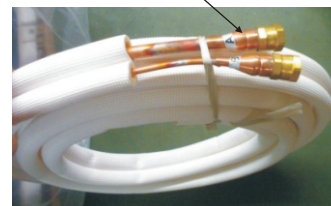


Fig.4.5

NOTE: To distinguish the connectors to be connected to the indoor unit and outdoor unit, the connectors of the refrigerant pipe has been labelled "A", "B", "C" and "D". Ensure the marks on the connectors are the same to the indoor's and outdoor's respectively during connection.

- Remember that if they are tightened with too little torque, they will leak, but if they are tightened with too much torque, the screw connections may suffer damage. If you should not be confident about connecting the refrigerant line connectors yourself, it is imperative that you contact your customer service team or a refrigeration contractor.

Important! The EQ valves are only designed for one-time installation. Their seal can not be guaranteed if they are installed on more than one occasion. This will also void the warranty.

4.3 Connecting the refrigerant pipes to indoor unit

1. Do not remove the plastic seals from the indoor equipment and the appropriate refrigerant pipe until immediately before you connect them.
2. Align the refrigerant pipes correctly, make sure the dimensions of the connecting refrigerant pipe are the same. Place the screw connector on the refrigerant pipes just on to the thread on the indoor equipment and tighten the first few threads by hand. See Fig.4.6.

IMPORTANT: Before you continue, it is essential that you read the following instructions carefully.



Fig.4.6

3. Hold the points marked "①" using an open-ended spanner and turn the nuts only at the points marked "②" using an open-ended spanner (Select the appropriate spanner according to the dimensions of the connector). See Fig.4.7 & 4.8

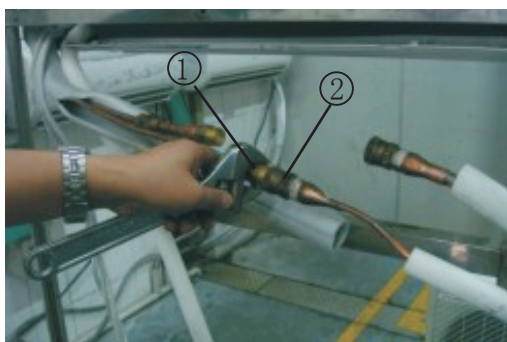


Fig.4.7



Fig.4.8

4. Ensure that the screw connectors do not skew as you tighten them and work quickly.

IMPORTANT: Since the coupling works with tapping rings, it may leak if you undo and reconnect the pipes. This will also void the warranty.

5. After finishing the connection, use the tape to wrap the refrigerant pipe and connecting cable together. See Fig.4.9.



Fig.4.9

6. After finishing connecting the couple of the quick connectors, pass drain hose and refrigerant pipes through the wall hole as shown in Fig.4.10.

NOTE: The quick connector parts must be placed outside of room. Using wall hole sleeve, cap and neoprene to seal the wall hole.



Fig.4.10

7. In order to prevent the quick connector parts from being exposed in the air, the sound deadening pads are supposed to be used during the installation, see Fig.4.11.



Fig.4.11

8. Wrap up the quick connectors with the sound deadening pads, pack down the pads solid as tightly as shown in Fig.4.12.

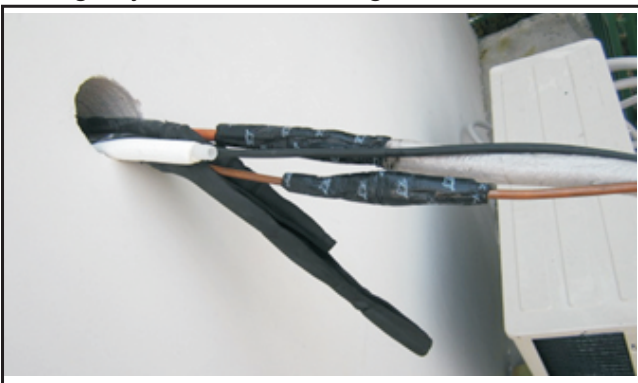


Fig.4.12

9. Then wrap up the connectors with the black insulation material, for the top exposed part, use the white insulation material (supplied in Accessories box) to wrap it up completely as shown in Fig.4.13.

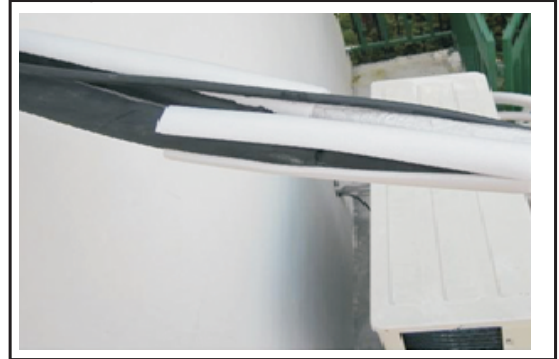


Fig.4.13

10. At last, use the tape to wrap the refrigerant pipe and connecting cable together.

NOTE ON PIPING ANGLE

Refrigerant piping can exit the indoor unit from two different angles:

- Left-rear side
- Right-rear side

Refer to Fig. 4.14 for details.

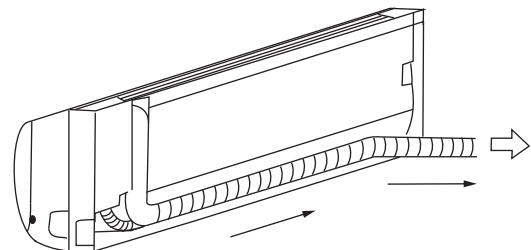
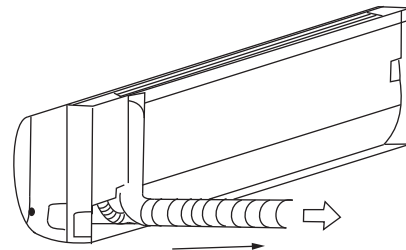


Fig. 4.14

! CAUTION

Be extremely careful not to dent or damage the piping while bending them away from the unit. Any dents in the piping will affect the unit's performance.

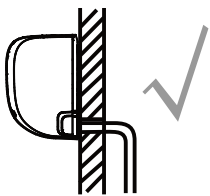
Step 5: Connect drain hose

By default, the drain hose is attached to the left-hand side of unit (when you're facing the back of the unit). However, it can also be attached to the right-hand side. To ensure proper drainage, attach the drain hose on the same side that your refrigerant piping exits the unit.

- Wrap the connection point firmly with Teflon tape to ensure a good seal and to prevent leaks.
- Remove the air filter and pour a small amount of water into the drain pan to make sure that water flows from the unit smoothly.

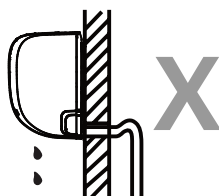
NOTE ON DRAIN HOSE PLACEMENT

Make sure to arrange the drain hose according to the following figures.



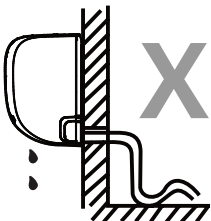
CORRECT

Make sure there are no kinks or dent in drain hose to ensure proper drainage.



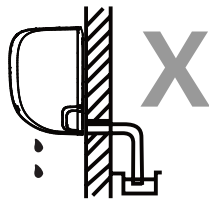
NOT CORRECT

Kinks in the drain hose will create water traps.



NOT CORRECT

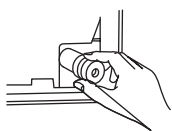
Kinks in the drain hose will create water traps.



NOT CORRECT

Do not place the end of the drain hose in water or in containers that collect water. This will prevent proper drainage.

PLUG THE UNUSED DRAIN HOLE



To prevent unwanted leaks you must plug the unused drain hole with the rubber plug provided.

BEFORE PERFORMING ANY ELECTRICAL WORK, READ THESE REGULATIONS

1. All wiring must comply with local and national electrical codes, regulations and must be installed by a licensed electrician.
2. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
3. If there is a serious safety issue with the power supply, stop work immediately. Explain your reasoning to the client, and refuse to install the unit until the safety issue is properly resolved.
4. Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause malfunction, electrical shock, or fire.
5. If connecting power to fixed wiring, install a surge protector and main power switch with a capacity of 1.5 times the maximum current of the unit.
6. If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
7. Only connect the unit to an individual branch circuit outlet. Do not connect another appliance to that outlet.
8. Make sure to properly ground the air conditioner.
9. Every wire must be firmly connected. Loose wiring can cause the terminal to overheat, resulting in product malfunction and possible fire.
10. Do not let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.
11. If the unit has an auxiliary electric heater, it must be installed at least 1 meter (40in) away from any combustible materials.
12. To avoid getting an electric shock, never touch the electrical components soon after the power supply has been turned off. After turning off the power, always wait 10 minutes or more before you touch the electrical components.

! WARNING

BEFORE PERFORMING ANY ELECTRICAL OR WIRING WORK, TURN OFF THE MAIN POWER TO THE SYSTEM.

Step 6: Connect signal cable

The signal cable enables communication between the indoor and outdoor units. You must first choose the right cable size before preparing it for connection.

Cable Types

- **Indoor Power Cable** (if applicable): H05VV-F or H05V2V2-F
- **Outdoor Power Cable:** H07RN-F
- **Signal Cable:** H07RN-F

Minimum Cross-Sectional Area of Power and Signal Cables North America

Appliance Amps (A)	AWG
10	18
13	16
18	14
25	12

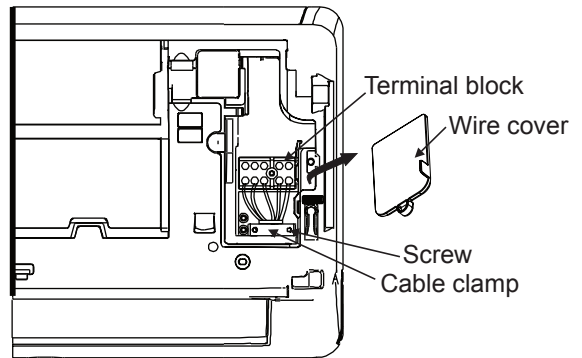
Other Regions

Rated Current of Appliance (A)	Nominal Cross-Sectional Area (mm ²)
> 3 and ≤ 6	0.75
> 6 and ≤ 10	1
> 10 and ≤ 16	1.5
> 16 and ≤ 25	2.5
> 25 and ≤ 32	4
> 32 and ≤ 40	6

CHOOSE THE RIGHT CABLE SIZE

The size of the power supply cable, signal cable, fuse, and switch needed is determined by the maximum current of the unit. The maximum current is indicated on the nameplate located on the side panel of the unit. Refer to this nameplate to choose the right cable, fuse, or switch.

1. Open front panel of the indoor unit.
2. Using a screwdriver, open the wire box cover on the right side of the unit. This will reveal the terminal block.



! WARNING

ALL WIRING MUST PERFORMED STRICTLY IN ACCORDANCE WITH THE WIRING DIAGRAM LOCATED ON THE BACK OF THE INDOOR UNIT'S FRONT PANEL .

3. Unscrew the cable clamp below the terminal block and place it to the side.
4. Facing the back of the unit, remove the plastic panel on the bottom left-hand side.
5. Feed the signal wire through this slot, from the back of the unit to the front.
6. Facing the front of the unit, connect the wire according to the indoor unit's wiring diagram, connect the u-lug and firmly screw each wire to its corresponding terminal.

! CAUTION

DO NOT MIX UP LIVE AND NULL WIRES

This is dangerous, and can cause the air conditioning unit to malfunction.

7. After checking to make sure every connection is secure, use the cable clamp to fasten the signal cable to the unit. Screw the cable clamp down tightly.
8. Replace the wire cover on the front of the unit, and the plastic panel on the back.

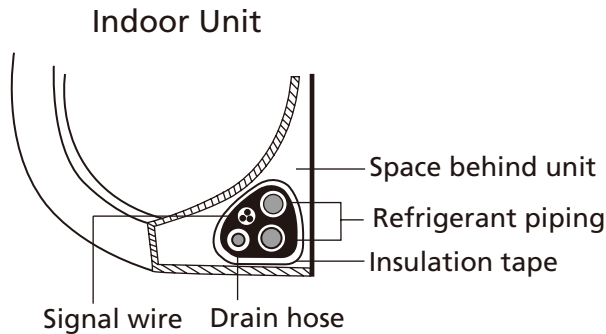
! NOTE ABOUT WIRING

THE WIRING CONNECTION PROCESS MAY DIFFER SLIGHTLY BETWEEN UNITS AND REGIONS.

Step 7: Wrapping and cables

Before passing the piping, drain hose, and the signal cable through the wall hole, you must bundle them together to save space, protect them, and insulate them (Not applicable in North America).

1. Bundle the drain hose, refrigerant pipes, and signal cable as shown below:



DRAIN HOSE MUST BE ON BOTTOM

Make sure that the drain hose is at the bottom of the bundle. Putting the drain hose at the top of the bundle can cause the drain pan to overflow, which can lead to fire or water damage.

DO NOT INTERTWINE SIGNAL CABLE WITH OTHER WIRES

While bundling these items together, do not intertwine or cross the signal cable with any other wiring.

2. Using adhesive vinyl tape, attach the drain hose to the underside of the refrigerant pipes.
3. Using insulation tape, wrap the signal wire, refrigerant pipes, and drain hose tightly together. Double-check that all items are bundled.

DO NOT WRAP ENDS OF PIPING

When wrapping the bundle, keep the ends of the piping unwrapped. You need to access them to test for leaks at the end of the installation process (refer to **Electrical Checks and Leak Checks** section of this manual).

Step 8: Mount indoor unit

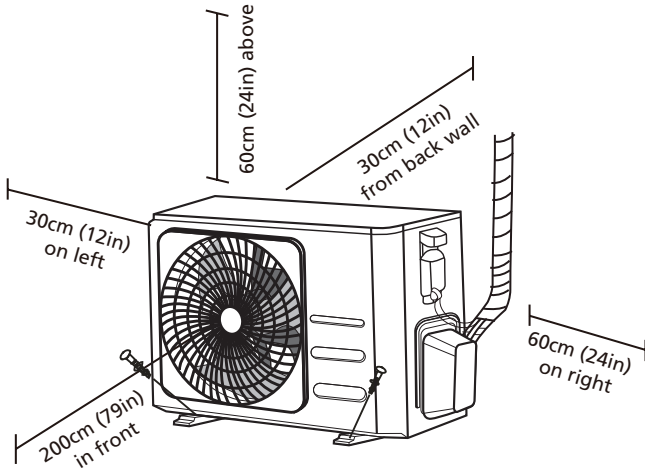
If you installed new connective piping to the outdoor unit, do the following:

1. If you have already passed the refrigerant piping through the hole in the wall, proceed to Step 4.
2. Otherwise, double-check that the ends of the refrigerant pipes are sealed to prevent dirt or foreign materials from entering the pipes.
3. Slowly pass the wrapped bundle of refrigerant pipes, drain hose, and signal wire through the hole in the wall.
4. Hook the top of the indoor unit on the upper hook of the mounting plate.
5. Check that unit is hooked firmly on mounting by applying slight pressure to the left and right-hand sides of the unit. The unit should not jiggle or shift.
6. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.
7. Again, check that the unit is firmly mounted by applying slight pressure to the left and the right-hand sides of the unit.

Outdoor Unit Installation

5

Install the unit by following local codes and regulations, there may be differ slightly between different regions.



Installation Instructions – Outdoor Unit

Step 1: Select installation location

Before installing the outdoor unit, you must choose an appropriate location. The following are standards that will help you choose an appropriate location for the unit.

Proper installation locations meet the following standards:

- ☑ Meets all spatial requirements shown in Installation Space Requirements above.
- ☑ Good air circulation and ventilation
- ☑ Firm and solid—the location can support the unit and will not vibrate
- ☑ Noise from the unit will not disturb others
- ☑ Protected from prolonged periods of direct sunlight or rain
- ☑ Where snowfall is anticipated, raise the unit above the base pad to prevent ice buildup and coil damage. Mount the unit high enough to be above the average accumulated area snowfall. The minimum height must be 18 inches

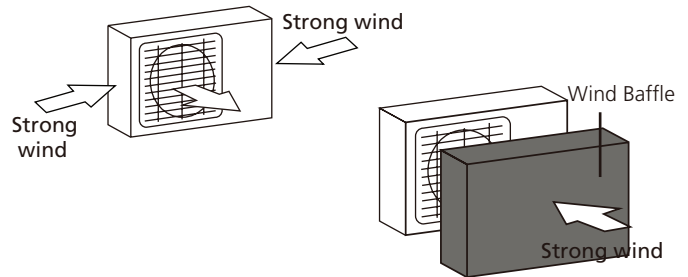
DO NOT install unit in the following locations:

- ⊘ Near an obstacle that will block air inlets and outlets
- ⊘ Near a public street, crowded areas, or where noise from the unit will disturb others
- ⊘ Near animals or plants that will be harmed by hot air discharge
- ⊘ Near any source of combustible gas
- ⊘ In a location that is exposed to large amounts of dust
- ⊘ In a location exposed to a excessive amounts of salty air

SPECIAL CONSIDERATIONS FOR EXTREME WEATHER

If the unit is exposed to heavy wind:

Install unit so that air outlet fan is at a 90° angle to the direction of the wind. If needed, build a barrier in front of the unit to protect it from extremely heavy winds. See Figures below.



If the unit is frequently exposed to heavy rain or snow:

Build a shelter above the unit to protect it from the rain or snow. Be careful not to obstruct air flow around the unit.

If the unit is frequently exposed to salty air (seaside):

Use outdoor unit that is specially designed to resist corrosion.

Step 2: Install drain joint(Heat pump unit only)

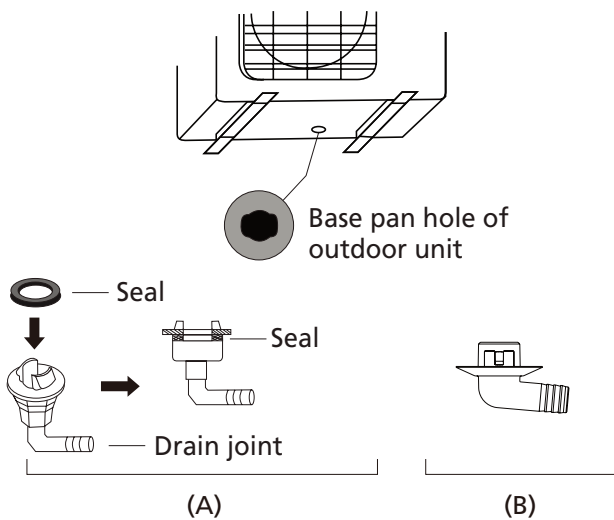
Before bolting the outdoor unit in place, you must install the drain joint at the bottom of the unit. Note that there are two different types of drain joints depending on the type of outdoor unit.

If the drain joint comes with a rubber seal (see Fig. A), do the following:

1. Fit the rubber seal on the end of the drain joint that will connect to the outdoor unit.
2. Insert the drain joint into the hole in the base pan of the unit.
3. Rotate the drain joint 90° until it clicks in place facing the front of the unit.
4. Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

If the drain joint doesn't come with a rubber seal (see Fig. B), do the following:

1. Insert the drain joint into the hole in the base pan of the unit. The drain joint will click in place.
2. Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

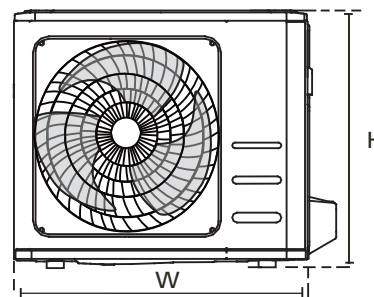
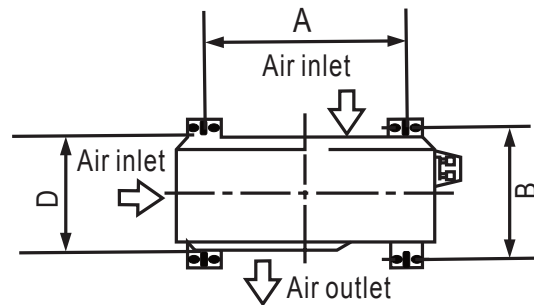


Step 3: Anchor outdoor unit

The outdoor unit can be anchored to the ground or to a wall-mounted bracket with bolt(M10). Prepare the installation base of the unit according to the dimensions below.

UNIT MOUNTING DIMENSIONS

The following is a list of different outdoor unit sizes and the distance between their mounting feet. Prepare the installation base of the unit according to the dimensions below.



! IN COLD CLIMATES

In cold climates, make sure that the drain hose is as vertical as possible to ensure swift water drainage. If water drains too slowly, it can freeze in the hose and flood the unit.

Outdoor Unit Dimensions (mm) W x H x D	Mounting Dimensions	
	Distance A (mm)	Distance B (mm)
681x434x285 (26.8"x17"x11.2")	460 (18.10")	292 (11.49")
700x550x270 (27.5"x21.6"x10.62")	450 (17.7")	260 (10.24")
700x550x275 (27.5"x21.6"x10.82")	450 (17.7")	260 (10.24")
720x495x270 (28.3"x19.5"x10.6")	452 (17.7")	255 (10.0")
728x555x300 (28.66"x21.85"x11.81")	452 (17.79")	302(11.89")
770x555x300 (30.3"x21.85"x11.81")	487 (19.2")	298 (11.73")
800x554x333 (31.5"x21.8"x13.1")	514 (20.24")	340 (13.39")
845x702x363 (33.25"x27.63"x14.29")	540 (21.26")	350 (13.8")
946x810x420 (37.21"x31.9"x16.53")	673 (26.5")	403 (15.87")

If you will install the unit on the ground or on a concrete mounting platform, do the following:

1. Mark the positions for four expansion bolts based on dimensions chart.
2. Pre-drill holes for expansion bolts.
3. Place a nut on the end of each expansion bolt.
4. Hammer expansion bolts into the pre-drilled holes.
5. Remove the nuts from expansion bolts, and place outdoor unit on bolts.
6. Put washer on each expansion bolt, then replace the nuts.
7. Using a wrench, tighten each nut until snug.

⚠ WARNING

WHEN DRILLING INTO CONCRETE, EYE PROTECTION IS RECOMMENDED AT ALL TIMES.

If you will install the unit on a wall-mounted bracket, do the following:

⚠ CAUTION

Make sure that the wall is made of solid brick, concrete, or of similarly strong material. **The wall must be able to support at least four times the weight of the unit.**

1. Mark the position of bracket holes based on dimensions chart.
2. Pre-drill the holes for the expansion bolts.
3. Place a washer and nut on the end of each expansion bolt.
4. Thread expansion bolts through holes in mounting brackets, put mounting brackets in position, and hammer expansion bolts into the wall.
5. Check that the mounting brackets are level.
6. Carefully lift unit and place its mounting feet on brackets.
7. Bolt the unit firmly to the brackets.
8. If allowed, install the unit with rubber gaskets to reduce vibrations and noise.

Step 4: Connect signal and power cables

The outside unit's terminal block is protected by an electrical wiring cover on the side of the unit. A comprehensive wiring diagram is printed on the inside of the wiring cover.

WARNING

BEFORE PERFORMING ANY ELECTRICAL OR WIRING WORK, TURN OFF THE MAIN POWER TO THE SYSTEM.

1. Prepare the cable for connection:

USE THE RIGHT CABLE

- Indoor Power Cable (if applicable): H05VV-F or H05V2V2-F
- Outdoor Power Cable: H07RN-F
- Signal Cable: H07RN-F

CHOOSE THE RIGHT CABLE SIZE

The size of the power supply cable, signal cable, fuse, and switch needed is determined by the maximum current of the unit. The maximum current is indicated on the nameplate located on the side panel of the unit. Refer to this nameplate to choose the right cable, fuse, or switch.

- Using wire strippers, strip the rubber jacket from both ends of cable to reveal about 40mm (1.57in) of the wires inside.
- Strip the insulation from the ends of the wires.
- Using a wire crimper, crimp u-lugs on the ends of the wires.

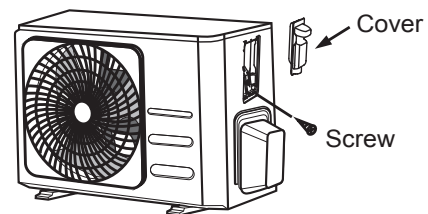
PAY ATTENTION TO LIVE WIRE

While crimping wires, make sure you clearly distinguish the Live ("L") Wire from other wires.

WARNING

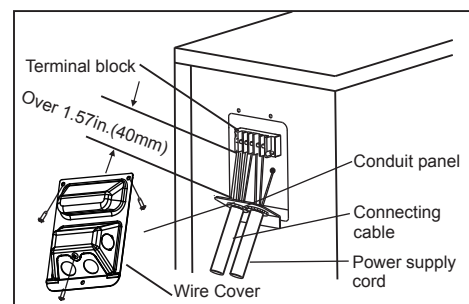
ALL WIRING MUST PERFORMED STRICTLY IN ACCORDANCE WITH THE WIRING DIAGRAM LOCATED ON THE INSIDE OF WIRE COVER ON THE OUTDOOR UNIT .

2. Unscrew the electrical wiring cover and remove it.
3. Unscrew the cable clamp below the terminal block and place it to the side.
4. Connect the wire according to the wiring diagram, and firmly screw the u-lug of each wire to its corresponding terminal.
5. After checking to make sure every connection is secure, loop the wires around to prevent rain water from flowing into the terminal.
6. Using the cable clamp, fasten the cable to the unit. Screw the cable clamp down tightly.
7. Insulate unused wires with PVC electrical tape. Arrange them so that they do not touch any electrical or metal parts.
8. Replace the wire cover on the side of the unit, and screw it in place.



In North America

1. Remove the wire cover from the unit by loosening the 3 screws.
2. Dismount caps on the conduit panel.
3. Temporarily mount the conduit tubes(not included) on the conduit panel.
4. Properly connect both the power supply and low voltage lines to the corresponding terminals on the terminal block.
5. Ground the unit in accordance with local codes.
6. Be sure to size each wire allowing several inches longer than the required length for wiring.
7. Use lock nuts to secure the conduit tubes.



Refrigerant Piping Connection

6

Connecting the refrigerant pipe to outdoor unit

CAUTION: For your safety, always wear goggles and work gloves when connecting the pipes.

NOTE: To distinguish the connectors to be connected to the indoor unit and outdoor unit, the connectors of the refrigerant pipe has been labelled “A”, “B”, “C” and “D”. Ensure the marks on the connector are the same to the indoor’s and outdoor’s respectively during connection.

1. First remove the water tray on the outdoor unit as shown in Fig.6.1.

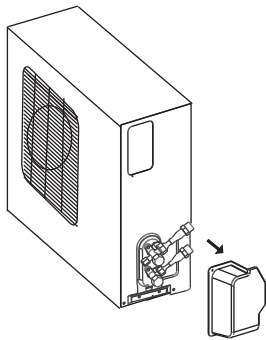


Fig.6.1

2. Do not remove the plastic seals from the outdoor unit and the appropriate refrigerant pipes until immediately before you connect them, Fig.6.2

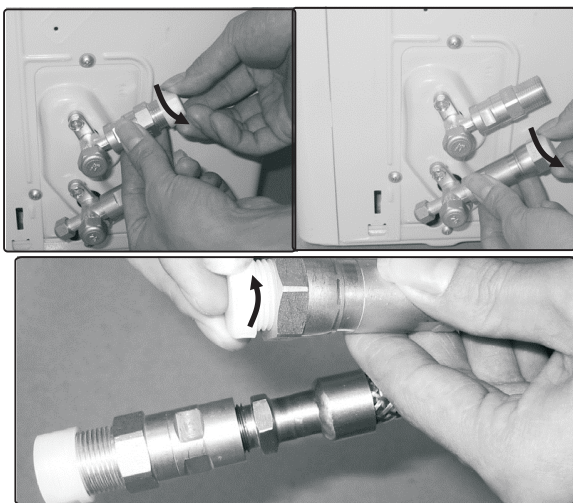


Fig.6.2

3. Align the refrigerant pipes correctly so that they line up with the valves and are not stressed. Place the screw connector on the refrigerant line just on to the thread on the outdoor unit and tighten the first few threads by hand, Fig.6.3.

NOTE: The refrigerant pipes must be connected to the valves on the outdoor unit with as little stress as possible.

IMPORTANT: Before you continue, it is essential that you read the following instructions carefully.

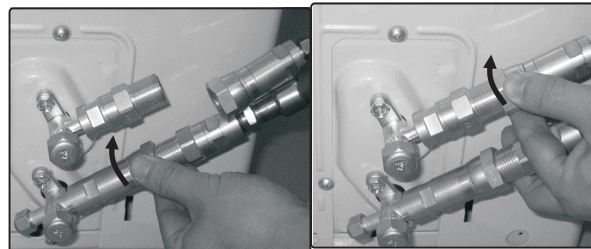


Fig.6.3

4. Now tighten the bottom screw connector first and then the top screw connector using the open-ended spanner. Hold the points marked “①” using an open-ended spanner and turn the nuts only at the points marked “②” using an open-ended spanner (Select the appropriate spanner according to the dimensions of the connector), see Fig.6.4

- Ensure that the screw connectors do not skew as you tighten them and work quickly. See the next page for the proper torque.

IMPORTANT: Since the coupling works with tapping rings, it may leak if you undo and reconnect the pipes. This will also void the warranty.

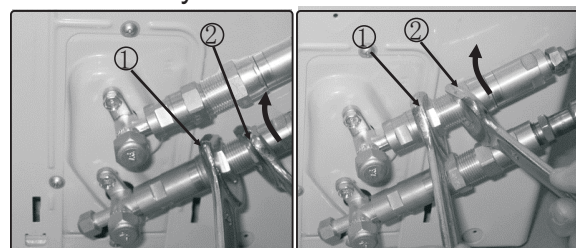


Fig.6.4

Coupling size (last 2 part numbers)	Pound-force foot (lbf-ft)	Newton meter (N-m)	Kilogram-force meter (kgf-m)
-06(9.5mm dash size)	18 - 20	24.4 - 27.1	2.4 - 2.7
-08(12.7mm dash size)	30 - 35	40.6 - 47.4	4.1 - 4.8
-12(19.1mm dash size)	45 - 50	61.0 - 67.7	6.2 - 6.9
-16(25.4mm dash size)	60 - 65	81.3 - 88.1	8.2 - 8.9

After completing steps 1- 4, check that all the connections are sealed correctly using leak detection spray or soap suds. If any bubbles form, the system has a leak and the screw connectors must be retightened using an open-ended spanner.

- Now remove the cover on the top valve using a 19 mm open-ended spanner. Open the valve by turning it counter-clockwise as far as it will go using a 5 mm Allen key. The valve is now open. If the valve is not opened fully, the system may malfunction and suffer damage. Screw the cover back on to the top valve and tighten it well to ensure that it is properly sealed. See Fig.6.5.

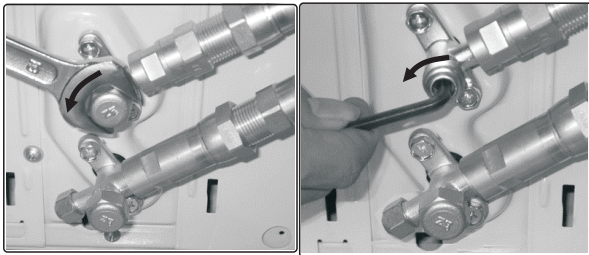


Fig.6.5

- Now remove the cover on the bottom valve using a 19 mm open-ended spanner. Open the valve by turning it counter-clockwise as far as it will go using a 5 mm Allen key. The valve is now open. If the valve is not opened fully, the system may malfunction and suffer

Damage. Screw the cover back on to the bottom valve and tighten it well to ensure that it is properly sealed. See Fig.6.6.

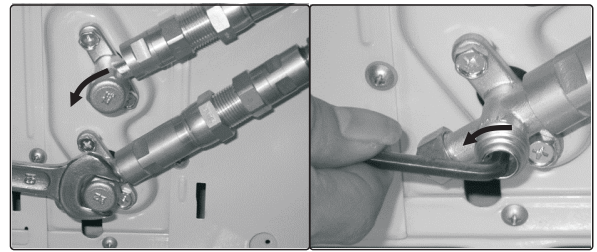


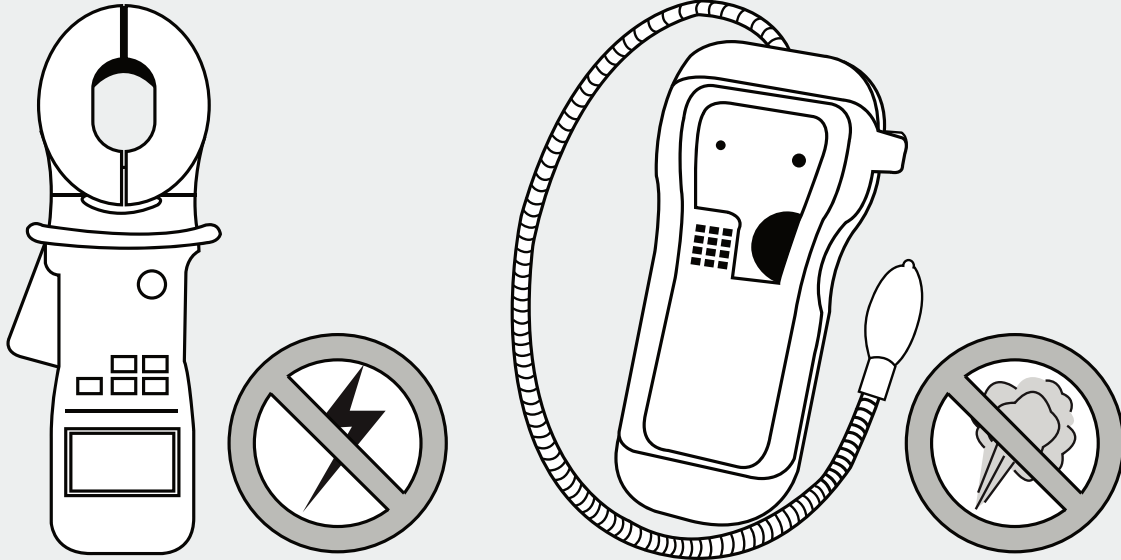
Fig.6.6

Important! The conical ring on the valve has an important sealing function together with the sealing seat in the caps. Ensure that you do not damage the cone and that you keep the cap free of dirt and dust.

- After completing steps 1- 6, check that all the connections are sealed correctly using leak detection spray or soap suds. If any bubbles form, the system has a leak and the screw connectors must be retightened using an open- ended spanner.
- Start the equipment so that the operating pressures build up inside it. Check all the connectors again for signs of leaks
 - during cooling mode
 - in heating mode.
 If any bubbles form, the system has a leak and the screw connectors must be retightened using an open-ended spanner.

Electrical and Gas Leak Checks

7



Electrical Safety Checks

After installation, confirm that all electrical wiring is installed in accordance with local and national regulations, and according to the Installation Manual.

BEFORE TEST RUN

Check Grounding Work

Measure grounding resistance by visual detection and with grounding resistance tester. Grounding resistance must be less than 0.1Ω .

Note: This may not be required for some locations in the US.

DURING TEST RUN

Check for Electrical Leakage

During the **Test Run**, use an electroprobe and multimeter to perform a comprehensive electrical leakage test.

If electrical leakage is detected, turn off the unit immediately and call a licensed electrician to find and resolve the cause of the leakage.

Note: This may not be required for some locations in the US.

WARNING – RISK OF ELECTRIC SHOCK

ALL WIRING MUST COMPLY WITH LOCAL AND NATIONAL ELECTRICAL CODES, AND MUST BE INSTALLED BY A LICENSED ELECTRICIAN.

Gas Leak Checks

There are two different methods to check for gas leaks.

Soap and Water Method

Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor unit and outdoor unit. The presence of bubbles indicates a leak.

Leak Detector Method

If using leak detector, refer to the device's operation manual for proper usage instructions.

AFTER PERFORMING GAS LEAK CHECKS

After confirming that the all pipe connection points DO NOT leak, replace the valve cover on the outside unit.

Test Run

8

Before Test Run

Only perform test run after you have completed the following steps:

- **Electrical Safety Checks** – Confirm that the unit’s electrical system is safe and operating properly
- **Gas Leak Checks** – Check all flare nut connections and confirm that the system is not leaking
- Confirm that gas and liquid (high and low pressure) valves are fully open

Test Run Instructions

You should perform the **Test Run** for at least 30 minutes.

1. Connect power to the unit.
2. Press the **ON/OFF** button on the remote controller to turn it on.
3. Press the **MODE** button to scroll through the following functions, one at a time:
 - COOL – Select lowest possible temperature
 - HEAT – Select highest possible temperature
4. Let each function run for 5 minutes, and perform the following checks:

List of Checks to Perform	PASS/FAIL	
No electrical leakage		
Unit is properly grounded		
All electrical terminals properly covered		
Indoor and outdoor units are solidly installed		
All pipe connection points do not leak	Outdoor (2):	Indoor (2):
Water drains properly from drain hose		
All piping is properly insulated		
Unit performs COOL function properly		
Unit performs HEAT function properly		
Indoor unit louvers rotate properly		
Indoor unit responds to remote controller		

DOUBLE-CHECK PIPE CONNECTIONS

During operation, the pressure of the refrigerant circuit will increase. This may reveal leaks that were not present during your initial leak check. Take time during the Test Run to double-check that all refrigerant pipe connection points do not have leaks. Refer to **Gas Leak Check** section for instructions.

5. After the Test Run is successfully completed, and you confirm that all checks points in List of Checks to Perform have PASSED, do the following:
 - a. Using remote control, return unit to normal operating temperature.
 - b. Using insulation tape, wrap the indoor refrigerant pipe connections that you left uncovered during the indoor unit installation process.

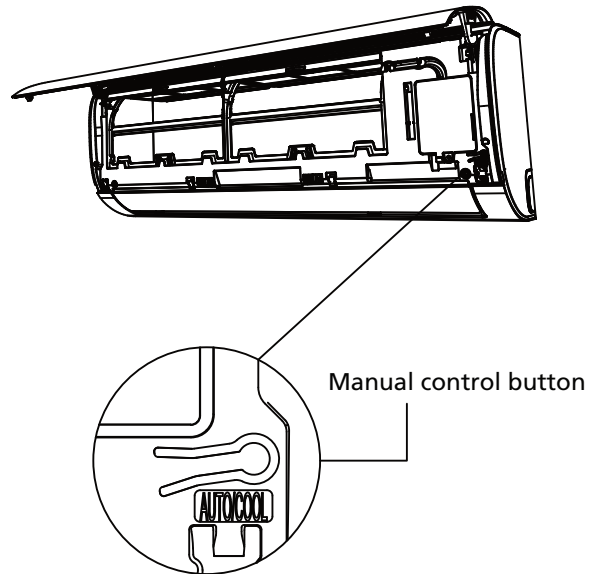


Fig. 8.1

IF AMBIENT TEMPERATURE IS BELOW 17°C (63°F)

You can't use the remote controller to turn on the COOL function when the ambient temperature is below 17°C. In this instance, you can use the **MANUAL CONTROL** button to test the COOL function.

1. Lift the front panel of the indoor unit, and raise it until it clicks in place.
2. The **MANUAL CONTROL** button is located on the right-hand side of the unit. Press it 2 times to select the COOL function. See **Fig.8.1**
3. Perform Test Run as normal.

1. Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimised. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

2. Work procedure

Works shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being present while the work is being performed.

Technical personnel in charge of operation, supervision, maintenance of air-conditioning systems shall be adequately instructed and competent with respect to their tasks.

Works shall be undertaken with appropriate tools only (In case of uncertainty, please consult the manufacturer of the tools for use with flammable refrigerants)

3. General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the work space shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

4. Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. no sparking, adequately sealed or intrinsically safe.

5. Presence of fire extinguisher

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry power or CO₂ fire extinguisher adjacent to the charging area.

6. No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "NO SMOKING" signs shall be displayed.

7. Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

8. Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance. The following checks shall be applied to installations using flammable refrigerants:

- the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
- the ventilation machinery and outlets are operating adequately and are not obstructed;
- if an indirect refrigerating circuit is being used, the secondary circuits shall be checked for the presence of refrigerant; marking to the equipment continues to be visible and legible.
- marking and signs that are illegible shall be corrected;
- refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless
- the components are constructed of materials which are inherently resistant to being
- corroded or are suitably protected against being so corroded.

9. Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, and adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking
- that there no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

10. Repairs to sealed components

- 10.1 During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- 10.2 Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
- Ensure that apparatus is mounted securely.
 - Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.

NOTE: The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Intrinsically safe components do not have to be isolated prior to working on them.

11. Repair to intrinsically safe components

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use. Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.

Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.

12. Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

13. Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

14. Leak detection methods

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants. Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25% maximum) is confirmed. Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed or extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system. Following the system should be evacuated and purged with OFN for a second time. Both before and during the brazing process, the system should be purged with OFN.

15. Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose - conventional procedures shall be used. However, for FLAMMABLE REFRIGERANTS it is important that best practice is followed since flammability is a consideration. Opening of the refrigerant systems shall not be done by brazing. The following procedure shall be adhered to:

- remove refrigerant;
- purge the circuit with inert gas;
- evacuate;
- purge again with inert gas;
- open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders. For appliances containing FLAMMABLE REFRIGERANTS, the system shall be "flushed" with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing FLAMMABLE REFRIGERANTS, flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final OFN charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. This operation is absolutely vital if brazing operations on the pipe-work are to take place.

Ensure that the outlet for the vacuum pump is not closed to any ignition sources and there is ventilation available.

16. Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed:

- Works shall be undertaken with appropriate tools only (In case of uncertainty, please consult the manufacturer of the tools for use with flammable refrigerants)
- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall be kept upright.
- Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete(if not already).
- Extreme care shall be taken not to overfill the refrigeration system.
- Prior to recharging the system it shall be pressure tested with OFN. The system shall be leak tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

17. Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely or safely vented(For R290 refrigerant models). Prior to the task being carried out, an oil and refrigerant sample shall be taken.

In case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically

c) Before attempting the procedure ensure that:

- mechanical handling equipment is available, if required, for handling refrigerant cylinders;
- all personal protective equipment is available and being used correctly;
- the recovery process is supervised at all times by a competent person;
- recovery equipment and cylinders conform to the appropriate standards.

- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with manufacturer's instructions.
- h) Do not overfill cylinders. (No more than 70% liquid volume. The liquid density of the refrigerant with a reference temperature of 50°C)..
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

18. Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

19. Recovery

When removing refrigerant from a system, either for service or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct numbers of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.

Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order.

Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant Waste Transfer Note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to re-truning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

20. Venting of HC Refrigerant (R290)

Venting may be carried out as an alternative to recovering the refrigerant. Because HC refrigerants have no ODP and negligible GWP, under certain circumstances it may be considered acceptable to vent the refrigerant. However, if this is to be considered, it should

be done in accordance with the relevant national rules or regulations, if they permit.

In particular, before venting a system, it would be necessary to:

- Ensure that legislation relating to waste material has been considered
- Ensure that environmental legislation has been considered
- Ensure that legislation addressing safety of hazardous substances is satisfied
Venting is only carried out with systems that contain a small quantity of refrigerant, typically less than 500 g.
- Venting to inside a building is not permissible under any circumstances
- Venting must not be to a public area, or where people are unaware of the procedure taking place
- The hose must be of sufficient length and diameter such that it will extend to at least 3 m beyond the outside of the building
- The venting should only take place on the certainty that the refrigerant will not get blown back into any adjacent buildings, and that it will not migrate to a location below ground level
- The hose is made of material that is compatible for use with HC refrigerants and oil
- A device is used to raise the hose discharge at least 1 m above ground level and so that the discharge is pointed in an upwards direction (to assist with dilution)
- The end of the hose can now discharge and disperse the flammable fumes into the ambient air.
- There should not be any restriction or sharp bends within the vent-line which will hinder the ease of flow.
- Close to the inlet of the hose, an oil separating device is fitted to prevent the emission of refrigeration oil, so that it may be collected and disposed of properly following the venting procedure (a recovery cylinder may be used for this)
- There must be no sources of ignition near the hose discharge
- A flammable gas warning sign must be positioned close to the hose discharge and at the pace of the refrigerating system
- The hose should be regularly checked to ensure that there are no holes or kinks in it, that could lead to leakage or blocking of the passage of flow

When carrying out the venting, the flow of refrigerant should be metered using manifold gauges to a low flow rate, so as to ensure the refrigerant is well diluted. Once the refrigerant has ceased flowing, if possible, the system should be flushed out with OFN; if not, then the system should be pressurised with OFN and the venting procedure carried out two or more times, to ensure that there is minimal HC refrigerant remaining inside the system.

21. Transportation, marking and storage for units

1. Transport of equipment containing flammable refrigerants
Compliance with the transport regulations
2. Marking of equipment using signs
Compliance with local regulations
3. Disposal of equipment using flammable refrigerants
Compliance with national regulations
4. Storage of equipment/appliances
The storage of equipment should be in accordance with the manufacturer's instructions.
5. Storage of packed (unsold) equipment
Storage package protection should be constructed such that mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge.
The maximum number of pieces of equipment permitted to be stored together will be determined by local regulations.

The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details. Any updates to the manual will be uploaded to the service website, please check for the latest version.



AIR CONDITIONER

REMOTE CONTROLLER ILLUSTRATION

Thank you very much for purchasing our air conditioner. Please read this owner's manual carefully before using your air conditioner. Make sure to save this manual for future reference.

CONTENTS

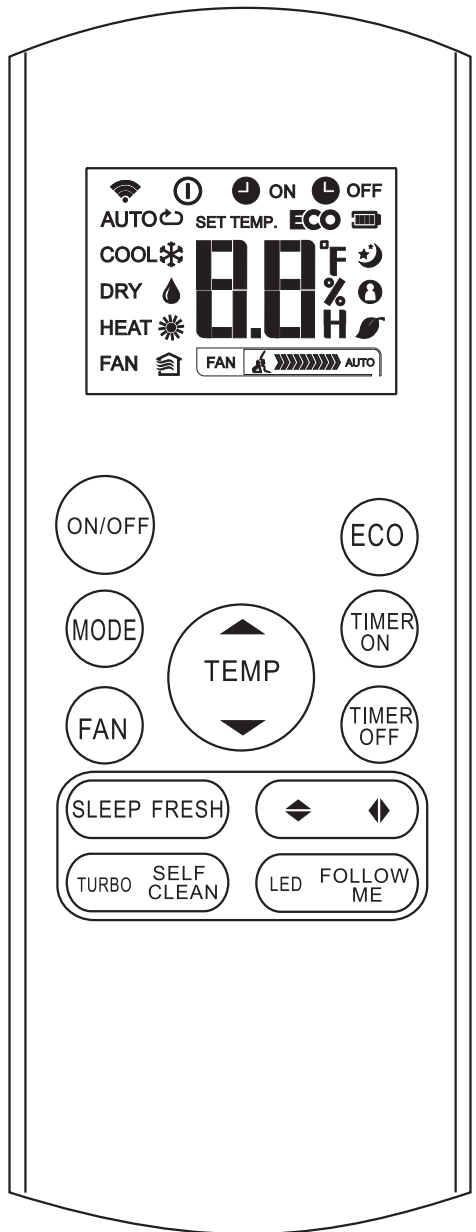
Remote controller Specifications.....	2
Operation buttons	3
Indicators on LCD	6
How to use the buttons	7
Auto operation.....	7
Cooling/Heating/Fan operation.....	7
Dehumidifying operation	8
Adjusting air flow direction.....	8
Timer operation.....	9
Handling the remote controller	13

NOTE:

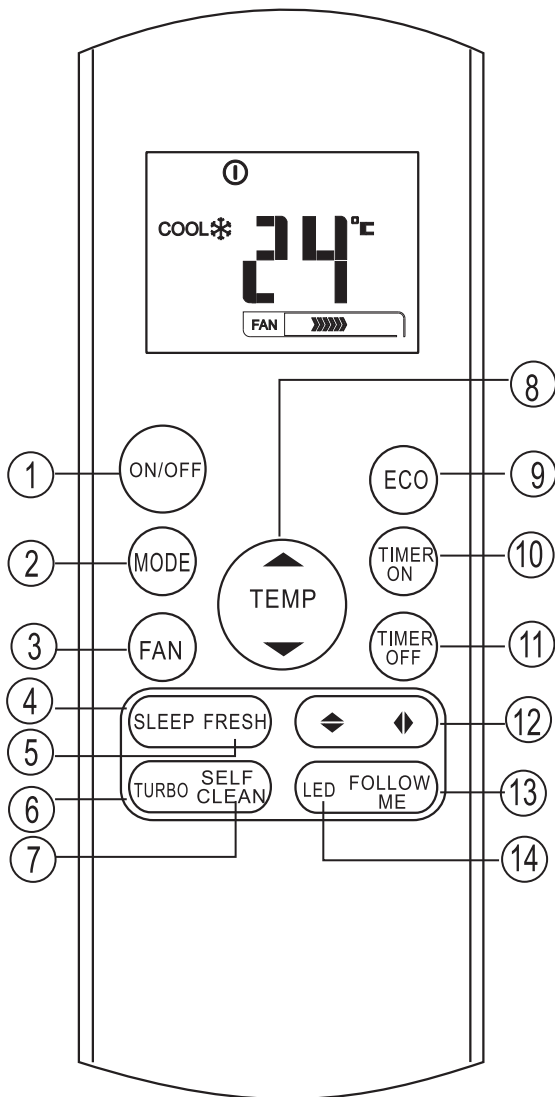
- Buttons design is based on typical model and might be slightly different from the actual one you purchased × the actual shape shall prevail.
- All the functions described are accomplished by the unit. If the unit has no this feature, there is no corresponding operation happened when press the relative button on the remote controller.
- When there are wide differences between “Remote controller Illustration” and “USER'S MANUAL” on function description, the description of “USER'S MANUAL” shall prevail.

Remote Controller Specifications

Model	RG57A8/BGEF
Rated Voltage	3.0V(Dry batteries R03/LR03×2)
Signal Receiving Range	8m
Environment	-5°C~60°C



Operation of buttons

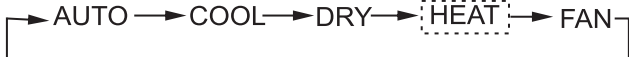


1 ON/OFF Button

This button turns the air conditioner ON and OFF.

2 MODE Button

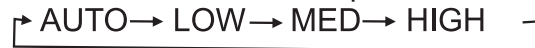
Press this button to modify the air conditioner mode in a sequence of following:



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.

3 FAN Button

Used to select the fan speed in four steps:



NOTE: You can not switch the fan speed in AUTO or DRY mode.

4 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 detail, 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.

5 FRESH Button

Active/Disable FRESH function. When the FRESH function is initiated, the Ionizer/ Plasma Dust Collector (depending on models) is energized and will help to remove pollen and impurities from the air.

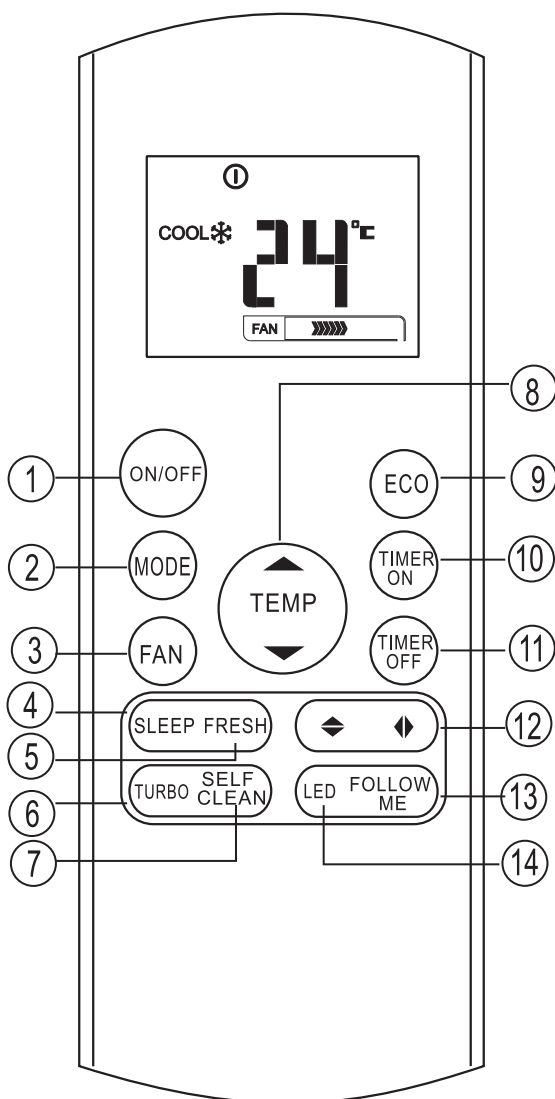
6 TURBO Button

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

Operation of buttons



8 UP Button(▲)

Push this button to increase the indoor temperature setting in 1°C increments to 30°C.

DOWN Button(▼)

Push this button to decrease the indoor temperature setting in 1°C increments to 17°C.

NOTE Temperature control is not available in Fan mode.

9 ECO Button

Used to enter the energy efficient mode. Under cooling mode, press this button, the remote controller will adjust the temperature automatically to 24°C, fan speed of Auto to save energy (but only if the set temperature is less than 24°C). If the set temperature is between 24°C and 30°C, press the ECO button, the fan speed will change to Auto, the set temperature will remain unchanged.

NOTE:

- Pressing the TURBO and SLEEP button, modifying the mode or adjusting the set temperature to less than 24°C will stop ECO operation.
- Under ECO operation, the set temperature should be 24°C or more. It may result in insufficient cooling. If you feel uncomfortable, just press the ECO button again to stop it.

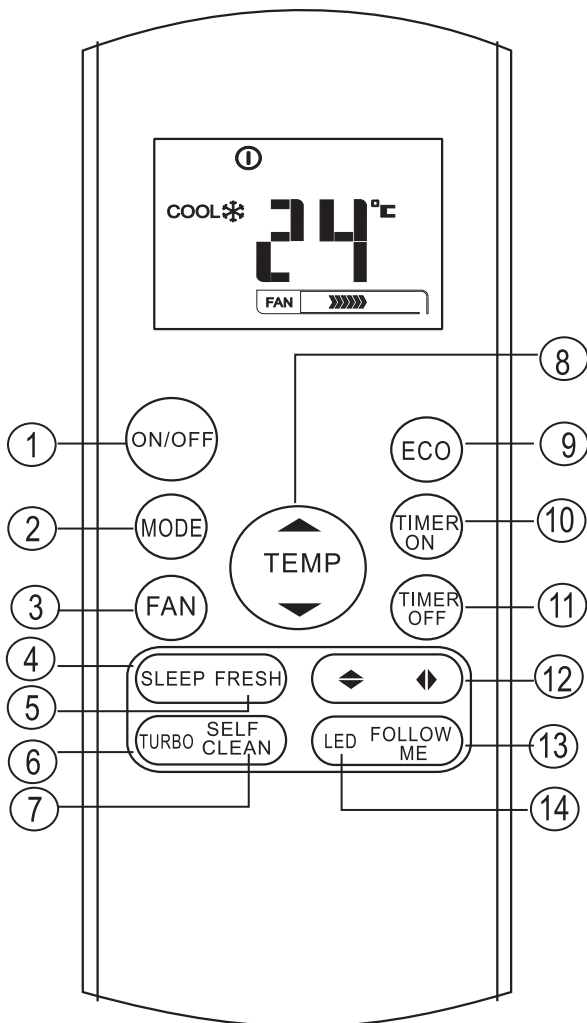
10 TIMER ON Button

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 10.0, 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.

11 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 10.0, 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.

Operation of buttons



12 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 hold down this button for more than 2 seconds, the louver will swing up and down automatically.

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. If hold down this button for more than 2 seconds, the louver will swing left and right automatically.

13 FOLLOW ME Button

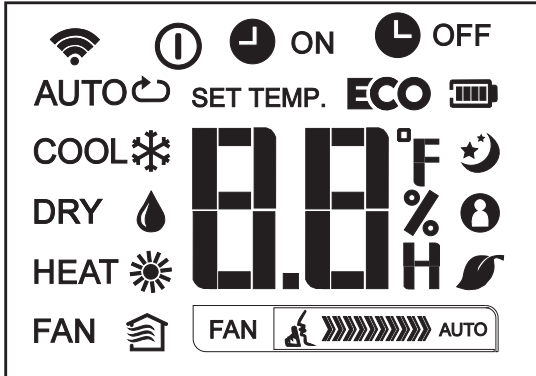
Push this button to initiate the Follow Me feature, the remote display is actual temperature at its location. The remote control will send this signal to the air conditioner every 3 minutes interval until press the Follow Me button again. The air conditioner will cancel the Follow Me feature automatically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

14 LED Button

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

Indicators on LCD

Information are displayed when the remote controller is powered up.



Mode display

AUTO COOL DRY
HEAT FAN

- Displayed when data transmitted.
- Displayed when remote controller is ON.
- Battery display (low battery detection)
- ECO** Not available for this unit
- ON Displayed when TIMER ON time is set.
- OFF Displayed when TIMER OFF time is set.
- Show set temperature or room temperature, or time under TIMER setting.

- Displayed in Sleep Mode operation.
- Indicated that the air conditioner is operating in Follow me mode
- Not available for this unit
- Not available for this unit

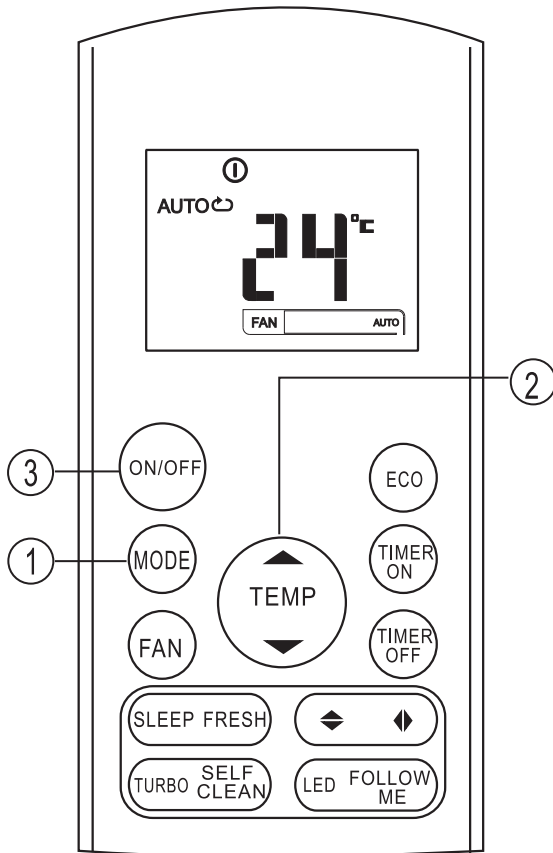
Fan speed indication

- FAN Low speed
- FAN Medium speed
- FAN High speed
- FAN Auto fan speed

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 17°C~ 30°C in 1°C 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.

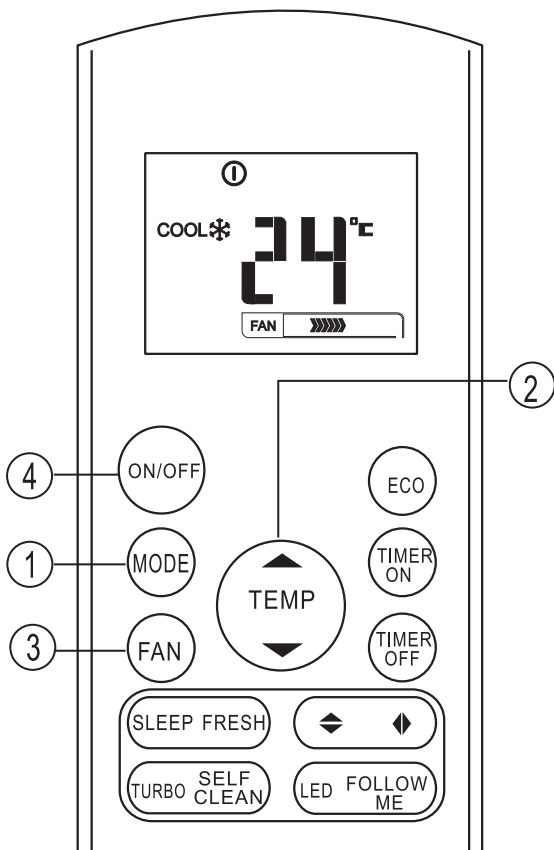
Cooling /Heating/Fan operation

Ensure the unit is plugged in and power is available.

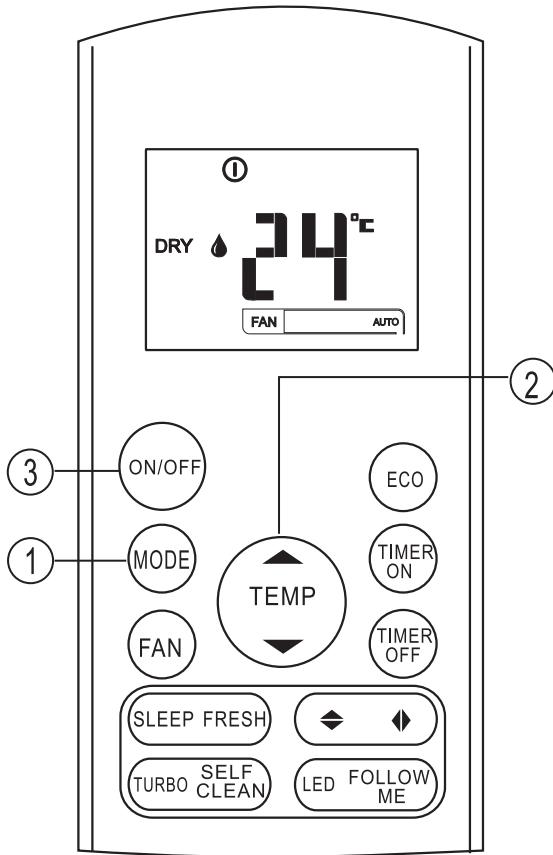
1. Press the **MODE** button to select COOL, HEAT (cooling & heating models only) or FAN mode.
2. Press the **UP/DOWN** buttons to set the desired temperature. The temperature can be set within a range of 17°C~ 30°C in 1°C increments.
3. Press the **FAN** button to select the fan speed in four steps- 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.



How to use the buttons



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 17°C~ 30°C in 1°C 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 ◀▶ & ⬥ button to adjust the desired airflow direction.

1. Up/Down direction can be adjusted with the ⬥ button on the remote controller. Each time when you press the button, the louver moves an angle of 6 degree. If pressing more than 2 seconds, the louver will swing up and down automatically.
2. Left/Right direction can be adjusted with the ▶◀ button on the remote controller. Each time when you press the button, the louver moves an angle of 6 degree. If pressing more than 2 seconds, the louver will swing left and right automatically.

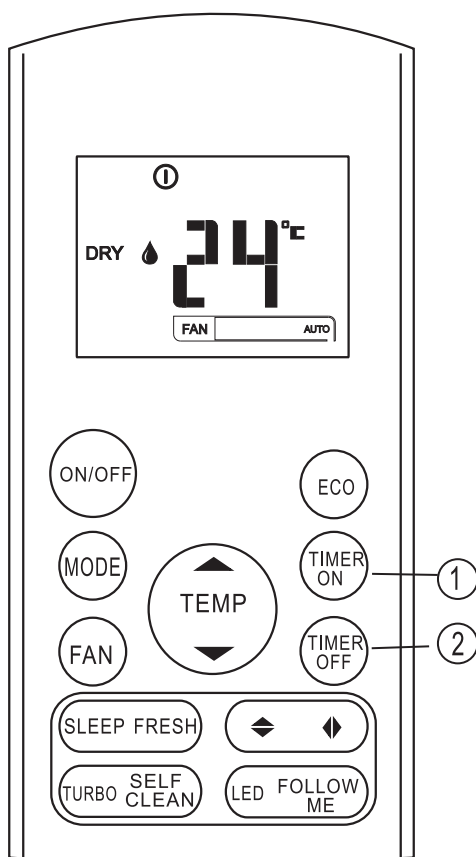
NOTE: When the louver swing or move to a position which would affect the cooling or heating effect of the air conditioner, it would automatically change the swing/moving direction.

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.



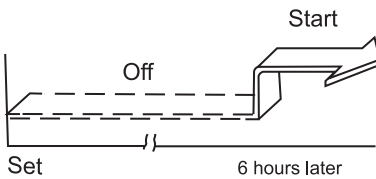
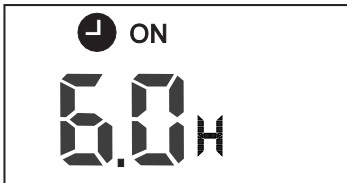
To set the Auto-off time.

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



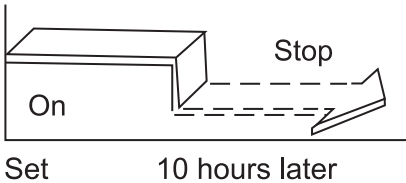
**TIMER ON
(Auto-on Operation)**

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.

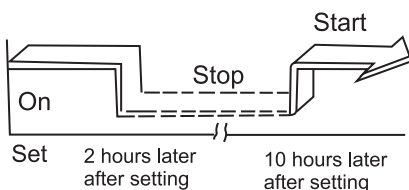
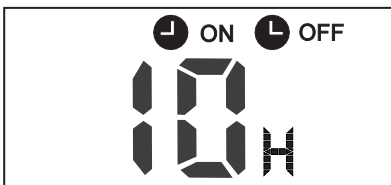
COMBINED TIMER

(Setting both ON and OFF timers simultaneously)

TIMER OFF → TIMER ON

(On → Stop → Start operation)

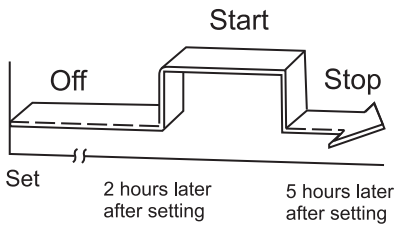
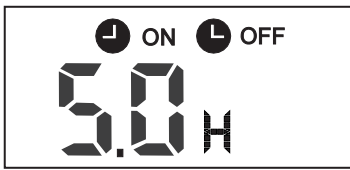
This feature is useful when you want to stop the air conditioner after you go to bed, and start it again in the morning when you wake up or when you return home.



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)

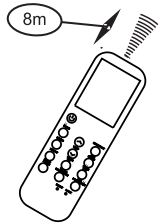
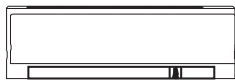
This feature is useful when you want to start the air conditioner before you wake up and stop it after you leave the house.

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 & TIMER OFF" indicator remains on and this function is activated.

Handling the remote controller

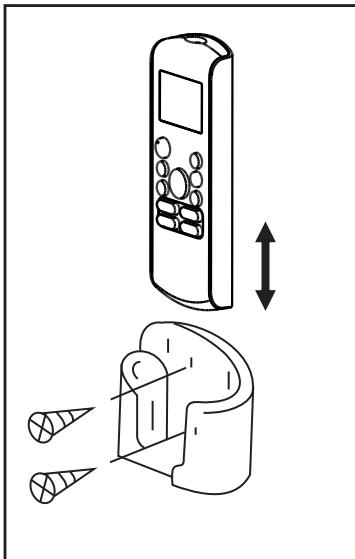


Location of the remote controller.

- Use the remote controller within a distance of 8 meters from the appliance, pointing it towards the receiver. Reception is confirmed by a beep.

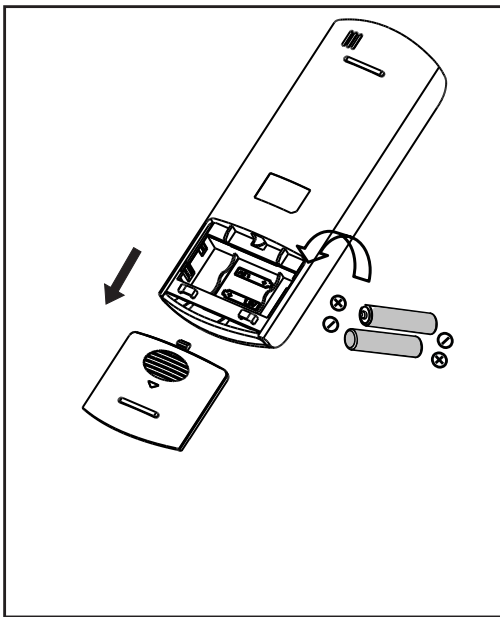
⚠ CAUTIONS

- 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.
- Do not drop the remote controller. Handle with care.
- Do not place heavy objects on the remote controller, or step on it.



Using the remote controller holder(optional)

- The remote controller can be attached to a wall or pillar by using a remote controller holder(not supplied, purchased separately).
- Before installing the remote controller, check that the air conditioner receives the signals properly.
- Install the remote controller with two screws.
- For installing or removing the remote controller, move it up or down in the holder.



Replacing batteries

The following cases signify exhausted batteries. Replace old batteries with new ones.

- Receiving beep is not emitted when a signal is transmitted.
- Indicator fades away.

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

- (1) Remove the cover in the rear part of the remote controller.
- (2) Remove the old batteries and insert the new batteries, placing the(+) and (-) ends correctly.
- (3) Install the cover back on.

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.

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

Comfee

Midea Europe GmbH
Eisenstraße 9c
D-65428 Rüsselsheim
Tel.: 06142-301 81 -0
Fax: 06142-301 81 -20
info-meg@midea.com
www.mideagermany.de
www.midea.com/de

Technical changes, errors, mistakes
and printing errors reserved. Version 11/2018