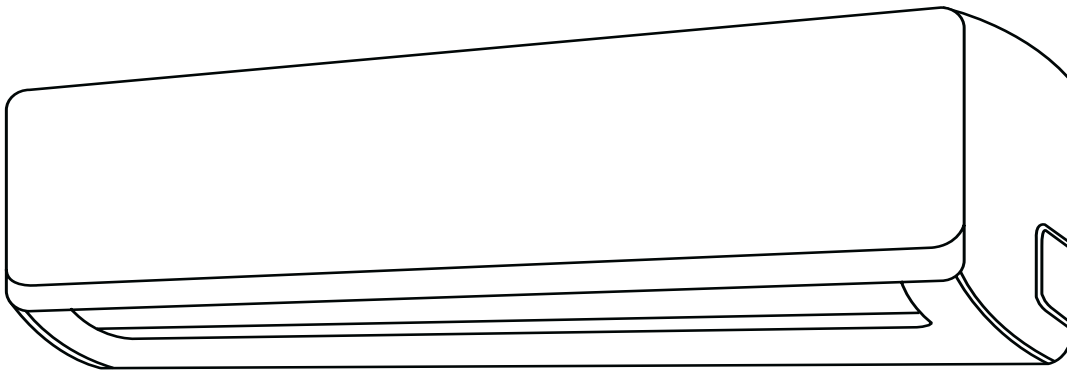


KIWQ/KOIQ *KLIMAIRE DIY™ SERIES*

R-454B - 5TH GENERATION

DUCTLESS MINI SPLIT SYSTEM
AIR CONDITIONER / HEAT PUMP

User's & Installation Manual



Models Covered:

Indoor Unit:

KIWQ09H1-45T

KIWQ12H1-45T

KIWQ12H2-45T

KIWQ18H2-45T

KIWQ24H2-45T

KIWQ36H2-45T

Outdoor Unit:

KOIQ09H1-45T

KOIQ12H1-45T

KOIQ12H2-45T

KOIQ18H2-45T

KOIQ24H2-45T

KOIQ36H2-45T

KLIMAIRE®
Mark of Superior Quality

IMPORTANT NOTE:

Read this manual carefully before installing or operating your new air conditioning unit. Be sure to keep this manual for future reference. For more information, please visit www.klimaire.com



Scan the QR code to visit our Help Center for installation guides, manuals, videos and more.



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1. Safety Precautions



⚠ CAUTION

Risk of fire
This unit a mildly flammable (A2L) refrigerant. See A2L refrigerant safety considerations to ensure safe installation, operation, and servicing of unit.

- * The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for details.
- * The shape and position of buttons and indicators may vary according to the model, but their functions are the same.

Read and understand **all safety precautions** before installation or servicing. Improper installation, adjustment, or servicing due to negligence may result in **death, serious injury, or property damage**. The potential level of risk is identified using the following standardized safety symbols.

⊘ DANGER

This symbol indicates an action that must never be attempted may result in death or serious injury.

⚠ WARNING

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

⚠ CAUTION





This symbol indicates that ignoring the related instructions **may cause minor or moderate injury** or result in **damage to the appliance or property**.

i NOTICE

This symbol indicates that the instruction provides **important information** to ensure correct installation, operation, and maintenance of the unit.




1. Safety Precautions

WARNING

1. Read this manual carefully before installing or operating the appliance. Failure to follow instructions may result in electric shock, fire, or serious injury.
2. Installation, service, and maintenance must be performed **only by qualified and licensed personnel**.
3. Perform the installation exactly as instructed in this manual. Improper installation may result in water leakage, poor system performance, electrical shock, or fire.
4. All electrical work must comply with local and national wiring codes NEC, as outlined in this installation manual. Use an independent power circuit with a dedicated breaker for this appliance. Do not connect any other devices to the same circuit.
5. Contact a qualified and licensed HVAC technician for any repairs or maintenance of this unit.
6. Inadequate electrical capacity or improper wiring may result in electric shock or fire.
7. Before accessing electrical terminals or performing any service, disconnect all power and verify that no current is present.
8. If the appliance emits smoke, sparks, or a burning odor, immediately disconnect power and contact an authorized service technician.
9. When installing the unit do not allow air, moisture, or dust to enter the refrigerant system. Ensure the refrigerant piping is properly connected and free from contaminants.
10. Do not continue operation under abnormal conditions. Doing so may cause fire, electrical shock, or equipment failure.
11. The appliance must be properly grounded to prevent electrical shock.
12.  Do not power the system with an **extension cord or undersized wiring**. Improper power supply may cause overheating, fire, or electric shock.
13. Ensure that the main voltage matches the nameplate rating before connecting power.
14.  Do not install or operate the unit near combustible materials, pressurized containers, or where combustible gas leaks could occur. Accumulated gas may ignite or explode.
15. Only use the included accessories, parts, and specified items for installation. Using non-standard parts can cause water leakage, electrical shock, fire, and can cause total unit failure.
16. This appliance contains **fluorinated gases**. Only **qualified HVAC technicians** may install, service, or recover refrigerant. Follow all applicable regulations regarding fluorinated gas handling and leak checks.
17. Do not operate the unit in **enclosed or unventilated spaces** without leak prevention measures. Accumulated refrigerant can create a fire hazard.
18.  Keep **children and unauthorized persons** away from the work area during installation and operation.
19.  **Children must not play with or near the unit**. Always provide adult supervision.

1. Safety Precautions

CAUTION

1.  Do not install or operate the unit in high-humidity areas such as bathrooms or laundry rooms, as moisture can cause short circuits or electrical shock
2.  Maintain a clearance of at least 3 ft (1 m) from any combustible materials.
3.  Never insert fingers, sticks, or foreign objects into the appliance openings. Risk of severe injury from moving parts or electrical shock.
4. Install the outdoor unit on a firm, stable, level surface capable of supporting its full weight. An unstable base may cause the unit to fall and result in injury or property damage.
5. Improper drainage piping may cause water leakage and damage to property. Install the drain line as instructed.
6. Arrange all wiring neatly so that the control board cover closes securely. A loose cover can cause corrosion, overheating, or short circuits.
7. Tighten all electrical connections and secure cables with clamps to prevent strain on terminals. Loose connections may overheat and cause fire or malfunction.
8. Verify ground continuity between indoor and outdoor units before operation.
9. Ensure the voltage supply is stable and within the unit's rated tolerance to prevent performance issues or damage.
10. During installation or servicing, use appropriate tools and equipment. Defective tools may cause leaks or damage.
11. Use air conditioners specifically designed for special-purpose environments such as kitchens or server rooms if required.

NOTICE

1. This air conditioner contains fluorinated greenhouse gases.
For details regarding the type of refrigerant and its quantity, refer to the information label affixed to the unit.
2. Only qualified and trained technicians are permitted to install, service, maintain, or repair this unit.
3. When the appliance is not used for an extended period, turn off the main disconnect switch and ensure the system is completely de-energized.
4. When inspecting the unit for refrigerant leaks, it is recommended to document and record all test results accurately.
5. End-of-life removal must be performed by a certified technician through authorized recycling facilities

1. Safety Precautions

WARNING

Cleaning Safety Instructions

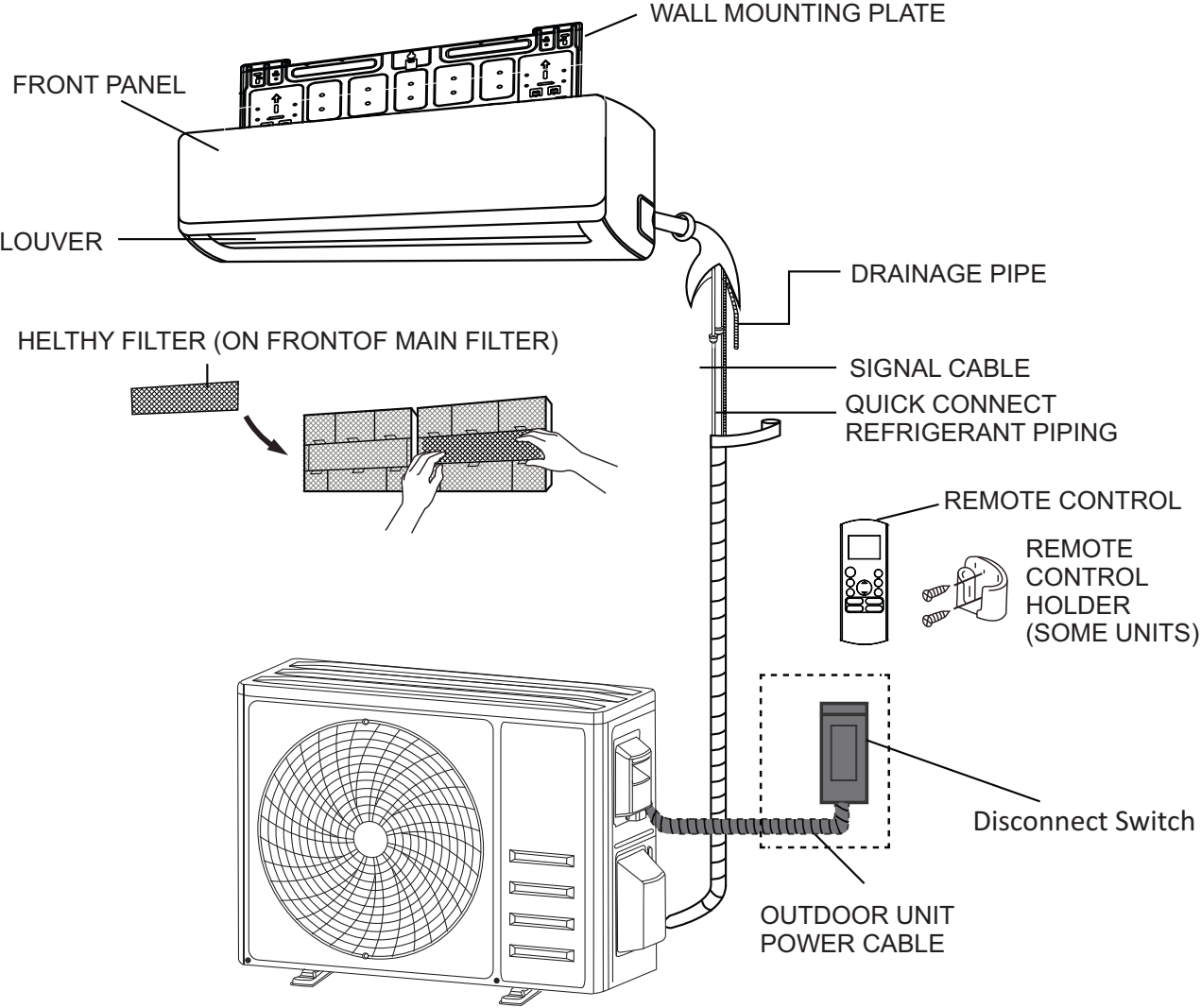
1. Do not clean the unit using excessive amounts of water.
2. Do not use flammable or combustible cleaning agents, as they may cause deformation and/or fire.
3. Always turn off the unit and disconnect the power supply before cleaning. Failure to do so may result in electrical shock

NOTICE

This system is designed for homeowner installation. The installer is responsible for ensuring compliance with local electrical, mechanical, and building codes. Klimaire is not responsible for improper installation, code violations, or damage caused by incorrect setup.

2. System Components & Installation Illustration

Figure 2.1- System Components and Installation Overview



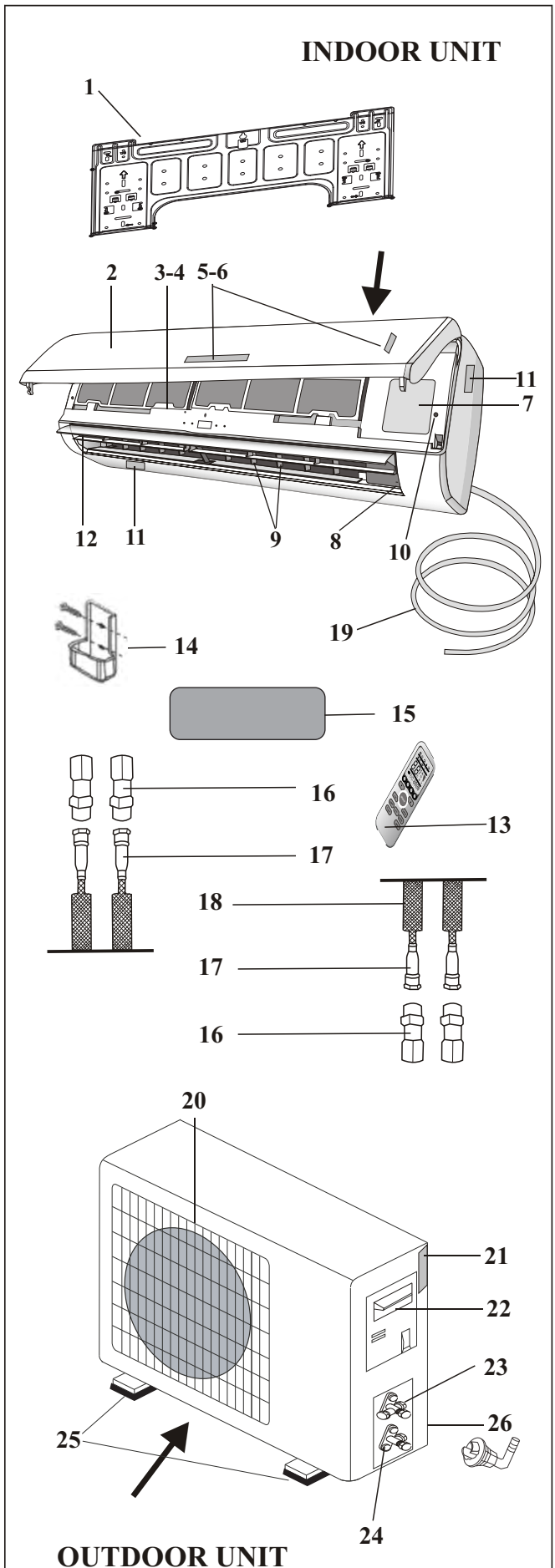
2. System Components & Installation Illustration

INDOOR UNIT

No.	Description
1	Wall mounting bracket
2	Front panel
3	Air filter
4	Optional filter (if installed)
5	LED display
6	Signal receiver
7	Terminal block cover
8	Ionizer generator (if installed)
9	Deflectors
10	Emergency button
11	Indoor unit rating label
12	Airflow direction flaps
13	Remote control
14	Remote control holder
15	Healthy filters

OUTDOOR UNIT

No.	Description
16	Male Quick connections
17	Female Quick connections
18	Connecting Pipes
19	Interconnecting Cables
20	Air outlet grille
21	Outdoor unit rating label
22	Big handle Cover
23	Gas valve
24	Liquid valve
25	Vibration pads (Qty. 4)
26	Drain Joint

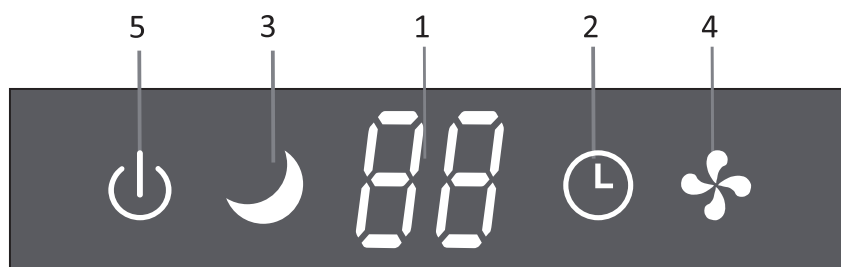


2. System Components & Installation Illustration

i NOTICE

- Illustrations are for reference only. Actual appearance and component placement may vary by model.
- The standard Quick Connect piping kit is 25 ft (7.6 m). Extension kits and adaptors are sold separately if longer piping lengths are required.

Indoor Display



No.	LED	Function
1		Indicator for Timer, temperature and Error codes.
2		Lights up during Timer operation.
3		SLEEP mode
4		The symbol appears when the unit is turned on, and disappears when the unit is turned off.
5		The symbol appears when power on.





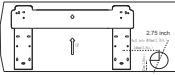
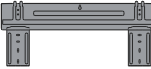

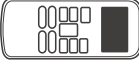



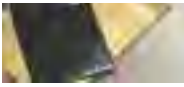



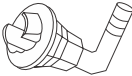
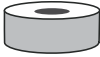




The shape and position of switches and indicators may be different according to the model, but their function is the same.

3. Included Accessories

Accessories List

The air conditioning system is supplied with the following accessories..Use all provided parts during installation. Improper installation may result in equipment malfunction, water leakage, electrical shock, or fire.

Table 3.1- Accessories List

Name	Shape	Quantity
Installation And Owner's Manual		1
Warranty Card		1
Cardboard Template		1
Indoor Unit Mounting Plate		1
Set Of Mounting Plate Screws		6pcs for 9K-18k, 8 pcs for 24K,36K
Remote Control		1
Remote Control Holder		1
Remote Control Batteries		2
Clip anchor		6pcs for 9K-18k, 8 pcs for 24K,36K
Pipe Insulation jacket (Apply to the EZ Fast-connectors of the pipe.)		4
27 Ft. Interconnecting (Communication) Cable		1
16 Ft or 25 Ft. Insulated Copper EZ Fast-Connect™		1
Condensate Drain Hose		2
Plastic Drain Joint Plug & Seal For The Outdoor Unit		1
Non Adhesive UV Wrapping Tape		2
Plastic Wall Sleeve & Cap		1
Wall-Hole Sealer Mastic		2
Allen Wrench for Opening Service Valves		1
Flare Nuts (if required for future Use)		4

The accessories described herein may be different for each model and the list is for reference only.

3. Included Accessories

Connecting Pipe Diameters with EZ Fast-Connect Couplings

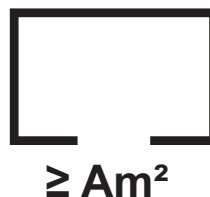
BTU Capacity	9,000	12,000	18,000	24,000	36,000
Gas Line	3/8"	3/8"	1/2"	5/8"	5/8"
Liquid Line	1/4"	1/4"	1/4"	1/4"	1/4"

Note: This is a general list of package contents. The included items may vary slightly on the model. Klimaire reserves the right to modify the included components for product improvement without notice.

4. Safety Guidelines For A2L Refrigerants (R454B)



A2L



Safety Information for A2L Refrigerants

Because this unit contains **R454B (A2L)** refrigerant, it must be installed, operated, and serviced with extreme care. R454B is a **mildly flammable refrigerant** — any improper handling, open flame, or lack of ventilation can create serious fire or explosion hazards. Always follow this manual and comply with **all federal, national, and local codes** regarding flammable refrigerants.

⚠ WARNING

- This appliance contains R454B (A2L), a mildly flammable refrigerant. Improper handling can cause fire, explosion, serious injury, or death.
- The appliance must be installed, operated, and stored in a room **free from open flames or continuous ignition sources** (e.g., gas stoves, heaters, or electric heaters).
- **Never use open flames or halide torches to detect leaks.**
- **Disconnect all power** before opening service panels or performing electrical or refrigerant work. Always keep a **dry-powder or CO₂ fire extinguisher** accessible near the work area.
- **Do not pierce, weld, burn, or heat** sealed components or piping.
- **Do not accelerate the defrosting process** or apply external heat sources except as approved by the manufacturer.
- Do not vent refrigerant to the atmosphere; follow all EPA and local regulations.
- Be aware that **R454B may be odorless** — leaks may not be easily detectable.
- Only **qualified technicians** trained to handle A2L refrigerants may install, service, or decommission this appliance.
- Clearly **label all equipment and cylinders** to indicate A2L refrigerant content.
- R454B is **heavier than air** and can accumulate in low areas, creating ignition or suffocation hazards.
- If a leak is suspected, **turn off power, extinguish flames, evacuate personnel, and ventilate the area immediately.**

4. Safety Guidelines For A2L Refrigerants (R454B)

⚠ CAUTION

- Use only **A2L-rated tools, leak detectors, hoses, and service equipment** when working on the refrigerant circuit.
- **Confirm earth-bond continuity** before re-energizing the system.
- **Discharge all capacitors** before touching electrical or control circuits.
- Replace — never repair — **sealed or safety-critical electrical components**.
- Maintain correct **breaker configuration and voltage polarity** before restoring power.
- **Ensure adequate ventilation** around the outdoor unit during servicing to prevent the accumulation of flammable vapors.
- Keep all wiring **secured away from sharp edges, moving components, and hot surfaces**.
- **Do not use compressed air or oxygen** for leak testing or pressurizing the system — use **Oxygen-Free Nitrogen (OFN)** only.
- Use only tools and instruments that are **intrinsically safe and non-sparking**.
- Maintain **clear airflow** around the condenser and service area throughout the work process.
- Ensure all **service valves and access ports** are properly tightened and leak-tested after servicing.
- Verify that all **panels, covers, and protective guards** are reinstalled before system startup.

INFORMATION FOR SERVICING (R454B)

1. Check information in this manual

Determine the required installation space for the device, including the minimum clearances from adjacent structures.

2. Protect pipework from damage

Pipework must be protected from physical damage and must not be installed in an unventilated space smaller than 13 ft³ (4 m³).

3. Compliance with Regulations

Compliance with national gas regulations must be observed.

4. Accessibility for Maintenance

Mechanical connections must be accessible for maintenance purposes.

5. Follow the instructions in this manual

All instructions for handling, installing, cleaning, maintaining, and disposing of the refrigerant must be followed.

6. Ventilation openings

Ensure that all ventilation openings are kept clear of obstructions.

7. Ensure that all ventilation openings are kept clear of obstructions.

Servicing must be performed only as recommended by the manufacturer.

8. No open flames or ignition sources

The appliance must be stored in a room without continuously operating open flames (e.g., operating gas appliances) or ignition sources (e.g., operating electric heaters).

9. Certification for refrigerant work

- Anyone working on a refrigerant circuit must hold a valid and up-to-date certificate issued by an industry-accredited authority confirming competence in handling refrigerants.
- Service operations must follow manufacturer recommendations.
- Repairs requiring additional personnel must be supervised by someone competent in the use of flammable refrigerants.

4. Safety Guidelines For A2L Refrigerants (R454B)

Information for Servicing (R454B)

10. Competent personnel only

- Any working procedure that affects safety devices or safety-related components must be carried out only by competent personnel.

11 - Checks to the Area

A) Prior to beginning work on systems containing flammable refrigerants

- Safety checks are necessary to ensure that the risk of ignition is minimized.
- For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

B) Work procedure

- Work shall be undertaken under a controlled procedure to minimize the risk of a flammable gas or vapor being present while the work is being performed.

C) 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 workspace shall be sectioned off.
- Ensure that the conditions within the area have been made safe by control of flammable material.

D) Checking for the Presence of Refrigerant

- The area must be checked with an appropriate refrigerant detector before and during work to be aware of any potentially flammable atmosphere.
- Ensure that the leak detection equipment used is suitable for flammable refrigerants — it must be non-sparking, adequately sealed, or intrinsically safe.

E) Presence of Fire Extinguisher

If any hot work is to be performed on the refrigeration equipment or associated components, suitable fire extinguishing equipment must be readily available.

Keep a dry powder or CO₂ fire extinguisher adjacent to the charging area.

F) No Ignition Sources

No person carrying out work on a refrigeration system that involves exposing any pipework shall use sources of ignition in a manner that could lead to a risk of fire or explosion.

All potential ignition sources, including smoking, must be kept well away from the area where installation, repair, removal, or disposal work is being performed — particularly when refrigerant may be released into the surrounding space.

Before beginning any work, survey the area around the equipment to ensure that no flammable hazards or ignition risks are present.

No Smoking signs must be clearly displayed.

G) Ventilated Area

Ensure that the work area is either outdoors or adequately ventilated before breaking into the system or performing any task that may generate heat.

Ventilation must be maintained throughout the duration of the work.

The ventilation system should safely disperse any released refrigerant and, if possible, discharge it to the outside atmosphere.

4. Safety Guidelines For A2L Refrigerants (R454B)

Information for Servicing (R454B)

H) Checks to the Refrigeration Equipment

The following checks must be carried out for installations using flammable refrigerants:

- The refrigerant charge size complies with the room size in which the refrigerant-containing parts are installed.
- The ventilation equipment and outlets are functioning properly and are not obstructed.
- If an indirect refrigerating circuit is used, the secondary circuit must be checked for the presence of refrigerant.
- Equipment markings remain visible and legible; any damaged or illegible markings or signs must be replaced or corrected.
- Refrigeration pipes and components are installed in locations where they are not likely to be exposed to substances that could cause corrosion, unless the components are made of corrosion-resistant materials or are suitably protected against corrosion.

I) Checks to Electrical Devices

- When replacing electrical components, ensure that they meet the correct specifications and are suitable for their intended purpose.
- Repair and maintenance of electrical components must include initial safety checks and component inspection procedures.
- If a fault exists that could compromise safety, the electrical supply must not be connected to the circuit until the issue has been satisfactorily resolved.
- If the fault cannot be corrected immediately but continued operation is necessary, an adequate temporary solution may be implemented.
- This must be reported to the equipment owner to ensure that all parties are informed.

Initial safety checks must include:

- Ensuring that capacitors are fully discharged in a safe manner to avoid the risk of sparking.
- Confirming that no live electrical components or wiring are exposed while charging, recovering, or purging the system.
- Verifying the continuity of earth bonding.

12. Repairs to Sealed Components

- Before carrying out repairs to sealed components, all electrical supplies must be disconnected from the equipment being serviced prior to removing any sealed covers or enclosures. If it is necessary to keep the electrical supply connected during servicing, a continuously operating leak detection system must be installed at the most critical location to provide an early warning of any potentially hazardous situation.
- Particular attention must be given to ensuring that any work on electrical components does not compromise the integrity or protection level of the equipment casing. This includes avoiding:
 - Damage to cables
 - Excessive numbers of connections
 - Terminals not made to the original specification
 - Damage to seals
 - Incorrect fitting of cable glands, etc.
 - Ensure that all apparatus is securely mounted
- Check that seals or sealing materials have not deteriorated to the point that they no longer prevent the ingress of flammable atmospheres.
- All replacement parts must conform to the manufacturer's specifications.

4. Safety Guidelines For A2L Refrigerants (R454B)

Information for Servicing (R454B)

NOTE:

The use of silicone sealant may reduce the effectiveness of certain types of leak detection equipment. Ensure that replacement parts are suitable for use with flammable refrigerants.

13. Repair to Intrinsically Safe Components

- Do not apply any permanent inductive or capacitive loads to the circuit without first ensuring that this will not exceed the permissible voltage and current limits for the equipment in use.
- Only intrinsically safe components may be worked on while live in the presence of a flammable atmosphere.
- Any test apparatus used must be correctly rated for the application.
- Replace components only with parts specified by the manufacturer — the use of non-approved parts may cause ignition of refrigerant vapors in the event of a leak.

14. Cabling

- Check that all cabling is protected against wear, corrosion, excessive pressure, vibration, sharp edges, and any other adverse environmental conditions.
- The inspection must also consider the effects of aging and continuous vibration from sources such as compressors or fans.

15. Detection of Flammable Refrigerants

- Under no circumstances should potentially sources of ignition be used to locate or detect refrigerant leaks.
- A halide torch or any other detector that uses an open flame must not be used.

16. Leak Detection Methods

The following leak detection methods are acceptable for systems containing flammable refrigerants:

- Electronic leak detectors must be used to detect flammable refrigerants; however, their sensitivity may vary and may require periodic re-calibration.
- Detection equipment must be calibrated in a refrigerant-free area.
Ensure that the detector is not a potential source of ignition and is suitable for use with the specific refrigerant employed.
- Detection equipment must be set to detect a percentage of the refrigerant Lower Flammable Limit (LFL) and calibrated accordingly.
The detection threshold must not exceed 25% of the LFL.
- Leak detection fluids are generally suitable for use with most refrigerants. However, avoid detergents that contain chlorine, as chlorine may react with the refrigerant and cause corrosion of copper pipework.

If a leak is suspected, all open flames must be extinguished or removed from the area.

If a refrigerant leak requiring brazing is identified, all refrigerant must first be recovered from the system or isolated using shut-off valves in a section remote from the leak.

Oxygen-free nitrogen (OFN) must then be purged through the system both before and during the brazing process.

4. Safety Guidelines For A2L Refrigerants (R454B)

Information for Servicing (R454B)

17. Removal and Evacuation

When breaking into the refrigerant circuit for repairs — or for any other purpose — standard service procedures must be followed. However, when working with flammable refrigerants, it is essential that best practices be strictly observed due to the associated fire and explosion risks.

The following procedure must be followed:

1. Safely remove the refrigerant in accordance with local and national regulations.
2. Evacuate the system.
3. Purge the circuit with inert gas (optional for A2L refrigerants).
4. Evacuate again (optional for A2L refrigerants).
5. Continuously flush or purge with inert gas when using a flame to open the circuit.
6. Open the circuit.

Additional requirements:

- Compressed air or oxygen must never be used for purging refrigerant systems.
- For appliances containing flammable refrigerants, purging should be performed by breaking the vacuum in the system with OFN, filling until working pressure is reached, venting to the atmosphere, and then pulling down to a vacuum (optional for A2L refrigerants).
- This process must be repeated until the system is confirmed free of refrigerant (optional for A2L refrigerants).
- When the final OFN charge is complete, vent the system to atmospheric pressure before commencing any work.
- The outlet of the vacuum pump must not be located near any potential ignition sources, and adequate ventilation must be provided.

18. Decommissioning

Before beginning this procedure, the technician must be fully familiar with the equipment and its details. It is considered best practice to ensure that all refrigerants are recovered safely.

Prior to starting the task, take both an oil sample and a refrigerant sample for possible analysis before any reclaimed refrigerant is reused.

It is essential that electrical power is available before commencing the procedure.

Procedure:

1. Become familiar with the equipment and its operation.
2. Electrically isolate the system.
3. Before proceeding, ensure that:
 - Mechanical handling equipment is available, if required, for moving refrigerant cylinders.
 - All personal protective equipment (PPE) is available and being used correctly.
 - The recovery process is always supervised by a competent person.
 - Recovery equipment and cylinders comply with the relevant standards.
4. Pump down the refrigerant system, if possible.
5. If a vacuum cannot be achieved, install a manifold so that refrigerant can be removed from different parts of the system.
6. Ensure that the recovery cylinder is placed on scales before the recovery process begins.
7. Start the recovery machine and operate it in accordance with the manufacturer's instructions.
8. Do not overfill recovery cylinders — the fill level must not exceed 80% of the liquid volume.
9. Do not exceed the cylinder's maximum working pressure, even temporarily.

4. Safety Guidelines For A2L Refrigerants (R454B)

Information for Servicing (R454B)

10. When the cylinders have been filled correctly and the process is complete, ensure that the cylinders and associated equipment are promptly removed from the site and that all isolation valves on the system are closed.
11. Recovered refrigerant must not be charged into another refrigeration system unless it has been properly cleaned and tested.

19. Refrigerant Removal and Recovery Procedures

When removing refrigerant from a system — either for servicing or decommissioning — it is considered best practice to ensure that all refrigerants are removed safely.

When transferring refrigerant into cylinders:

- Use only approved refrigerant recovery cylinders designed for that specific refrigerant type.
- Ensure that enough cylinders are available to contain the total system charge.
- All cylinders must be clearly labeled for the recovered refrigerant and equipped with a pressure relief valve and shut-off valves in good working order.
- Empty recovery cylinders should be evacuated and, if possible, cooled before recovery begins.

26. Safety Instructions for Transportation and Storage

1. No Fire or Smoking:

- During transportation and storage, ensure that there are no open flames, ignition sources, or smoking in the vicinity of the equipment or refrigerant containers.

2. Compliance with Regulations:

- All transportation and storage activities shall be carried out in accordance with applicable local laws and regulations, including those governing the handling of flammable refrigerants.

Important Considerations

DIY Installation Permitted

This air conditioning system is designed for homeowner installation without the need for licensed HVAC technicians. Installers must carefully read and follow this Installation Manual in its entirety. All installation work must comply with applicable local building, electrical, and safety codes.

Handling Flammable Refrigerant (R454B)

This system uses R454B, an A2L mildly flammable refrigerant. Care must be taken during installation, charging, servicing, or refrigerant handling. Improper installation or unsafe practices may result in fire, explosion, serious injury, or property damage.

Leak Testing Requirement

A refrigerant leak test must be performed after installation is completed and before system operation. Only leak detection methods and equipment approved for A2L (R454B) refrigerants may be used.

Safety Inspection Before Maintenance

Before servicing, repairing, or maintaining the system, a safety inspection must be conducted to minimize the risk of ignition, fire, or explosion.

Controlled Installation and Operation

Installation, startup, and servicing must be performed in a controlled manner to reduce the risk of ignition from flammable gases or vapors.

Installation Limits and Room Size Compliance

The maximum refrigerant charge and minimum allowable room area for installation are defined in the following tables. Verify compliance with these requirements before installation.

4. Safety Guidelines For A2L Refrigerants (R454B)

R454B Air Conditioner Installation Area Requirement

The refrigerant used in this system is R454B, an A2L mildly flammable refrigerant. Proper installation location and room size must comply with the following requirements to ensure safe operation.

Lower Flammable Limit (LFL)

R454B LFL = 0.296 kg/m³ or 0296 oz/ft³

Refrigerant Charge Thresholds

- $m1 = (6 \text{ m}^3 \text{ or } 212 \text{ ft}^3) \times \text{LFL}$
- $m2 = (52 \text{ m}^3 \text{ or } 1836 \text{ ft}^3) \times \text{LFL}$
- $m3 = (260 \text{ m}^3 \text{ or } 9181 \text{ ft}^3) \times \text{LFL}$

For R454B refrigerant charge amount and minimum room area:

The machine you purchased may be one of the types in the table below. The indoor and outdoor units are designed to be used together. Please check the machine you purchased. The indoor unit should be installed at least 6.0ft /1.8m above from the floor, the height of the room cannot be less than 7.3ft /2.2m, and the minimum room area of operating or storage should be as specified in the following table below.

For appliances with a refrigerant charge amount $m1 < M \leq m2$:

The maximum allowable refrigerant charge in a room shall be in accordance with the following:

$$M_{\max} = 2.5 \times (\text{LFL})^{5/4} \times h_o \times A^{1/2}$$

Not to exceed:

$$M_{\max} = \text{SF} \times \text{LFL} \times h_o \times A$$

The required minimum room floor area A_{\min} to install an appliance with refrigerant charge M (kg) shall be in accordance with the following:

$$A_{\min} = (M / (2.5 \times (\text{LFL})^{5/4} \times h_o))^2$$

Not less than:

$$A_{\min} = M / (\text{SF} \times \text{LFL} \times h)$$

Variable Definitions

M_{\max} = Maximum allowable refrigerant charge in a room (kg)

M = Refrigerant charge amount in the appliance (kg)

A_{\min} = Required minimum room floor area (m²)

A = Actual room floor area (m²)

LFL = Lower flammable limit of the refrigerant (kg/m³)

h_o = Installation height of the indoor unit (m)

- Wall-mounted indoor unit: $h_o = 1.8 \text{ m}$

SF = Safety factor as defined by applicable standards

M_c = Actual refrigerant charge in the system

4. Safety Guidelines For A2L Refrigerants (R454B)

Table 4.1 - Maximum Refrigerant charge (kg / oz)

h_o(m)	Floor Area m² (ft²)	Charge Limit kg (oz)
<i>(Installed Height)</i> 1.8 (6'0")	4 (43 ft ²)	1.1 (38.8 oz)
	7 (75 ft ²)	1.9 (67.02 oz)
	10 (108 ft ²)	2.7 (95.24 oz)
	15 (161 ft ²)	3.8 (134.04 oz)
	20 (215 ft ²)	4.4 (155.21 oz)
	30 (323 ft ²)	5.4 (190.48 oz)
	50 (538 ft ²)	6.9 (243.39 oz)
<i>(Installed Height)</i> 2.5 (8'2")	4 (43 ft ²)	1.5 (52.91 oz)
	7 (75 ft ²)	2.6 (91.71 oz)
	10 (108 ft ²)	3.7 (130.51 oz)
	15 (161 ft ²)	5.3 (186.95 oz)
	20 (215 ft ²)	6.1 (215.17 oz)
	30 (323 ft ²)	7.5 (264.56 oz)
	50 (538 ft ²)	9.6 (338.63 oz)
<i>(Installed Height)</i> 2.8 (9'2")	4 (43 ft ²)	1.7 (59.97 oz)
	7 (75 ft ²)	2.9 (102.29 oz)
	10 (108 ft ²)	4.1 (144.62 oz)
	15 (161 ft ²)	5.9 (208.12 oz)
	20 (215 ft ²)	6.8 (239.86 oz)
	30 (323 ft ²)	8.4 (296.30 oz)
	50 (538 ft ²)	10.8 (380.96 oz)

4. Safety Guidelines For A2L Refrigerants (R454B)

Table 4.2 - Minimum Room Area m² / ft²

h_o(m)	Charge Limit (kg)	Min. Room Area (m²)
<i>(Installed Height)</i> 1.8 (6'0")	0.7 (25.0 oz)	2.63 (28.31 ft ²)
	0.8 (28.2 oz)	3.0 (32.29 ft ²)
	1.0 (35.3 oz)	3.75 (40.36 ft ²)
	1.29 (45.5 oz)	4.84 (52.10 ft ²)
	1.56 (55.0 oz)	5.86 (63.08 ft ²)
	1.80 (63.5 oz)	6.76 (72.76 ft ²)
	2.0 (70.5 oz)	7.51 (80.84 ft ²)
<i>(Installed Height)</i> 2.5 (8'2")	0.7 (25.0 oz)	1.89 (20.34 ft ²)
	0.8 (28.2 oz)	2.16 (23.25 ft ²)
	1.0 (35.3 oz)	2.7 (29.06 ft ²)
	1.29 (45.5 oz)	3.49 (37.57 ft ²)
	1.56 (55.0 oz)	4.22 (45.42 ft ²)
	1.80 (63.5 oz)	4.86 (52.31 ft ²)
	2.0 (70.5 oz)	5.41 (58.23 ft ²)
<i>(Installed Height)</i> 2.8 (9'2")	0.7 (25.0 oz)	1.69 (18.19 ft ²)
	0.8 (28.2 oz)	1.93 (20.77 ft ²)
	1.0 (35.3 oz)	2.41 (25.94 ft ²)
	1.29 (45.5 oz)	3.11 (33.48 ft ²)
	1.56 (55.0 oz)	3.76 (40.47 ft ²)
	1.80 (63.5 oz)	4.34 (46.72 ft ²)
	2.0 (70.5 oz)	4.83 (52 ft ²)

Where category = R454B, LFL = 0.296 kg/m³ or oz/ft³

4. Safety Guidelines For A2L Refrigerants (R454B)

When the unit detects a refrigerant leak, the minimum airflow of the indoor unit is as follows:

Model	Minimum airflow	Model	Minimum airflow
6k	65 cfm	24k	300 cfm
12k	65 cfm	30k	377 cfm
18k	177 cfm	36k	377 cfm

5. Installation Safety Guidelines (R454B / A2L)

1. Site Safety

- Open flames are prohibited in the installation area.
- Maintain ventilation at all times during installation and service.
- Keep the work area free of oil and debris that could ignite.

2. Operation Safety

- Wear protective clothing and anti-static gloves.
- Do not use mobile phones or other electronic devices near refrigerant piping.



**Open Flames
Prohibited**



**Ventilation
Necessary**



**Wear Protective Clothing
/ Anti-Static Gloves**



**Do Not Use
Mobile Phone**

3. Installation Safety

Use a Refrigerant Leak Detector suitable for A2L (R454B) refrigerants.

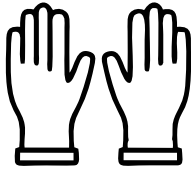
Select an appropriate installation location that meets all safety distance requirements.

Please note:

1. The installation site must be well-ventilated to ensure adequate air circulation and safe operation of the equipment.
2. Installation or maintenance shall be performed in areas free from open flames, welding operations, smoking, drying ovens, or any heat sources exceeding 1018°F (550°C) that could ignite a fire.
3. When installing an air conditioner using refrigerant R454B, anti-static precautions must be taken, such as wearing anti-static clothing and gloves.
4. Choose an installation site where the air inlets and outlets of both the indoor and outdoor units are unobstructed, away from combustible materials and easily accessible for maintenance.
5. If a refrigerant leak occurs during installation, immediately close the outdoor unit's service valve. Allow the refrigerant to fully disperse before re-entering. Any damaged product must be returned to the authorized service center. Welding of refrigerant pipes or other repair attempts on the user's site are strictly prohibited.
6. Avoid installing the indoor unit directly above electrical devices, power outlets, kitchen cabinets, beds, sofas, or other valuable items, or where piping runs along either side of such areas.

5. Installation Safety Guidelines (R454B / A2L)

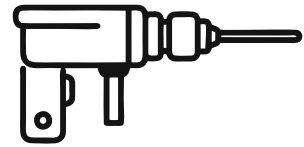
Suggested Tools



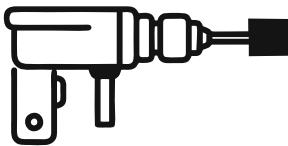
Gloves



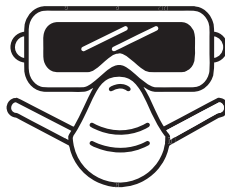
Screwdriver & wrench



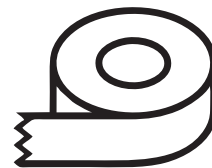
Hammer drill



Core drill



Goggles & masks



Vynil tape



Spray
(leaks detection)

6. Choosing an Installation Site

Before installation, verify that the selected indoor and outdoor unit locations provide proper clearances, airflow, drainage, and structural support. Confirm that the installation site allows safe operation, future service access, and complies with all local building and electrical codes.

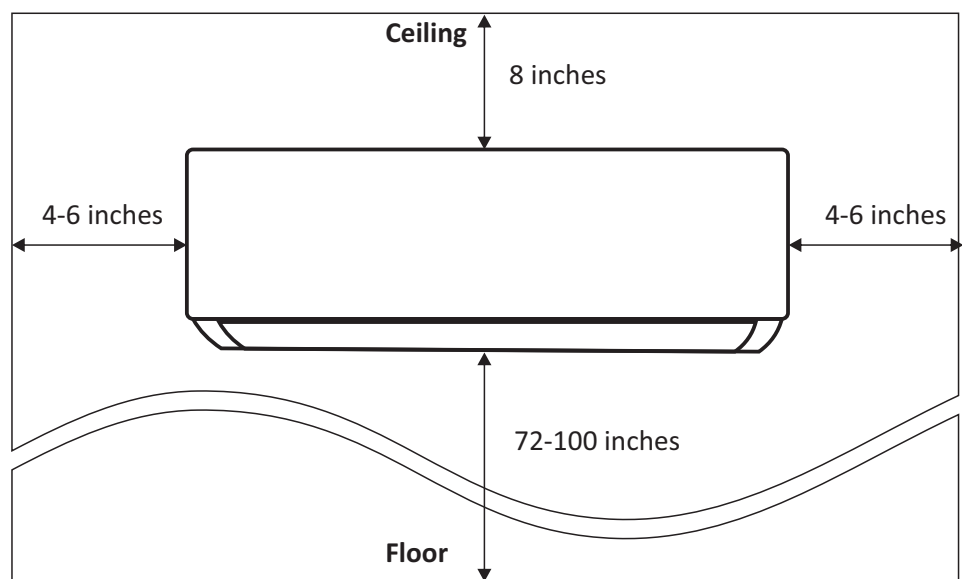
6.1 Indoor Unit

Select a site that allows for the following:

Airflow and Clearances

Installation meets minimum clearance dimensions shown in the diagram:

- Ceiling: 8 inches
- Sides: 4-6 inches
- Floor: 72-100 inches



- Air inlet and outlet are clear of obstructions to ensure proper airflow throughout the room.
- Install at least 10 ft (3 m) away from the antenna of TVs, radios, or routers. Operation may interfere with reception in weak-signal areas — a signal amplifier may be required.

Environment and Safety

- Avoid installation in laundry rooms or near swimming pools due to corrosive conditions.
- Avoid areas near heat sources, direct sunlight, oil mist, steam, combustible gas, or salt air.
- Avoid installation near flammable items such as curtains or clothing.
- Ensure adequate air circulation with no obstructions to airflow.

Structural Conditions

- Mounting wall is strong, level, and capable of supporting at least four times the full weight will not vibrate.
- Ensure the wall surface is even and stable to prevent vibration noise.

Accessibility and Maintenance

- Condensate water can be easily and safely drained with no bends or upward loops in the hose.
- All connections can be easily made to the outdoor unit.
- Filter can be easily accessed for cleaning.
- Leave enough free space for service access and routine maintenance.

Remote Controller Range

- Ensure the remote controller has a clear line of sight to the receiver within 23 ft (7 m).
- Avoid fluorescent lights or reflective surfaces near the receiver.

6. Choosing an Installation Site

i NOTICE

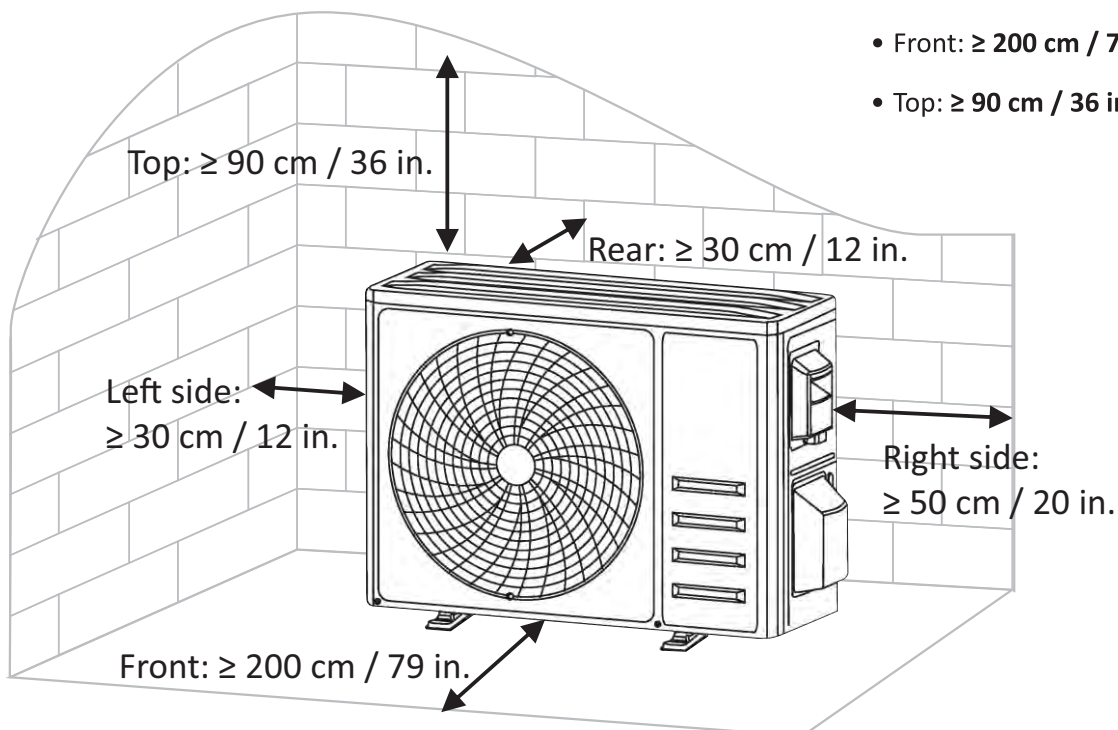
- When selecting an installation location, ensure there is sufficient space to drill a wall hole (see the section 7.2 Drill the Wall Hole for Piping) for routing the signal cable, refrigerant piping, and drain line between the indoor and outdoor units.
- Installing the unit on the interior side of an exterior wall is recommended, as it allows for proper routing of cabling, piping, and drainage.
- The default piping exit position is on the right side of the indoor unit when facing the unit.

6.2 Outdoor Unit

Select a site that allows for the following:

Location and Airflow

- The area is free from heat, steam, exhaust, flammable gases, or heavy dust.
- Maintain minimum clearances for airflow as shown in the diagram:
- Rear: ≥ 30 cm / 12 in.
- Left side: ≥ 30 cm / 12 in.
- Right side: ≥ 50 cm / 20 in.
- Front: ≥ 200 cm / 79 in.
- Top: ≥ 90 cm / 36 in.



- Avoid installation where strong winds blow directly into the air outlet.
- Provide sufficient clearance from walls or structures to prevent recirculation of hot air

6. Choosing an Installation Site

Foundation and Support

- Install on a solid, level surface capable of supporting at least four times the total weight of the unit.
- Use anti-vibration pads under the unit legs to reduce noise and vibration.
- When wall-mounted, ensure the wall-bracket is corrosion-resistant, securely anchored, and level.
- Maintain adequate ground clearance to prevent contact with rainwater, snow, or ice.
- Ensure adequate air circulation with no obstructions to airflow.

Drainage and Condensate

- Ensure condensate and defrost water can drain freely without pooling or freezing.

Sunlight and Weather Exposure

- Avoid direct sunlight; if necessary, install a canopy or cover that does not block airflow.

Noise and Vibration

- Avoid areas where noise or air discharge may disturb neighbors or nearby windows.

⚠ CAUTION

Low Outdoor Temperature Installations

When the outdoor temperature is low, proper installation is essential for reliable system performance. ***Follow the recommendations below to prevent airflow restrictions or ice buildup around the outdoor unit:***

- Position the outdoor unit so that the **air intake faces away from prevailing winds**.
- Avoid locations where **strong winds blow directly** into the air outlet or suction side of the unit.
- In areas with frequent or heavy snowfall, **choose an installation spot** where snow will not collect around the unit or obstruct airflow.
- In regions prone to high humidity or snow, **mount the unit high enough above ground level** to prevent snow or ice from forming around the base.
- Make sure that **melted frost or condensate water can drain freely** without pooling or freezing beneath the unit.
- Use a **sturdy, level foundation or raised base** when needed to maintain proper ground clearance and ensure stability during operation.

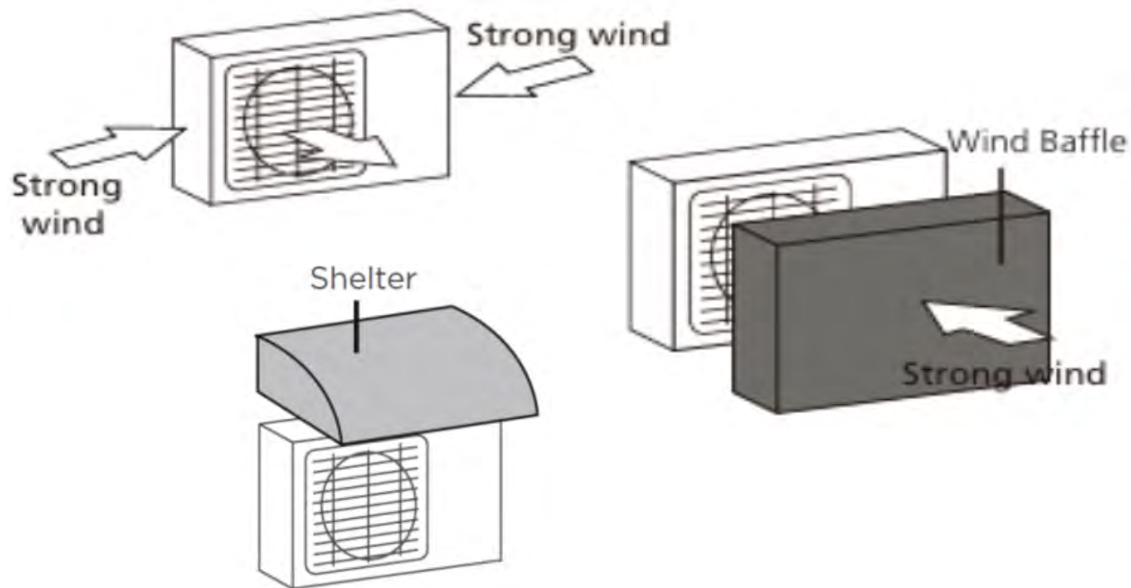
6. Choosing an Installation Site

Special Considerations for Extreme Weather

If the installation site is exposed to heavy wind, rain, snow, or salty air, follow these additional guidelines:

Heavy Wind

- Install the unit so the air outlet fan faces 90° perpendicular to the prevailing wind direction.
- If necessary, install a wind baffle or protective barrier to minimize airflow interference.



Heavy Rain or Snow

- Build a protective shelter above the unit to prevent rain or snow accumulation.
- Ensure the shelter does not obstruct airflow around the unit.

Coastal / Salty Air Environments

- Use a Klimate unit designed with anti-corrosion protection.
- Periodically clean the outdoor coil and housing to remove salt deposits and debris.

⚠ CAUTION

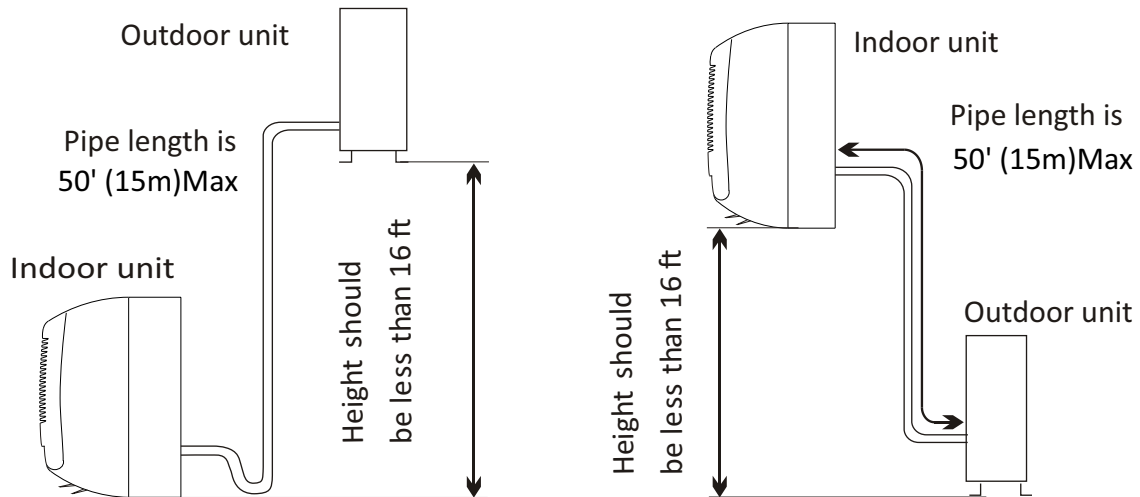
- Do not install the unit in enclosed or narrow spaces where discharge air may recirculate.
- Avoid locations near flammable gases or corrosive vapors.
- Ensure the mounting surface can support the unit's full operating weight and vibration.
- Provide adequate drainage to prevent water accumulation beneath the unit.

i NOTICE

- Maintain proper spacing when multiple outdoor units are installed to avoid hot-air recirculation.
- Ensure the base or platform is level, stable, and allows proper drainage.
- Use anti-vibration mounts when wall-mounting to minimize noise transfer.

6. Choosing an Installation Site

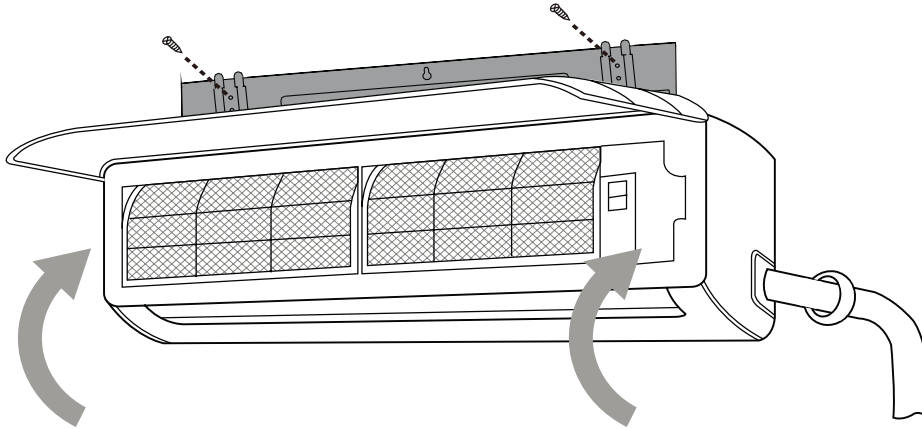
6.3 Typical Installation Diagram



i NOTICE

- The standard Klimaire EZ-FAST CONNECT™ piping kit is 16 ft or 25 ft (7.6 m). Extension kits of 16 ft or 25 ft and adaptors are sold separately if longer piping lengths are required. The line set is pre-charged with R454B Refrigerant.

7. Indoor Unit Installation



Installation Summary - Indoor Unit

- 1** Select Installation Location
- 2** Determine Wall Hole Position
- 3** Attach Mounting Plate
- 4** Drill Wall Hole for Piping
- 5** Prepare Electrical Cable Routing (Indoor Unit)
- 6** Connect Drain Hose
- 7** Prepare Refrigerant Piping (Indoor Unit)
- 8** Mount Indoor Unit
- 9** Connect Refrigerant Pipes
- 10** Complete Electrical Connections (Indoor Unit)

7. Indoor Unit Installation

Indoor Unit Dimensions & Clearances

Figure 7A – Indoor Unit Overall Dimensions

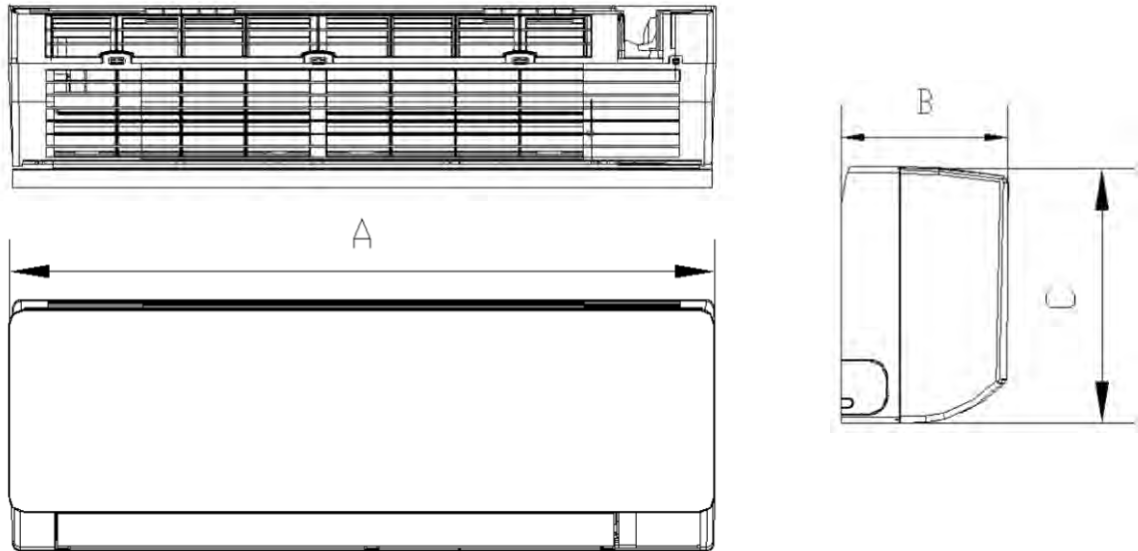


Table 7A – Indoor Unit Dimensions by Model
(inches)

Model	Indoor unit (inch)		
	A	B	C
KIWQ09H1-45T KIWQ09H2-45T	32-1/4	7-5/8	12
KIWQ12H1-45T KIWQ12H2-45T	36-1/4	7-5/8	7-5/8
KIWQ18H2-45T	43-1/4	13	8-3/4
KIWQ24H2-45T	43-1/4	13	8-3/4
KIWQ36H2-45T	46-7/8	10-1/4	14-1/8

7. Indoor Unit Installation

7.1 Install Mounting Plate

Instructions

Step 1:

Detach and remove the mounting plate from the back of the indoor unit.

Step 2:

Confirm the installation height and clearance requirements as described in Choosing an Installation Site (Section 6):

- 72–100 inches from the floor
- 8 inches clearance from the ceiling

Step 3:

Using a level, align the paper template on the wall so it is square both vertically and horizontally. Use the provided mounting paper template to mark the wall hole and screw positions.

Step 4:

Hold the mounting plate against the wall and use a level to ensure it is perfectly horizontal.

Step 5:

Mark the screw hole positions on the wall according to the plate's alignment.

Step 6:

Drill the marked points to a depth of 1-1/4 inches (32 mm).

Step 7:

Insert the plastic anchors into each hole and securely fasten the mounting plate with the supplied screws.

Step 8:

Verify that the mounting plate is flat, stable, and firmly fixed to the wall surface.

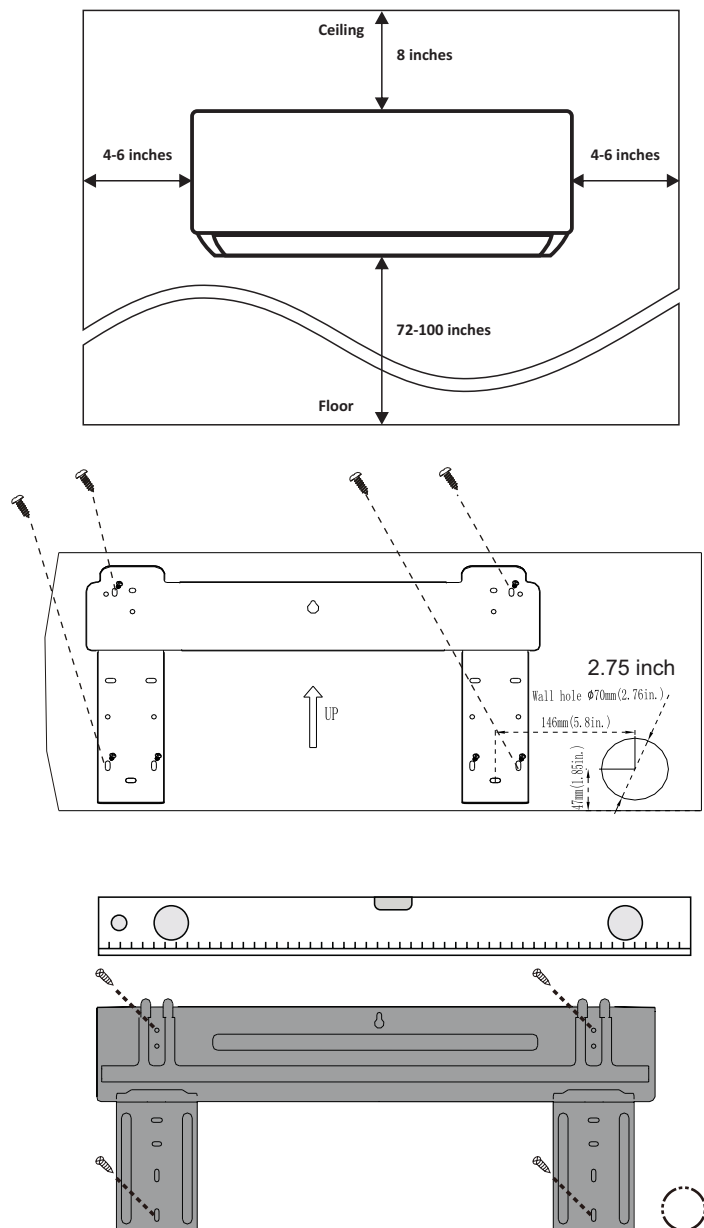


Figure 7.1A – Indoor Unit Mounting Clearances & Mounting Alignment

7. Indoor Unit Installation

Mounting Plate Installation and Hole Positioning

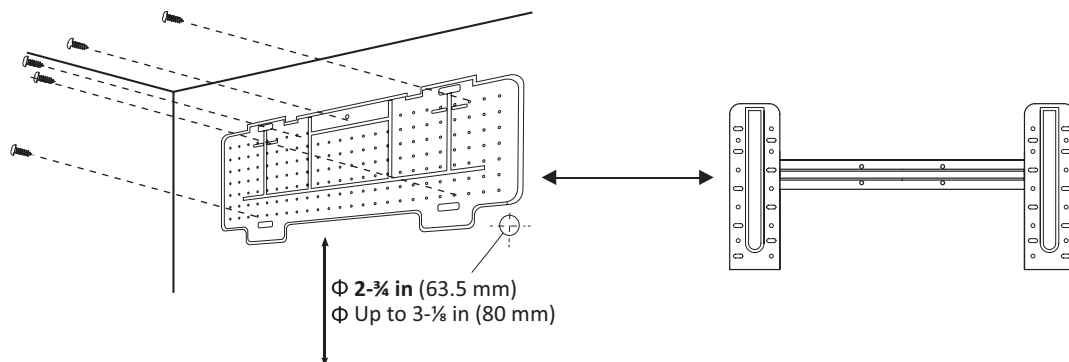


Figure 7.1B – Mounting Plate Hole Layout and Installation Orientation

Note:

- The shape of the mounting plate may differ slightly from the one shown above, but the installation method remains the same.
- Different models use different mounting plates. Depending on customization requirements, the shape of the mounting plate and the dimensions of the indoor unit may vary slightly.

! CAUTION

- Ensure the mounting wall can support the full weight of the indoor unit.
- Mounting the plate on an uneven or weak surface may cause vibration or operational noise.
- Do not install the indoor unit on hollow or lightweight walls unless proper reinforcement is added.

i NOTICE

- The mounting plate dimensions must match the specific model size.
- Refer to the Choosing an Installation Site section for minimum ceiling, side, and floor clearances before drilling.

7. Indoor Unit Installation

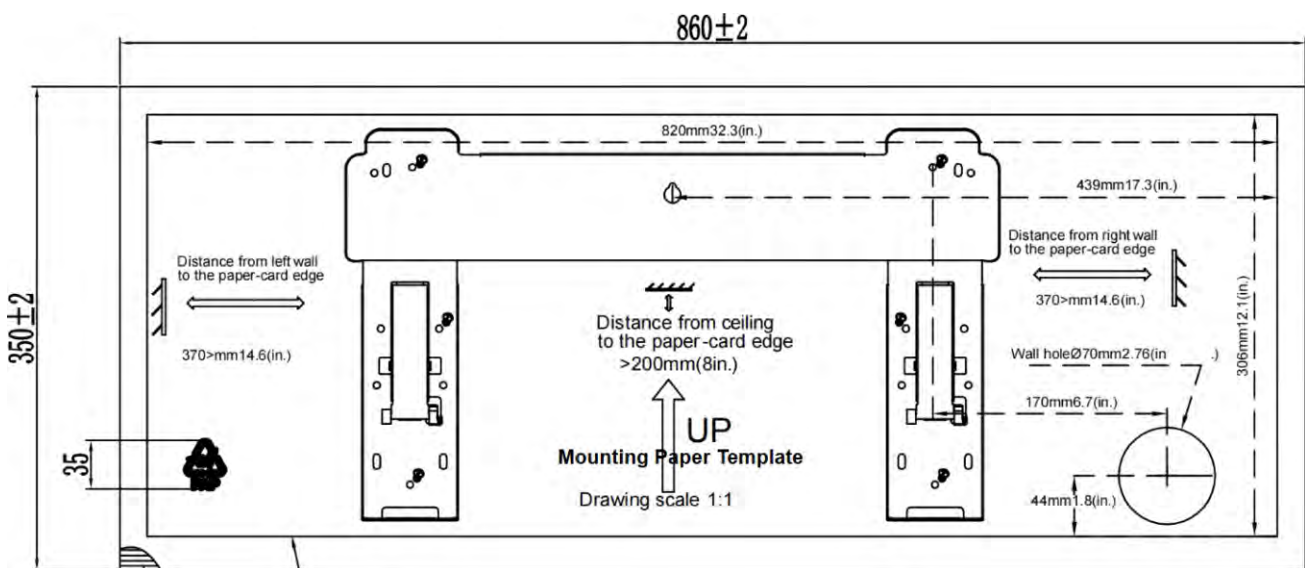
Guidelines for Drilling the Wall Holes

Use the included cardboard mounting template to align the mounting plate and wall hole location.

Below are the recommended wall hole locations for Klimaire systems ranging from 9,000 to 36,000 BTU. Both left-side and right-side piping exits are supported. Use a 2-1/2 inch (63.5 mm) hole, or up to 3-1/8 inch (80 mm) depending on the line set size. Confirm the hole positioning and alignment by tracing the corners of the mounting plate before drilling.

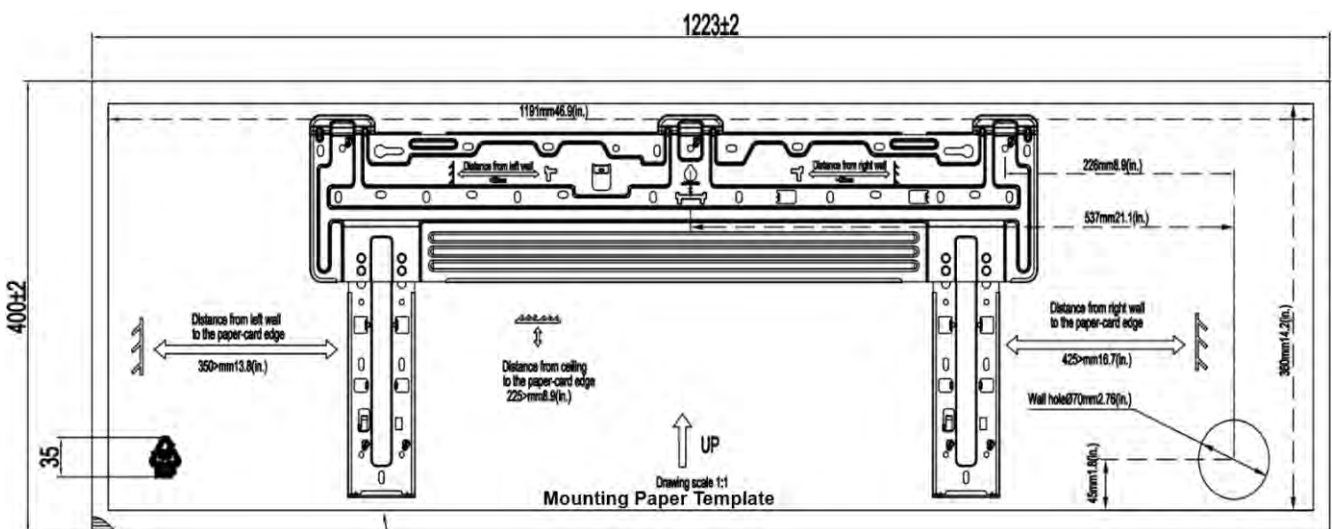
For 9K System

KIWQ9H1-45T



For 12K System

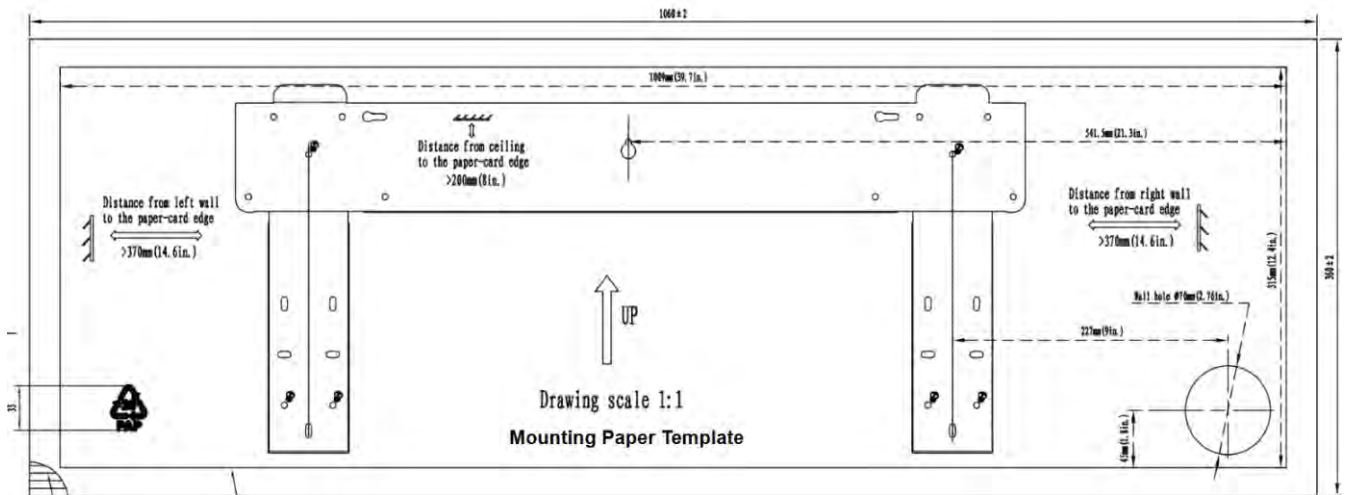
KIWQ12H1-45T & KIWQ12H2-45T



7. Indoor Unit Installation

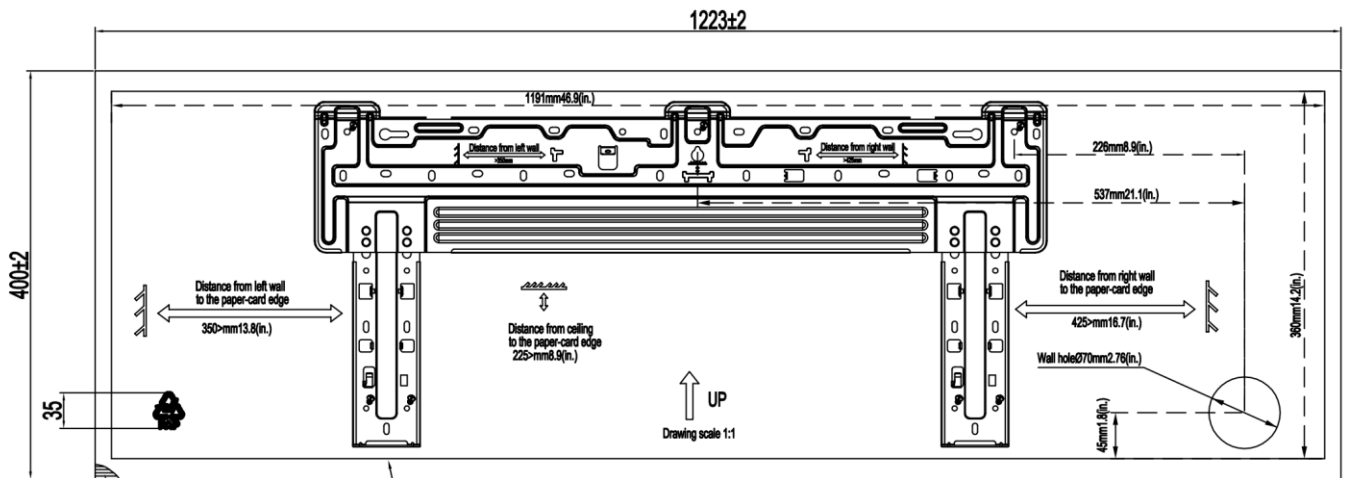
For 18K & 24K System

KIWQ18H2-45T & KIWQ24H2-45T



For 36K System

KIWQ36H2-45T



7. Indoor Unit Installation

7.2 Drill the Wall Hole for Piping

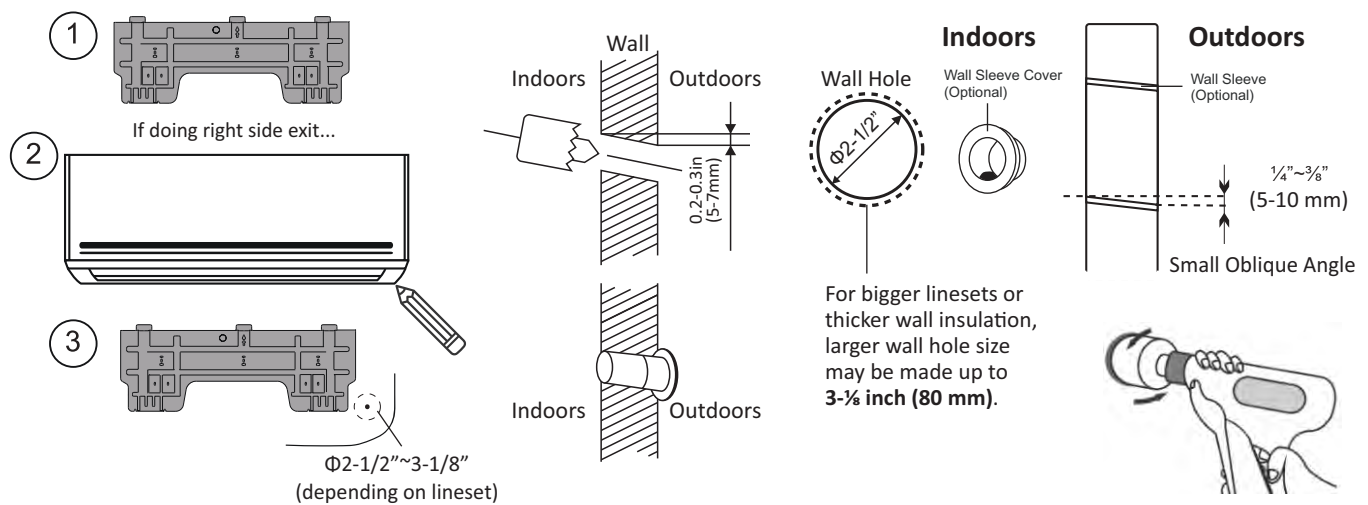


Figure 7.2 – Wall Hole Location, Size, and Drilling Orientation for Refrigerant Piping

Instructions:

Step 1:

Confirm the appropriate wall hole position based on the selected piping direction — left-side, right-side, or rear (straight-through). Refer to Guidelines for Drilling the Wall Hole to ensure the hole aligns correctly with the mounting plate and piping route.

Step 2:

Using a core drill, drill a 2-1/2 in (70 mm) to 3-1/8 in (80 mm) diameter hole through the wall, depending on the refrigerant line size and piping configuration. Drill the hole at a slight downward angle toward the outdoor side to allow proper condensate drainage.

Step 3:

Ensure the bottom edge of the indoor side of the wall hole is approximately 1/4 in (6.35 mm) higher than the bottom edge of the outdoor side of the hole.

Step 4:

Insert a wall sleeve into the drilled hole to protect the piping and insulation.

Step 5:

Install the wall cover over the wall sleeve for a clean, finished appearance.

! CAUTION

- When drilling, ensure no electrical wiring, plumbing, or structural supports are in the path of the hole.
- Always maintain the downward slope to prevent water backflow into the indoor unit.
- Use protective equipment, follow local building, and electrical codes when drilling through walls.

7. Indoor Unit Installation

7.3 Electrical Connection – Indoor Unit (Pre-Wired)

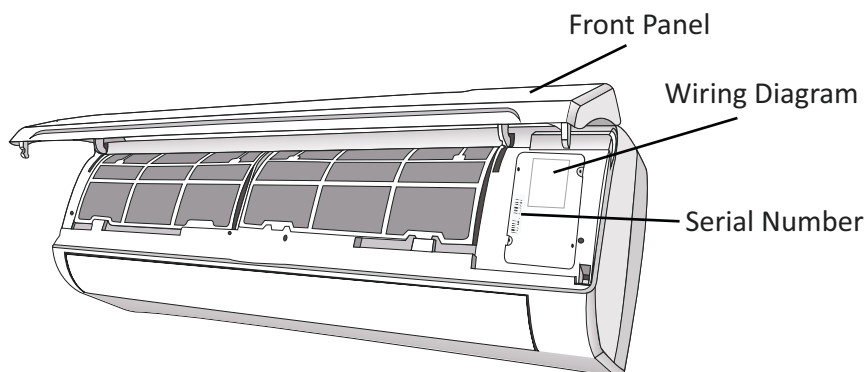


Figure 7.3A – Indoor Unit Electrical Access Location (Front Panel Open)

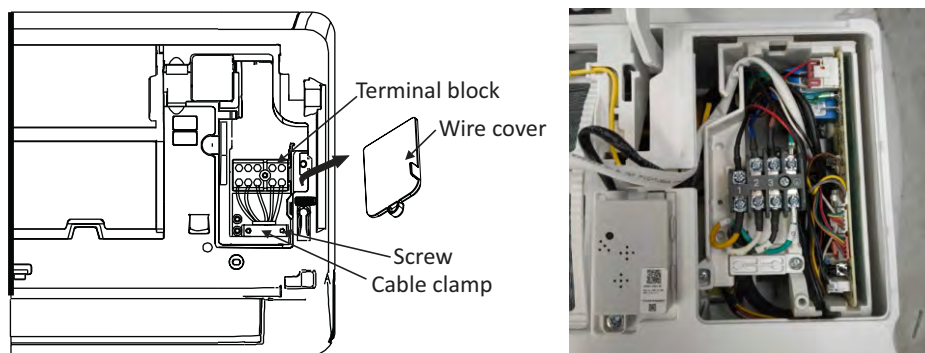


Figure 7.3B – Indoor Unit Plug Connector & Wire Cover Location

i NOTICE

- The indoor unit is fully factory pre-wired and pre-connected. The indoor-to-outdoor interconnection cable is **already attached at the indoor unit** and is approximately 27.5 ft (8.4 m) long. For DIY installation, the installer may open the indoor unit only to access the electrical compartment and visually verify that factory-installed plug connectors and grounding connections are properly seated, secure, and undamaged.
- **No cable routing, terminal-by-terminal wiring, splicing, or modification is required.**

7. Indoor Unit Installation

Indoor Unit Electrical Connection Procedure

Factory Wiring Confirmation

The indoor unit is fully factory pre-wired and pre-connected. The indoor-to-outdoor interconnection cable (approx. 27.5 ft / 8.4 m) is already terminated at the indoor unit, including the grounding conductor. No wiring, grounding, routing, or securing is required at the indoor unit.

Step 1: Access the Electrical Compartment

Open the indoor unit front panel.

Remove the terminal block / wire cover to access the electrical compartment for inspection.

Step 2: Verify Terminal Connections

Visually confirm that the factory-installed conductors are securely fastened at terminals 1, 2, 3, and Ground ().

Do not loosen, remove, or adjust any terminal screws.

Step 3: Inspect Wiring Condition

Visually inspect the wiring and terminal block for signs of damage, looseness, or strain.

No cable routing, securing, or reconnection is required at the indoor unit.

Step 4: Reinstall Cover

Reinstall the terminal block / wire cover and securely close the indoor unit front panel.

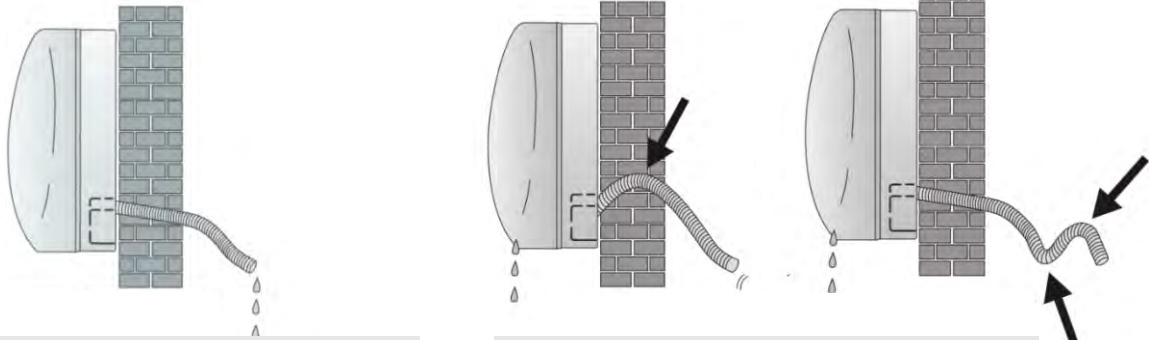
CAUTION

- Ensure the main power supply is disconnected before handling the cable.
- Avoid sharp bends, kinks, or tension on the communication wire to prevent damage.
- Failure to properly secure the cable or ground connection may result in equipment damage, electrical shock, or improper operation.
- If the power or communication cable is damaged, it must be replaced by a certified service technician. Do not attempt to repair or modify factory-installed wiring.

7. Indoor Unit Installation

7.4 Connect the Drain Hose

By default, the indoor unit drain hose is installed on the left-hand side of the unit (left when facing the back of the indoor unit). If required by the installation layout, the drain hose may be relocated to the right-hand side. Proper condensate drainage is critical for correct system operation and to prevent water leakage or damage.



YES: Drain hose slopes downward from the unit for smooth flow.

NO: Avoid upward bends, water traps, or submersion.

Figure 7.4 – Indoor Unit Drain Hose Routing (Correct vs. Incorrect Slope)

7. Indoor Unit Installation

Instructions

Step 1: Identify the Drain Port

By default, the drain hose is installed on the left-hand side of the indoor unit (left when facing the back of the unit).

If required by the installation layout, the drain hose may be relocated to the right-hand side.

Step 2: Select the Active Drain Side (if required)

Install the drain hose on the same side as the refrigerant piping exit.

Only one drain port may be used at a time.

Step 3: Seal the Unused Drain Port (if Required)

Install the provided rubber plug securely into the unused drain port to prevent water leakage.

Step 4: Attach the Drain Hose (if required)

Push the drain hose firmly onto the selected drain outlet to ensure a secure and leak-free fit.

Step 5: Route the Drain Hose

Place the drain hose below the refrigerant piping. The drain hose must slant downwards to aid drainage.

Route the drain hose downward toward the outdoor side, maintaining a smooth, continuous slope to allow proper condensate flow.

Avoid upward bends, water traps (create siphon), or submersion.

Step 6: Extend the Drain Hose (if necessary)

If additional length is needed, connect a compatible drain hose extension (sold separately) to the existing hose.

Step 7: Seal the Connection

Wrap the drain hose connection tightly with Teflon tape to ensure a watertight seal.

Step 8: Insulate Indoor Sections

Insulate any indoor sections of the drain hose using foam pipe insulation to prevent condensation.

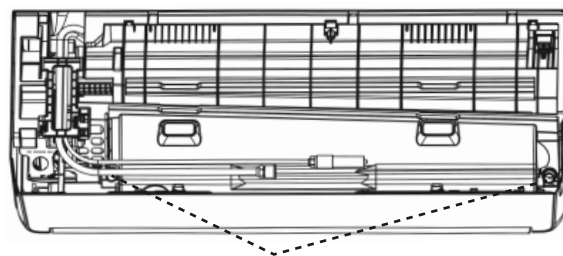
Step 9: Verify Drainage Operation

Remove the air filter and pour a small amount of water into the drain pan to confirm smooth and unobstructed drainage

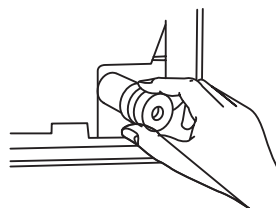
7. Indoor Unit Installation

Dual Drain Port Configuration

The indoor unit is equipped with **two drain ports** — one on the left-hand side and one on the right-hand side. Only one port should be used at a time for drainage. Ensure that the unused port is sealed securely with the provided rubber plug to prevent air or water leakage.



Drainage Ports



Plug the unused drain hole

⚠ CAUTION

- Avoid kinks, upward bends, or sharp curves in the drain hose.
- Do not create a **water trap** (siphon) that may restrict flow.
- Never submerge or place the drain hose end in standing water or a collection container.
- Confirm that the drain hose maintains a **continuous downward slope** toward the outdoor side.

i NOTICE

- Check that the drain hose **aligns properly** with the wall hole and remains free of obstructions.
- Verify that all drain connections are **securely taped and insulated** to prevent condensation and water leakage.
- Confirm the unused drain port is fully plugged before final mounting of the indoor unit.

7. Indoor Unit Installation

7.5 Preparing the Refrigerant Piping of the Indoor Unit

The refrigerant piping pre-attached to the indoor unit can be routed in **three directions** — **left-side**, **right-side**, or **rear (straight-through)** which is **highly recommended** — as shown in the illustration below. 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.

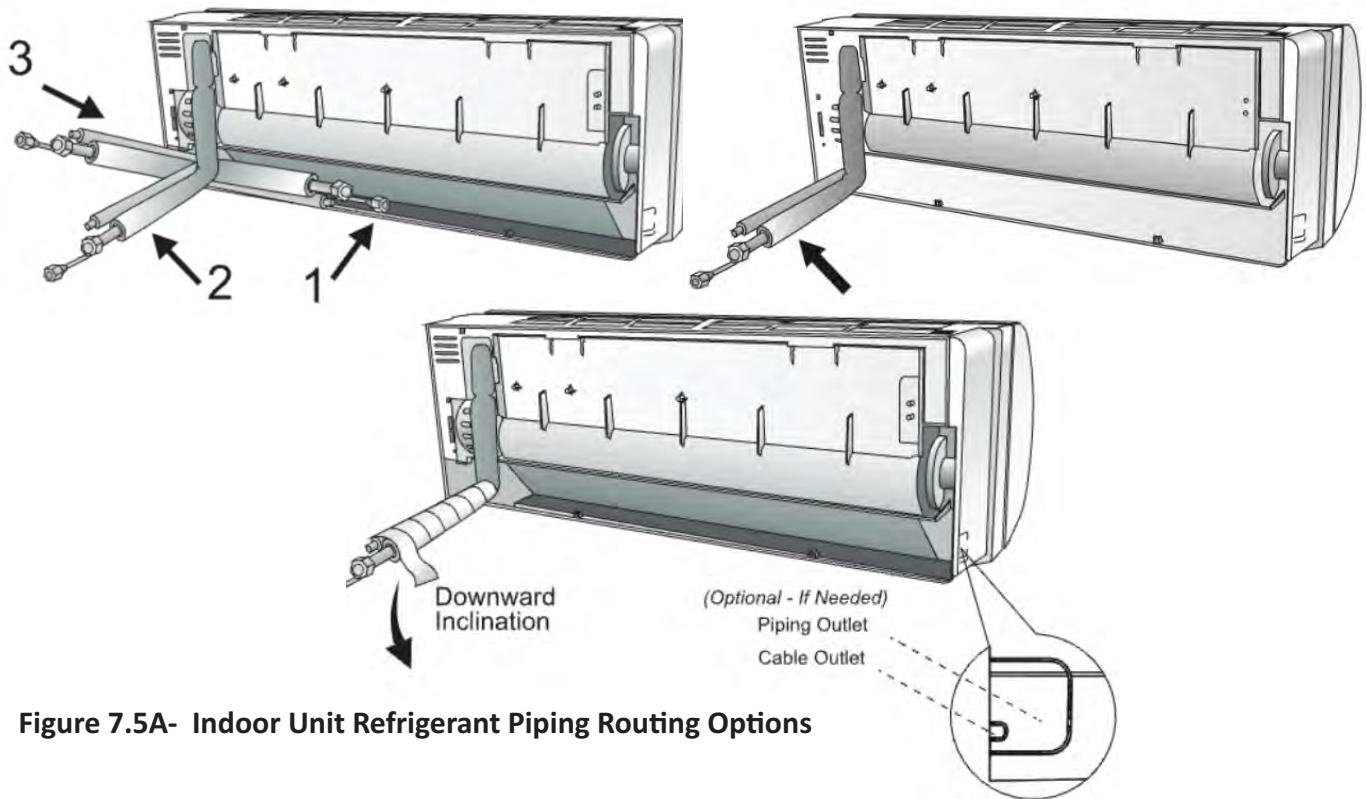


Figure 7.5A- Indoor Unit Refrigerant Piping Routing Options

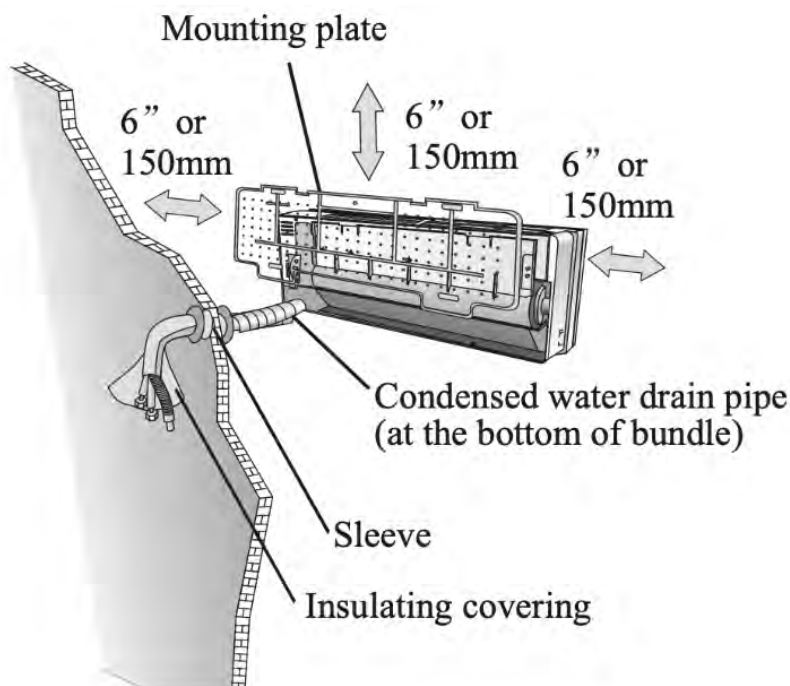


Figure 7.5B: Indoor Unit Piping Bundle Positioning Through the Wall

7. Indoor Unit Installation

Routing Options

Before continuing, decide which configuration best fits the installation layout. Refer to **Figure 7.5A- Indoor Unit Refrigerant Piping Routing Options**.

1. Rear (Straight-Through) Exit (Recommended)

- Routing the pipes directly through the back of the unit simplifies the connections to the copper pipe extensions to be made outside.
- Recommended to simplify the installation process.
- This minimizes bending and reduces risk of kinking and collapsing the copper pipes.

2. Left-Side Exit (optional)

- The refrigerant lines are factory-positioned for a left-side exit.
- This can use the left knockout panel or a wall hole drilled on the left side of the rear of the unit.
- This is the most common setup and typically requires the least adjustment.

3. Right-Side Exit (optional)

- This route involves a 180° bend of the piping, which can increase the risk of kinking.
- Bend slowly and carefully it is also recommended using a pipe bender.
- Only use this method when required by the installation layout.

Wrapping the Lines

Before the piping is fed through the wall hole, it must be carefully bent and prepared, then lightly secured together to maintain proper alignment. The piping and drain hose should be supported and held only tight enough to keep the components in position, without compressing, pinching, or deforming the copper piping or insulation.

Step 1:

- If a side exit is selected, remove the knockout panel from the chosen side of the indoor unit. A groove has been provided in the knockout panel to allow for easy removal. Smooth any sharp edges to prevent damage to the insulation or drain hose.

Step 2:

- Based on the position of the drilled wall hole relative to the mounting plate, determine the required angle the refrigerant piping must be bent to pass through the wall once the unit is mounted.
- Carefully grip the refrigerant piping at the base of the bend and, using slow and even pressure, bend the piping away from the back of the unit as needed. Avoid sharp or repeated bends, and ensure the piping extends straight outward from the unit after bending.

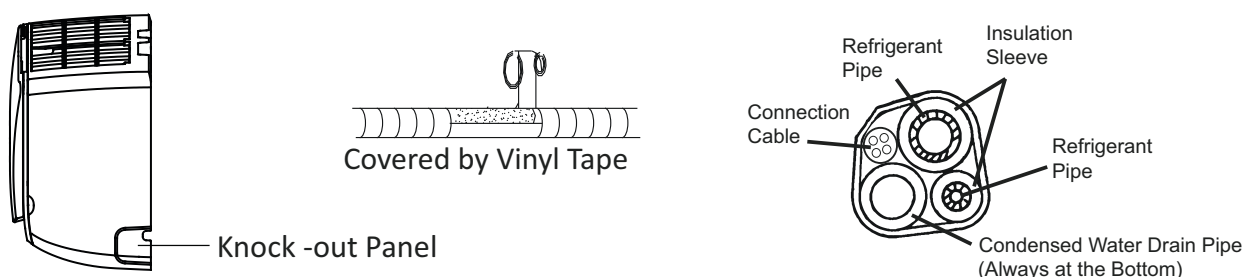


Figure 7.5C – Proper Wrapping of Refrigerant Piping, Drain Hose, and Control Cable

7. Indoor Unit Installation

Step 3:

- Lightly bundle the refrigerant piping, drain hose, and indoor-to-outdoor communication cable together using vinyl non-adhesive tape..
- Ensure the drain hose is positioned at the lowest point of the bundle to allow proper condensate drainage.
- DO NOT tape over flare nuts, threaded connections, or pipe ends. Keep all connectors exposed until final connection to the outdoor unit is completed.

Step 4:

- Maintain a continuous slight downward slope toward the outdoor side when routing the piping bundle to prevent water backflow. Avoid any upward loops or traps in the drain hose.

Step 5:

- Do not overtighten the tape or apply excessive pressure to the copper piping or insulation. Excessive tapping force may deform the insulation.

CAUTION

- Avoid repeated or sharp bends on the copper piping it will become stiff. Be careful not to kink any piping.
- Do not remove the seal caps from the pipe ends until it is time to connect it, avoiding contaminants from entering.
- Ensure the drain hose maintains a continuous downward slope.
- Remove burrs or sharp edges from knockout areas before passing any components.

NOTICE

- Before securing the piping bundle, confirm that it aligns with the drilled wall hole location.
- Ensure all bundled components are properly insulated to prevent condensation during operation.

7. Indoor Unit Installation

7.6 Mounting the Indoor Unit

Before You Begin

- Ensure the refrigerant lines, drain hose, and communication cable have been properly routed and wrapped together (Refer to section 7.5: **Preparing the Refrigerant Piping of the Indoor Unit**).
- Confirm the wall hole sleeve is installed and the bundle is aligned with the opening.
- Protective caps on refrigerant lines must remain installed.

Mounting Procedure

A) Standard Installation (Line Set Routed Through Wall During Mounting)

Step 1: Pass the Line Set Through the Wall

Slowly guide the wrapped bundle (refrigerant pipes, drain hose, and signal cable) through the wall opening to the outdoor side.

Ensure the drain hose remains at the lowest point.

Avoid sharp bends or kinks in the copper piping.

Step 2: Align the Indoor Unit With the Mounting Plate

Position the indoor unit so the upper mounting slots align with the hooks on the wall-mounted plate.

Step 3: Hang the Top of the Unit

Hook the top edge of the indoor unit onto the upper hooks of the mounting plate.

Verify the unit is fully seated and evenly supported.

Step 4: Secure the Bottom of the Unit

Apply even pressure to the lower portion of the unit until it snaps securely onto the lower hooks of the mounting plate.

Step 5: Verify Secure Mounting

Gently press on the left and right sides of the unit.

The unit should be firmly mounted.

No rocking, shifting, or rattling should occur.

Step 6: Final Check Before Connections

Confirm the line set bundle exits the wall smoothly.

Ensure the drain hose maintains a continuous downward slope.

Mounting Plate

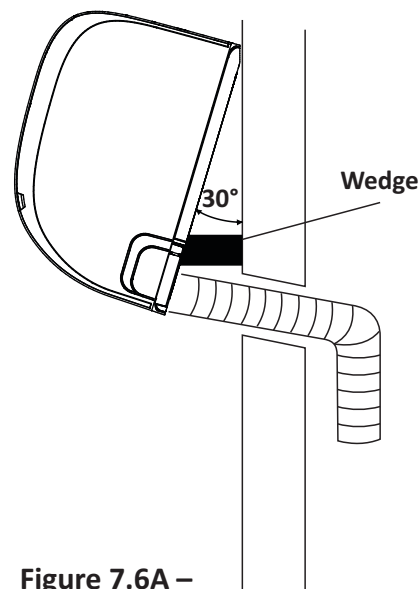
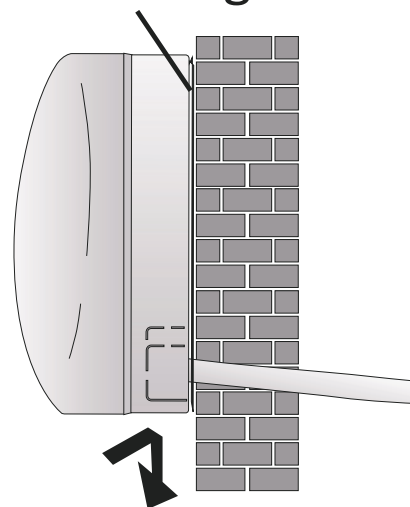


Figure 7.6A – Standard Indoor Unit Installation

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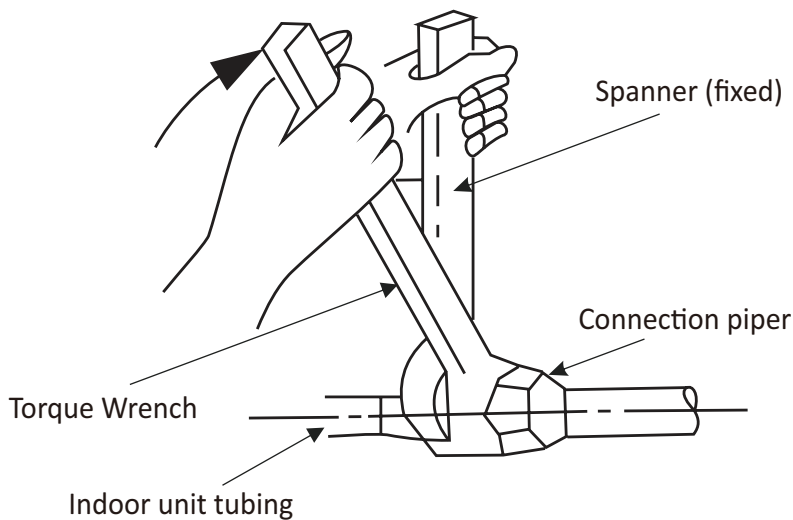
- Do not force the unit onto the bracket if resistance is felt. Recheck alignment.
- Ensure the piping bundle is not pinched behind the indoor unit.
- Refrigerant connections will be completed after the indoor unit is fully mounted.

7. Indoor Unit Installation

7.7 Refrigerant Line Handling & Connection

⚠ WARNING

- Use two open-end wrenches when tightening to prevent twisting or kinking the copper piping.
- EZ-Fast Connect™ fittings are designed for one-time tightening. Do not loosen and reconnect them, as this may cause leaks and void the warranty.
- Keep the sealing surfaces, caps, and connectors clean and free of dirt or debris.
- Route and connect refrigerant lines with minimal stress on the piping.
- Improper unrolling or bending of refrigerant lines may result in kinks, internal restrictions, or permanent line damage.
- Always maintain the specified minimum bend radius and keep protective caps installed until connection.
- Damaged refrigerant lines must not be installed.



**Figure 7.7A –
Typical Two-Wrench Tightening
Method for Refrigerant Line
Connections**

7. Indoor Unit Installation

Unrolling the Refrigerant Lines

Unroll and route the refrigerant lines carefully to avoid kinks or damage

Step 1: Keep Protective Caps Installed

Do not remove protective caps until immediately before connection to prevent dirt or moisture from entering the system.

Step 2 : Unroll Gradually

Place the coiled tubing on a flat surface and slowly unroll it, allowing the line to relax naturally.

Step 3: Maintain Minimum Bend Radius

Always maintain a minimum bend radius of 102 mm (4 in) when unrolling or routing the tubing. All bends must be smooth and gradual.

Step 4: Avoid Repeated or Sharp Bending

Do not bend the same section more than three (3) times. Do not twist, kink, or force the tubing.

Step 5: Inspect Before Connection

Confirm the tubing is free of kinks, cracks, or flattened areas before making the refrigerant connections.

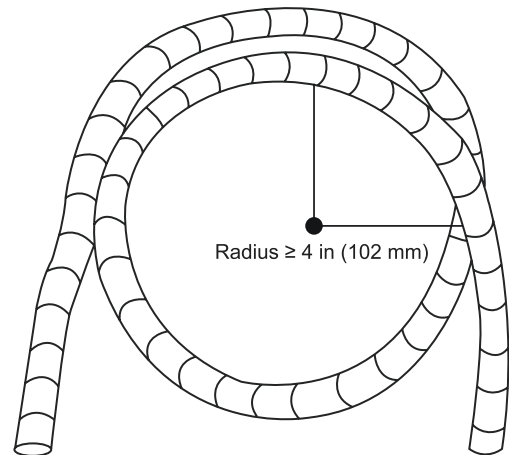
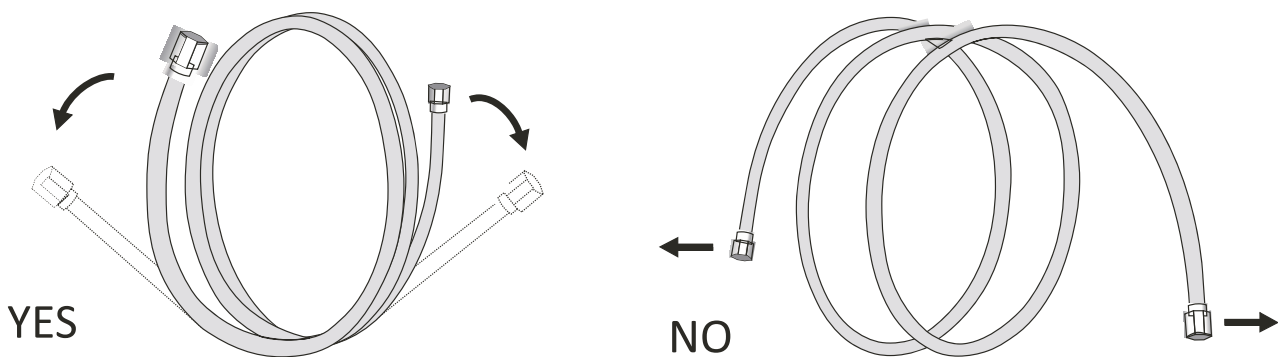


Figure 7.7B – Minimum Bend Radius for Refrigerant Line (≥ 4 in / 102 mm)



Extending the rolled pipe

Figure 7.7C – Proper vs. Improper Refrigerant Line Unrolling

7. INDOOR UNIT INSTALLATION

Step 6: Coil excess refrigerant line Refrigerant Line Connection

Step 1:

Remove the plastic protective seals from the indoor unit refrigerant valve and the matching female EZ-Fast Connect™ fitting only when ready to connect. Inspect the pipe ends to ensure no dirt, moisture, or debris is present.

Step 2:

Smoothly align the female EZ-Fast Connect™ fitting with the male connector fixed to the indoor unit. Thread the connection by hand first and tighten smoothly until fully seated.

Step 3:

- Using two wrenches, tighten the connection to the specified torque:
- Hold the short hex section of the male EZ-Fast Connect™ fitting (Remark A) with an open-end wrench to prevent rotation.
- Using a torque wrench, tighten the short hex section of the female EZ-Fast Connect™ fitting (Remark B), which is attached to the copper line.
- Tighten the fitting only to the specified torque value listed in Table 7.7 – Torque Reference (EZ-Fast Connect™ Couplings).
- Ensure the connector remains straight and properly aligned during tightening. Do not overtighten

Refer to Table 7.7 for the correct torque value based on coupling size.

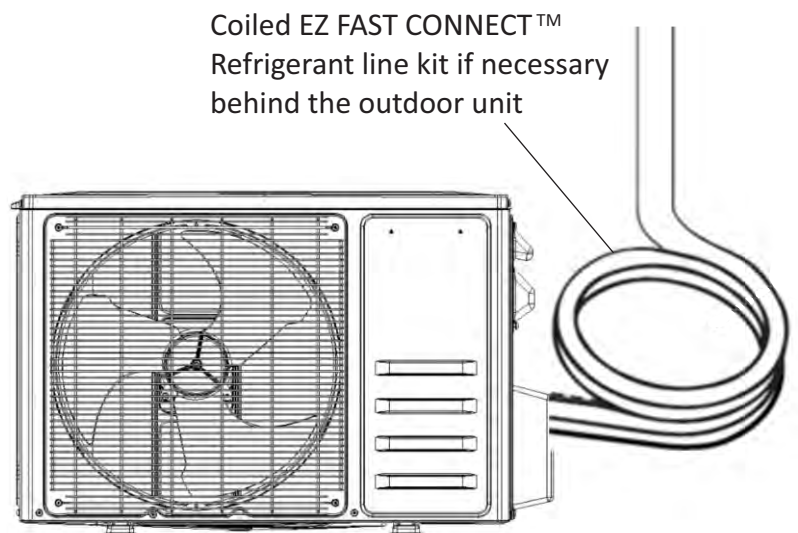


Figure 7.7D – Plastic Seal Removal



7. Indoor Unit Installation

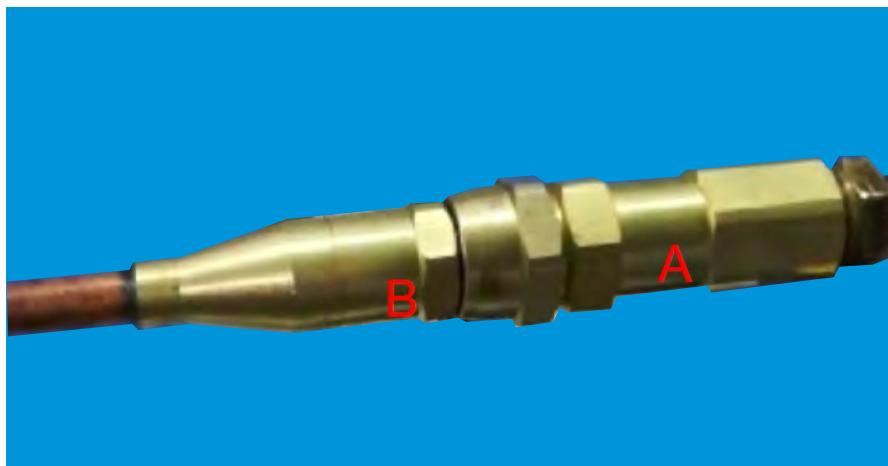


Figure 7.7E – Indoor Unit EZ-Fast Connect™ Joint

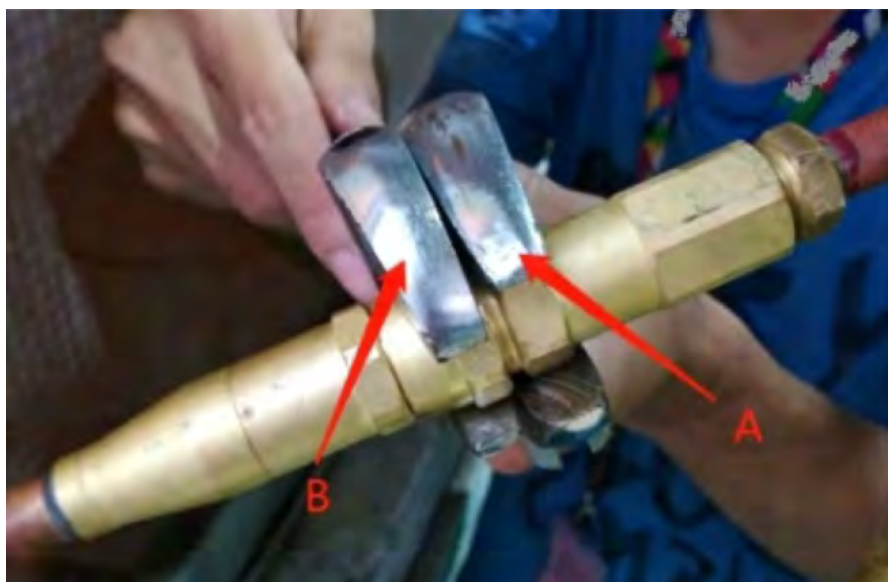


Figure 7.7F – Two-Wrench Tightening Method (Indoor Connection)

Table 7.7 - Torque Reference (EZ-Fast Connect™ Couplings)

Coupling Dimension	Pound-force (lbf-ft)	Newton meter (N·m)	Kg-force meter (kgf·m)
1/4 in (6.35 mm)	11.8	16	1.7
3/8 in (9.52 mm)	11.8	16	1.7
1/2 in (12.7 mm)	13.3	18	1.9
5/8 in (15.88 mm)	14.8	20	2.1

7. Indoor Unit Installation

7.8 Post-Connection Insulation & Drain Verification

⚠ WARNING

DO NOT PROCEED - Do NOT perform this step until ALL of the following have been completed:

- Section 8 – Outdoor Unit Installation.
- Section 9 – Electrical / Gas Leak Inspection & Test Operation.

Proceeding before completing Sections 8 and 9 may result in:

- Inability to properly detect refrigerant leaks.
- Improper tightening or rework of connections.
- Damage to insulation materials.
- Condensation, performance issues, or system malfunction.

If leakage is detected during inspection, **STOP** immediately. Re-tighten the connection as required and repeat the leak inspection in accordance with Section 9 until no gas leaks are confirmed.

Only after confirming that the system is completely leak-free may you proceed with this step.

After completing the outdoor unit installation and confirming the system is fully operational and leak-free in accordance with Section 9, perform the following post-connection steps for the indoor unit.

These procedures ensure proper insulation of the indoor EZ-Fast Connect™ joint, correct drain hose orientation, and prevention of condensation during operation.

Step 1) Wrap and Secure the Insulation

Wrap the insulated EZ-Fast Connect™ tightly with insulation tape to ensure full coverage and a secure seal around the joint.

Step 2) Position the Drain Hose

Ensure the drain hose is positioned at the lowest point of the piping bundle to allow proper condensate drainage.

Step 3) Final Inspection

After insulation is completed and the system has already been started and verified leak-free (per Section 9), verify that:

- The EZ-Fast Connect™ joint is fully insulated.
- No condensation is present on the connection.
- The drain hose maintains a continuous downward slope.



Figure 7.8A - Insulation and Deadening Pad Applied to Indoor EZ-Fast Connect™ Joint



Figure 7.8B - Final Insulated Piping Bundle with Drain Hose Orientation

8. Outdoor Unit Installation

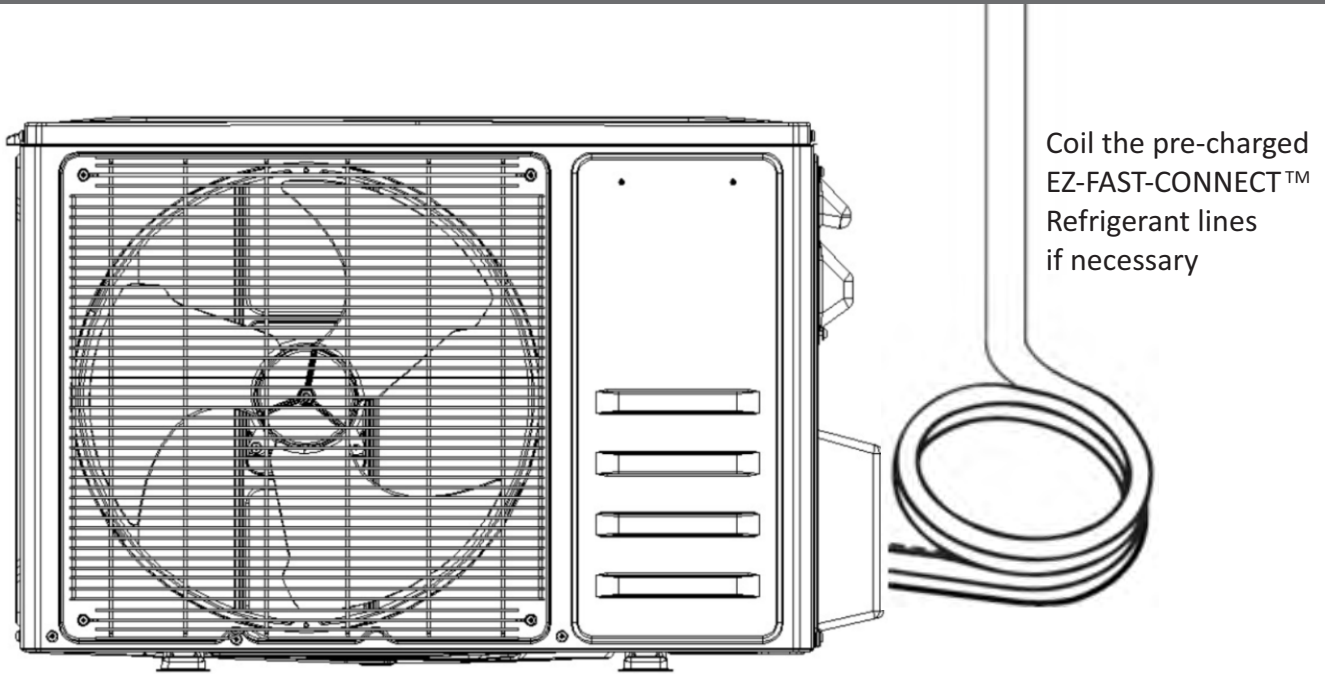
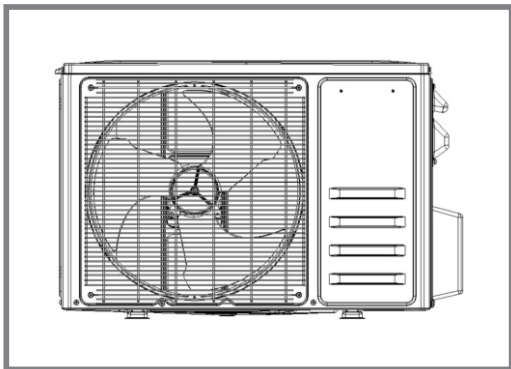
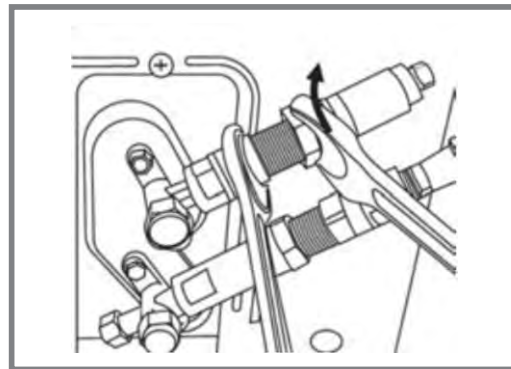


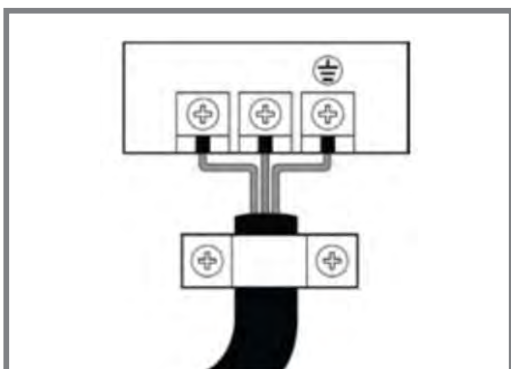
Figure 8A – Outdoor Unit Overview (Front View)



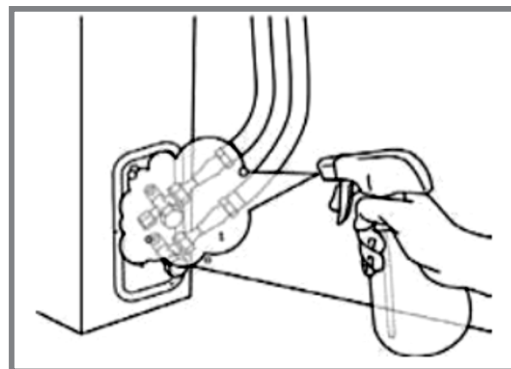
Install the outdoor unit



Connect the refrigerant pipes



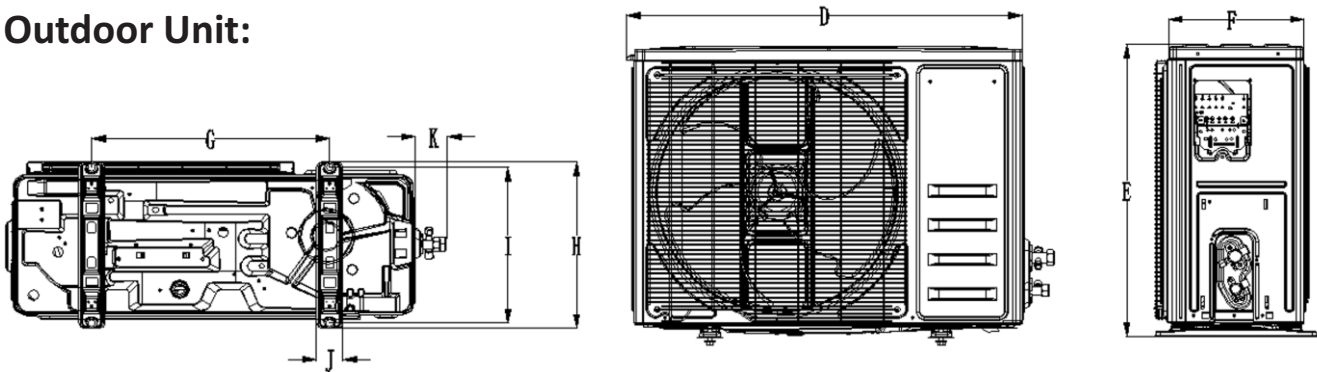
Connect the wires



Perform a test run

8. Outdoor Unit Installation

Outdoor Unit:



Model	Outdoor Unit (in)							
	D	E	F	G	H	I	J	K
KOIQ09H1-45T KOIQ09H2-45T	31 7/8	21 5/16	9 15/16	17 1/16	12	11 1/4	1 7/8	2 1/4
KOIQ12H1-45T KOIQ12H2-45T	31 7/8	21 5/16	9 15/16	17 1/16	12	11 1/4	1 7/8	2 1/4
KOIQ18H2-45T	36 1/2	27 1/2	12 13/16	23 1/16	14 15/16	13 11/16	2 3/16	2 3/16
KOIQ24H2-45T	38 1/2	31 5/8	14 1/4	23 7/8	16 9/16	15 3/8	2 3/8	2 1/2
KOIQ36H2-45T	38 1/2	31 5/8	14 1/4	23 7/8	16 9/16	15 3/8	2 3/8	2 1/2

8.1 Mounting the Outdoor Unit to the Selected Location

Before installing the outdoor unit, refer to Section 6 – Choosing an Installation Site for required clearances, airflow space, and service accessibility.

Select an Appropriate Location

- Choose a **stable, well-ventilated area** capable of supporting the outdoor unit's full weight and vibration.
- The surface must be **level, solid**, and free from obstructions that could restrict airflow or maintenance access.
- Avoid installing near heat sources, flammable gas leaks, or corrosive or dusty environments.
- Plan the routing of refrigerant lines, drain hose, and power/signal cable to avoid sharp bends or strain.

Mounting Options

- Install the outdoor unit **on a concrete pad** or on a **solid wall** using suitable mounting brackets.
- Verify that the unit is **level and stable** before making any pipe or cable connections.
- Ensure the selected structure can **support the weight** of the unit under vibration and weather conditions.

Positioning and Accessibility

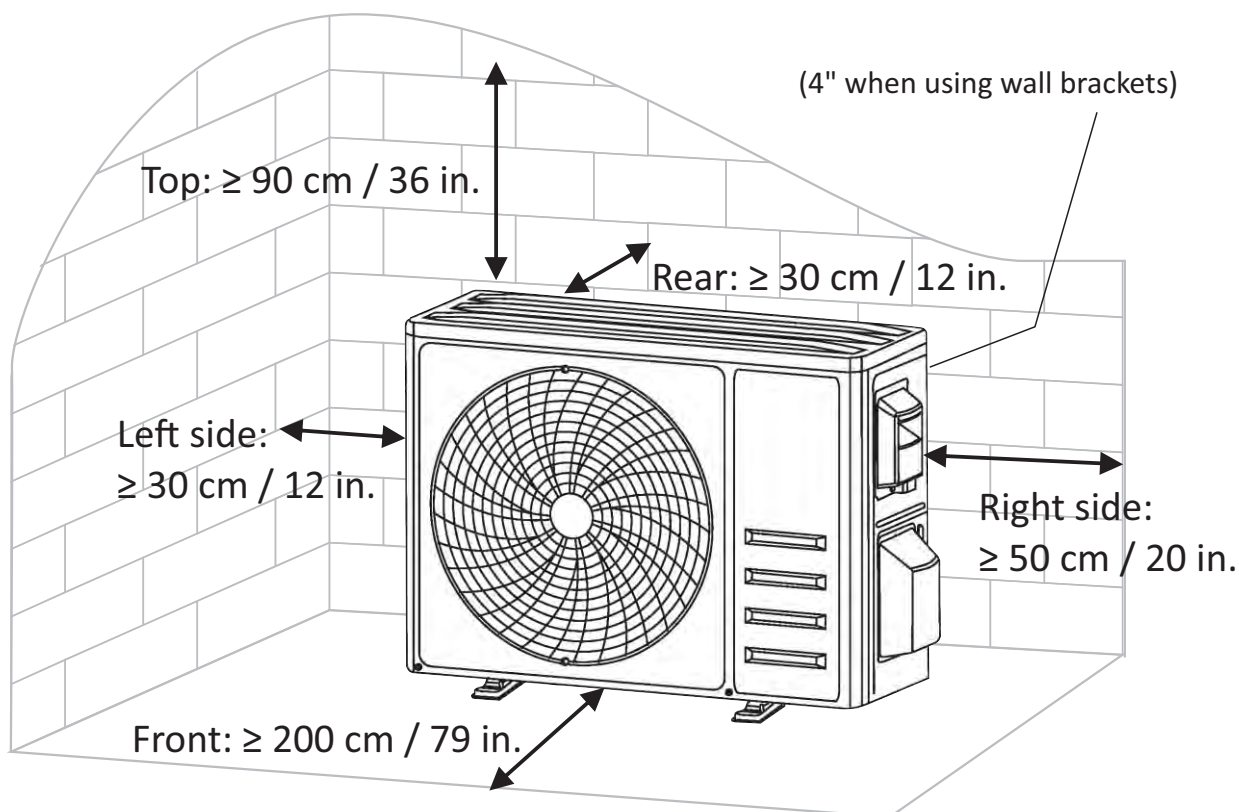
- Determine the optimal position for service access and airflow performance.
- Maintain **minimum clearances** as shown below:

8. Outdoor Unit Installation

Table 8.1 – Outdoor Unit Minimum Clearance

Direction	Minimum Clearance
Front (Air Outlet)	79 in (200 cm)
Rear	12 in (30 cm)
Left Side	12 in (30 cm)
Right Side	20 in (50 cm)
Top	36 in (90 cm)
When Wall-Mounted	4 in (10 cm) minimum

Figure 8.1A – Minimum Installation Clearances for Outdoor Unit



Recommended minimum clearances

Install 4 rubber pads (optional) to prevent vibration in any structure.

Compliance and Safety

Install the unit according to local building and electrical codes and Klimaire installation standards. Ensure proper grounding and protective devices comply with all electrical regulations.

8. Outdoor Unit Installation

Special Considerations for Extreme Weather

If the installation site is exposed to heavy wind, rain, snow, or salty air, follow these additional guidelines:

Heavy Wind

- Install the unit so the air outlet fan faces 90° perpendicular to the prevailing wind direction.
- If necessary, install a wind baffle or protective barrier to minimize airflow interference.

Heavy Rain or Snow

- Build a protective shelter above the unit to prevent rain or snow accumulation.
- Ensure the shelter does not obstruct airflow around the unit.

Coastal / Salty Air Environments

- Use a Klimaire unit designed with anti-corrosion protection.
- Periodically clean the outdoor coil and housing to remove salt deposits and debris.

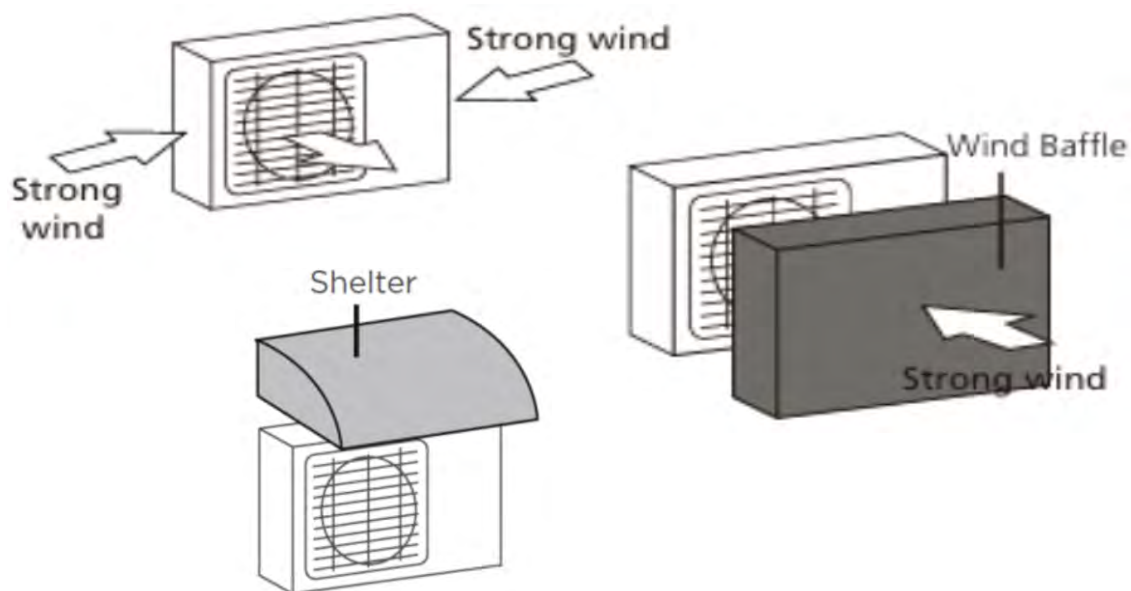


Figure 8.1B – Outdoor Unit Installation for Heavy Wind or Snow Conditions

⚠ CAUTION

- Do not install the unit in enclosed or narrow spaces where discharge air may recirculate.
- Avoid locations near flammable gases or corrosive vapors.
- Ensure the mounting surface can support the unit's full operating weight and vibration.
- Provide adequate drainage to prevent water accumulation beneath the unit.

i NOTICE

- Maintain proper spacing when multiple outdoor units are installed to avoid hot-air recirculation.
- Ensure the base or platform is level, stable, and allows proper drainage.
- Use anti-vibration mounts when wall-mounting to minimize noise transfer.

8. Outdoor Unit Installation

8.2 Condensate Water Drainage Setup

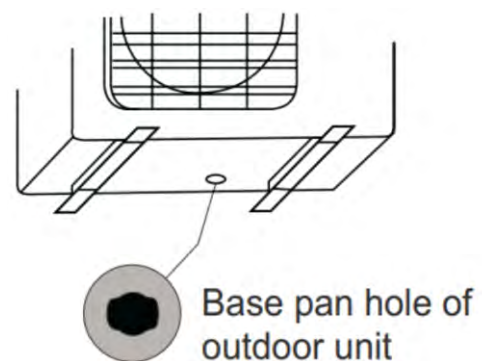
Heat pump units require a drain joint to properly discharge condensate water and defrost melt during heating operation. **Before bolting the outdoor unit into place, the drain joint must be installed at the bottom of the unit.**

Drain Joint Installation

Use the provided drain joint and drain pipe to route condensate water and melted ice from the outdoor unit during heating mode. Proper installation of the drain assembly is required to ensure safe and reliable operation.

Depending on the unit configuration, the drain joint may be supplied with or without a rubber sealing ring. Follow the appropriate installation method below.

Figure 8.2A – Base Pan Drain Hole Location



Installation Procedure

A. Drain Joint with Rubber Seal

Step 1:

Fit the rubber sealing ring onto the drain joint at the connection end.

Step 2:

Insert the drain joint into the drain hole located in the base pan of the outdoor unit.

Step 3:

Rotate the drain joint 90° until it locks securely into place.

Step 4:

Connect the provided drain pipe to the drain joint.

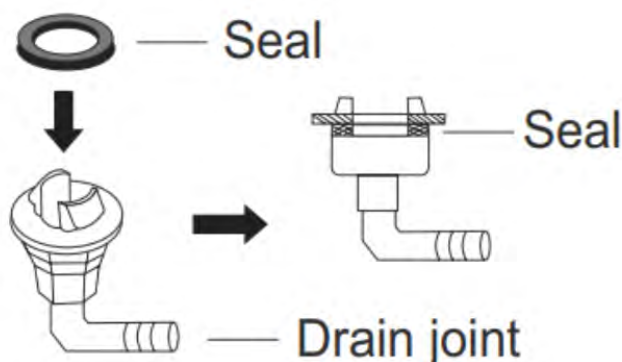


Figure 8.2B – Drain Joint Installation with Rubber Seal

B. Drain Joint without Rubber Seal

Step 1:

Insert the drain joint directly into the drain hole in the base pan until it clicks securely into place.

Step 2:

Connect the provided drain pipe to the drain joint.

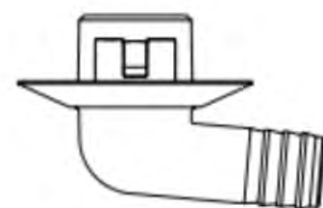
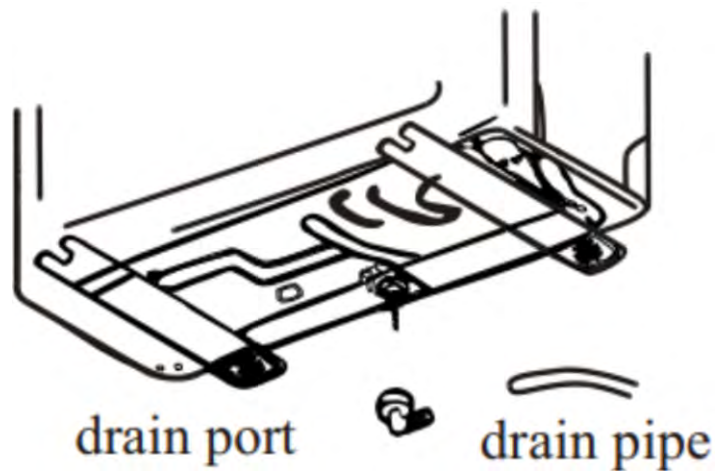


Figure 8.2C – Drain Joint Installation without Rubber Seal

8. Outdoor Unit Installation

Condensate Water Drainage & Verification



8.2D – Outdoor Unit Drain Port and Drain Pipe Connection

After installing the drain joint and drain pipe:

Step 1:

Ensure the drain pipe is securely connected to the drain joint.

Step 2:

Route the drain pipe to a suitable drainage location away from walkways, foundations, and electrical components.

Step 3:

Ensure the drain pipe maintains a continuous downward slope to allow unrestricted condensate flow.

Step 4:

Verify that there are no upward loops, kinks, blockages, or obstructions that could cause water backup or accumulation.

⚠ CAUTION

- Install the drain joint before securing the outdoor unit to its base or wall brackets.
- Do not allow the drain hose to bend upward or form a water trap.
- Ensure the drain path remains unobstructed at all times.

i NOTICE

- In cold climates, route the drain hose as vertically as possible to promote rapid drainage.
- Slow or restricted drainage may cause water to freeze inside the hose, resulting in ice buildup or water overflow.
- If required, insulate or heat-trace the drain pipe to prevent freezing.
- For coastal or high-humidity installations, route condensate away from metal structures to reduce corrosion risk.

8. Outdoor Unit Installation

CAUTION

- Do not cut or alter the EZ-Fast CONNECT™ precharged copper tubing refrigerant lines. Just coil them behind the outdoor unit

8.3 Anchor the Outdoor Unit

Once the location and drainage setup are complete, secure the outdoor unit to its final mounting surface. The unit can be installed on a concrete pad or on a wall-mounted bracket capable of supporting its weight and operating vibration.

Anchoring Based on Unit Dimensions

Refer to Figure 8B – Outdoor Unit Overall Dimensions and Table 8A – Outdoor Unit Dimensions by Model for unit size and mounting reference points. Use these measurements when marking and drilling anchor holes to ensure accurate placement, required clearances, and secure installation.

A) Ground or Concrete Pad Installation

Step 1:

Using the mounting dimensions listed in Table 8A – Outdoor Unit Dimensions by Model, mark the anchor hole positions on the concrete pad or mounting surface according to the selected unit model (see Figure 8B).

Step 2:

Pre-drill holes for expansion bolts at the marked locations.

Step 3:

Place a nut on each expansion bolt and hammer it into the pre-drilled holes.

Step 4:

Remove the nuts, position the outdoor unit onto the bolts, and align the mounting holes.

Step 5:

Install washers and nuts on the bolts, then tighten evenly with a wrench until the unit is secure and level.

Step 6:

(Optional) Place rubber isolators between the mounting feet and the pad to reduce vibration and noise.

WARNING

- When drilling into concrete, wear eye protection at all times.
- Avoid damaging refrigerant piping, drain hose, or power cables while drilling.

B) Wall-Mounted Bracket Installation

CAUTION

- Ensure the wall is made of solid brick, concrete, or an equivalent material capable of supporting at least four times the weight of the unit.

8. Outdoor Unit Installation

Step 1:

Using the mounting dimensions listed in Table 8A – Outdoor Unit Dimensions by Model, mark the wall bracket hole positions according to the selected unit model (see Figure 8B).

Step 2:

Drill the holes for the expansion bolts using the appropriate bit size for the mounting surface.

Step 3:

Insert bolts through the bracket holes and hammer them into the wall anchors.

Step 4:

Tighten the bolts securely and verify that the brackets are level and firmly anchored.

Step 5:

Carefully lift the outdoor unit and position its mounting feet onto the bracket pads.

Step 6:

Bolt the unit securely to the brackets using washers and nuts.

Step 7:

(Optional) Install rubber gaskets or vibration isolators between the unit and bracket to minimize operational noise and vibration.

Final Inspection

Step 1:

Verify that the unit is securely anchored and level.

Step 2:

Confirm that minimum clearances specified in Step 1 – Positioning and Accessibility (see Table 8.1 and Figure 8.1A) are fully maintained on all sides of the outdoor unit.

Step 3:

Confirm that drainage, refrigerant piping, and electrical cables are properly routed, supported, and protected from damage.

Step 4:

Check that rubber isolators or vibration pads, if installed, are properly seated and not compressed unevenly.

Step 5:

Tighten all mounting hardware and recheck alignment before proceeding to the next step.

8.4 Refrigerant Line Connection & Valve Opening (EZ-Fast Connect™)

Connecting the Refrigerant Lines to the Outdoor Unit

The **KIWQ / KOIQ Klimaire DIY™ SERIES** system utilizes factory-sealed, pre-charged EZ-Fast Connect™ refrigerant line sets. No cutting, flaring, brazing, or field evacuation is required. Proper pipe alignment, correct torque, and stress-free routing are essential for reliable system performance.

All connections must be aligned correctly, tightened to specification, and installed without stress on valves or piping. Ensure the outdoor unit is fully anchored and secured to its final mounting surface before proceeding.

8. Outdoor Unit Installation

Prepare the Connections

Step 1:

Remove the outdoor unit valve cover to access the service valves.

Step 2:

Do not remove protective caps or plastic seals until immediately before making each connection.

Step 3:

Verify that the liquid (small) and gas (large) refrigerant line sizes match the corresponding service valve ports on the outdoor unit.

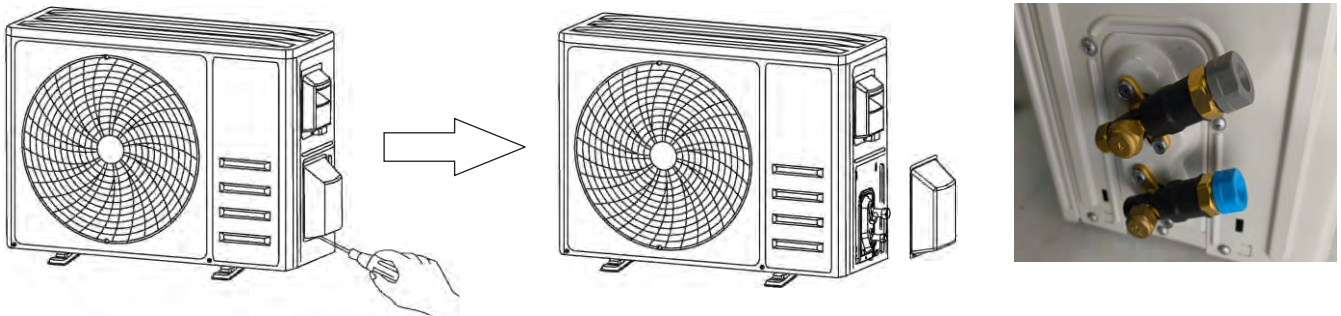


Figure 8.4A - Outdoor Unit Refrigerant Cover & Service Valves

Connect the EZ-Fast Connect™ Refrigerant Lines

Step 4:

When ready to connect, remove the plastic seals from the outdoor unit valve and the matching EZ-Fast Connect™ fitting.

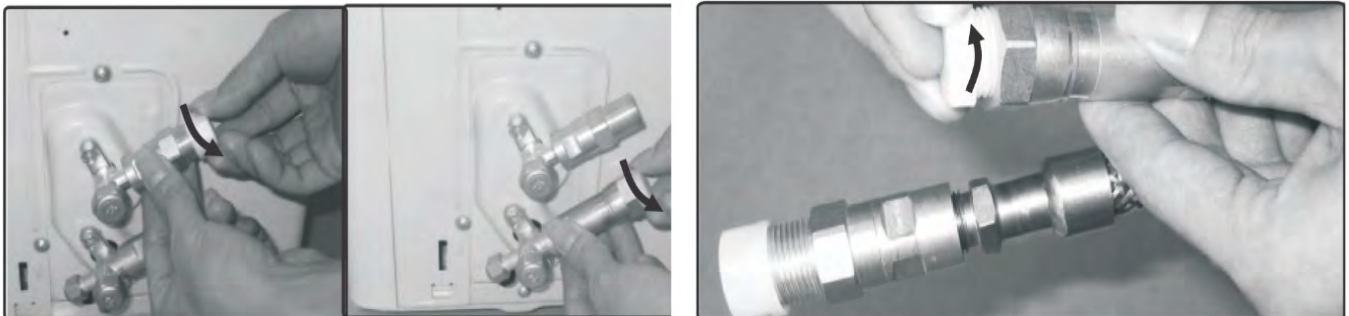


Figure 8.4B - Plastic Seal Removal

Step 5:

Carefully align the female EZ-Fast Connect™ fitting with the male connector on the outdoor unit valve. Ensure the connection is straight and properly aligned to avoid cross-threading.

Step 6:

Hand-tighten the EZ-Fast Connect™ fitting onto the valve until fully seated.

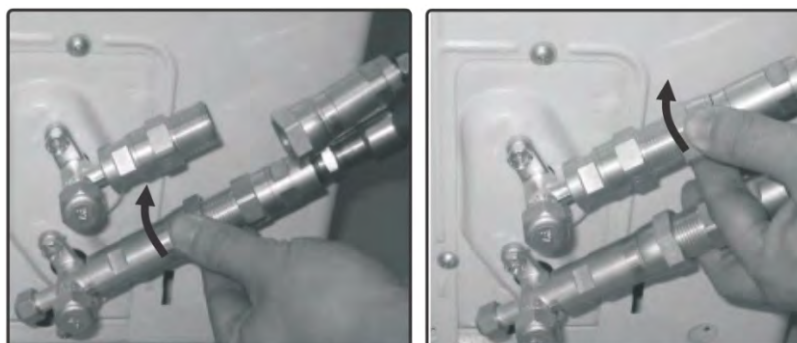


Figure 8.4C - Connector Alignment & Hand-Tightening

8. Outdoor Unit Installation

Step 7:

Using two open-end wrenches:

- Hold the short position (Remark A) of the male EZ-Fast Connect™ with one open-end wrench to prevent rotation.
- Using a torque wrench, tighten the short position (Remark B) of the female EZ-Fast Connect™ (attached to the copper line) to the specified torque value.

Two open-end wrenches must be used to prevent twisting or kinking of the copper pipe.

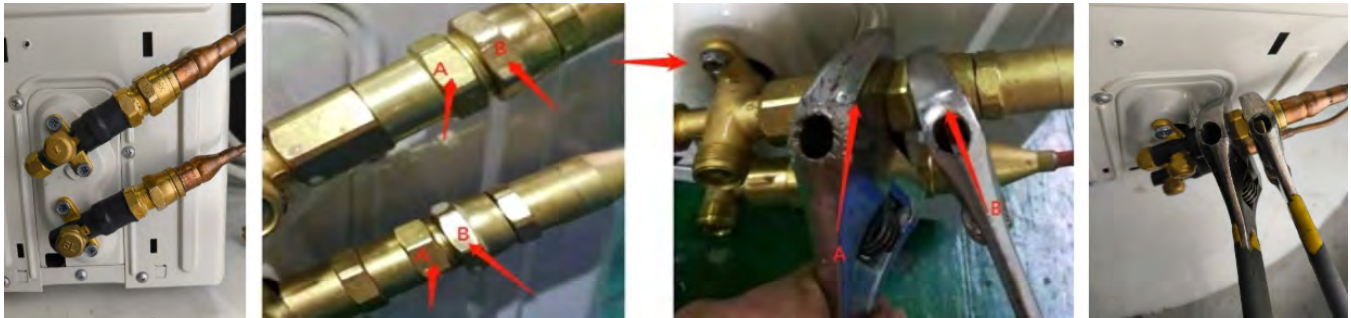


Figure 8.4D - Two-Wrench Tightening (Remarks A & B)

Table 8.4 - Torque Reference (EZ-Fast Connect™ Couplings)

Coupling Dimension	Pound-force (lbf-ft)	Newton meter (N·m)	Kg-force meter (kgf·m)
1/4 in (6.35 mm)	11.8	16	1.7
3/8 in (9.52 mm)	11.8	16	1.7
1/2 in (12.7 mm)	13.3	18	1.9
5/8 in (15.88 mm)	14.8	20	2.1

Step 8:

Using two open-end wrenches, tighten both EZ-Fast Connect™ refrigerant line fittings smoothly and evenly.

- Hold the stationary nut with one wrench to prevent rotation or twisting of the copper line.
- Tighten each connector until fully snug.
- If an HVAC torque wrench is available, tighten each connector to the specified torque value listed in the torque reference table.
- If a torque wrench is not available, tighten the connector firmly beyond snug to fully seat the internal seal.

i NOTICE

- Use two open-end wrenches when tightening to prevent twisting or kinking the copper piping.
- EZ-Fast Connect™ fittings are designed for one-time tightening. Do not loosen and reconnect them, as this may cause leaks and void the warranty.
- Keep the sealing surfaces, caps, and connectors clean and free of dirt or debris.
- Route and connect refrigerant lines with minimal stress on the service valves and piping.

8. Outdoor Unit Installation

8.5 Opening the Service Valves

Once all refrigerant line connections are properly aligned and tightened to specification, the service valves can be opened to release the factory-charged refrigerant into the system.

i NOTICE

- Do not open the service valves until all EZ-Fast Connect™ fittings are fully tightened and the outdoor unit is securely anchored.

Instructions:

Step 1:

Remove the protective caps from both service valves:

- Liquid line (small, 2-way valve)
- Gas line (large, 3-way valve)

Step 2:

Insert the correct size hex (Allen) wrench into the valve stem.

Step 3:

Slowly turn the valve stem counter-clockwise until it stops.

- This indicates the valve is fully open.

Step 4:

Repeat the process for the second service valve.

Step 5:

Once both valves are fully open, reinstall and securely tighten the valve.

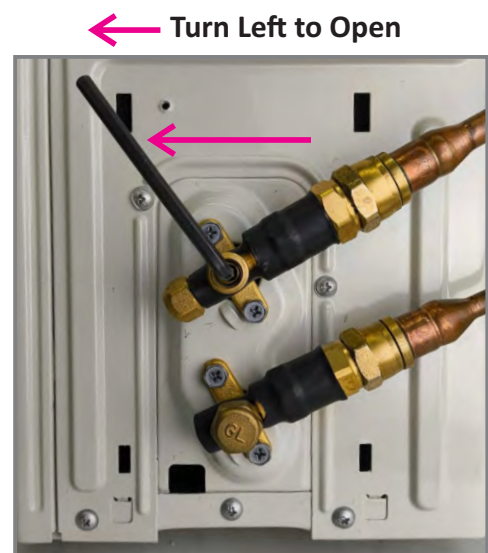


Figure 8.5 - Opening the Service Valves (Turn Counter-Clockwise)

⚠ WARNING

- If a service valve is not fully opened, the system may malfunction or suffer damage.

8. Outdoor Unit Installation

8.6 Electrical Connections - Outdoor Unit

WARNING

- Before performing any electrical work, turn OFF the main power supply.
- Multiple power sources may be present. Failure to disconnect all power sources may result in electric shock, serious injury, or death.
- All electrical connections must be performed by a qualified or licensed electrician, where required by local code.
- Incorrect wiring or mixed terminal connections may cause communication failure, equipment damage, or malfunction

Before Performing Electrical Work

1. All wiring must comply with local and national electrical codes and be performed by a licensed electrician where required.
2. Follow the wiring diagram on both indoor and outdoor units precisely.
3. Power voltage must remain within 90–110% of the rated value to avoid damage.
4. Connect power through fixed wiring with a surge protector, disconnect switch box, and dedicated circuit breaker rated 1.5× the maximum current of the unit.
5. Each air conditioner must be connected to its own individual branch circuit.
6. Properly ground the system; using a surge protector is strongly recommended.
7. Ensure all connections are tight and secure to prevent overheating.
8. Keep all wiring clear of refrigerant tubing, moving parts, and heat sources.

Cable Selection and Connection Requirements

- **Power Supply Cable:** THHN or THWN copper conductors.
- **Communication / Signal Cable:** 27.5 ft factory-supplied, pre-connected communication cable attached to the indoor unit. The cable is pre-terminated for direct connection to the outdoor unit. Do not cut, extend, splice, or modify.
- **Wire size and breaker rating** must match the unit nameplate and comply with local and national electrical codes

Note: Use copper conductors only. Aluminum wiring is not permitted.

Wire size must comply with local and national electrical codes. Always verify the unit nameplate for final confirmation of required wire gauge and breaker size.

8. Outdoor Unit Installation

Minimum Wire Gauge for Power Cables

Klima Model	Voltage (V)	MOP (A) Maximum Overcurrent Protection	MCA (A) Minimum Circuit Ampacity	AWG (min) Minimum Wire Size
KOIQ09H1-45T	115	20	15	12
KOIQ12H1-45T	115	25	16	12
KOIQ12H2-45T	208-230	15	11	12
KOIQ18H2-45T	208-230	20	12	12
KOIQ24H2-45T	208-230	25	17	12
KOIQ36H2-45T	208-230	30	18	10

All wire size is recommendation based on the MCA values. Always follow local electrical codes.

Terminal Connections

Match indoor and outdoor terminals according to the terminal numbers and grounding position.

Indoor Unit Terminal	Outdoor Unit Terminal
Position #1	Position #1
Position #2	Position #2
Position #3	Position #3
Ground (G)	Ground (G)

NOTICE

- Verify that wiring connections are properly tightened and terminals are not damaged.
- Bundle and secure excess wire length using cable ties to prevent strain.
- Ensure that power and communication wires are routed separately from refrigerant piping.

8. Outdoor Unit Installation

Wiring Access and Diagram Reference

The outdoor unit **wiring diagram** is located on the inside of the **handle cover**. This diagram shows the proper **terminal identification** for connecting both the **power supply** and **signal (pre-wired plug communication)** cables between the indoor and outdoor units.

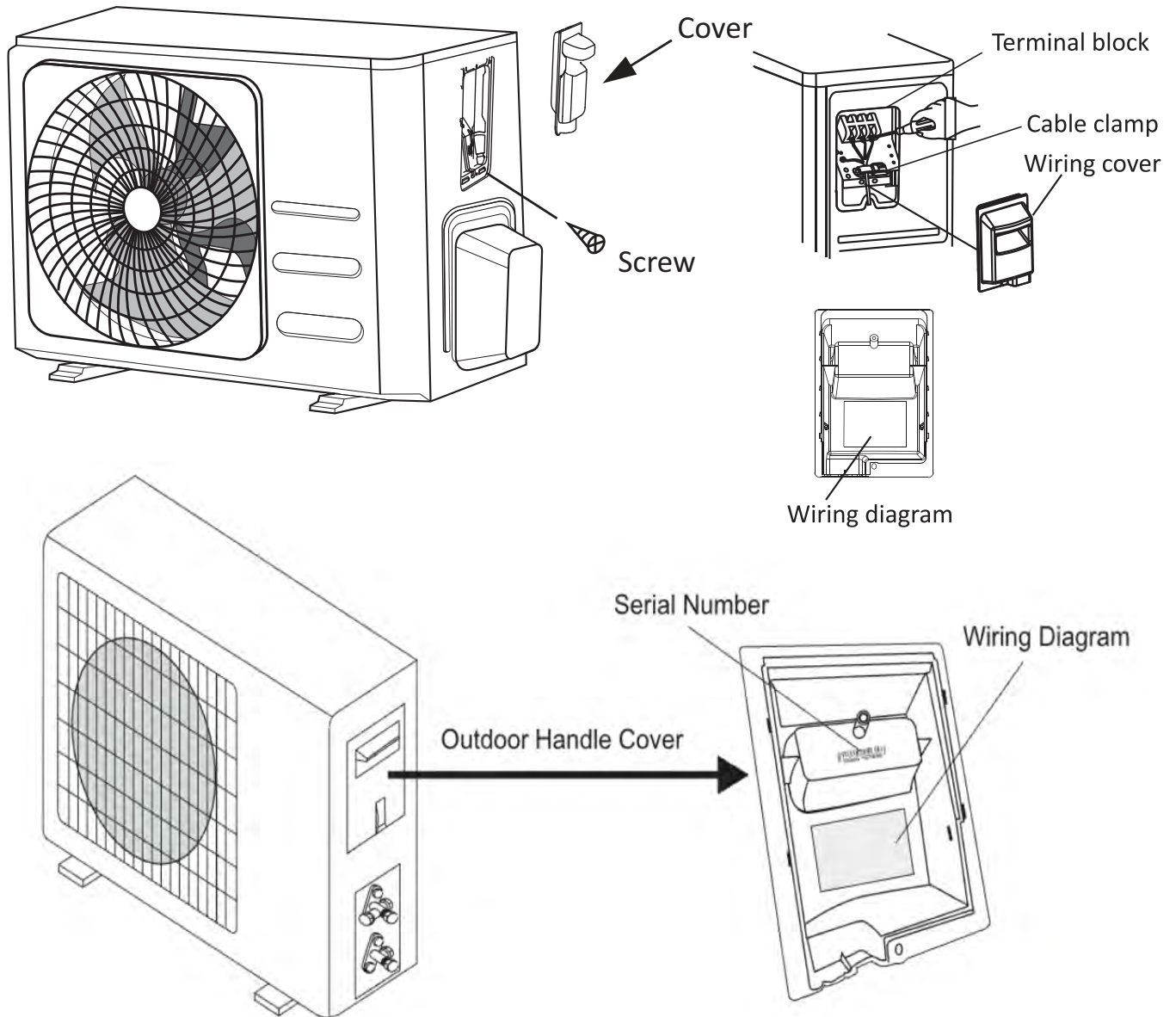


Figure 8.6A - Outdoor Unit Wiring Access and Diagram Location

8. Outdoor Unit Installation

Instructions to Connect Power and Signal Cables

Step 1:

Remove the Wiring Cover

- Unscrew and remove the handle or wiring cover on the side of the outdoor unit to access the terminal block.
- Set the cover and screws aside for reinstallation after wiring is complete.

Step 2:

Route the Cable

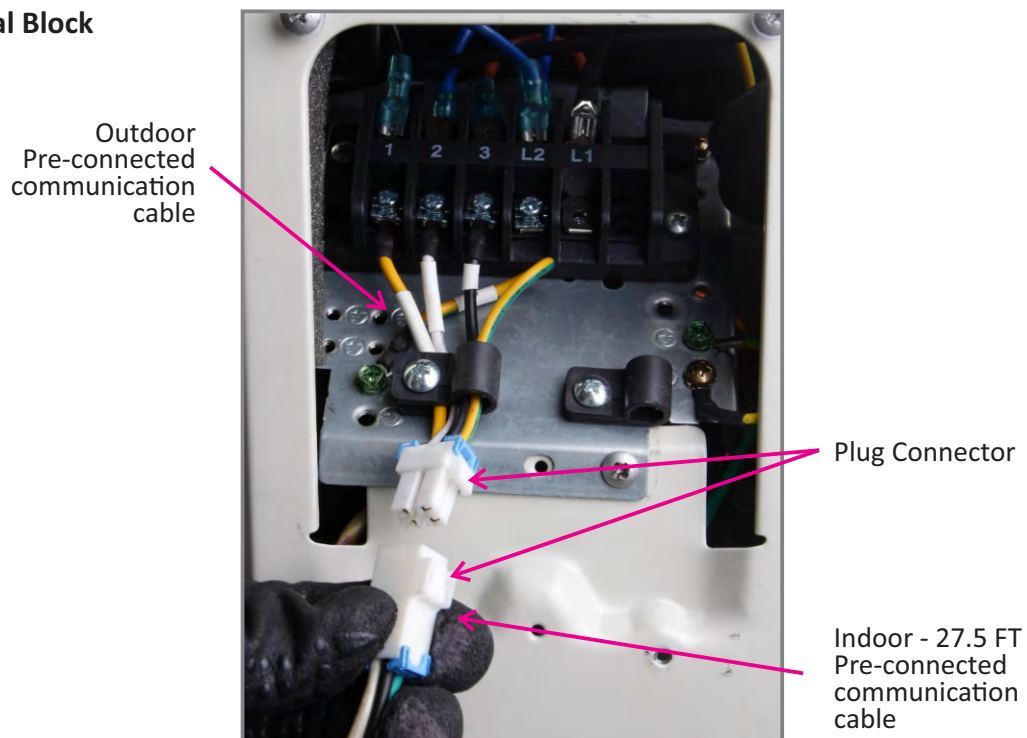
- Use an approved flexible, rain-tight conduit with properly sized fittings and connectors.
- Route the power cable through the conduit opening toward the terminal block.
- Ensure the conduit is sealed and supported to prevent water intrusion or strain on the wiring.

Step 3:

Connect the Wires

- Insert the EZ-Fast Connect™ cable connector fully into the mating connector on the outdoor unit until it is securely seated.
- Once the connector is properly installed, the indoor and outdoor units are electrically linked through the numbered terminals.
- Match terminal numbers exactly as shown: (visual check the colored wiring destinations)
 - 1 → 1
 - 2 → 2
 - 3 → 3
 - G → G (Ground)
- Ensure the connector is fully engaged and all conductors are aligned correctly before proceeding

Outdoor Terminal Block



8. Outdoor Unit Installation

Instructions to Connect Power and Signal Cables

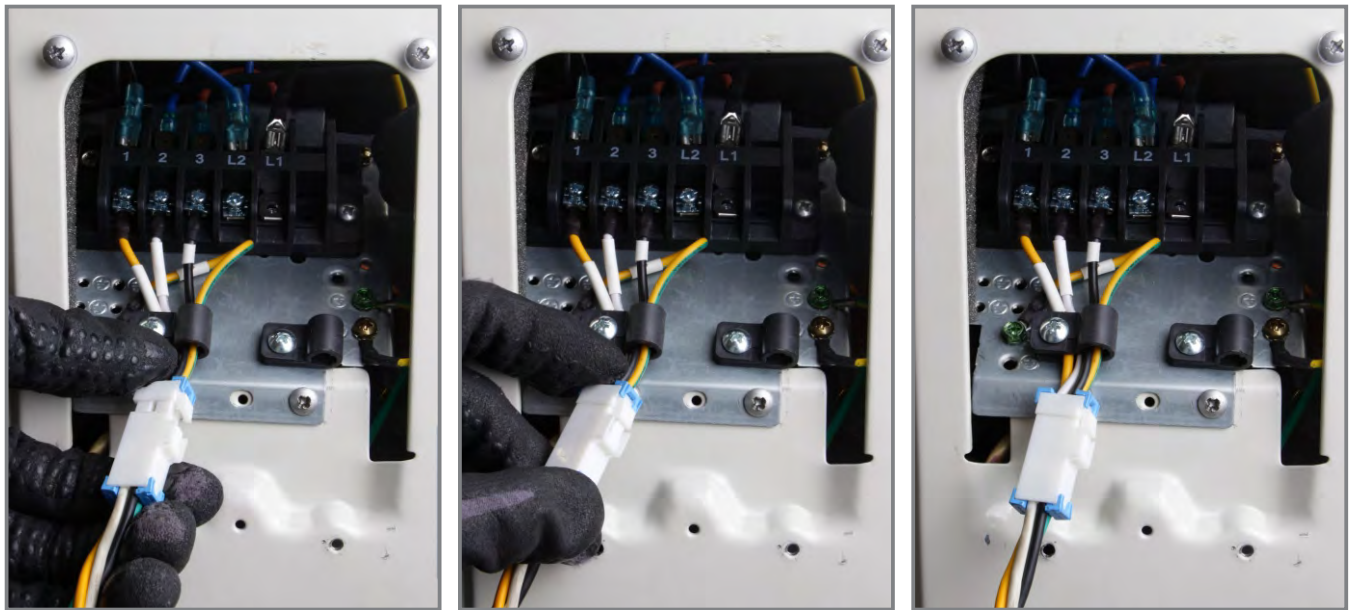


Figure 8.6 - Connecting Power and Signal Cables at the Outdoor Unit Terminal Block

Step 4:

Ground the Unit

- Connect the ground wire to the terminal marked "G" or "Ground."
- Do not share the grounding point with other devices or systems.

Step 5:

Secure the Cable

- Use the provided cable clamp to firmly secure the cable to the unit.
- Ensure there is no strain on the terminal block or connector.
- Arrange wires neatly to avoid contact with sharp edges, moving parts, or hot surfaces.

Step 6:

Insulate Unused Wires (If Applicable)

- Wrap any unused conductors with PVC electrical tape.
- Ensure unused wires do not contact terminals or metal surfaces.

Step 7:

Reinstall the Cover

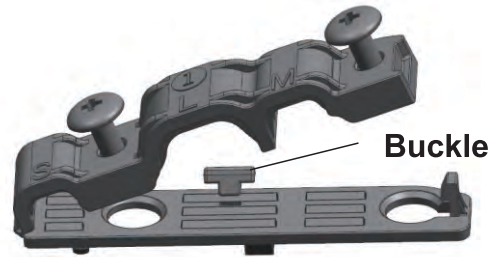
- Reattach the wiring cover using the original screws.
- Verify the seal or gasket is properly positioned to prevent water intrusion.

8. Outdoor Unit Installation

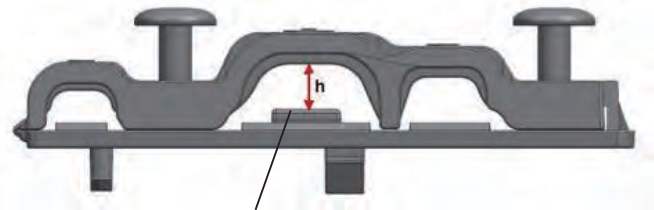
Additional Notes

Cable Clamp Notes

- Use the provided cable clamp to secure the cables firmly to the unit.
- Ensure the cable is routed neatly through the clamp and that there is no strain on the wiring.
- If the clamp includes multiple hole sizes, select the appropriate opening according to the cable diameter (Small, Medium, or Large).
- When the cable is not fastened tightly, use the buckle to prop it up so it can be clamped securely.

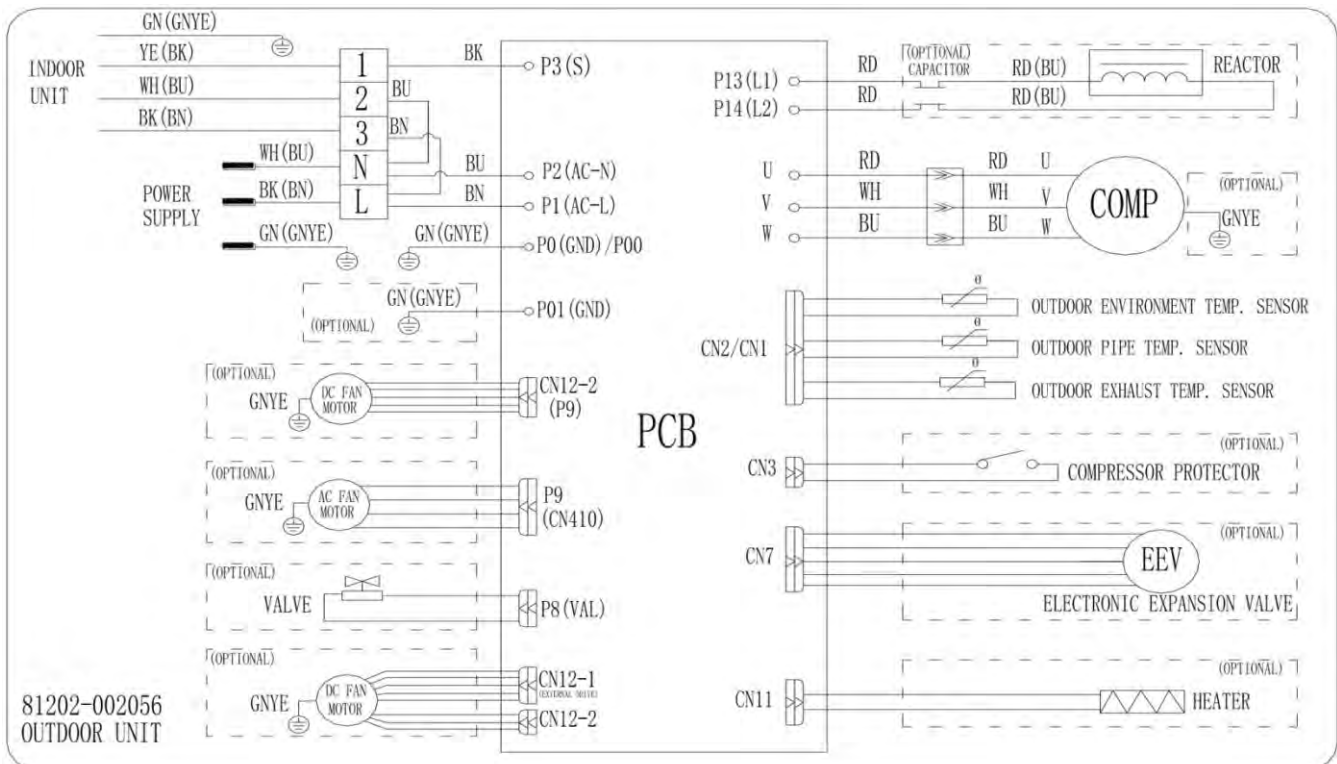


Three size hole: Small, Large, Medium



Control Board Wiring Diagrams - Outdoor Units

Models: KIWQ09H1-45T/KOIQ09H1-45T; KIWQ12H1-45T/KOIQ12H1-45T;

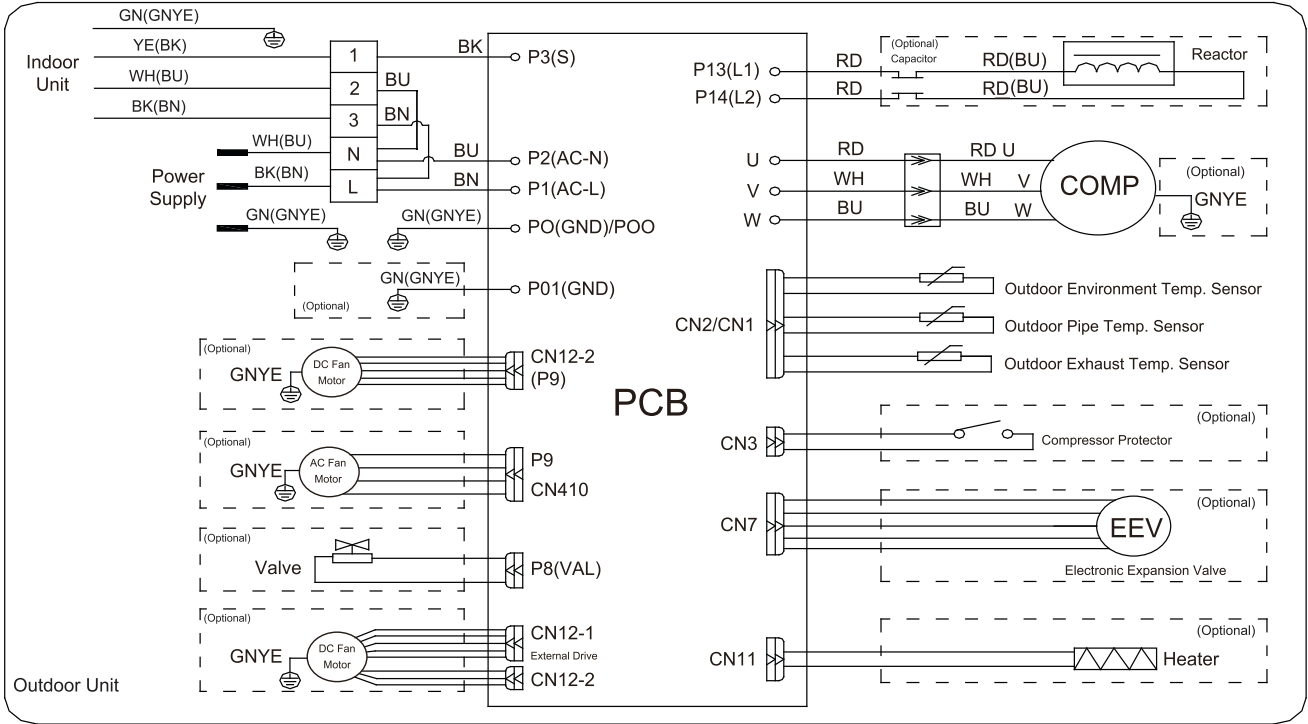


9K / 12K - 115V

8. Outdoor Unit Installation

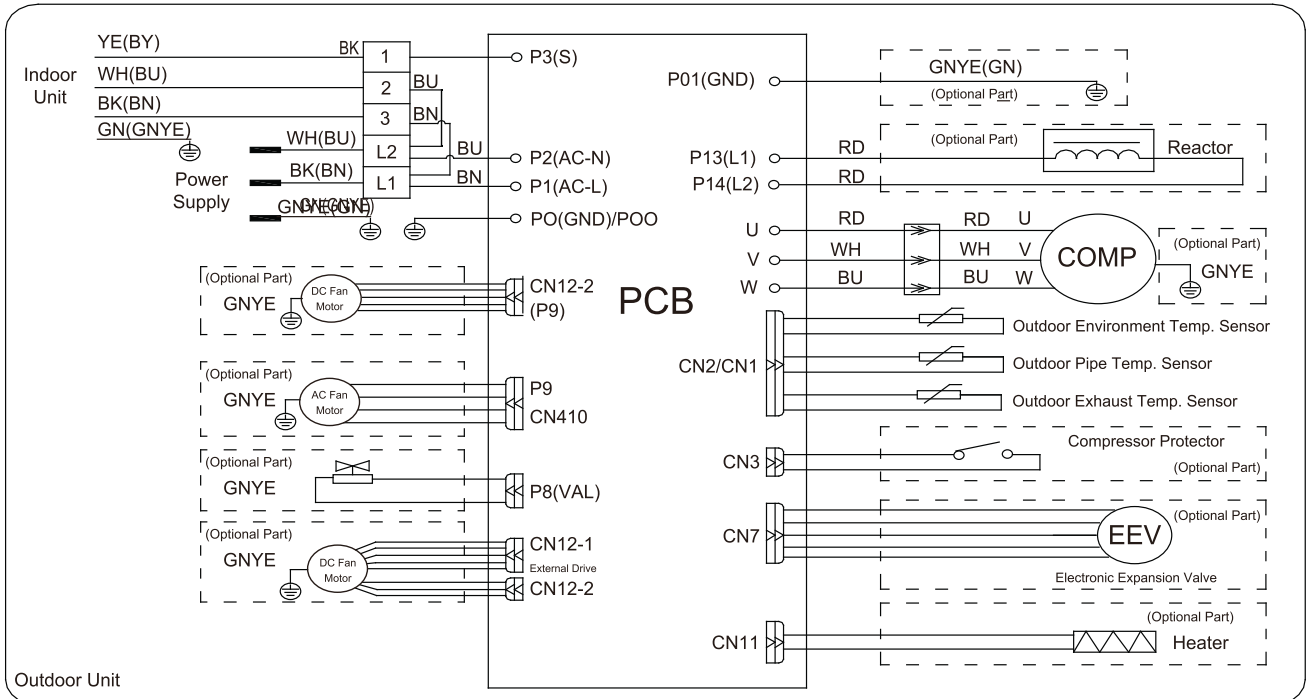
Control Board Wiring Diagrams - Outdoor Units

Models: KIWQ09H2-45T/KOIQ09H2-45T; KIWQ12H2-45T/KOIQ12H2-45T;
 KIWQ18H2-45T/KOIQ18H2-45T; KIWQ24H2-45T/KOIQ24H2-45T;



9K / 12K / 18K / 24K - 208-230V

Model: KIWQ36H2-45T / KOIQ36H2-45T



36K (208/230V)

9. Electrical / Gas Leak Inspection & Test Operation

WARNING

After installation, verify that all electrical and wiring connections are completed according to the Installation Manual and comply with local and national electrical codes.



9.1 Electrical & Gas Leak Test (Safety Verification)

WARNING

Before Test Operation

Only perform a test run after completing all installation steps and confirming the following:

- **Electrical Safety Check:** Ensure wiring is installed according to local and national codes and properly grounded.
- **Gas Leak Check:** Verify all flare connections are tight and leak-free.
- **Valve Check:** Confirm both gas and liquid service valves are fully open.

Electrical Safety Checks – Test

Step 1:

Confirm that all electrical connections are properly installed and insulated.

Step 2:

Measure grounding resistance with a grounding tester — resistance must be less than 0.1 Ω between the outdoor unit's ground terminal and the main building ground. (Some regions may not require this check.)

Step 3:

Tighten all electrical terminal screws securely.

If electrical leakage or grounding faults are detected, stop operation immediately and contact a qualified technician.

9. Electrical / Gas Leak Inspection & Test Operation

Gas Leak Checks

There are two approved methods to check for refrigerant leaks:

A) Soap and Water Method

Step 1: Apply a mild soapy solution or liquid detergent to all flare and valve joints on both indoor and outdoor units.

Step 2: Watch for bubbles — their appearance indicates a leak.

Step 3: If a leak is found, release system pressure, re-tighten the flare nut, and repeat the test.

B) Electronic Leak Detector Method (If tools are available)

Step 1: Use a certified electronic leak detector compatible with R-454B refrigerant.

Step 2: Slowly move the probe around flare joints, valve stems, and service ports to check for leaks.

Step 3: Follow the manufacturer's operating instructions, and refer to Section 10 – Operation Instructions for proper usage instructions.

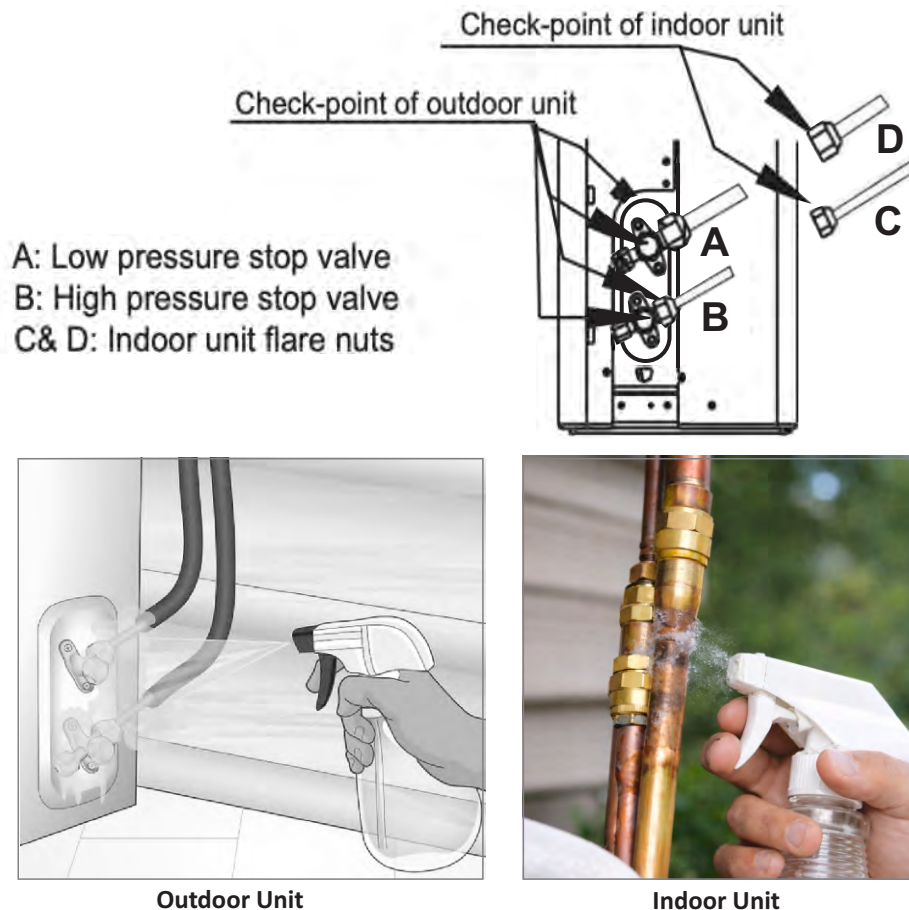


Figure 9.1 - Soap Test Method for Refrigerant Leak Checks (Indoor & Outdoor Units)

After Performing Gas Leak Checks

Step 1: After confirming that all joints are leak-free, reinstall and securely tighten the valve covers on the outdoor unit.

Step 2: Ensure all refrigerant piping and insulation are properly sealed, secured, and fully enclosed.

Step 3: Double-check that no leaks are present at the low-pressure, high-pressure, and indoor quick connect connection points.

9. Electrical / Gas Leak Inspection & Test Operation

9.2 System Test Run (Performance Verification)

During the Test Run, Verify the Following:

Test Run Procedure

Perform this test run for at least **45 minutes** to verify system operation after all safety checks have passed.

Step 1: Connect power to the unit.

Step 2: Press the **ON/OFF** button on the remote controller.

Step 3: Press the **MODE** button to cycle through the following:

- **COOL Mode** - Select lowest possible temperature.
- **HEAT Mode** - Select highest possible temperature.

Let each mode operate for at least **8 minutes** and confirm the following items.

System Test Run – Pass/Fail Checklist

Inspection Item	Pass	Fail
No electrical leakage or abnormal noise	<input type="checkbox"/>	<input type="checkbox"/>
Unit is properly grounded	<input type="checkbox"/>	<input type="checkbox"/>
All electrical terminals are covered	<input type="checkbox"/>	<input type="checkbox"/>
Indoor and outdoor units are properly installed	<input type="checkbox"/>	<input type="checkbox"/>
All refrigerant joints show no leaks	<input type="checkbox"/>	<input type="checkbox"/>
Water drains correctly from the condensate hose	<input type="checkbox"/>	<input type="checkbox"/>
All piping are properly insulated	<input type="checkbox"/>	<input type="checkbox"/>
Indoor louvers move normally	<input type="checkbox"/>	<input type="checkbox"/>
Indoor unit responds to the remote controller	<input type="checkbox"/>	<input type="checkbox"/>
System operates properly in both Cool and Heat modes	<input type="checkbox"/>	<input type="checkbox"/>

9. Electrical / Gas Leak Inspection & Test Operation

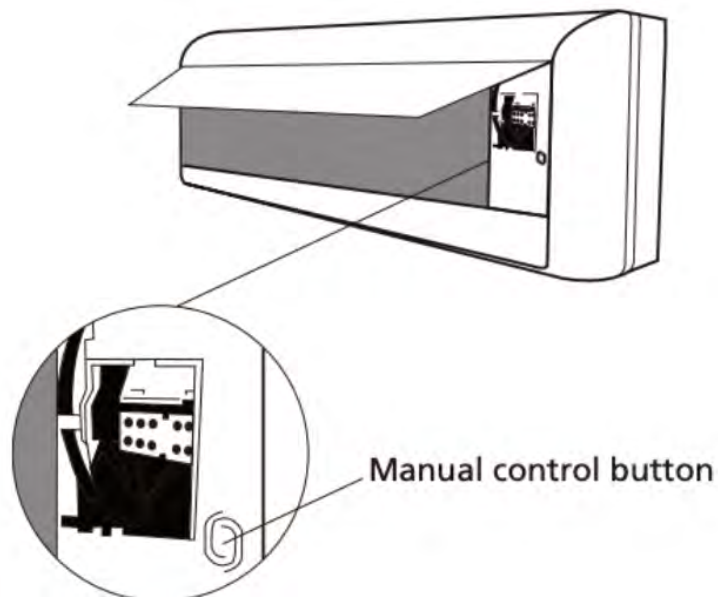
If Ambient Temperature Is Below 17 °C (62 °F)

You cannot use the remote control for COOL mode below 17 °C. Use the **MANUAL CONTROL** button:

Step 1: Lift the front panel of the indoor unit until it clicks in place.

Step 2: Press the **MANUAL CONTROL** button (on the right-hand side) twice to activate COOL mode.

Step 3: Perform the same Test Run steps to verify proper operation.



Double-Check All Pipe Connections

During operation, refrigerant pressure increases — this may reveal leaks not detected earlier. Reinspect all flare nuts, service valves, and pipe joints under normal operating pressure. If leaks are found, repeat the Gas Leak Check procedure and retest.

9. Electrical / Gas Leak Inspection & Test Operation

9.3 Wrap and Insulate Refrigerant Line Connections

i NOTICE

- Do not proceed with this section until all refrigerant line connections have been fully tightened and verified leak-free.
- Proper insulation helps prevent condensation, corrosion, and performance loss. All exposed refrigerant piping must be fully insulated before system operation.

Instructions

Step 1: Wrap the supplied insulation material over all exposed refrigerant line connections.

Step 2: Ensure that all EZ-Fast Connect™ fittings, flare joints, and exposed copper piping are completely covered.

Step 3: Using non-adhesive, UV-resistant insulation tape, wrap upward along the line set, overlapping each layer to prevent moisture intrusion.

Step 4: Continue wrapping until the insulated section transitions smoothly into the factory-insulated refrigerant line set.

Step 5: Confirm that no bare copper or fittings remain exposed before proceeding to system operation.

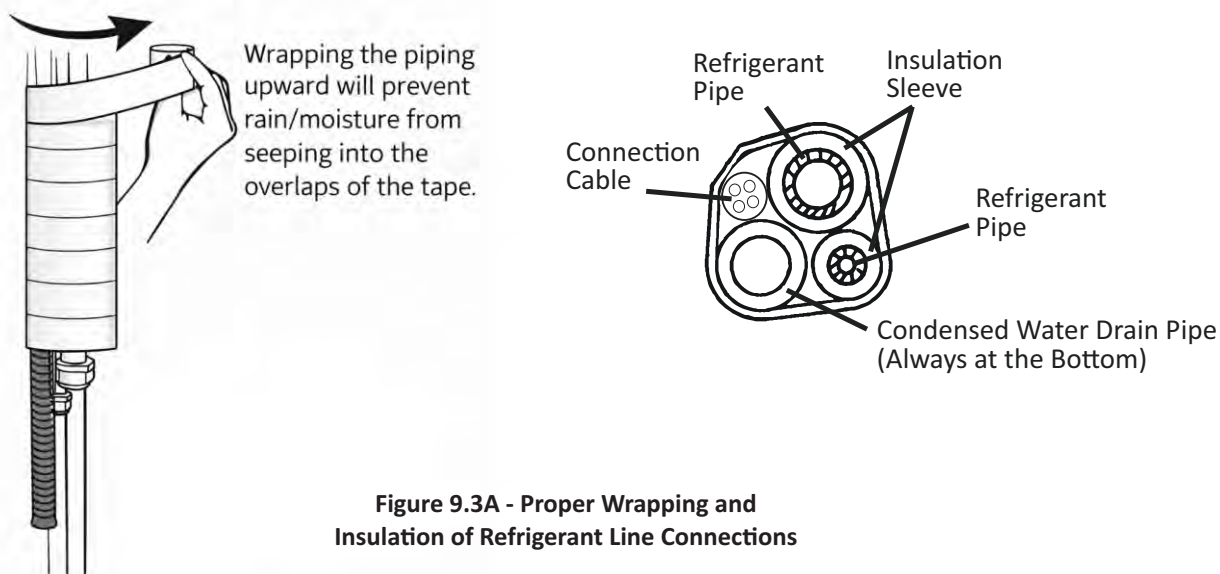


Figure 9.3A - Proper Wrapping and Insulation of Refrigerant Line Connections

9. Electrical / Gas Leak Inspection & Test Operation

Optional: Exterior Line Set Cover Kit

For installations where the exterior refrigerant piping is visible, an optional line set cover kit may be installed to improve appearance and provide additional protection.

A line set cover kit encloses the refrigerant piping and associated lines, helping protect them from:

- Sun exposure (UV)
- Rain and moisture
- Dirt and debris
- General weather-related wear

Line set cover kits are available in various sizes to accommodate different installation layouts. Select a cover kit that properly fits the installed line set and follow the cover manufacturer's installation instructions. **The line set cover kit is optional and is not required for system operation.**

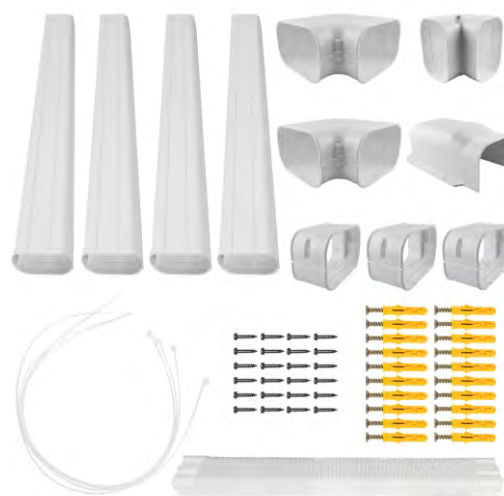


Figure 9.3B – Optional Exterior Line Set Cover Kit Components

9.4 Installation Completion

Once the system test run has passed and all connections have been verified:

Step 1: Ensure all panels, covers, and fasteners on the indoor and outdoor units are securely installed.

Step 2: Confirm that refrigerant piping, insulation, and any optional line set covers are properly secured.

Step 3: Verify that the condensate drain is routed correctly and draining freely.

Step 4: Clean the installation area and remove all tools, packaging, and debris.

Step 5: Review basic system operation, including:

- Power ON/OFF
- Mode selection (Cool / Heat / Fan / Dry, if applicable)
- Temperature adjustment
- Remote control operation

The system is now ready for normal operation.

10. Operational Instructions

10.1 Airflow & Operating Principle

Air drawn in by the indoor fan enters through the front grille and passes through the air filter. The filtered air is then cooled, dehumidified, or heated as it flows across the heat exchanger before being discharged back into the room.

Airflow direction is controlled by motorized horizontal flaps for up-and-down movement. Left-to-right airflow can be adjusted manually using the side deflectors. On some models, vertical airflow adjustment may also be motor-driven.

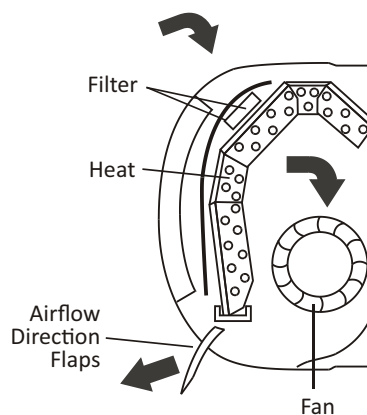
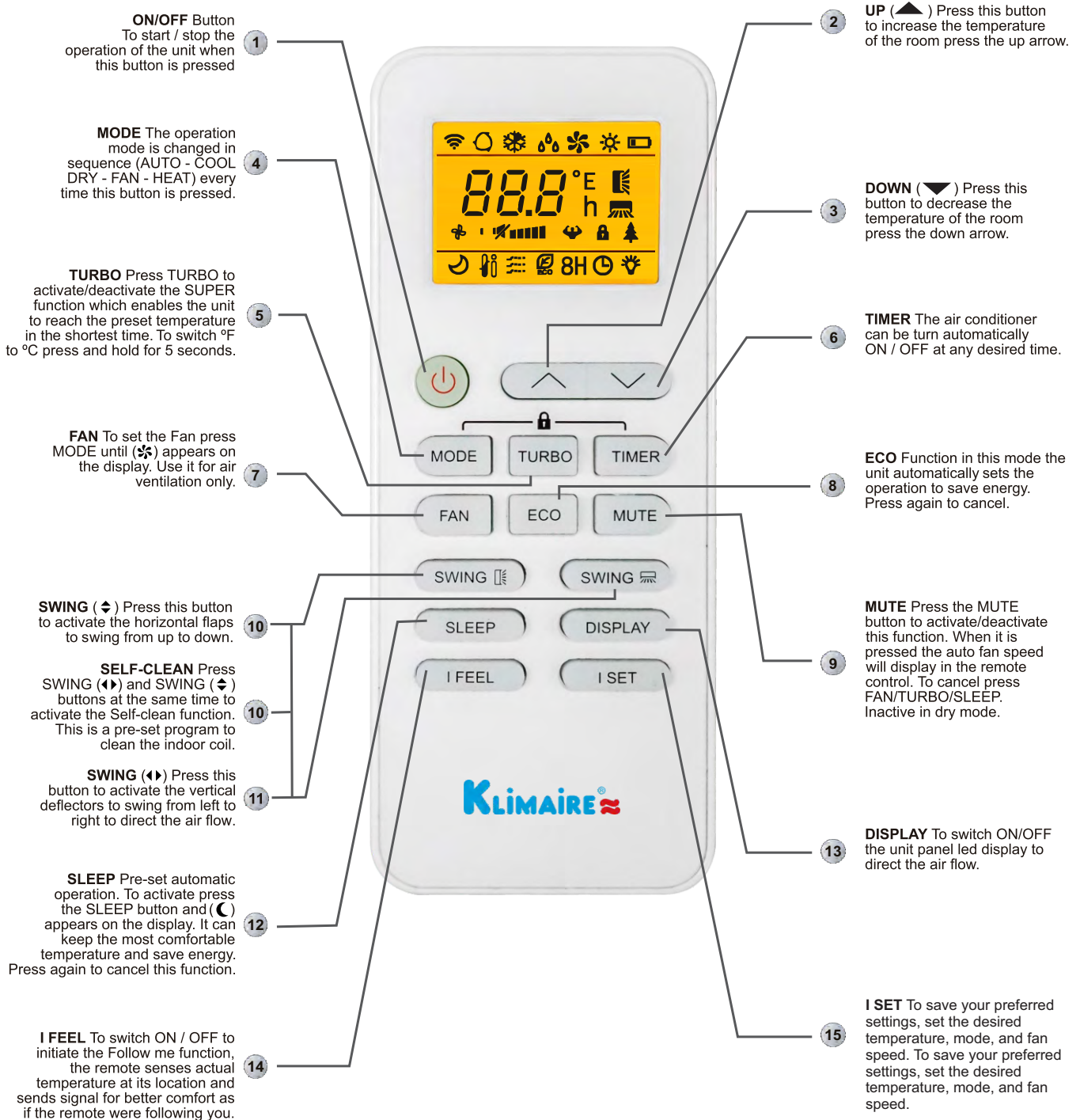


Figure 10.1- Indoor Unit Airflow & Operating Principle

10. Operational Instructions

10.2 Remote Control Button Functions



Remote Model N°: 22013-004238

⚠ The display and some functions of the remote control may vary according to the model.

⚠ The shape and position of buttons and indicators may vary according to the model, but their function is the same.

⚠ The unit confirms the correct reception of each button with a beep.

⚠ The display and some functions of the remote control may vary according to the model.

10. Operational Instructions

10.3 - Operating Temperature Ranges

NOTICE

Operate the system only within the specified temperature ranges shown below.
If the ambient temperature goes beyond these limits, the unit's built-in protection features may automatically stop operation to prevent damage and maintain reliable performance.

Operating Temperature Range

Operating Mode		Heating	Cooling	Dry
Room Temperature F/°C	9 - 24 K	32~86 (<=30)	62~89 (>=17)	62~89 (>=17)
	36 K	<=86 (<=30)	>=62 (>=17)	>=62 (>=17)
Ambient Outdoor Temperature F/°C	9 - 24 K	-13~86 (-25~30)	5~131 (-15~55)	5~131 (-15~55)
	36 K	-4~86 (-20~30)	5~122 (-15~50)	5~122 (-15~50)

Note: The system automatically restarts after a 3-minute delay when powered on, restarted, or when the operating mode is changed. Dry Mode is intended for dehumidification only and cannot be used for heating.

10. Operational Instructions

10.4 Emergency Manual Button and Auto-Restart Function.

The emergency button is located under the front panel on the control box cover of the indoor unit.

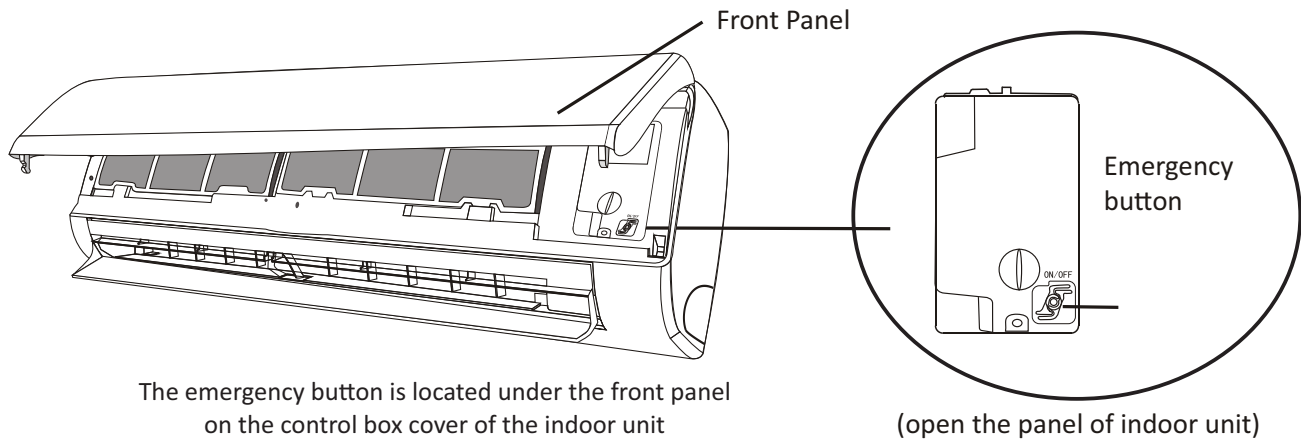


Figure 10.4– Emergency Manual Button Location and Auto-Restart Function

Emergency Manual Button

If the remote controller fails to operate the system, follow these steps:

Step 1: Lift the front panel of the indoor unit to access the emergency button.

Step 2: Press the button **once** to start the unit in **Cooling mode**.

Step 3: Press the button **again within 3 seconds** to switch to **Heating mode** (for heat pump models only).

Step 4: Press the button a **third time within 5 seconds** to **turn off** the unit.

Auto-Restart Function

This unit is equipped with an **Auto-Restart Function**.

In the event of a **power interruption**, the system will automatically resume operation using the previous settings - including mode, temperature, and fan speed - once power is restored.

11. Maintenance

WARNING

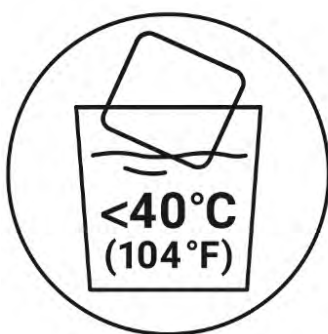
- Before cleaning, **turn off the unit** and **disconnect the power supply** for at least 5 minutes.
- Never wash the air conditioner directly with water.
- Do **not** use volatile liquids (e.g., thinner, gasoline, or strong solvents). Use only a **soft, dry cloth** or a **cloth dipped in neutral detergent** to clean the unit.
- Clean the air filter screen regularly to prevent dust accumulation, which can reduce performance.
- In dusty environments, increase the cleaning frequency as needed.
- After removing the filter, avoid touching the fins on the indoor unit to prevent injury or damage.

11.1 Clean the Unit

Steps:

1. Use a soft cloth moistened with water below **40 °C (104 °F)**.
2. Wring it dry and gently wipe the surface of the unit.
3. Dry with a clean, soft cloth.

Tip: Wipe the surface frequently to keep the air conditioner clean and maintain a good appearance.



Moisten Cloth



Wring Cloth



Wipe Surface

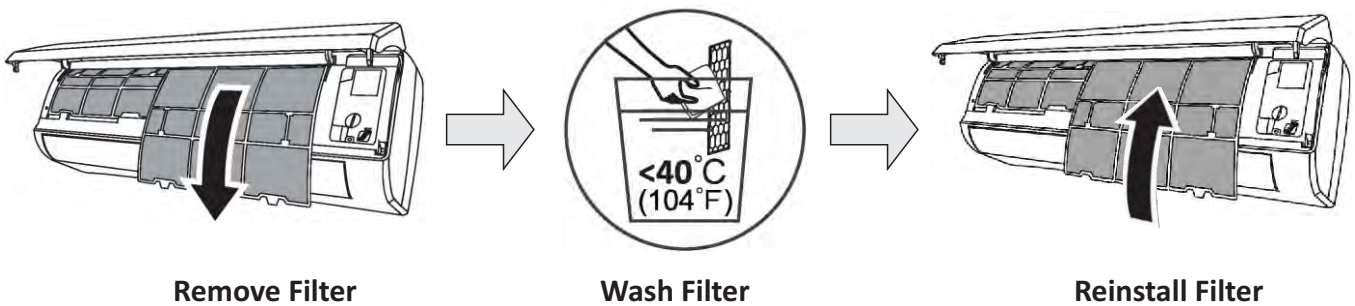
11. Maintenance

11.2 Clean the Filter

Steps:

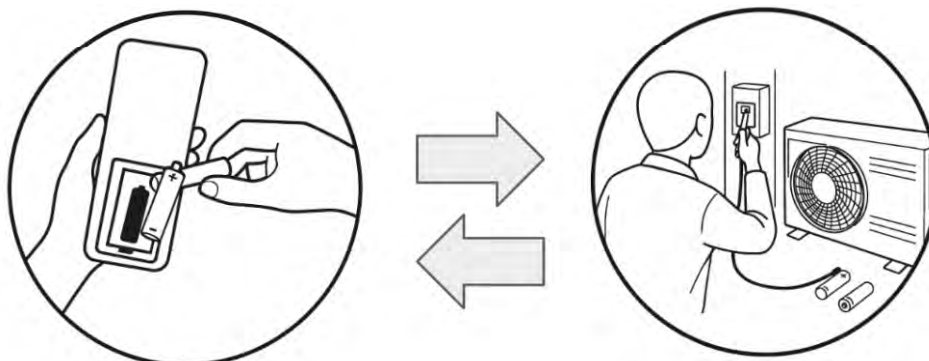
1. Remove the filter from the indoor unit.
2. Wash with **mild soapy water** below **40 °C (104 °F)**.
3. Rinse thoroughly and air dry completely in the shade.
4. Reinstall the filter in the opposite direction of removal.

Tip: Clean the filter regularly to ensure healthy and efficient operation.



11.3 Service and Maintenance

- When the air conditioner will not be used for an extended time:
 1. Remove the batteries from the remote control.
 2. Disconnect the power supply to the unit.
- Before restarting after long-term shutdown:
 1. Clean the unit and air filter.
 2. Check that no obstructions are present at the air inlets or outlets of both indoor and outdoor units.
 3. Ensure the drain pipe is clear and unobstructed.
 4. Reinstall the remote control batteries and confirm power is on.



12. Troubleshooting

12.1 Common Issues & Possible Causes

Table 12-1. Common Issues and Possible Causes

MALFUNCTION	POSSIBLE CAUSES
The appliance does not operate	Power failure or plug pulled out.
	Damaged indoor/outdoor unit fan motor.
	Faulty compressor or thermomagnetic circuit breaker.
	Loose connections or plug pulled out.
	Voltage out of range.
	Active TIMER ON function.
	Faulty electronic control board.
Strange odor	Dirty air filter.
Noise of running water	Backflow of liquid in the refrigerant circulation.
Fine mist comes from the air outlet	Occurs when indoor air becomes cold, especially in COOLING or DRY modes.
Strange noise can be heard	Normal expansion/contraction noise of the panel due to temperature changes.
Insufficient airflow (either hot or cold)	Unsuitable temperature setting.
	Dirty air filter.
	Fan speed set to minimum.
	Air inlet/outlet blocked.
	No refrigerant.
Remote control does not respond	Remote too far from unit.
	Batteries depleted.
	Obstacles between remote and receiver.
Display is off	Active DISPLAY function.
	Power failure.
Immediately turn off power if:	Spraying water or objects enter the unit.
	Faulty control board.
	Overheated cables or plugs.
	Strong burning smell.

12. Troubleshooting

12.2 Error Codes on Display

WARNING

- In case of malfunction, the indoor unit display will show an **error code** to help identify the issue.
- If an error appears, **do not attempt to operate the system** until the problem has been **diagnosed and resolved** by a qualified technician.
- Continuing to run the unit while an error code is active may result in **irreversible damage** to the equipment.

Table 12-2. Error Codes on Display

Code	KIWQ-KOIQ Description of the trouble	Remark
E0	IDU & ODU Communication failure	The IDU & ODU wiring connection correct?
E1	IDU Room Temperature sensor failure. (IDU RT failure)	IDU sensor and PCB.
E2	IDU Coil temperature sensor failure. (IDU IPT failure)	IDU sensor and PCB.
E3	ODU Coil temperature sensor failure. (OPT)	ODU coil sensor and ODU PCB
E4	AC Cooling system abnormal	Gas leakage? 2-way or 3-way valve blocked etc.
E5	IDU/ODU mismatched failure (specially performance test on the production line)	/
E6	IDUPG Fan motor/DC fan motor works abnormal (IDU failure)	Fan motor, fan blade and PCB.
E7	ODU Ambient Temperature sensor failure	ODU ambient sensor and ODU PCB.
E8	ODU Discharge Temperature sensor failure.	ODU discharge sensor and ODU PCB.
E9	IPM/Compressor driving control abnormal.	ODU PCB, compressor, etc.
EA	ODU Current Test circuit failure	ODU PCB broken?
Eb	The Communication abnormal of Main PCB and Display board (IDU failure)	Display board and main PCB.
EE	ODU EEPROM failure.	1. ODU PCB broken? 2. Try to re-power on AC unit.
EF	ODU DC fan motor failure.	Fan motor, ODU PCB.
EU	ODU Voltage test circuit abnormal.	ODU PCB.
P0	IPM module protection.	ODU PCB
P1	Over/under voltage protection.	1. ODU PCB broken? 2. Power supply abnormal?
P2	Over current protection.	1. ODU PCB broken? 2. Power supply abnormal?
P4	ODU Discharge pipe Over temperature protection.	Please check the troubleshooting for detail.
P5	Sub-cooling protection on Cooling mode.	Please check the troubleshooting for detail.
P6	Over heating protection on Cooling mode.	Please check the troubleshooting for detail.
P7	Over heating protection on Heating mode.	Please check the troubleshooting for detail.
P8	Outdoor Over temperature/Under temperature protection.	Please check the troubleshooting for detail.

12. Troubleshooting

P9	Compressor driving protection (Load abnormal).	Please check the troubleshooting for detail.
PA	Communication failure for TOP flow unit/ Preset mode conflict. (IDU failure)	Please check the troubleshooting for detail.
F0	Infrared Customer feeling test sensor failure. (IDU failure)	Querying by press remote controller
F1	Electric Power test module failure. (IDU failure)	Querying by press remote controller
F2	Discharge temperature sensor failure PROTECTION.	Please check the troubleshooting for detail.
F3	ODU coil temperature failure PROTECTION.	Please check the troubleshooting for detail.
F4	Cooling system gas flow abnormal PROTECTION.	Please check the troubleshooting for detail.
F5	PFC PROTECTION	Please check the troubleshooting for detail.
F6	The Compressor lack of phase/Anti-phase PROTECTION.	Please check the troubleshooting for detail.
F7	IPM Module temperature PROTECTION	Please check the troubleshooting for detail.
F8	4-Way Valve reversing abnormal.	Please check the troubleshooting for detail.
F9	The module temperature test circuit failure.	ODU PCB
FA	The compressor Phase-current test circuit failure.	ODU PCB
Fb	Limiting/Reducing frequency for Overload protection on Cooling/Heating mode.	Querying by press remote controller
FC	Limiting/Reducing frequency for High power consumption protection.	Querying by press remote controller
FE	Limiting/Reducing frequency for Module current protection (phase current of compressor).	Querying by press remote controller
FF	Limiting/Reducing frequency for Module temperature protection.	Querying by press remote controller
FH	Limiting/Reducing frequency for Compressor driving protection.	Querying by press remote controller
FP	Limiting/Reducing frequency for anti-condensation protection.	Querying by press remote controller
FU	Limiting/Reducing frequency for anti-frost protection.	Querying by press remote controller
Fj	Limiting/Reducing frequency for Discharge over temperature protection.	Querying by press remote controller
Fn	Limiting/Reducing frequency for ODU AC Current protection.	Querying by press remote controller
Fy	Gas leakage protection	Please check the troubleshooting for detail.
bf	TVOC sensor failure (IDU failure, optional)	Querying by press remote controller
bc	PM2.5 sensor failure (IDU failure, optional)	Querying by press remote controller
bj	Humidity sensor failure. (IDU failure)	Querying by press remote controller
Fd	Refrigerant detector failure	Refrigerant detector failure or PCB is not receiving a response from the refrigerant detector
Hd	Refrigerant leakage protection	The detector detects refrigerant leakage

Note: Remote controller FAILURE CODE Querying function. As shown in the failure codes, some of the codes (Fb~bj) need to press remote control for inspection. While unit on operation, press the ECO button 8 times with 8 seconds, the buzzer BIBI 2 times, you can inspect the special failure code as Fb ~Fn, bj etc.

13. Disposal Guidelines

Disposal Guidelines

This appliance contains refrigerant, oil, and other potentially hazardous materials. When disposing the appliance, local and federal regulations require special handling, collection, and treatment. Do NOT dispose of this product as household waste or unsorted municipal waste.

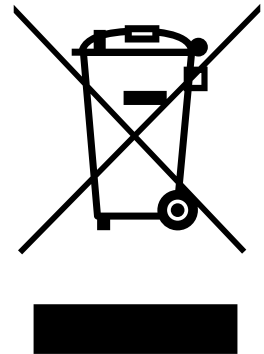
WARNING

All refrigerant and oil must be properly recovered prior to disposal in accordance with EPA and local regulations. Refrigerant recovery must be performed by a licensed HVAC technician.

Proper Disposal Methods

When disposing the appliance, follow one of the approved options:

- Dispose of the appliance at a designated municipal electronic waste collection facility.
- When purchasing a new appliance, the retailer may take back the old unit free of charge (varies by region).
- The manufacturer or distributor may accept the old unit for proper disposal.
- Sell or transfer the appliance to a certified scrap-metal or recycling center authorized to handle refrigerant-bearing equipment.



NOTICE

Improper disposal of this appliance -such as abandoning it outdoors, dumping it in forests, or placing it in general waste bins- poses serious environmental and health risks.

Hazardous refrigerants and oils may:

- Contaminate groundwater,
- Enter the food chain,
- Or release harmful gases into the atmosphere.

Always follow proper disposal protocols.

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