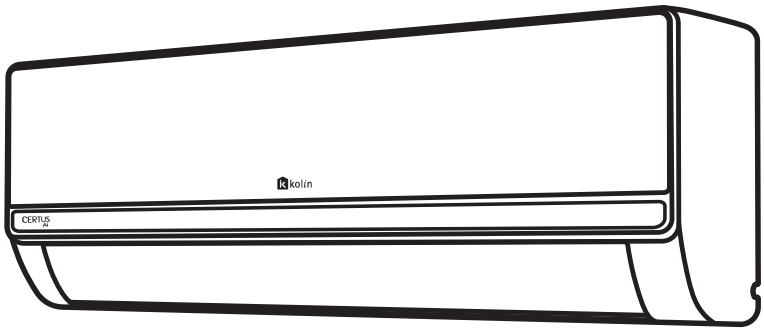
kolin

CERTUS Ai

Full DC Inverter Split Type Air Conditioner

OWNER'S MANUAL

MODEL:
KS-IW10-MCAI12O1M32
KS-IW15-MCAI12O1M32
KS-IW20-MCAI12O1M32
KS-IW25-MCAI12O1M32



Thank you for purchasing our air conditioner. Please read this manual carefully before operating your new air conditioning unit. Make sure to save this manual for your reference.

Kolin Philippines Int'l., Inc.

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SAFETY PRECAUTIONS

Read Safety Precautions Before Operation and Installation

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

WARNING

This symbol indicates a potential risk of personal injury or loss of life.

CAUTION

This symbol indicates a potential risk of property damage or serious consequences.

WARNING

This appliance can be used by children aged 8 years and older, as well as individuals with reduced physical, sensory, or mental abilities, or those lacking experience and knowledge, provided they have received supervision or instruction on how to use the appliance safely and understand the potential hazards. Children must not play with the appliance. Cleaning and maintenance should not be performed by children without supervision.

This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or those lacking experience and knowledge, unless they have received proper supervision or instruction from a responsible individual. Children should be supervised to prevent them from playing with the appliance.

WARNINGS FOR PRODUCT USE

- Turn off the air conditioner and disconnect the power before performing any cleaning, installation, or repairs. Failure to do so can cause in electric shock.
- If an abnormal situation arises (such as a burning smell), immediately turn off the unit and disconnect the power. Contact the Kolin service hotline for further 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, as the fan may be rotating at high speeds.
- **DO NOT** use flammable sprays such as hair spray, lacquer or paint near the unit. These substances can cause fire or combustion.
- **DO NOT** operate the air conditioner in places near or around combustible gases. Emitted gas may collect around the unit, which could lead to an explosion.
- **DO NOT** operate the air conditioner in wet environments, such as bathrooms or laundry rooms. Excessive exposure to water may 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, ensure proper ventilation in 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 air conditioner and disconnect the power before cleaning. Failure to do so can cause electric shock.
- **DO NOT** clean the air conditioner with excessive amounts of water.
- **DO NOT** clean the air conditioner with combustible and harmful cleaning agents. These may cause fire, deformation or corrosion to the unit.

⚠ 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** 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** operate the air conditioner with wet hands. This may cause electric shock.
- **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.

⚠ ELECTRICAL WARNINGS

- Use only the specified power cord. If it's damaged, contact Kolin service hotline or its authorized service partners for replacement to avoid hazards.
- Keep power plug clean. Remove any dust or grime that accumulates on or around the plug. Dirty plugs can cause fire or electric shock.
- The product must be properly grounded during installation to avoid 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.
- 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 electric 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.

UV-C lamp (Applicable to the unit contains an UV-C lamp only)

This appliance contains a UV-C lamp. Read the maintenance instructions before opening the appliance.

1. Do not operate UV-C lamps outside of the appliance.
2. Appliances that are obviously damaged must not be operated.
3. Unintended use of the appliance or damage to the housing may result in the escape of dangerous UV-C radiation. UV-C radiation may, even in small doses, cause harm to the eyes and skin.
4. Before opening doors and access panels bearing the ULTRAVIOLET RADIATION hazard symbol for the conducting USER MAINTENANCE, it is recommended to disconnect the power.
5. The UV-C lamp can not be cleaned, repaired and replaced.
6. UV-C BARRIERS bearing the ULTRAVIOLET RADIATION hazard symbol should not be removed.

⚠ **WARNING** This appliance contains an UV emitter. Do not stare at the light source.

⚠ WARNINGS FOR PRODUCT INSTALLATION

- Installation must be performed by Kolin-authorized technicians or service partners Defective installation can cause water leakage, electrical shock, or fire.
- Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire.
- Contact Kolin service hotline or its authorized service partners for repair or maintenance of this unit.
- This appliance shall be installed in accordance with national wiring regulations.
- 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.
- 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.
- Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property
- For units that have an auxiliary electric heater, **DO NOT** install the unit within 1 meter (3 feet) of any combustible materials.
- **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.
- **DO NOT** turn on the power until all work has been completed.
- When moving or relocating the air conditioner, consult and contact Kolin service hotline or its authorized service partners for disconnection and reinstallation of the unit.
- How to install the appliance to its support, please read the information for details in "indoor unit installation" and "outdoor unit installation" sections .

TAKE NOTE OF FUSE APPLICATIONS

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: T3.15AL/250VAC, T5AL/250VAC, T3.15A/250VAC, T5A/250VAC, T20A/250VAC, T30A/250VAC,etc.

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

Note about Fluorinated Gasses *(Not applicable for the unit using R290 Refrigerant)*

- 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).
- Installation, service, maintenance and repair of this unit must be performed by a certified technician.
- Product uninstallation and recycling must be performed by a certified technician.
- 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.
- When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended.

⚠ WARNINGS for Using R32/R290 Refrigerant

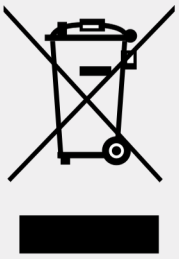
- When flammable refrigerant are used, appliance shall be stored in a well -ventilated area where the room size corresponds to the room area as specific for operation.

  For R32 refrigerant models:
  Appliance shall be installed, operated and stored in a room with a floor area larger than 4m.

  For R290 refrigerant models:
  Appliance shall be installed, operated and stored in a room with a floor area larger than:
  - less than 9000Btu/h units: 13m
  - 9000 Btu/h to 12000Btu/h units: 17m
  - 12000Btu/h to 18000Btu/h units: 26m
  - 18000Btu/h to 24000Btu/h units: 35m
- Reusable mechanical connectors and flared joints are not allowed indoors. (EN Standard Requirements).
- Mechanical connectors used indoors shall have a rate of not more than 3g/year at 25% of the maximum allowable pressure. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated. (UL Standard Requirements)
- When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be re-fabricated. (IEC Standard Requirements)
- Mechanical connectors used indoors shall comply with ISO 14903.

European Disposal Guidelines

This marking shown on the product or its literature, indicates that waste electrical and electrical 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

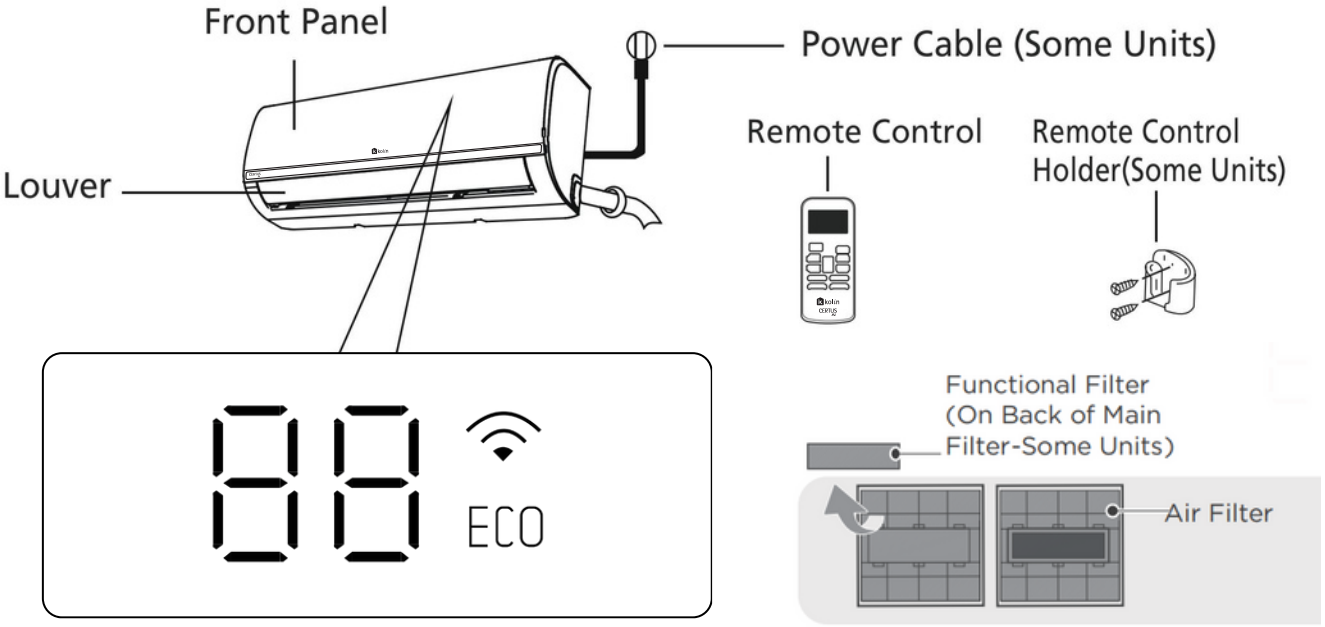
Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.

UNIT SPECIFICATIONS AND FEATURES

Indoor Unit Display

NOTE: Indoor panels and LED displays may vary by model. Some indicators shown below might not apply to your air conditioner. Please refer to the LED display on your specific unit.

The illustrations in this manual are for explanation only. Your actual indoor unit may look slightly different—always refer to the actual unit.



DISPLAY CODE	DISPLAY CODE MEANINGS
88	• Displays temperature, operation feature and error codes.
0N (for 3s)	• When Timer On is set. • When Swing, Turbo or Breeze Away feature is turned on.
OF (for 3s)	• When Timer Off is set. • When Swing, Turbo or Breeze Away feature is turned off.
CL	• When Active Clean feature is turned on
AP	• When AP mode is activated
	• When Wireless Control is activated.
ECO	• When ECO+ feature is turned on.

Operating Temperature

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

Inverter Split Type

	COOL Mode	DRY Mode
Room Temperature	16°C~30°C (60°F~86°F)	16°C~30°C (60°F~86°F)
Outdoor Temperature	0°C~35°C (32°F~95°F)	0°C~35°C (32°F~95°F)
	-15°C~50°C (60°F~90°F) *(For models with low temperature 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)*

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

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

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

OTHER FEATURES

SELF CLEAN / AUTO CLEAN function

- This function helps keep your air conditioner clean and operating efficiently.
- It uses condensate water to clean the interior of your air conditioner. The process involves several steps: Condensation, Frosting and Sterilization, Defrosting, and Drying.
- When this function is turned on, the indoor unit display window appears “CL”, after the unit will turn automatically and cancel Active Clean function.

AUTO RESTART

- If the unit loses power, it will automatically restart with the prior settings once power has been restored.

BREEZE AWAY OPERATION

- This function automatically moves the air swing (louver) to avoid blowing cold air directly on your body. It helps make cooling more comfortable and gentle, especially when you’re resting or sitting nearby.

ECO+ function

- It is an intelligent energy-saving mode that optimizes your air conditioner's performance for maximum comfort and efficiency through:
  - Automatic Fan Speed Adjustment
  - Precise Temperature (-1 / 0.5)
  - AI-Powered Optimization

ENERGY MONITORING

- This feature allows users to track their air conditioner's energy consumption. This feature provides real-time monitoring and accumulates data on a daily and monthly basis. Additionally, it displays the previous month's energy consumption for comparison.
- *Available on mobile app only*

IONIZER

- Ionizer helps clean the air in the room. It releases negative ions that stick to dust, smoke, and other tiny particles in the air. This makes them heavier, so they can be caught by the air filter or fall to the ground. It helps reduce allergens and bad smells, giving you fresher and cleaner air to breathe.

LOUVER ANGLE MEMORY

- When turning on your unit, the louver will automatically resume its former angle.

RANGE CONTROL

- It allows you to set the range of the temperature of your AC between 16°C to 30°C. By setting a restricted range, users can prevent extreme temperature settings that lead to excessive energy consumption. It helps maintain a comfortable temperature zone, preventing the AC from being set too low or too high.

REFRIGERANT LEAKAGE DETECTION

- The indoor unit will automatically display "EL" - "OC" in that sequence when it detects refrigerant leakage.

SLEEP OPERATION

- This feature helps you sleep more comfortably by slowly adjusting the temperature while you rest. You can choose:
- Auto Sleep – The aircon will automatically adjust the temperature based on the room and your usual habits.
- Custom Sleep – You can set your own temperature changes through the night.
- *Note: Sleep settings can only be adjusted using the mobile app.*

TURBO+/BOOST

- This feature cools the room faster by increasing the fan speed and airflow. It also helps the cool air reach farther.
- *It is available on the remote and in mobile app.*

WIRELESS CONTROL

- This feature lets you control your air conditioner using your smartphone through a Wi-Fi connection. You can turn it on or off, change the temperature, set timers, and adjust other settings anytime, anywhere—perfect for added convenience and energy savings.

4-WAY SWING

- This feature allows the air conditioner to blow cool air in four directions – up, down, left, and right. It helps spread the air evenly throughout the room, so every corner feels cool and comfortable. With 4-way swing, you don't have to worry about hot spots or uneven cooling—it gives balanced airflow wherever you are in the room.

Setting Angle of Air Flow

- **Setting vertical angle of air flow**

While the unit is on, use the SWING 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 the louver to a too vertical angle for a long period of time. This could cause condensation to form on the louver blades, which may drip onto the floor or furnishings.
- When using COOL mode, setting the louver at too small 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 Figure 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. *(See Figure C)*
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** for a third time to turn the unit off.
6. Close the front panel.

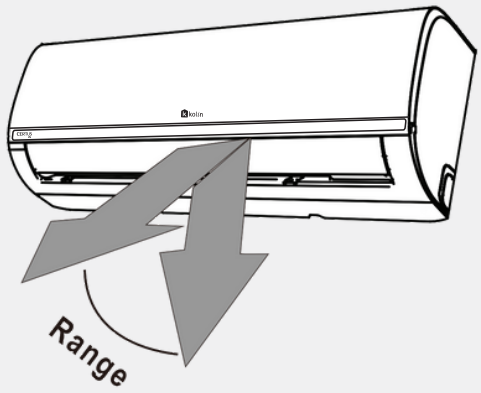


Figure A

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.

⚠ WARNING

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.

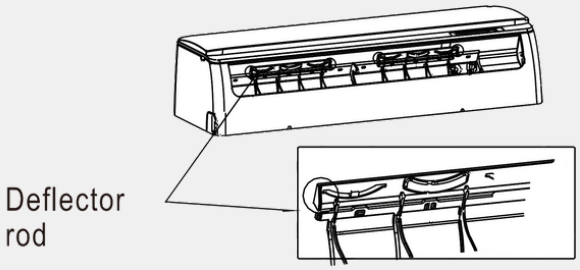


Figure B

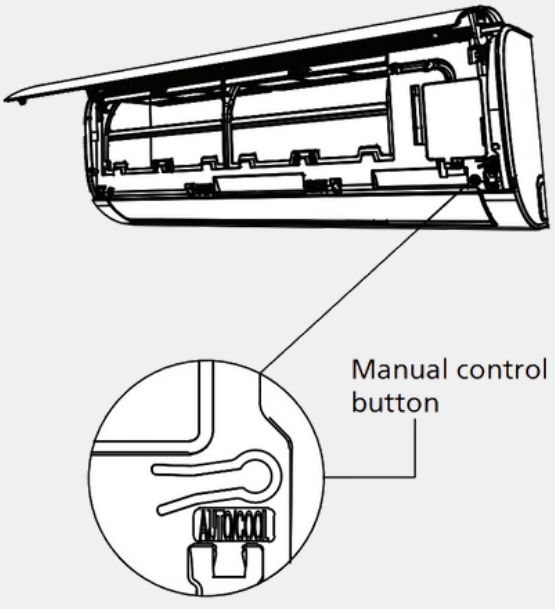
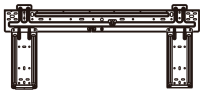
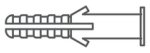
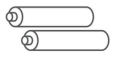


Figure C

ACCESSORIES

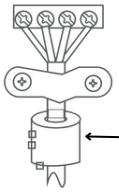
The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may result in water leakage, electrical shock and fire, or cause the equipment to fail. The items are included with the air conditioner must be purchased separately.

Name of Accessories	Q'ty (pc)	
Manual	1 ~ 3	
Drain Joint	1	
Seal	1	
Mounting Plate	1	
Anchor	5 ~ 8▲	
Mounting plate fixing screw	5 ~ 8▲	
Copper nut *(For some units)*	2	

Name of Accessories	Q'ty (pc)	
Remote controller	1	
Battery	2	
Remote controller holder *(purchase separately)*	1	
Fixing screw for remote controller holder *(purchase separately)*	2	
Small Filter	1 ~ 2▲	
Cable Clamps *(For some units only)*	1	

For Small Filter, it needs to be installed on the back of the main air filter by the authorized technician while installing the machine.
For Copper Units, it is used to connect the connecting pipes between indoor and outdoor units.
For Cable Clamp, during on-site wiring, if chosen outdoor power supply and the wire diameter decreases, this cable clamp needs to be used to replace the cable clamp already installed in the wire box in order to crimp the wire tightly.

▲ *Depends on the model*

Name			Quantity (pc)
Connecting pipe assembly	Liquid Side	∅ 6.35mm (1/4in)	Parts you must purchase separately. Consult your dealer about the proper pipe size of the unit you purchased.
		∅9.52mm (3/8in)	
	Gas Side	∅9.52mm (3/8in)	
		∅12.7mm (1/2in)	
		∅16mm (5/8in)	
		∅19mm (3/4in)	
Magnetic ring and belt *(If supplied, please refer to the wiring diagram to install it on the connective cable.)*		 Pass the belt through the hole of the magnetic ring to fix it to the cable	Varies by model

PACKING AND UNPACKING THE UNIT

⚠ CAUTION

- Exercise caution when using knives, cutter or sharp tools to open the packaging.
- The indoor and outdoor unit might be heavy. Lift with care and use proper techniques or assistance to avoid injury.
- Packing and unpacking of the units must be performed by individuals who are knowledgeable of the correct procedures or under the supervision of qualified professionals. This ensures the safety of the unit and prevents damage during handling.
- Handle both the indoor and outdoor units gently. Dropping or mishandling can lead to damage.
- When repacking, ensure all original packaging materials are used and positioned correctly to provide adequate protection. Improper packing may result in damage during transport or storage.
- Let the unit stand upright for approximately 2 hours before connecting it to the power source. This helps prevent any malfunctions in the cooling system due to handling during transportation.

Unpacking

Tools/Materials Needed:

- Knife or cutter
- Staple remover, vice grip, or pliers
- Foam mat or thick cloth
- Extra person (assistance)

- **Indoor Unit**

1. Cut and remove the packing strap.
2. Using a knife or a cutter, cut the sealing tape on the carton box — make cuts on the left, right, and across the top center of the box.
3. Use a staple remover, vice grip, or pliers to remove the sealing staples from the top of the carton box.
4. Carefully unfold the top flaps of the carton and bend them fully backward to create space for accessing the contents.
5. If a cardboard support plate or a foam is present inside (used to stabilize the unit during transport), lift it out carefully and set it aside.
6. Locate and remove the accessory package and connecting wire from the box.
7. With assistance if necessary, lift the indoor unit from the base using both hands. Avoid holding it by delicate parts. Place the unit gently on a flat, padded surface, such as a foam mat or thick cloth, to avoid scratches.
8. Remove the left and right foam packaging, or the upper and lower foam packaging, and untie the packaging bag.

- **Outdoor Unit**

1. Cut and remove the packing strap.
2. Carefully remove the top part of the box.
3. The outdoor unit will show at the bottom of the carton after removing the top layers.
4. Remove the top foam from the outdoor unit.
5. With assistance, lift the outdoor unit from the base using both hands. Avoid holding it by delicate parts. Place the unit gently on a flat, padded surface, such as a foam mat or thick cloth, to avoid scratches.
6. Remove the packaging bag from the unit.

NOTE

Please retain all original packaging materials including foam inserts, plastic bags, accessory kits, and straps. These are specifically designed for optimal protection during:

- Shipping or relocation
- Warranty returns
- Long-term storage

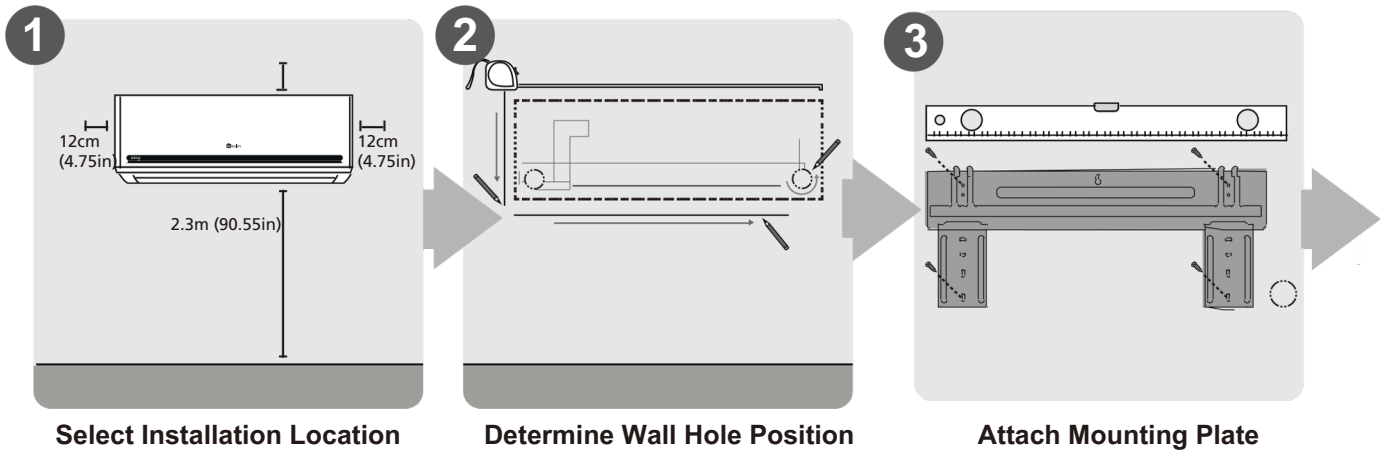
Using the original packaging ensures the unit remains undamaged, clean, and secure during handling and transport.

Packing

- **Indoor Unit**
  1. Place the unit on a flat, padded surface, such as a foam mat or thick cloth, to prevent scratches.
  2. With assistance if necessary, carefully lift the indoor unit using both hands. Avoid holding it by delicate parts.
  3. Wrap the unit in its packaging bag and secure it properly.
  4. Insert the left and right foam packaging, or the upper and lower foam packaging, around the unit to protect it during transport.
  5. Place the unit gently back into the carton box, making sure it is centered and secure on the base.
  6. Insert any cardboard support plate or foam stabilizer if provided, to keep the unit stable inside the box.
  7. Place the accessory package and connecting wire back inside the carton in their original positions.
  8. Fold the top flaps of the carton box upright and prepare them for sealing.
  9. Seal the top of the carton box with sealing tape, applying strips along the left, right, and top center.
  10. Wrap the carton with a packing strap, if necessary and tighten it securely for added protection during transport.

- **Outdoor Unit**
  1. Wrap the outdoor unit in its packaging bag securely to protect it from dust and scratches.
  2. Place the unit on a flat, padded surface, such as a foam mat or thick cloth, to avoid damage.
  3. With assistance if necessary, carefully lift the outdoor unit using both hands. Avoid holding it by delicate parts.
  4. Place the outdoor unit back onto the base of the carton box, ensuring it is properly aligned and stable.
  5. Cover the top of the outdoor unit with the protective foam to cushion and secure it.
  6. Reinstall the top part of the box, making sure it fits snugly over the foam and unit.
  7. Secure it by sealing the bottom base and the top portion of the carton box with a sealing tape together.
  8. Then secure the entire carton box with a packing strap, if necessary and tighten it firmly to ensure safe transport.

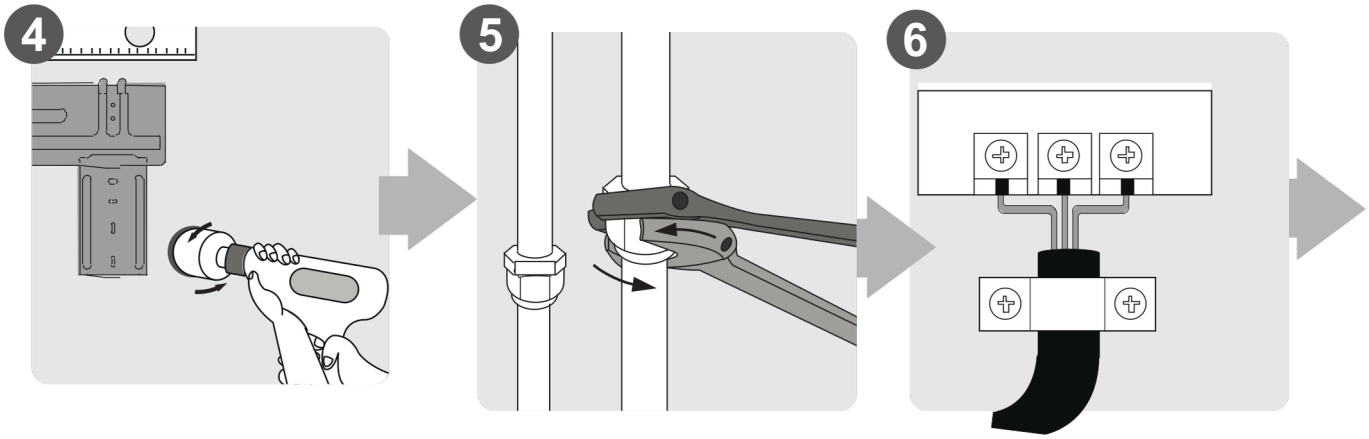
INSTALLATION SUMMARY



Select Installation Location

Determine Wall Hole Position

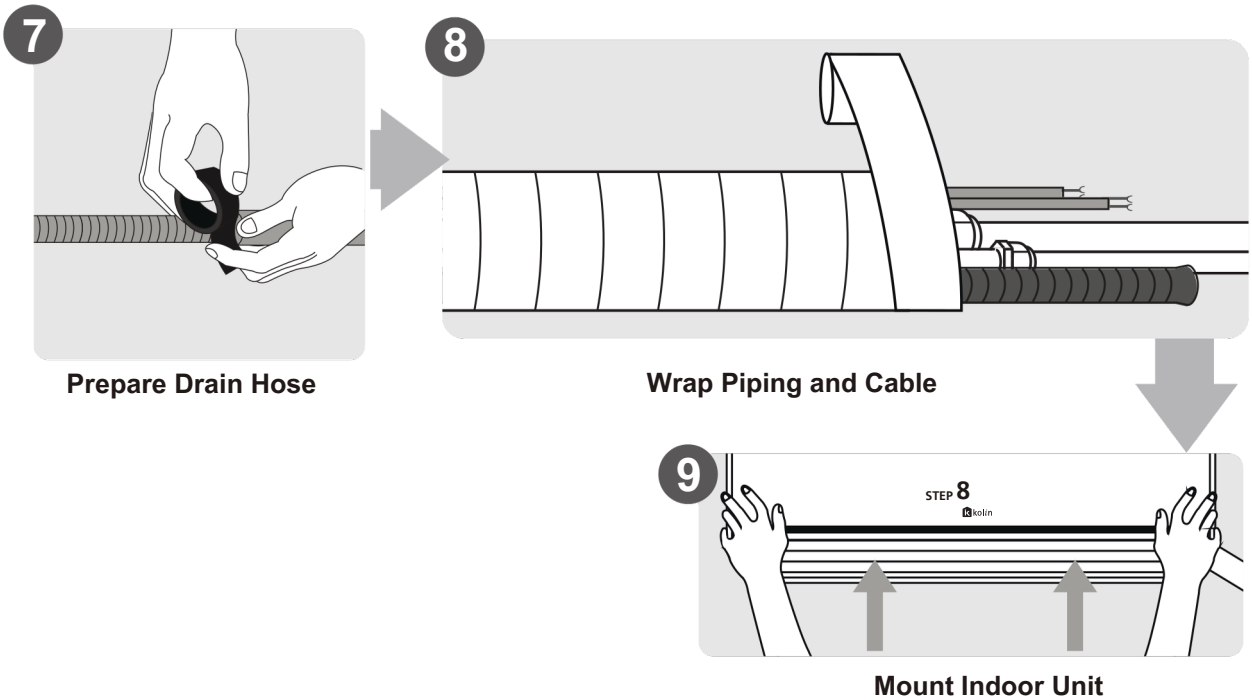
Attach Mounting Plate



Drill Wall Hole

Connect Piping

Connect Wiring



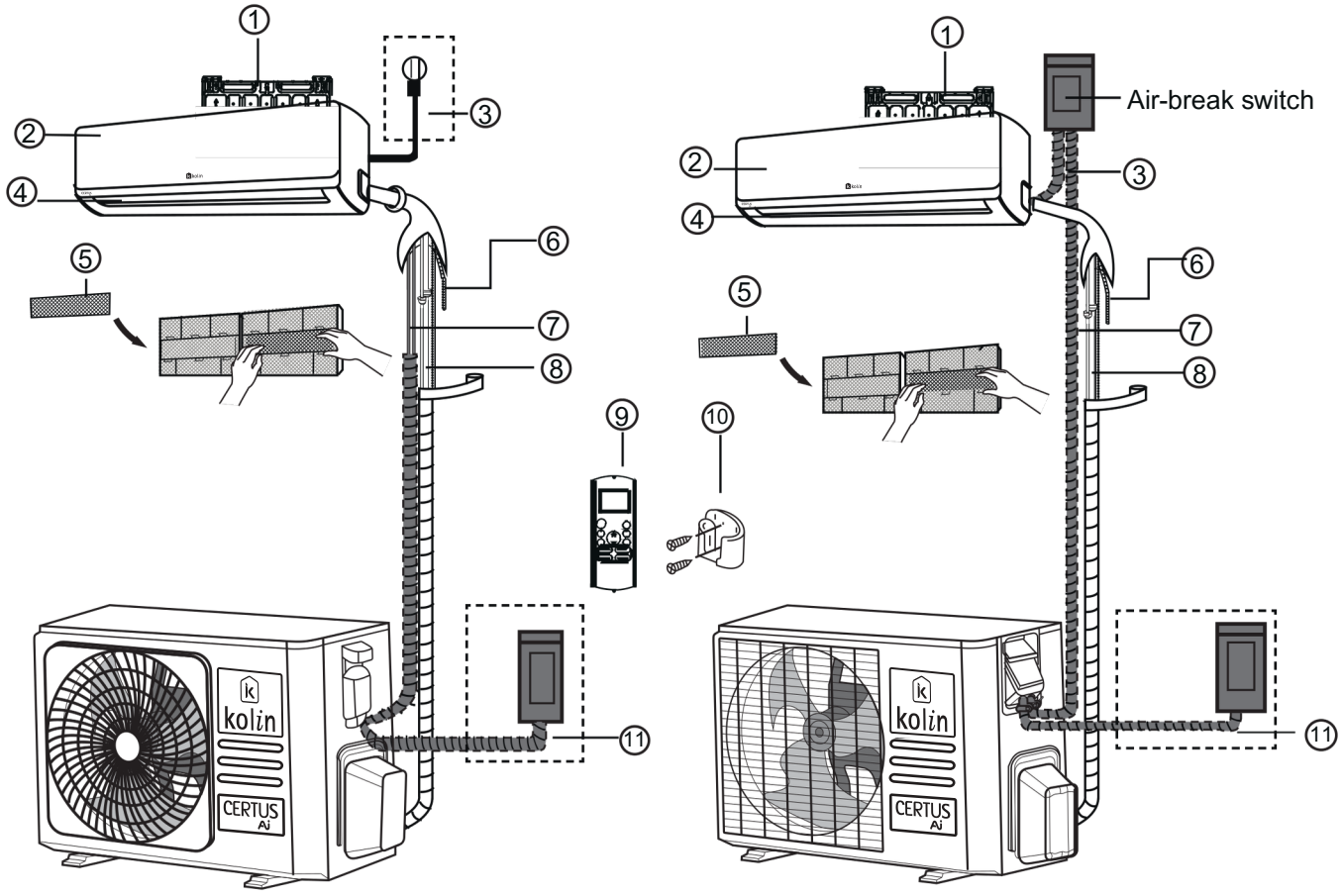
Prepare Drain Hose

Wrap Piping and Cable

Mount Indoor Unit

UNIT PARTS

NOTE:
The installation must be performed in accordance with the requirement of local and national standards. The installation process may vary depending on the area.



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

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

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 should 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:

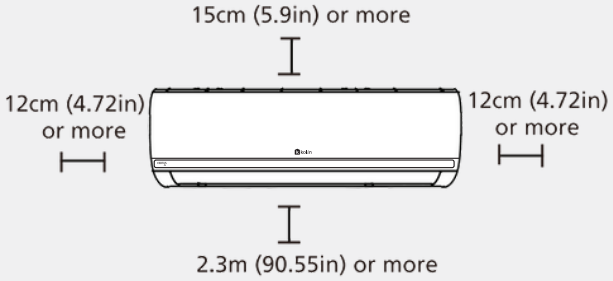
- ⊘ Near any source of heat, steam, or combustible gas
- ⊘ Near flammable items such as curtains or clothing
- ⊘ Near any obstacle that might block air circulation
- ⊘ Near the doorway
- ⊘ In a location subject to direct sunlight

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** - page 16*) 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.

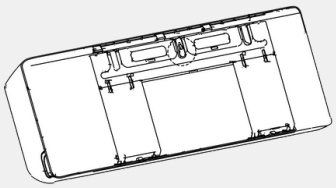
Refer to the following diagram to ensure proper distance from walls and ceiling:



Step 2: Attach mounting plate to wall

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

- Take out the mounting plate at the back of the indoor unit.



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

NOTE FOR CONCRETE OR BRICK WALLS

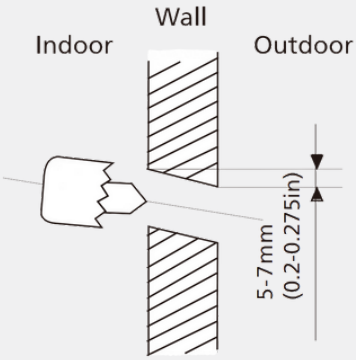
If the wall is made of brick, concrete, or similar material, drill 5mm-diameter (0.2in-diameter) holes in the wall and insert the sleeve anchors provided. Then secure the mounting plate to the wall by tightening the screws directly into the clip anchors.

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.

⚠ CAUTION

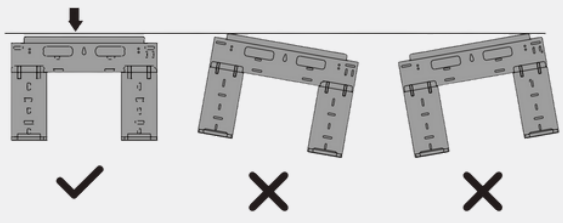
When drilling the wall hole, make sure to avoid wires, plumbing, and other sensitive components.



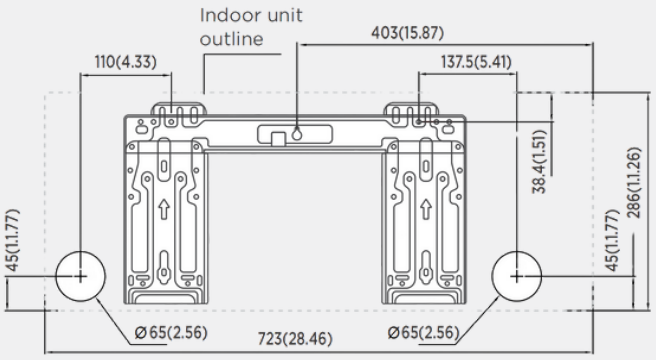
MOUNTING PLATE DIMENSIONS

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.

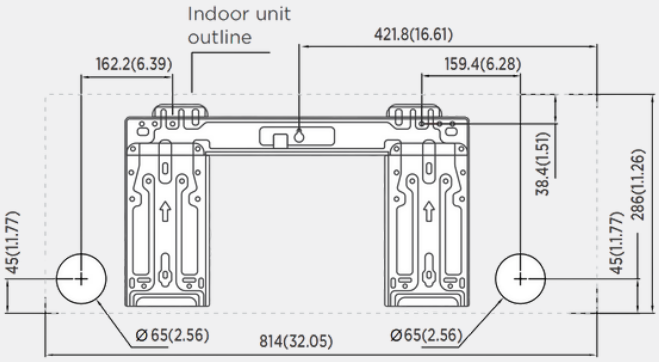
Correct orientation of Mounting Plate



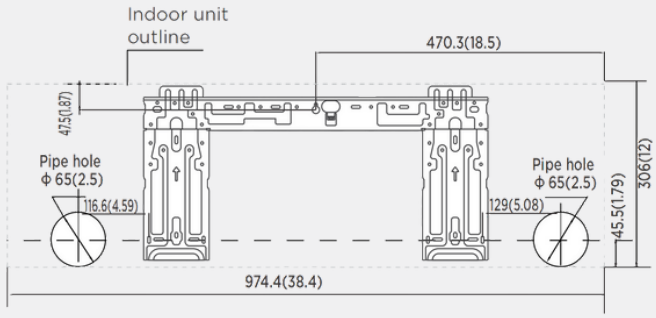
UNIT: mm(in)



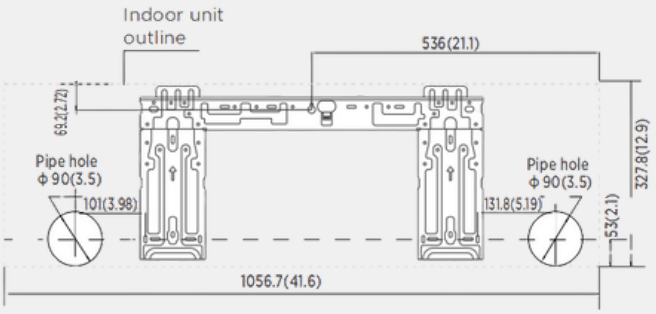
Model A



Model B



Model C



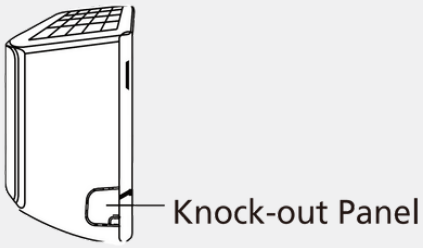
Model D

NOTE: When the gas side connective pipe is Φ16mm(5/8in) or more, the wall hole should be 90mm(3.54in).

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.

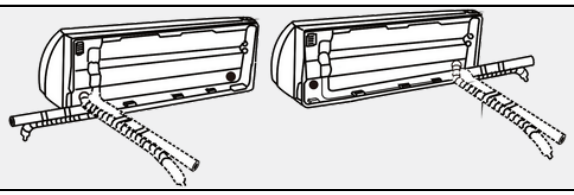
1. Based on the position of the wall hole relative to the mounting plate, choose the side from which the piping will exit the unit.
2. If the wall hole is behind the unit, keep the knock-out panel in place. If the wall hole is to the side of the indoor unit, remove the plastic knock-out panel from that side of the unit. This will create a slot through which your piping can exit the unit. Use needle nose pliers if the plastic panel is too difficult to remove by hand.



3. If existing connective piping is already embedded in the wall, proceed directly to the **Connect Drain Hose** step. If there is no embedded piping, connect the indoor unit's refrigerant piping to the connective piping that will join the indoor and outdoor units. Refer to the **Refrigerant Piping Connection** section of this manual for detailed instructions.

NOTE ON PIPING ANGLE

Refrigerant piping can exit the indoor unit from four different angles: Left-hand side, Right-hand side, Left rear, Right rear.



⚠ CAUTION

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

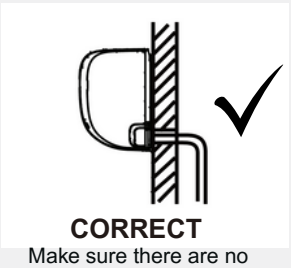
Step 5: Connect drain hose

By default, the drain hose is attached to the left-hand side of the 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. Attach drain hose extension *(purchased separately)* to the end of drain hose.

- Wrap the connection point firmly with Teflon tape to ensure a good seal and to prevent leaks.
- For the portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
- 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.

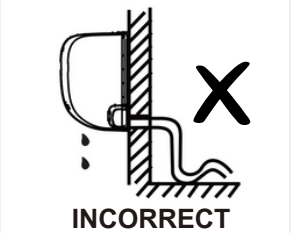


CORRECT

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

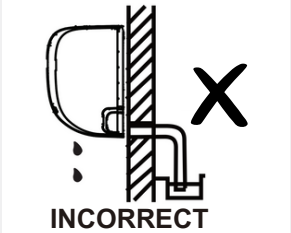
INCORRECT

Kinks in the drain hose will create water traps.



INCORRECT

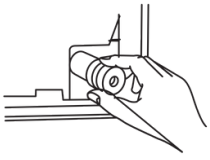
Kinks in the drain hose will create water traps.



INCORRECT

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, a surge protector and main power switch should be installed.
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 and power cables

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

Cable Types

- Indoor Power Cable: *(if applicable)* **H05VV-F or H05V2V2-F**
- Outdoor Power Cable: **H07RN-F or H05RN-F**
- Signal Cable: **H07RN-F**

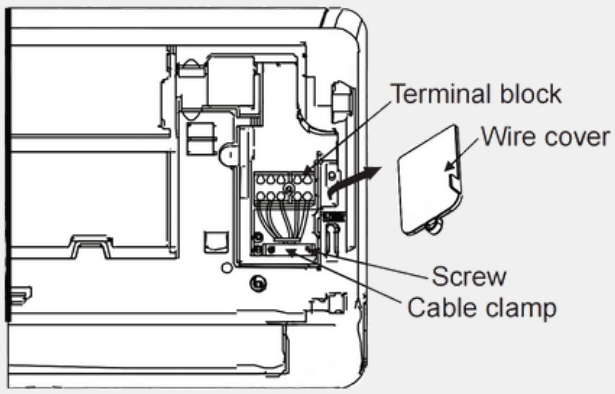
Minimum Cross-Sectional Area of Power and Signal Cables (For reference)

Rated Current of Appliance (A)	Nominal Cross-Sectional Area (mm²)
> 3 and ≤ 6	2.5
> 6 and ≤ 10	2.5
> 10 and ≤ 16	2.5
> 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 the 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 BE 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.

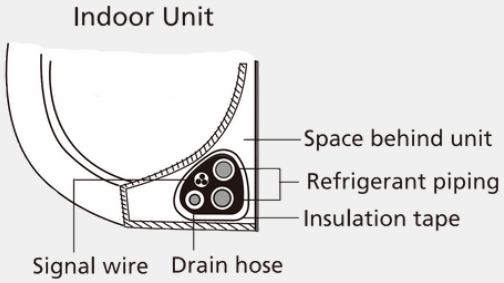
⚠ NOTE ABOUT WIRING

THE WIRING CONNECTION PROCESS MAY DIFFER SLIGHTLY BETWEEN UNITS AND REGIONS

Step 7: Wrap piping 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.

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.)

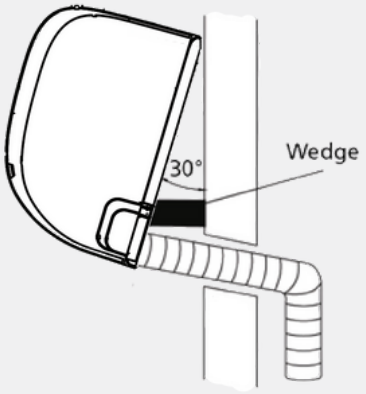
Step 8: Mount indoor unit

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.

If refrigerant piping is already embedded in the wall, do the following

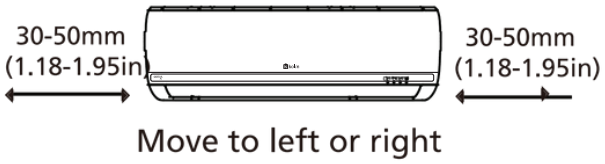
1. Hook the top of the indoor unit on the upper hook of the mounting plate.
2. Use a bracket or wedge to prop up the unit, giving you enough room to connect the refrigerant piping, signal cable, and drain hose.



3. Connect drain hose and refrigerant piping (refer to Refrigerant Piping Connection section of this manual for instructions).
4. Keep pipe connection point exposed to perform the leak test (refer to Electrical Checks and Leak Checks section of this manual).
5. After the leak test, wrap the connection point with insulation tape.
6. Remove the bracket or wedge that is propping up the unit.
7. 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.

UNIT IS ADJUSTABLE

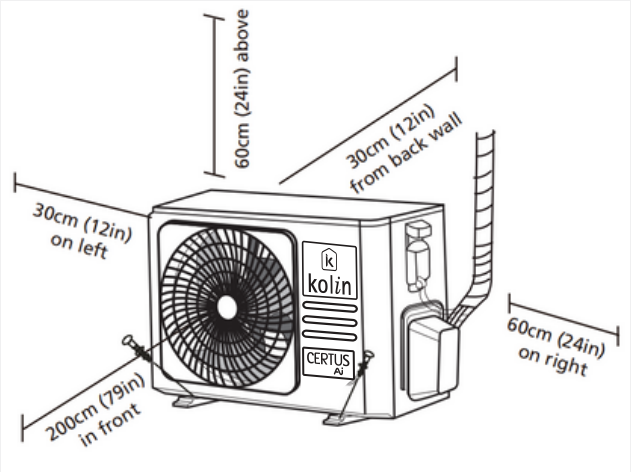
Keep in mind that the hooks on the mounting plate are smaller than the holes on the back of the unit. If you find that you don't have ample room to connect embedded pipes to the indoor unit, the unit can be adjusted left or right by about 30-50mm (1.18-1.95in), depending on the model.



Move to left or right

OUTDOOR UNIT INSTALLATION

Install the unit in accordance with local codes and regulations, as these may vary slightly between 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 should meet the following standards

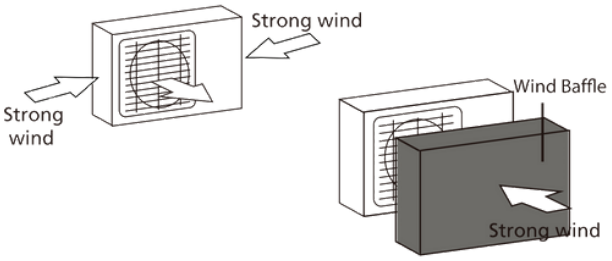
- ☑ Meets all spatial requirements shown on Installation Space Requirements above.
- ☑ Good air circulation and ventilation
- ☑ Firm and solid – the location can support the unit and will not vibrate
- ☑ Noise from the unit will not disturb others
- ☑ Protected from prolonged periods of direct sunlight or rain.
- ☑ Where snowfall is anticipated, take appropriate measures to prevent ice buildup and coil damage.

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 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 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.



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 **Figure 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 **Figure 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.

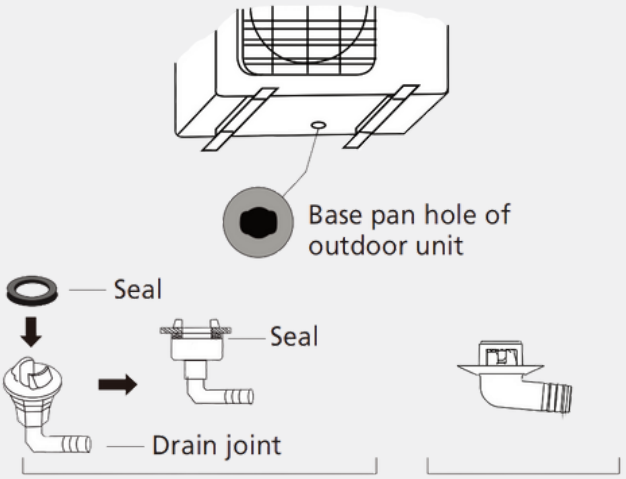


Figure A **Figure B**

IN COLD CLIMATES

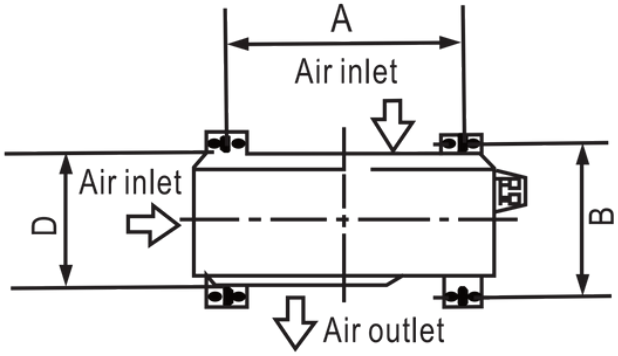
In cold climates, make sure that the drain hose is as vertical as possible to ensure swift water drainage. If water drains too slowly, it can freeze in the hose and flood the unit.

Step 3: Anchor outdoor unit

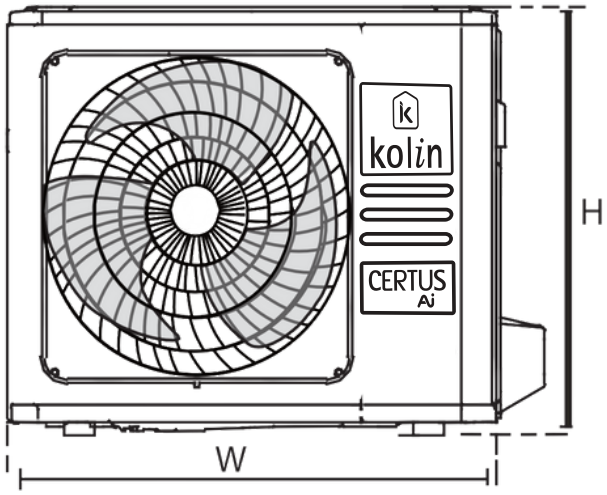
The outdoor unit can be anchored to the ground or to a wall-mounted bracket with bolt (M10). Prepare the installation base of the unit according to the dimension below.

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 on **Outdoor Unit Mounting Dimensions** table *(See Page 23).*



TOP VIEW



FRONT VIEW

OUTDOOR UNIT MOUNTING DIMENSIONS

MODEL	Outdoor Unit Dimensions [mm(in)] W x H x D	Mounting Dimensions	
		Distance A [mm(in)]	Distance B [mm(in)]
KS-IW10-MCAI12O1M32	668 x 469 x 252 (26.3" x 18.5" x 9.9")	430 (16.9")	231 (9.1")
KS-IW15-MCAI12O1M32			
KS-IW20-MCAI12O1M32	805 x 554 x 330 (31.7" x 21.8" x 12.9")	452 (17.8")	286 (11.3")
KS-IW25-MCAI12O1M32	765 x 555 x 303 (30.1" x 21.8" x 11.9")	511 (20.1")	317 (12.5")

If you 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.

If you 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.

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

Please choose the right cable. Refer to "CABLE TYPES" *(see Page 18).*

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.

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

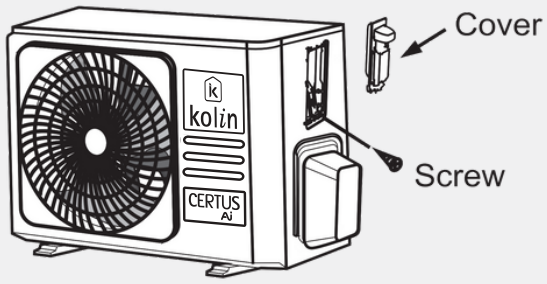
⚠ PAY ATTENTION TO LIVE WIRE

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

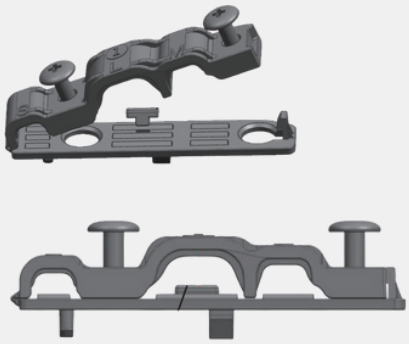
⚠ WARNING

ALL WIRING WORK MUST BE PERFORMED STRICTLY IN ACCORDANCE WITH THE DIAGRAM LOCATED INSIDE OF WIRE COVER OF 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.



NOTE: If the cable clamp looks like the following, please select the appropriate through-hole according to the diameter of the wire.



When the cable is not fasten enough, use the buckle to prop it up, so it can be clamped tightly.

REFRIGERANT PIPING CONNECTION

When connecting refrigerant piping, do not let substances or gases other than the specified refrigerant enter the unit. The presence of other gases or substances will lower the unit's capacity, and can cause abnormally high pressure in the refrigeration cycle. This can cause explosion and injury.

Note on Pipe Length

The length of refrigerant piping will affect the performance and energy efficiency of the unit. Nominal efficiency is tested on units with a pipe length of 5 meters (16.5ft) A minimum pipe run of 3 meters is required to minimize vibration & excessive noise. In special tropical area, for the R290 refrigerant models, no refrigerant can be added and the maximum length of refrigerant pipe should not exceed 10 meters(32.8ft).

Refer to the table below for specifications on the maximum length and height distance of piping.

Maximum Length and Height Distance of Refrigerant Piping per Unit Model

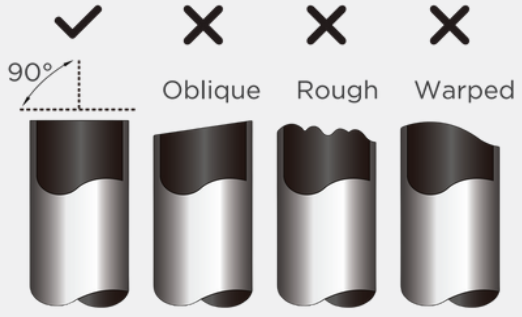
MODEL	CAPACITY	Maximum Length	Maximum Height
KS-IW10-MCAI12O1M32	9,800 (2,940 - 10,780) kJ/hr 2.72 (0.82 - 2.99) kW	25 m	10 m
KS-IW15-MCAI12O1M32	12,880 (3,864 - 14,168) kJ/hr 3.58 (1.07 - 3.93) kW	25 m	10 m
KS-IW20-MCAI12O1M32	19,000 (5,700 - 20,900) kJ/hr 5.28 (1.58 - 5.80) kW	30 m	20 m
KS-IW25-MCAI12O1M32	23,800 (7,140 - 26,180) kJ/hr 6.61 (1.98 - 7.27) kW	30 m	20 m

Connection Instructions – Refrigerant Piping

Step 1: Cut pipes

When preparing refrigerant pipes, take extra care to cut and flare them properly. This will ensure efficient operation and minimize the need for future maintenance.

1. Measure the distance between the indoor and outdoor units.
2. Using a pipe cutter, cut the pipe a little longer than the measured distance.
3. Make sure that the pipe is cut at a perfect 90° angle.



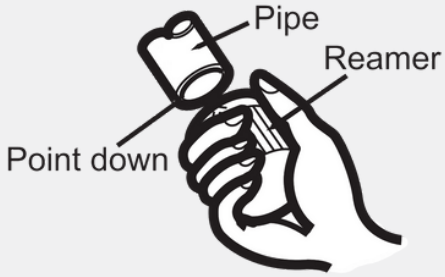
DO NOT DEFORM PIPE WHILE CUTTING

Be extra careful not to damage, dent, or deform the pipe while cutting. This will drastically reduce the heating efficiency of the unit.

Step 2: Remove burrs

Burrs can affect the air-tight seal of refrigerant piping connection. They must be completely removed.

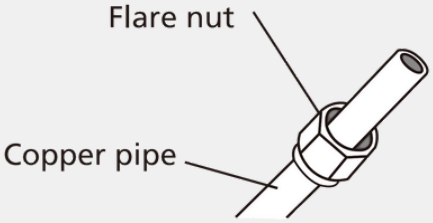
1. Hold the pipe at a downward angle to prevent burrs from falling into the pipe.
2. Using a reamer or deburring tool, remove all burrs from the cut section of the pipe.



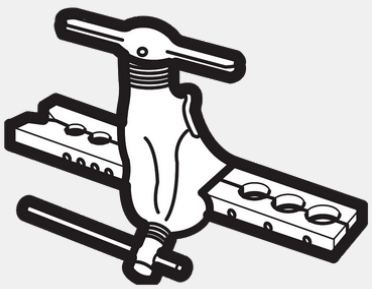
Step 3: Flare pipe ends

Proper flaring is essential to achieve an airtight seal.

1. After removing burrs from cut pipe, seal the ends with PVC tape to prevent foreign materials from entering the pipe.
2. Sheath the pipe with insulating material.
3. Place flare nuts on both ends of pipe. Make sure they are facing in the right direction, because you can't put them on or change their direction after flaring.

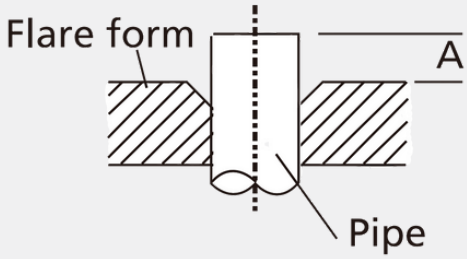


4. Remove PVC tape from ends of pipe when ready to perform flaring work.
5. Clamp flare form on the end of the pipe. The end of the pipe must extend beyond the edge of the flare form in accordance with the dimensions shown in the **PIPING EXTENSION BEYOND FLARE FORM** table.



PIPING EXTENSION BEYOND FLARE FORM

Outdoor Diameter of Pipe [mm(in)]	A [mm(in)]	
	Min.	Max.
∅6.35 (∅0.25")	0.7 (0.0275")	1.3 (0.05")
∅9.52 (∅0.375")	1.0 (0.04")	1.6 (0.063")
∅12.7 (∅0.50")	1.0 (0.04")	1.8 (0.07")
∅16.0 (∅0.63")	2.0 (0.078")	2.2 (0.086")
∅19.0 (∅0.75")	2.0 (0.078")	2.4 (0.094")



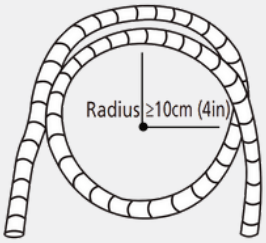
6. Place flaring tool onto the form.
7. Turn the handle of the flaring tool clockwise until the pipe is fully flared.
8. Remove the flaring tool and flare form, then inspect the end of the pipe for cracks and even flaring.

Step 4: Connect pipes

When connecting refrigerant pipes, be careful not to use excessive torque or to deform the piping in any way. You should first connect the low-pressure pipe, then the high-pressure pipe.

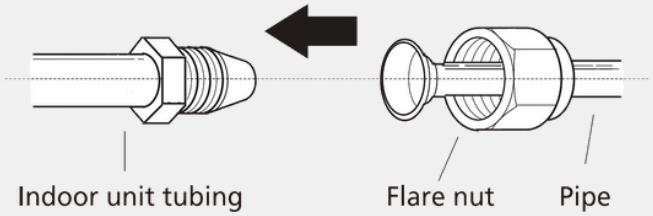
MINIMUM BEND RADIUS

When bending connective refrigerant piping, the minimum bending radius is 10cm.

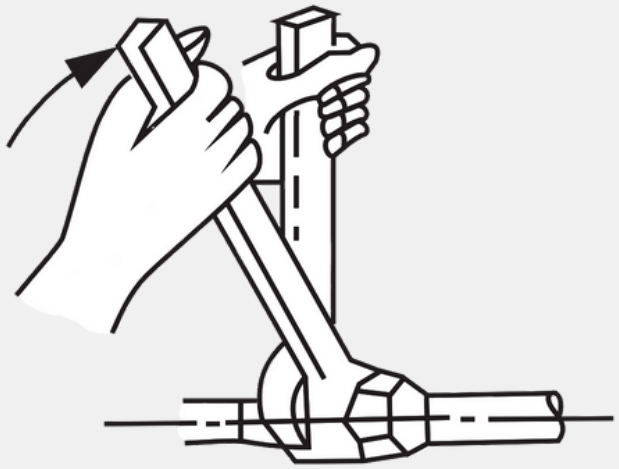


Instructions for Connecting Piping to Indoor Unit

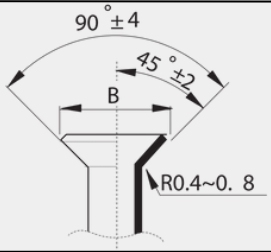
1. Align the center of the two pipes that you will connect.



2. Tighten the flare nut as tightly as possible by hand.
3. Using a spanner, grip the nut on the unit tubing.
4. While firmly gripping the nut on the unit tubing, use a torque wrench to tighten the flare nut according to the torque values in the **TORQUE REQUIREMENTS** table below. Loosen the flaring nut slightly, then tighten again.



TORQUE REQUIREMENTS

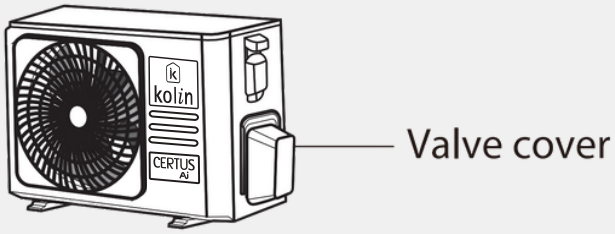
Outdoor Diameter of Pipe [mm(in)]	Tightening Torque [N•m (kgf•cm)]	Flare Dimension (B) [mm(in)]	Flare Shape
∅6.35 (∅0.25")	18~20 (180~200)	8.4~8.7 (0.33~0.34")	
∅9.52 (∅0.375")	32~39 (320~390)	13.2~13.5 (0.52~0.53")	
∅12.7 (∅0.50")	49~59 (490~590)	16.2~16.5 (0.64~0.65")	
∅16.0 (∅0.63")	57~71 (570~710)	19.2~19.7 (0.76~0.78")	
∅19.0 (∅0.75")	67~101 (670~1010)	23.2~23.7 (0.91~0.93")	

DO NOT USE EXCESSIVE TORQUE

Excessive force can break the nut or damage the refrigerant piping. You must not exceed torque requirements shown in the table above.

Instructions for Connecting Piping to Indoor Unit

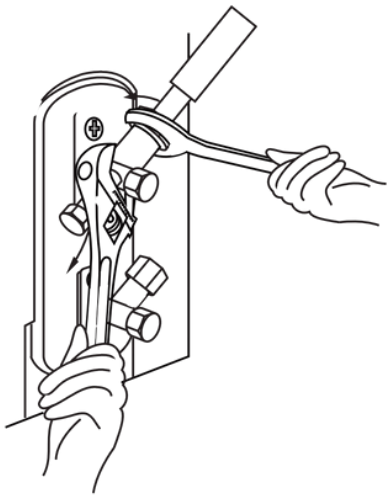
1. Unscrew the cover from the packed valve on the side of the outdoor unit.
2. Remove protective caps from ends of valves.
3. Align flared pipe end with each valve, and tighten the flare nut as tightly as possible by hand.
4. Using a spanner, grip the body of the valve. Do not grip the nut that seals the service valve.



5. While firmly gripping the body of the valve, use a torque wrench to tighten the flare nut according to the correct torque values.
6. Loosen the flaring nut slightly, then tighten again.
7. Repeat Steps 3 to 6 for the remaining pipe.

USE SPANNER TO GRIP MAIN BODY OF THE VALVE

Torque from tightening the flare nut can snap of other parts of valve.



AIR EVACUATION

Preparations and Precautions

Air and foreign matter in the refrigerant circuit can cause abnormal rises in pressure, which can damage the air conditioner, reduce its efficiency, and cause injury. Use a vacuum pump and manifold gauge to evacuate the refrigerant circuit, removing any non-condensable gas and moisture from the system.

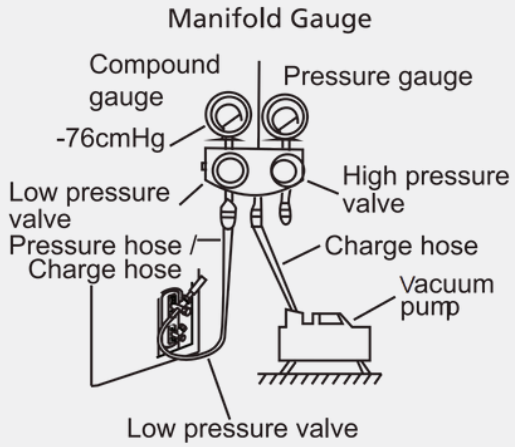
Evacuation should be performed upon initial installation and when unit is relocated.

BEFORE PERFORMING EVACUATION

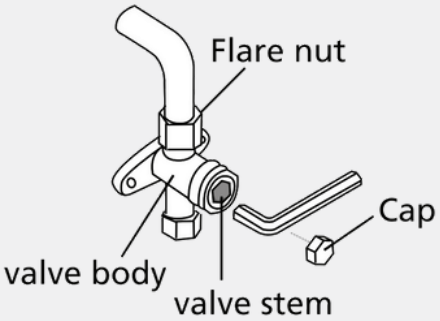
- ☑ Check to make sure the connective pipes between the indoor and outdoor units are connected properly.
- ☑ Check to make sure all wiring is connected properly.

Evacuation Instructions

1. Connect the charge hose of the manifold gauge to service port on the outdoor unit's low pressure valve.
2. Connect another charge hose from the manifold gauge to the vacuum pump.
3. Open the Low Pressure side of the manifold gauge. Keep the High Pressure side closed.
4. Turn on the vacuum pump to evacuate the system.
5. Run the vacuum for at least 15 minutes, or until the Compound Meter reads -76cmHG (-100kPa).



6. Close the Low Pressure side of the manifold gauge, and turn off the vacuum pump.
7. Wait for 5 minutes, then check that there has been no change in system pressure.
8. If there is a change in system pressure, refer to Gas Leak Check section for information on how to check for leaks. If there is no change in system pressure, unscrew the cap from the packed valve (high pressure valve).
9. Insert hexagonal wrench into the packed valve (high pressure valve) and open the valve by turning the wrench in a 1/4 counterclockwise turn. Listen for gas to exit the system, then close the valve after 5 seconds.
10. Watch the Pressure Gauge for one minute to make sure that there is no change in pressure. The Pressure Gauge should read slightly higher than atmospheric pressure.
11. Remove the charge hose from the service port.



12. Using hexagonal wrench, fully open both the high pressure and low pressure valves.
13. Tighten valve caps on all three valves (service port, high pressure, low pressure) by hand. You may tighten it further using a torque wrench if needed.

⚠ OPEN VALVE STEMS GENTLY

When opening valve stems, turn the hexagonal wrench until it hits against the stopper. Do not try to force the valve to open further.

Note on Adding Refrigerant

Some systems require additional charging depending on pipe lengths. The standard pipe length varies according to local regulations.

In other areas, the standard pipe length is 5m (16‘). The refrigerant should be charged from the service port on the outdoor unit’s low pressure valve. The additional refrigerant to be charged can be calculated using the following formula:

ADDITIONAL REFRIGERANT PER PIPE LENGTH

Connective Pipe Length (m)	Air Purging Method	Additional Refrigerant
≤ Standard pipe length	VacuumPump	*N/A*
> Standard pipe length	Vacuum Pump	**Liquid Side: Ø6.35mm (Ø1/4")** R410A (Pipe length - standard length) x 15g/m (Pipe length - standard length) x 0.16oZ/ft R32 (Pipe length - standard length) x 12g/m (Pipe length - standard length) x 0.13oZ/ft **Liquid Side: Ø9.52mm (Ø3/8")** R410A (Pipe length - standard length) x 30g/m (Pipe length - standard length) x 0.32oZ/ft R32 (Pipe length - standard length) x 24g/m (Pipe length - standard length) x 0.26oZ/ft

DO NOT MIX REFRIGERANT TYPES.

ELECTRICAL AND GAS LEAK CHECKS

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.

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.

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 locatio

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

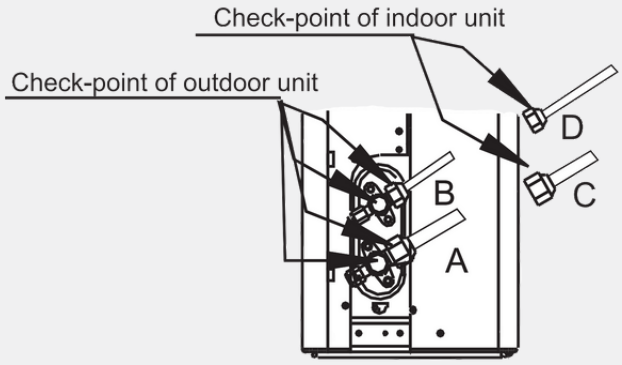
Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor unit and outdoor unit. The presence of bubbles indicates a leak.

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.



A: Low pressure stop valve
B: High pressure stop valve
C & D: Indoor unit flare nuts

TEST RUN

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. Set the AC on the following condition, one at a time:
   - Select lowest possible temperature
   - 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 connections points do not leak	Outdoor (2):	Indoor (2):
Water drains properly from drain hose		
All piping is properly insulated		
Unit performs COOL function properly		
Indoor unit louvers rotate properly		
Indoor unit responds to remote controller		

DOUBLE-CHECK PIPE CONNECTIONS

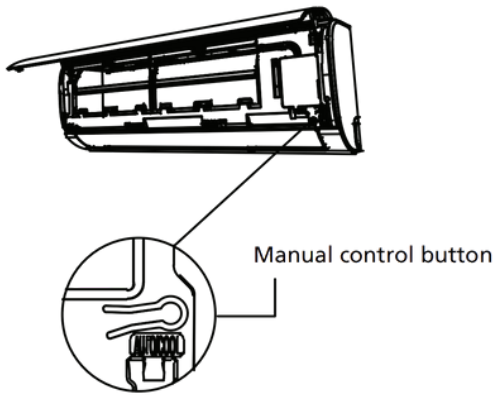
During operation, the pressure of the refrigerant circuit will increase. This may reveal leaks that were not present during your initial leak check. Take time during the Test Run to double-check that all refrigerant pipe connecction points do not have leaks. Refer to **Gas Leak Check** section for instructions.

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:
   - Using remote control, return unit to normal operating temperature.
   - Using insulation tape, wrap the indoor refrigerant pipe connections that you left uncovered during the indoor unit installation process.

IF AMBIENT TEMPERATURE IS BELOW 16°C (61°F)

You can't use the remote controller to turn on the COOL function when the ambient temperature is below 16°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.
3. Perform Test Run as normal.



CARE AND MAINTENANCE

Cleaning your Indoor Unit

BEFORE CLEANING OR MAINTENANCE

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

CAUTION

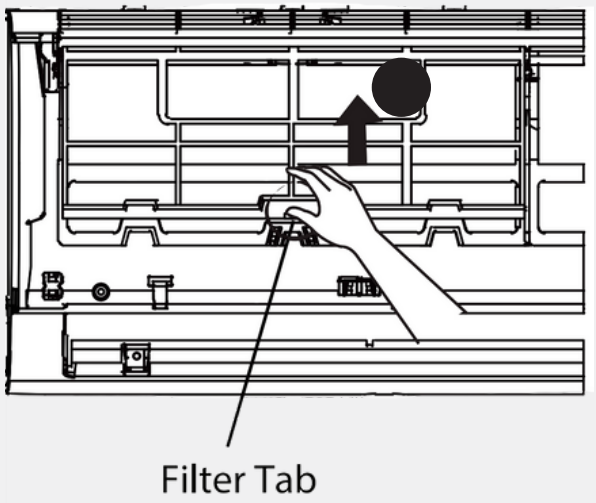
Only use a soft, dry cloth to wipe the unit clean. If the unit is especially dirty, you can use a cloth soaked in warm water to wipe it clean.

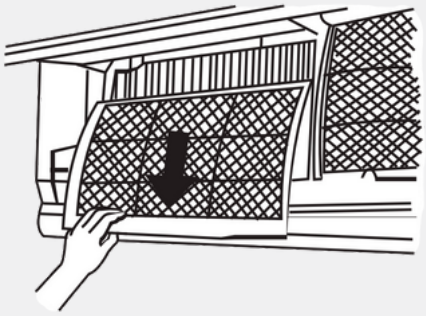
- **DO NOT** use chemicals or chemically treated cloths to clean the unit.
- **DO NOT** use benzene, paint thinner, polishing powder or other solvents to clean the unit. They can cause the plastic surface to crack or deform.
- **DO NOT** use water hotter than 40°C (104°F) to clean the front panel. This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

• Cleaning your Air Filter

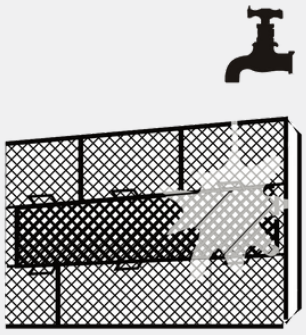
A clogged air conditioner can reduce the cooling efficiency of your unit, and can also be bad for your health. **Make sure to clean the filter once every two weeks.**

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 unity.
9. Close the front panel of the indoor unit.





Remove air freshening filter from back of larger filter (some units)



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 Reminder (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 start 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.

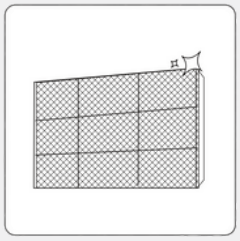
To reset the reminder, press the **LED button** on your remote control 4 times, or press the **MANUAL CONTROL button** 3 times. If you don’t reset the reminder, the “nF” indicator will flash again when you start the unit.

⚠ CAUTION

- Any maintenance and cleaning of outdoor unit should be performed by Kolin-authorized technicians or service partners.
- Any unit repairs should be performed by Kolin-authorized technicians or service partners.

Maintenance - Long Periods of Non-Use

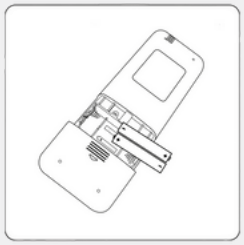
If you plan not to use your air conditioner for an extended period of time, do the following:



Clean all filters

Turn on FAN function until unit dries out completely

Turn off the unit and disconnect the power

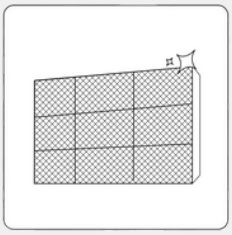


Remove batteries from remote control

Maintenance - Long Periods of Non-Use

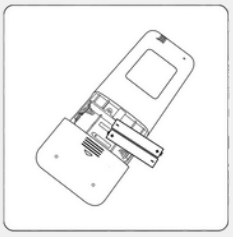
After long periods of non-use, or before periods of frequent use, do the following:

Check for damaged wires



Clean all filters

Check for leaks



Replace batteries

Make sure nothing is blocking all air inlets and outlets

TROUBLESHOOTING

⚠ 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 A KOLIN SERVICE HOTLINE OR ITS AUTHORIZED SERVICE PARTNERS 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 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.
The indoor unit makes noises	A rushing air sound may occur when the louver resets its position.
The outdoor unit makes noises	The unit will make different sounds based on its current operating mode
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.
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.

Issue	Possible Causes
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: • Disconnect the power, then reconnect. • Press ON/OFF button on remote control to restart operation.

NOTE:

If the problem persists, contact Kolin service center or its authorized service partners. Be sure to provide a detailed description of the issue along with your unit's model number.

Troubleshooting

When troubles occur, please check the following points before contacting a service center.

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 exchange
	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. *(Must be performed by authorized technician.)*
	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. *(Must be performed by authorized technician)*
	Remote control batteries are dead	Replace batteries.
	The unit's 3-minute protection have 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. *(Must be performed by authorized technician)*
	Incompressible gas or moisture has entered the system	Evacuate and recharge the system with refrigerant. *(Must be performed by authorized technician)*
	The compressor is broken	Replace the compressor. *(Must be performed by authorized technician)*
	The voltage is too high or too low	Install a manostat to regulate the voltage. *(Must be performed by authorized technician)*
Indicator lamps continue flashing	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. If the problem persists, disconnect the power and contact Kolin service center or authorized service partners.	
Error code appears and begins with the letters as the following in the window display of indoor unit: E(x), P(x), F(x), EH(xx), EL(xx), EC(xx), PH(xx), PL(xx), PC(xx)		

NOTE:

If the problem persists after performing the checks and diagnostics above, turn off your unit immediately and contact Kolin service center or its authorized service partners. Be sure to provide a detailed description of the issue along with your unit's model number.

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

If you have any concerns, please contact us at the following:

Customer hotline: **(02) 8852-6868**
Text hotline: **+63 917-881-8982**
Email: **customerservice@kolinphil.com.ph**

Also, please like and follow us on social media accounts:

Facebook: kolinphilippines
Instagram: kolinphilippines
Youtube: kolinphilippines
Tiktok: kolinphilippines
Website: www.kolinphil.com.ph

KPI060325

Kolin Philippines Int'l., Inc.

SERVICE CENTERS

BRANCH	ADDRESS	TEL. NO.
Bacolod	Door #A-2 & A-3 UTC Bldg.,Alunan St., Brgy. 36, Bacolod City	(034) 466-9145
Cagayan De Oro	Door #3 De Oro Land Bldg.,Julio Pacana St., Puntod, Cagayan de Oro City	(088) 557 - 7353
Cebu	Lot 758-B-1, P. Suico St. Upper Tabok, Mandaue City, Cebu	(032) 234 - 1844
Dagupan	Unit #1 107 Caranglaan District, Dagupan City, Pangasinan	(075) 529 - 0587
Davao	Blk 17 Lot 9, Calamansi St.,Juna Subd., Matina, Davao City	(082) 272 - 0048
Iloilo	Door# 4,5 & 7, D' Appliance Arcade,South Fundidor, Molo, Iloilo City	(033) 337 - 5914
Pampanga	LRK Commercial Bldg., Jose AbadAve., Lagundi, Mexico, Pampanga	(045) 455 - 2934

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