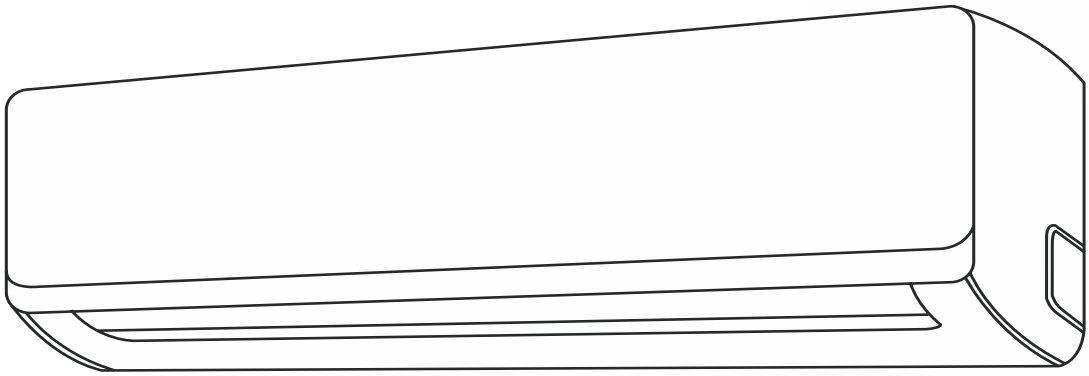
KIWE-KOIE
SERIES

DUCTLESS MINI SPLIT SYSTEM
AIR CONDITIONER / HEAT PUMP

Owner's Manual & Installation Manual

17 SEER2 Inverter Series
For 12,000-36,000 BTU/h Systems



Models Covered:

Indoor Unit	Outdoor Unit
KIWE12H1-31X	KOIE12H1-31X
KIWE12H2-31X	KOIE12H2-31X
KIWE18H2-31X	KOIE18H2-31X
KIWE24H2-31X	KOIE24H2-31X
KIWE36H2-31X	KOIE36H2-31X

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 ME!

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

M1WE2501

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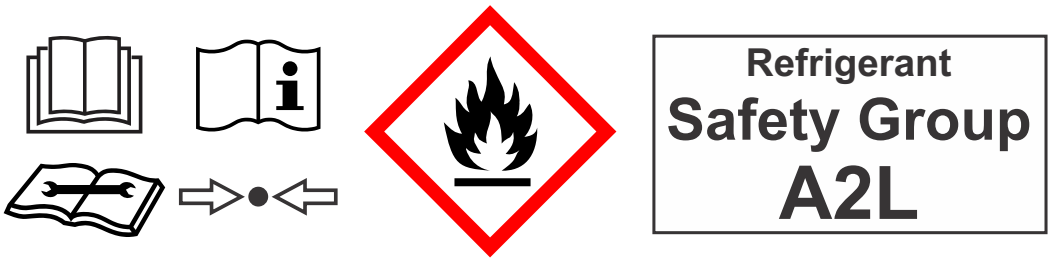


⚠ CAUTION

Risk of fire
This unit a mildy flamable (A2L) refrigerant. See A2L refrigerant safety considerations to ensure safe installetion, 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.

1. Safety Precautions

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.**

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

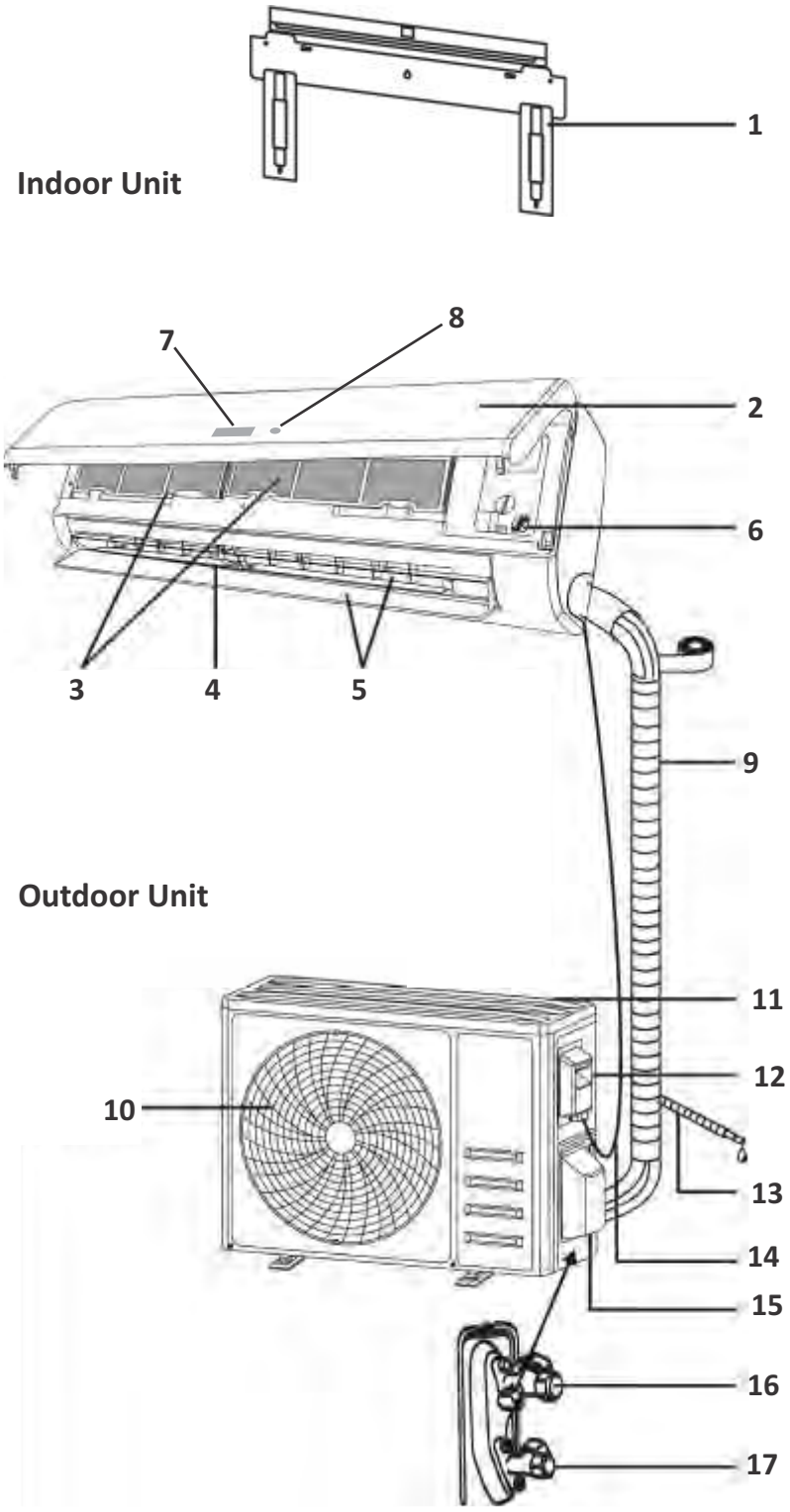
⚠ CAUTION

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

2. System Components & Installation Illustration



With the protective cover removed

Description

No.	Part Name
1	Wall Mounting Plate
2	Decorative Front Pane
3	Air Filters
4	Air Outlet
5	Air Deflector and Flap
6	Emergency Button
7	LED Display
8	Controller Signal Receiver

Description

No.	Part Name
9	Refrigerant Pipe
10	Air Outlet Grille
11	Air Inlet
12	Power Cable Cover
13	Drain Pipe
14	Interconnecting Wire
15	Valve Protection Cover
16	Gas Valve
17	Liquid Valve

Note: The figure shown may differ from the actual product. Refer to the actual unit as the standard.

3. Included Accessories

Accessories and Components

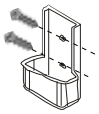
The air conditioning system comes with the following accessories. Use all of the installation parts and accessories to install the air conditioner. Improper installation may cause the equipment to fail, or result in water leakage, electrical shock, or fire.

1x 16 ft. Communication Cable

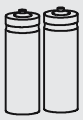
1x 16 ft. Insulated Copper Pipe

1x Remote Controller

1x Remote Controller Holder



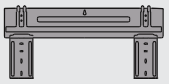
2x Remote Controller Batteries



1x Installation and Owner's Manual

1x Warranty Card

1x Indoor Unit Mounting Plate



1x Set of Mounting Plate Screws

1x Plastic Drain Joint Plug for the Outdoor Unit (Use only for wall-mounted condensers)

1x Condensate Drain Hose

1x Wrapping Tape

1x Wall-Hole Packing Sealant

1x Wall Sleeve

1x Allen Wrench for Opening Service Valves

Connecting Pipe Diameters

BTU Capacity	12000	18000	24000	36000
Gas Line	3/8"	3/8"	1/2"	5/8"
Liquid Line	1/4"	1/4"	1/4"	1/4"

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

4. Service Safety Precautions for A2L Refrigerant (R32)

Safety Information for A2L Refrigerants

Because this unit contains **R32 (A2L) refrigerant**, it must be installed, operated, and serviced with extreme care. R32 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 **R32 (A2L),** a **mildly flammable refrigerant.** Improper handling can cause **fire, explosion, injury, or electric shock.**
- The appliance must be installed, operated, and stored **in a room free from continuously operating open flames or ignition sources,** such as gas stoves, heaters, or electrical equipment.
- **Never use open flames or halide torches** to detect leaks. Avoid smoking or producing sparks near refrigerant piping during servicing.
- **Disconnect all power supplies** before opening service panels or performing electrical or refrigerant work.
- Always keep a **dry-powder or CO_2 fire extinguisher** accessible near the work area.
- **Do not pierce, weld, burn, or heat** sealed refrigerant 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 atmosphere; this violates federal law (EPA 608).
- Be aware that **R32 may be odorless—**leaks might not be immediately detectable.
- Only **qualified technicians** certified for handling **flammable refrigerants (A2L type)** may install, service, or decommission this appliance.
- Clearly **label all equipment and cylinders** to indicate they contain flammable refrigerant.
- **R32 is heavier than air;** it can accumulate in low areas, creating suffocation or ignition hazards.
- If a leak is suspected, **turn off power, extinguish flames, evacuate personnel,** and **ventilate the area immediately.**

4. Service Safety Precautions for A2L Refrigerant (R32)

CAUTION

- Use only **A2L-rated** tools, detectors, hoses, and recovery machines.
- **Purge with OFN (Oxygen-Free Nitrogen)** during brazing or soldering to prevent oxidation and reduce fire risk.
- Confirm **earth-bond continuity** before re-energizing the system.
- **Discharge all capacitors** before touching electrical circuits.
- Replace – never repair – sealed or intrinsically safe components.
- Maintain proper breaker configuration (115 V = single-pole, 230 V = double-pole).
- **Ventilate continuously** before, during, and after refrigerant recovery or charging.
- **Never overfill cylinders** (≤ 80 % liquid volume) and never exceed their rated pressure.
- Ensure cylinders and equipment are dry and kept away from heat sources.
- **Never use compressed air or oxygen** for pressure testing – use OFN only.
- Verify that all tools are intrinsically safe and non-sparking.
- Maintain adequate airflow throughout the work process.

INFORMATION FOR SERVICING (R32)

1. **Check Information in This Manual**
   Verify installation dimensions, clearances, and ventilation requirements.
   Confirm the minimum room area (≥ 4 m^2 or per specification).
2. **Installation and Room Size Requirements**
   Appliance must be installed, operated, and stored in a room meeting the minimum floor-area requirement.
   Do not install in unventilated or below-grade spaces smaller than that area.
3. **Pipework Requirements**
   Keep refrigerant lines short; protect from impact, vibration, and sharp edges.
4. **Compliance with Regulations**
   Follow all national gas and electrical codes (ASHRAE 15 & 34, NFPA 70, IMC, EPA 608).
   Venting is prohibited.
5. **Accessibility for Maintenance**
   Service valves and connections must remain reachable after installation.
6. **Follow Manufacturer Instructions**
   Perform all servicing exactly as directed in this manual.
7. **Qualified Personnel Only**
   Work must be done by trained technicians holding current A2L certification.
8. **No Unauthorized Work**
   Do not modify the system or bypass any safety devices.
9. **Ventilation Openings**
   Ensure openings remain clear at all times.

4. Service Safety Precautions for A2L Refrigerant (R32)

10. General Work Area
- Instruct all personnel about flammable-gas hazards.
- Work in open or mechanically ventilated spaces.
- Section off the area and display **“No Smoking / Flammable Gas”** signs.
- Keep ignition sources away and remove combustibles.

11. Work Procedure
- Follow a controlled method to minimize gas release.
- Confirm electrical isolation and system de-pressurization before starting.
- Use only intrinsically safe tools and equipment.

12. Area Inspection
- Verify no flammable vapors are present.
- Check ventilation fans and safety barriers.
- Maintain clear access and posted warnings.

13. Checking for Presence of Refrigerant
- Use a calibrated A2L detector (≤ 25 % LFL sensitivity).
- Detectors must be non-sparking and intrinsically safe.
- If a leak is found: turn off power, remove ignition sources, ventilate, locate the leak with approved method.

14. Presence of Fire Extinguisher
- Keep a dry-powder or CO_2 extinguisher within reach.
- Confirm it is charged and functional before work.

15. Elimination of Ignition Sources
- Extinguish all flames and smoking materials.
- Disconnect heaters and electrical tools.
- Prevent static buildup on clothing or tools.

16. Ventilated Area
- Operate mechanical ventilation or open windows before servicing.
- Maintain air exchange to keep below LFL.
- Vent refrigerant to the outdoors only.

17. Inspection of Refrigeration Equipment
- Replace damaged components with OEM parts.
- Confirm ventilation ducts are clear and labels intact.
- Inspect pipe insulation and supports.

18. Inspection of Electrical Devices
- Replace defective components with approved parts.
- **Initial Safety Checks:**
    1. Discharge all capacitors.
    2. Ensure no live wiring is exposed.
    3. Verify earth continuity.
- Document any temporary repairs and notify owner.

19. Repairs to Sealed Components
- Replace sealed electrical components; do not open or repair.

20. Repairs to Intrinsically Safe Components
- Replace only with identical rated models; do not modify circuits.

21. Electrical Wiring
- Check for wear, corrosion, or heat damage.
- Avoid contact with moving parts or sharp edges.
- Secure routing with non-conductive clamps.

4. Service Safety Precautions for A2L Refrigerant (R32)

22. Detection of Flammable Refrigerants

- **Never use halide torches** or open-flame detectors.
- Use A2L-rated electronic detectors calibrated ≤ 25 % LFL.

23. Leak Detection Methods

- Use electronic detectors or non-chlorinated soap solutions.
- Avoid chlorine-based cleaners that corrode copper.
- If leak found: recover refrigerant → purge with OFN → repair → purge again before charging.

24. Removal and Evacuation

1. Recover refrigerant into approved A2L cylinders.
2. Purge with OFN.
3. Evacuate system to vacuum.
4. Purge again with OFN.
5. Cut or braze only after system is verified empty.
6. Repeat purge/evacuation if needed.
7. Vent vacuum pump outlet outdoors, away from ignition sources.

25. Decommissioning

Before starting, the technician must be qualified and familiar with the equipment.

1. **Preparation**
    1. Confirm lifting and handling gear is available.
    2. Wear all required PPE.
    3. Verify recovery cylinders and tools meet A2L standards.
    4. Ensure a qualified supervisor is present.
2. **System Isolation**
    1. Electrically isolate the unit and lock out power.
    2. Ventilate the area; remove ignition sources.
    3. Close all service valves before refrigerant removal.
3. **Refrigerant Removal**
    1. Perform a complete pump-down.
    2. If vacuum removal is not possible, use a manifold and recovery machine.
    3. Place recovery cylinders on scales during filling.
    4. Do not exceed 80 % liquid fill volume.
    5. Do not exceed cylinder working pressure.
    6. Close valves and seal after filling.
4. **Post-Recovery Handling**
    1. Store recovered refrigerant upright and secured.
    2. Do not reuse until reclaimed and purified.
    3. Label cylinders with refrigerant type, net mass, and date.
5. **Labeling and Documentation**
    1. Mark unit "**Decommissioned – Refrigerant Removed (A2L)**".
    2. Include date, technician name, and certification number.
    3. Record refrigerant amount recovered and cylinder ID in service log.

26. Labeling

- Apply permanent labels showing refrigerant type (R32 A2L) and flammable symbol.
- Replace any missing or illegible labels.
- Mark recovery cylinders with gas type, weight, and date.
- Maintain visible labels throughout equipment life.

4. Service Safety Precautions for A2L Refrigerant (R32)

27. Recovery

- Use only A2L-approved cylinders and equipment.
- Ensure valves and hoses are tight and leak-free.
- Never mix different refrigerants.
- Evacuate cylinders before reuse.
- When removing compressor oil, evacuate and heat electrically – no open flames.
- Dispose of oil and filters in accordance with local regulations.

NOTICE

- All service and installation must comply with: **ASHRAE 15, ASHRAE 34, NFPA 70 (NEC), IMC, and EPA 608**.
- Only qualified technicians may perform R32 servicing.
- For charge limits and room-area requirements, refer to **Section 5 – Installation Safety Guidelines** and **Tables GG.1 & GG.2**.
- Confirm vacuum integrity, electrical safety, and leak-free operation before re-energizing.

5. Installation Safety Guidelines (R32 / A2L)

INSTRUCTIONS FOR SERVICING (R32)

Important Considerations

1. Qualified personnel must install and service the air conditioner. Installers must comply with all instructions set forth herein and all local regulations.
2. Use caution when handling combustible refrigerants. Careless handling can cause serious injury or property damage.
3. Conduct a leak test after completing installation to ensure system integrity.
4. Conduct safety inspections before performing maintenance or repairs on air conditioners using combustible refrigerants to minimize fire risk.
5. Operate the system under controlled conditions to reduce the risk of combustible gas or vapor hazards.
6. The specifications in Tables **GG.1** and **GG.2** outline the total weight of refrigerant charge and minimum room area requirements for air conditioners.

Minimum Floor Area Requirement

The required minimum floor area (**A**min) for an appliance with a refrigerant charge **M (kg)** must be calculated as follows:

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

However, Amin must not be less than:

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

with SF = 0.5

Refer to GG.4DV for specific values and factors.

Where Category = R32, LFL = 0.306 kg/m³

The Maximum Charge and the Required Minimum Floor Area:

The maximum charge is determined by the following equations:

$m_1 = (6\ m^3) \times LFL$, $m_2 = (52\ m^3) \times LFL$, $m_3 = (260\ m^3) \times LFL$

Where LFL is the lower flammable limit in kg/m³. (For R32, LFL = 0.306 kg/m³.)

For appliances with charge amount $m_1 < M \leq m_2$:

- The maximum refrigerant charge in a room must comply with:
  $Mmax = 2.5 \times (LFL)^{(5/4)} \times h_o \times A^{(1/2)}$
  This value must not exceed: $Mmax = SF \times LFL \times h_o \times A$ (GG.3DV).
- The required minimum floor area Amin to install an appliance with charge M (kg):
  $Amin = [M / (2.5 \times (LFL)^{(5/4)} \times h_o)]^2$
  not less than $Amin = M / (SF \times LFL \times h_o)$ (GG.4DV).
  Use SF = 0.5 unless otherwise specified.
  h_o = installed height (m); A = room floor area (m²).

5. Installation Safety Guidelines (R32 / A2L)

Table GG.1 - Maximum Charge (kg)

h_0(m)	Floor Area (m²)	Charge Limit (kg)
(Installed Height) 1.8 (6'0")	4 (43 ft²)	1.10 (38.8 oz)
	7 (75 ft²)	1.93 (68 oz)
	10 (107 ft²)	2.75 (97 oz)
	15 (161 ft²)	3.97 (140 oz)
	20 (215 ft²)	4.58 (161.5 oz)
	30 (322 ft²)	5.61 (197.8 oz)
	50 (538 ft²)	7.24 (255.3 oz)
(Installed Height) 2.5 (8'2")	4 (43 ft²)	1.53 (38.8 oz)
	7 (75 ft²)	2.68 (68 oz)
	10 (107 ft²)	3.83 (97 oz)
	15 (161 ft²)	5.51 (140 oz)
	20 (215 ft²)	6.36 (161.5 oz)
	30 (322 ft²)	7.79 (197.8 oz)
	50 (538 ft²)	10.06 (255.3 oz)
(Installed Height) 2.8 (9'2")	4 (43 ft²)	1.71 (38.8 oz)
	7 (75 ft²)	3.00 (68 oz)
	10 (107 ft²)	4.28 (97 oz)
	15 (161 ft²)	6.17 (140 oz)
	20 (215 ft²)	7.12 (161.5 oz)
	30 (322 ft²)	8.73 (197.8 oz)
	50 (538 ft²)	11.27 (255.3 oz)

Where category = R32, LFL = 0.306 kg/m³

Table GG.2 - Minimum Room Area (m²)

h_0(m)	Charge Limit (kg)	Min. Room Area (m²)
(Installed Height) 1.8 (6'0")	0.5 (17.6 oz)	1.82 (20 ft²)
	0.67 (23.6 oz)	2.43 (27 ft²)
	1 (35.2 oz)	3.63 (39 ft²)
	1.04 (36.6 oz)	3.78 (41 ft²)
	1.59 (56 oz)	5.77 (63 ft²)
	1.8 (63.4 oz)	6.54 (70 ft²)
	2 (70.5 oz)	7.26 (78 ft²)
(Installed Height) 2.5 (8'2")	0.5 (17.6 oz)	1.31 (14 ft²)
	0.67 (23.6 oz)	1.75 (18 ft²)
	1 (35.2 oz)	2.61 (28 ft²)
	1.04 (36.6 oz)	2.72 (29 ft²)
	1.59 (56 oz)	4.16 (44 ft²)
	1.8 (63.4 oz)	4.71 (50 ft²)
	2 (70.5 oz)	5.23 (56 ft²)
(Installed Height) 2.8 (9'2")	0.5 (17.6 oz)	1.17 (12 ft²)
	0.67 (23.6 oz)	1.56 (16 ft²)
	1 (35.2 oz)	2.33 (25 ft²)
	1.04 (36.6 oz)	2.43 (26 ft²)
	1.59 (56 oz)	3.71 (40 ft²)
	1.8 (63.4 oz)	4.20 (45 ft²)
	2 (70.5 oz)	4.67 (50 ft²)

The calculated minimum allowable room area for all capacities is therefore as follows:

Model (BTU)	Minimum Allowable Room Area (Assumes 25 ft. lineset and 6 ft. install height)
12,000	20 ft² **(1.82 m²)**
18,000	27 ft² **(2.43 m²)**
24,000	41 ft² **(3.78 m²)**
36,000	63 ft² **(5.77 m²)**

Table GG.3DV - Minimum Room Area (m²)

The standard factory refrigerant charge amount as well as the maximum allowable charge are as follows:

Model (BTU)	R32 Refrigerant (Standard)	R32 Refrigerant (Max)
12,000	500 g / 1.1 lbs / (17.6 oz)	575 g / 1.27 lbs / (20.2 oz)
18,000	670 g / 1.48 lbs / (23.6 oz)	745 g / 1.64 lbs / (26.2 oz)
24,000	1040 g / 2.29 lbs / (36.6 oz)	1165 g / 2.57 lbs / (41 oz)
36,000	1590 g / 3.51 lbs / (56.1 oz)	1815 g / 4 lbs / (64 oz)

Table GG.4DV - Maximum Charge (g) [lbs]

CAUTION

Use the above figures when charging an empty system. The proceeding pages will also inform the reader in determining the additional refrigerant charging amounts for adjusting the factory charge when using non-standard piping length.

5. Installation Safety Guidelines (R32 / A2L)

Installation Safety Principles

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** designed for A2L (R32) refrigerants.
- Select an **appropriate installation location** meeting all safety distances.

Please note:

1. The installation site must be well-ventilated.
2. Avoid areas with open flames, welding, smoking, drying ovens, or heat sources above 538 °C (1000 °F).
3. Take anti-static precautions — wear proper clothing and gloves.
4. Choose a site where air inlets and outlets of both units are unobstructed and clear of combustible materials.
5. If the indoor unit leaks during installation, immediately shut the outdoor valve and ventilate the area for 15 minutes. Damaged products must be returned to the maintenance station — **do not weld or repair pipes on site.**
6. Ensure the indoor unit's inlet and outlet airflow is even and not blocked by walls or furniture.
7. Avoid installing near electrical outlets, switches, kitchen cabinets, beds, sofas, or valuable objects.

5. Installation Safety Guidelines (R32 / A2L)

Suggested Tools

Tool	Picture	Tool	Picture	Tool	Picture
Standard Wrench		Pipe Cutter		Vacuum Pump	
Adjustable/ Crescent Wrench		Screw drivers (Phillips & Flat blade)		Safety Glasses	
Torque Wrench		Manifold and Gauges		Anti-static Gloves	
Hex Keys or Allen Wrenches		Level		Refrigerant Scale	
Drill & Drill Bits		Flaring tool		Micron Gauge	
Hole Saw		Clamp on Amp Meter		Welding Gun	

All tools must be clean, dry, and approved for R32 (A2L) use.

6. Choosing an Installation Site

Before installation, confirm that the chosen indoor and outdoor unit locations meet Klimaire's clearance, safety, and structural requirements. Ensure proper airflow, drainage, service access, and compliance with local building and electrical codes. Obtain user approval before finalizing the installation site.

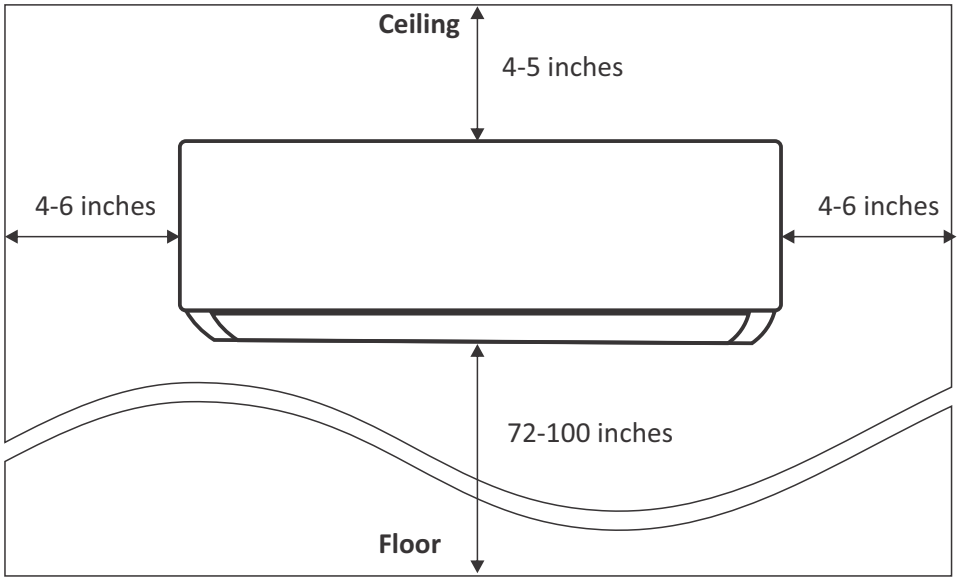
Indoor Unit

Select a site that allows for the following:

Airflow and Clearances

Installation meets minimum clearance dimensions shown in the diagram:

- Ceiling: 4-5 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, sulfide gas, or salt air.
- Unit is mounted out of reach of children.

Structural Conditions

- Mounting wall is strong, level, and capable of supporting at least four times the full weight and vibration of the unit.
- Ensure the wall surface is even and stable to prevent vibration noise.

Accessibility and Maintenance

- Condensate 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.

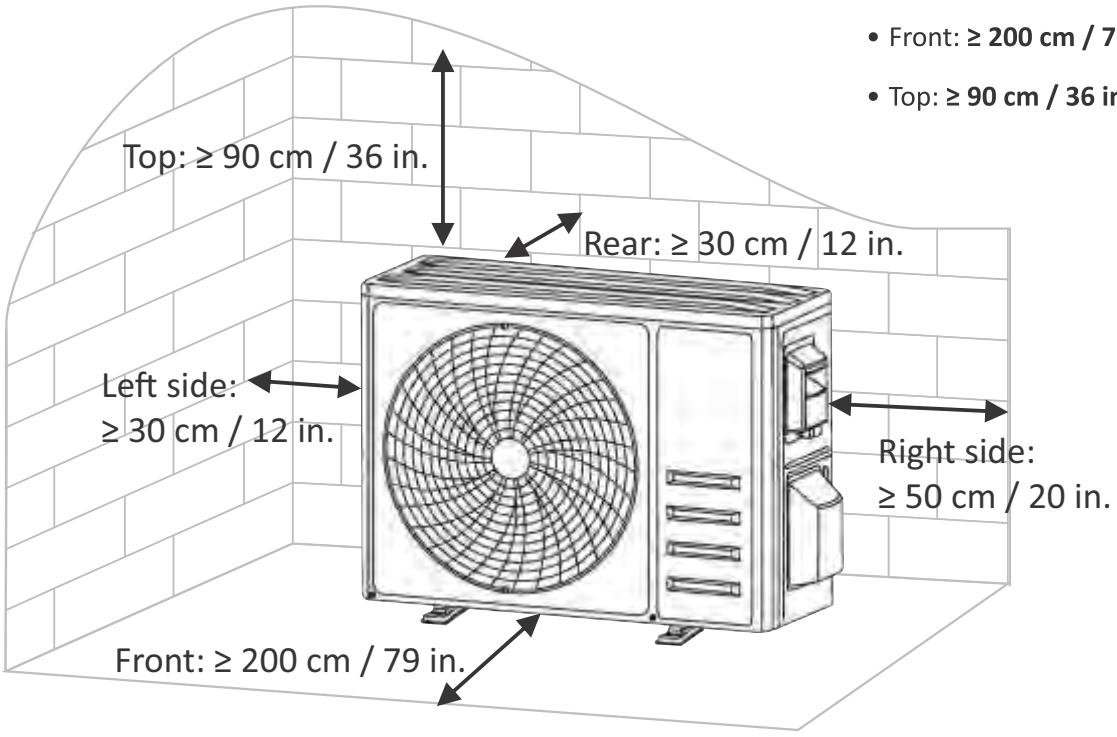
6. Choosing an Installation Site

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.

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 or rubber blankets under the unit to reduce noise and vibration.
- When wall-mounted, ensure the bracket is corrosion-resistant, securely anchored, and level.
- Maintain adequate ground clearance to prevent contact with rainwater, snow, or ice.

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.

6. Choosing an Installation Site

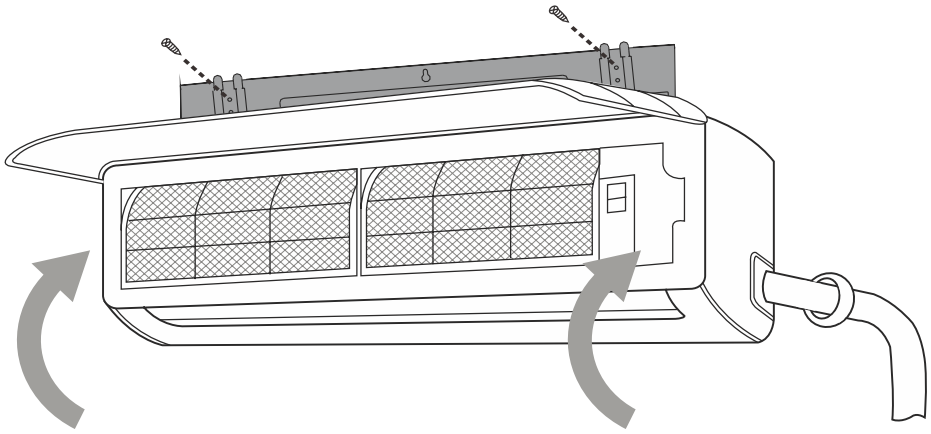
! CAUTION

Low Outdoor Temperature Installations

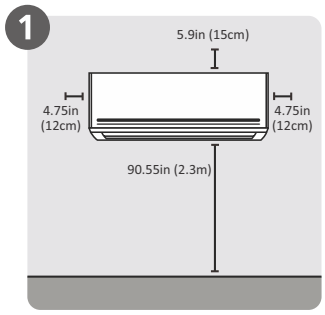
When the outdoor temperature is low, proper installation is essential for reliable system performance. ***Follow the recommendations below to prevent airflow restrictions or ice buildup around the outdoor unit:***

- 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.

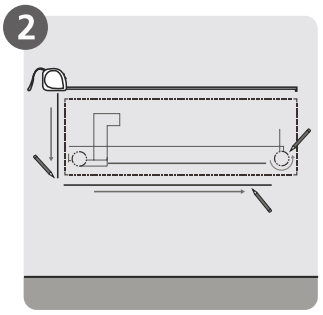
7. Indoor Unit Installation



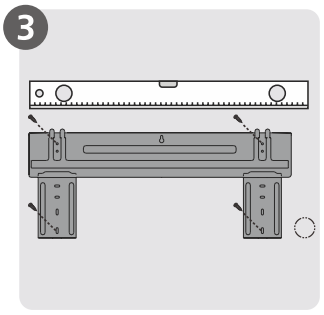
Installation Summary - Indoor Unit



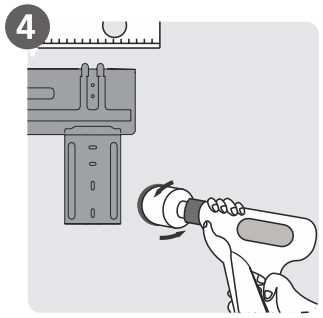
Select Installation Location



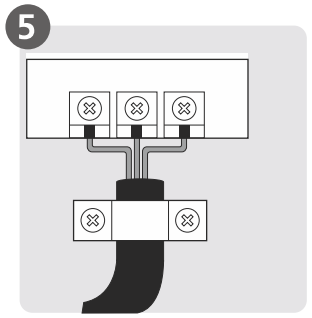
Determine Wall Hole Position



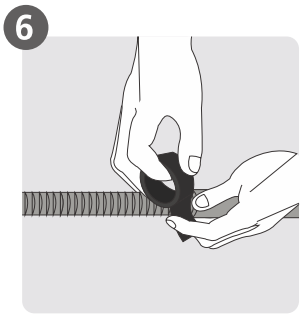
Attach Mounting Plate



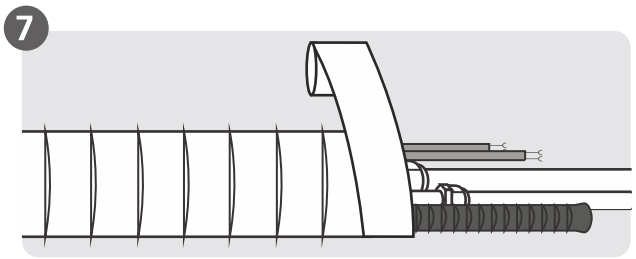
Drill Wall Hole for Piping



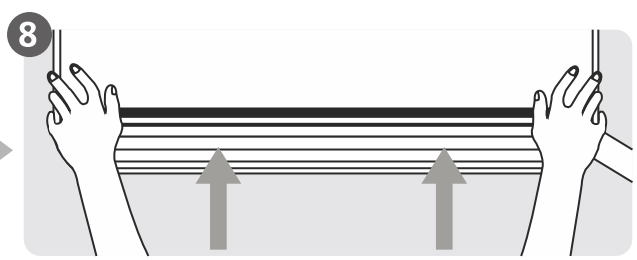
Prepare Electrical Cable Routing (Indoor Unit)



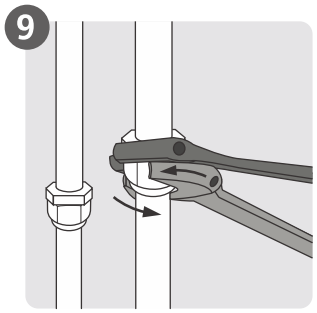
Connect Drain Hose



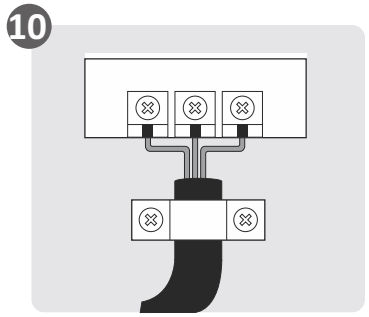
Prepare Refrigerant Piping (Indoor Unit)



Mount Indoor Unit



Connect Refrigerant Pipes



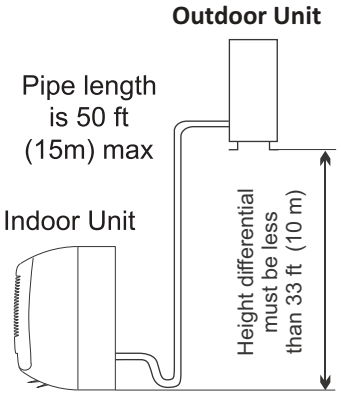
Complete Electrical Connections (Indoor Unit)

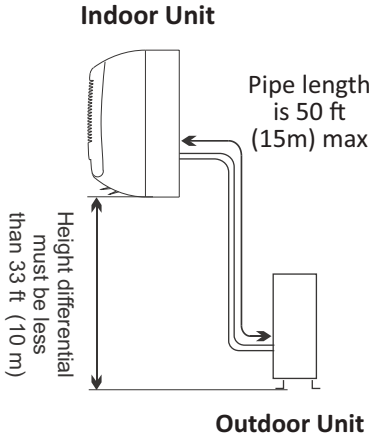
7. Indoor Unit Installation

Installation Diagram

Before beginning installation, review the maximum piping length and height difference allowed between the indoor and outdoor units.

Proper line routing and positioning are essential for efficient system performance and reliability.





For Systems of 12K and 18K BTU:

- Follow the given constraints in the figures to the left.

For Systems of 24K and 36K BTU:

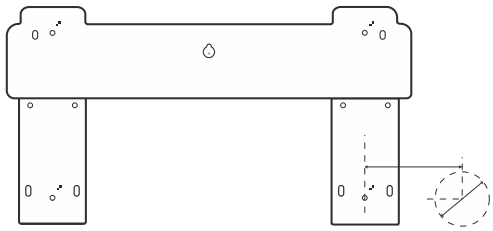
- The allowable height differential increases to 50 ft/15m (24K) and 65 ft/20m (36K)
- The allowable pipe length is 65 ft/20m (24K) and 100 ft/30.5m (36K)

Refer to Section 6 of this manual for the minimum clearances required for indoor and outdoor units. Make sure all clearances are met during installation.

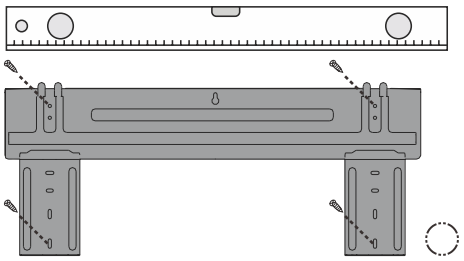
Step 1: Install Mounting Plate

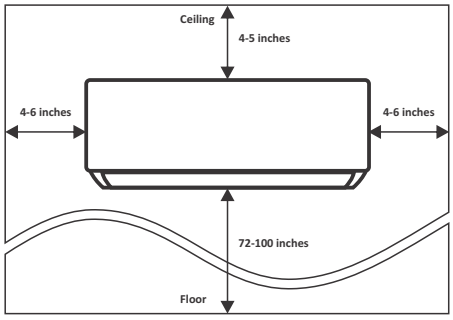
Instructions:

1. Detach and remove the mounting plate from the back of the indoor unit.
2. Confirm the installation height and clearance requirements as described in Choosing an Installation Site section 6 (72 -100 inches from floor and clearance from ceiling 4-5 inches).
3. Using a level, align the paper template on the wall so it is perfectly square both vertically and horizontally. Use the provided mounting paper template to mark the wall hole and screw positions.
4. Hold the mounting plate against the wall and use a level to ensure it is perfectly horizontally and vertically leveled.
5. Mark the screw hole positions on the wall according to the plate's alignment.
6. Drill the marked points with a drill bit 1-1/4 inch (32mm) deep.
7. Insert the plastic anchors into each hole and securely fasten the mounting plate with the supplied screws.
8. Verify that the plate is flat, stable, and firmly fixed to the wall surface.



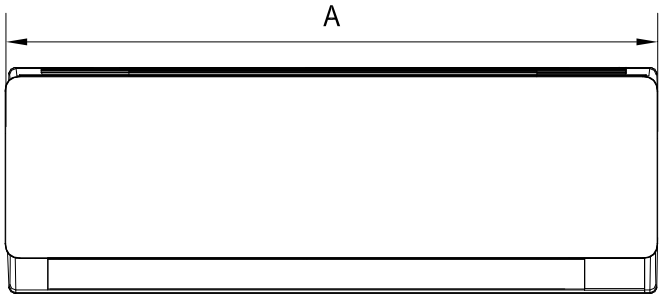
Mounting Paper Template

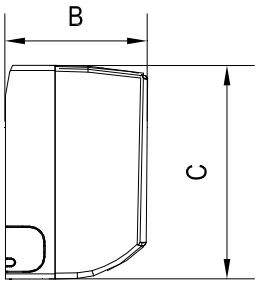


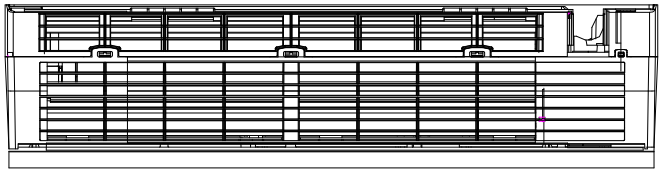


7. Indoor Unit Installation

Dimensions

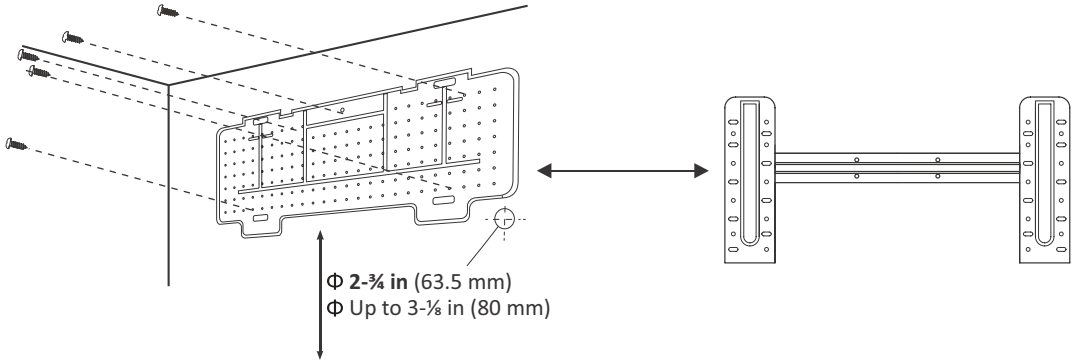






Model	Indoor unit (inch)		
	A	B	C
KIWE12H1-31X	30.59	8.07	9.84
KIWE12H2-31X	30.59	8.07	9.84
KIWE18H2-31X	35.83	8.07	11.5
KIWE24H2-31X	39.76	12.4	8.66
KIWE36H2-31X	46.69	13.39	10.55

Mounting Plate Installation and Hole Positioning



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.

NOTICE

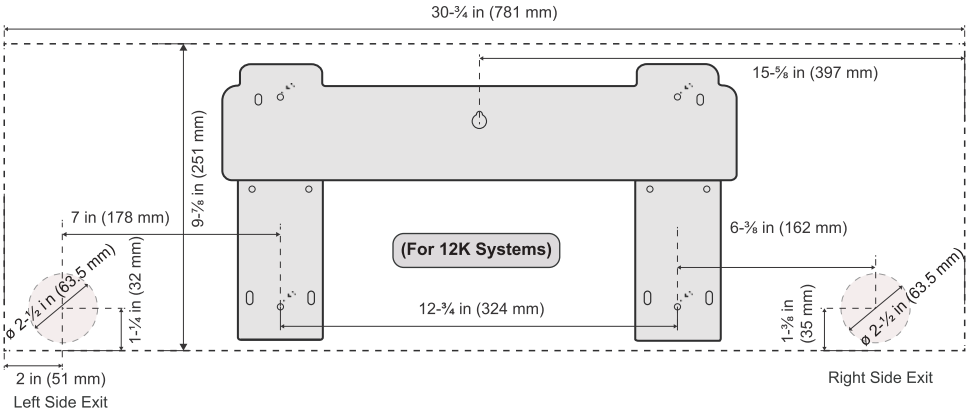
- The mounting plate dimensions must match the specific model size.
- Refer to the Choosing an Installation Site section for minimum ceiling, side, and floor clearances before drilling.

7. Indoor Unit Installation

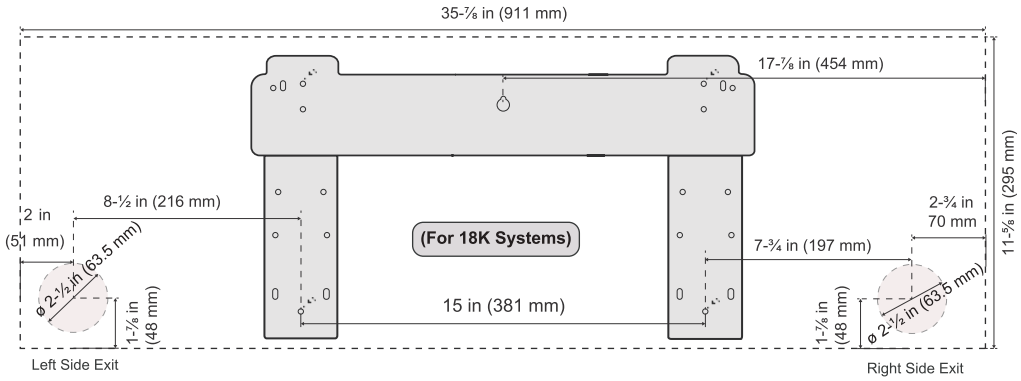
Guidelines for Drilling the Wall Holes

Below are the recommended wall hole locations for Klimaire systems ranging from **12,000 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 3-⅛ 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.

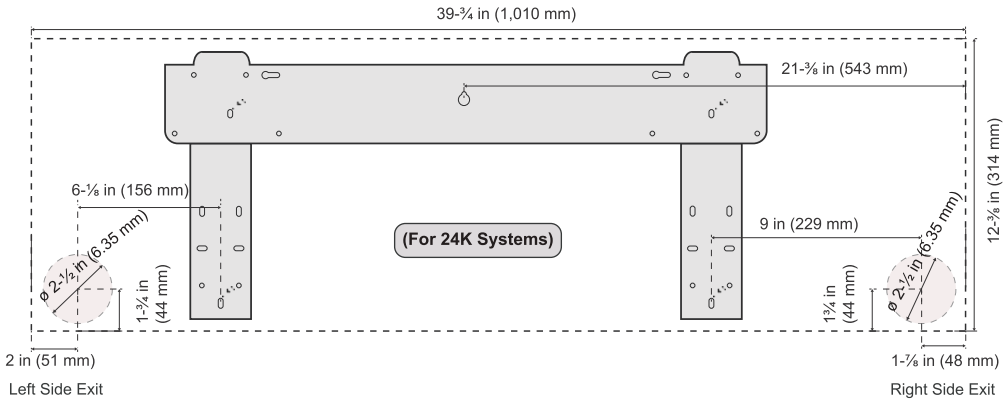
KIWE12H1-31X & KIWE12H2-31X



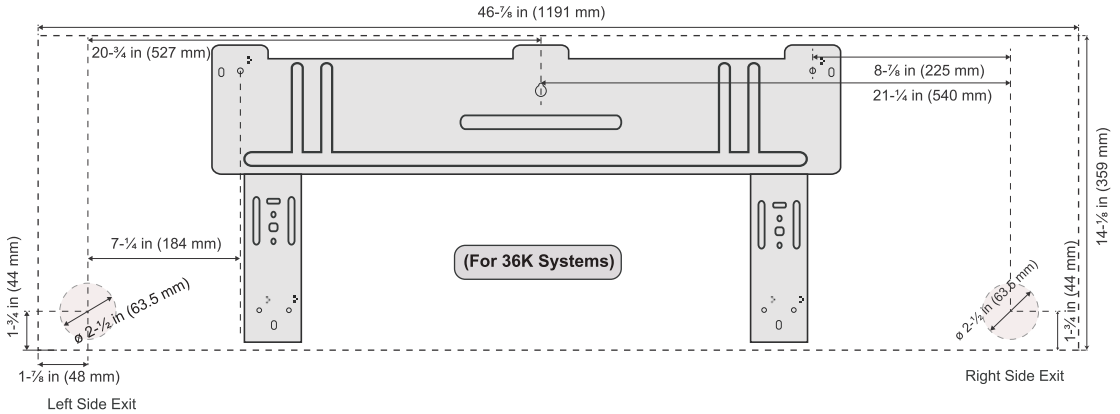
KIWE18H2-31X



KIWE24H2-31X



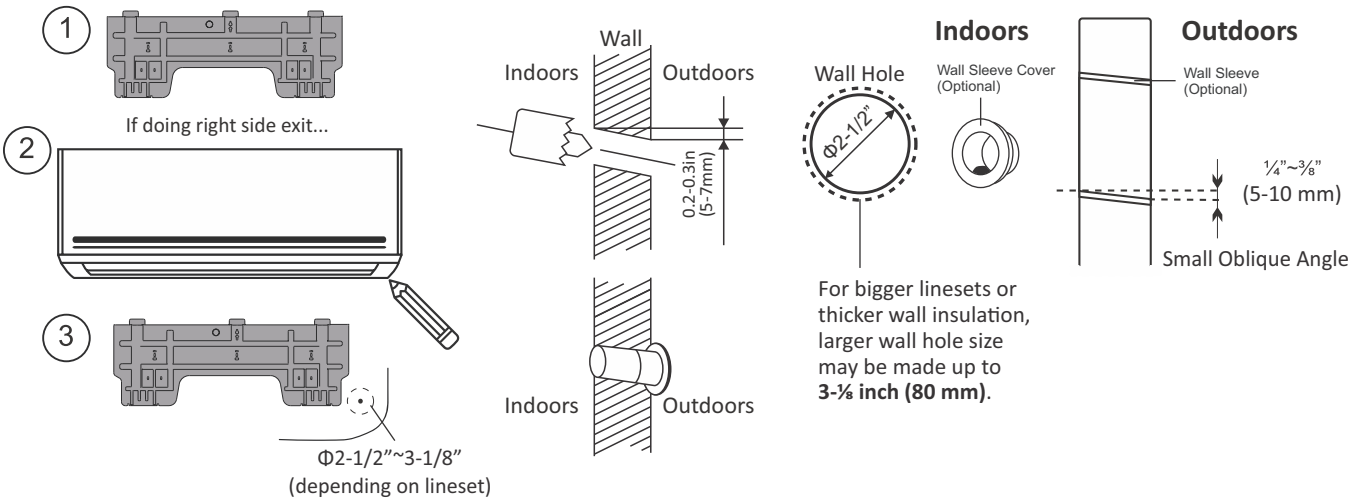
KIWE36H2-31X



7. Indoor Unit Installation

Step 2: Drill the Wall Hole for Piping

Instructions:



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 Holes to ensure the hole aligns correctly with the mounting plate and system capacity.

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 at a slight downward angle toward the outdoor side to allow proper condensate drainage. The bottom of the inside hole should be approximately 1/4 in (6.35 mm) higher than the bottom edge of the outside hole.

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

4. Insert a wall cover into the wall pipe for a clean finish.

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

Step 3: Electrical Cable Preparation and Routing - Indoor Unit

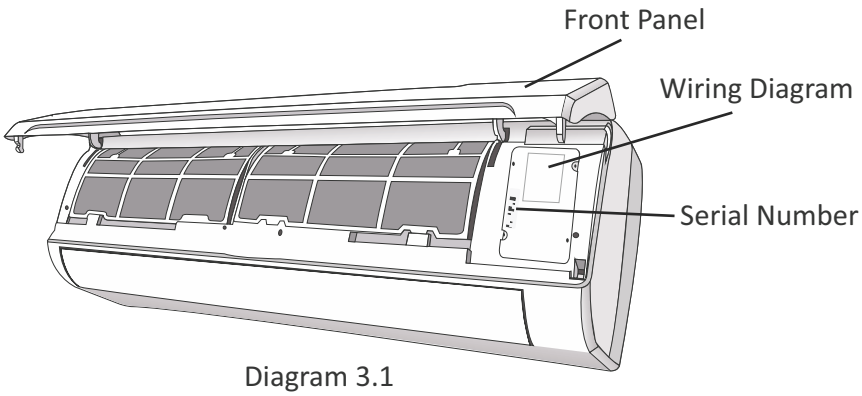


Diagram 3.1

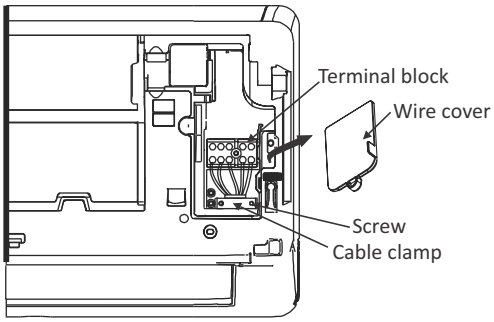


Diagram 3.2

Instructions to Route the Signal Cable

1. Open the front panel of the indoor unit. Refer to Figure 3.2
2. Using a screwdriver, remove the wire cover on the right-hand side to expose the terminal block.
3. Loosen the cable clamp below the terminal block and set it aside.
4. From the back of the indoor unit, remove the lower-left access panel to allow cable routing.
5. Feed the power and communication cables through the rear opening toward the terminal block.
6. Route the cable carefully, ensuring it is not pinched, twisted, or strained.
7. Secure the cable in place using the cable clamp, ensuring it follows a smooth natural curve.

CAUTION

- Do **not** connect the wires to the terminals at this stage.
- Ensure the main **power supply is disconnected** before handling the cable.
- Avoid sharp bends, kinks, or tension on the communication wire to prevent damage.

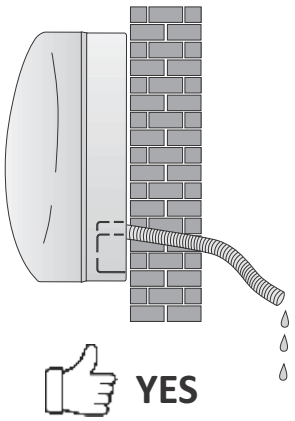
NOTICE

- This step covers o**nly the preparation and routing** of the communication and power cables. For **detailed wiring connections and cable specifications**, refer **to Step 8: Electrical Connections — Indoor Unit.**

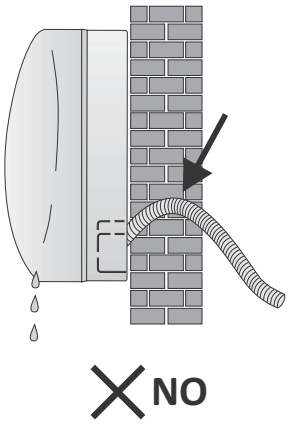
7. Indoor Unit Installation

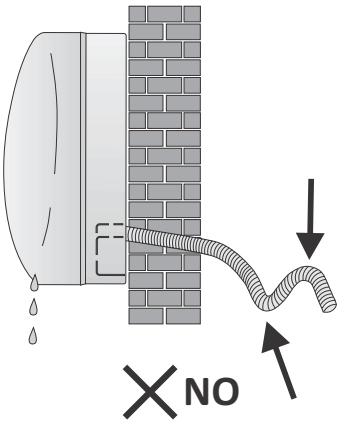
Step 4: Connect the Drain Hose

By default, the drain hose is attached to the left-hand side of the indoor unit (“left” when facing the back of the unit).



Drain hose slopes downward from the unit for smooth flow.





Avoid upward bends, water traps, or submersion.

Instructions

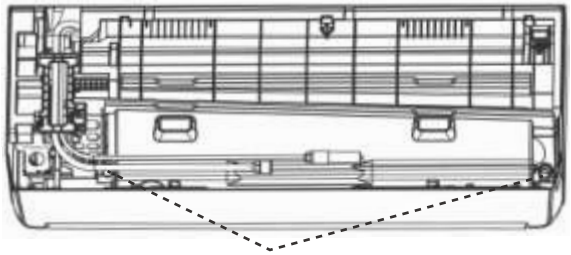
1. To ensure proper drainage, attach the drain hose on the same side as the refrigerant piping exit.
2. If needed, connect a drain hose extension (sold separately) to the end of the existing hose.
3. Wrap the drain hose connection point tightly with Teflon tape to create a good seal and prevent leaks.
4. For any portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
5. Remove the air filter and pour a small amount of water into the drain pan to confirm smooth water flow away from the unit.

7. Indoor Unit Installation

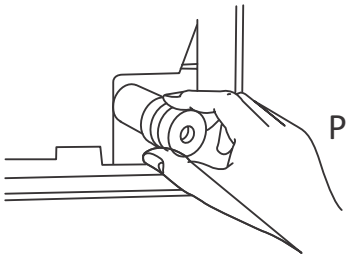
Dual Drain Port Configuration

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.

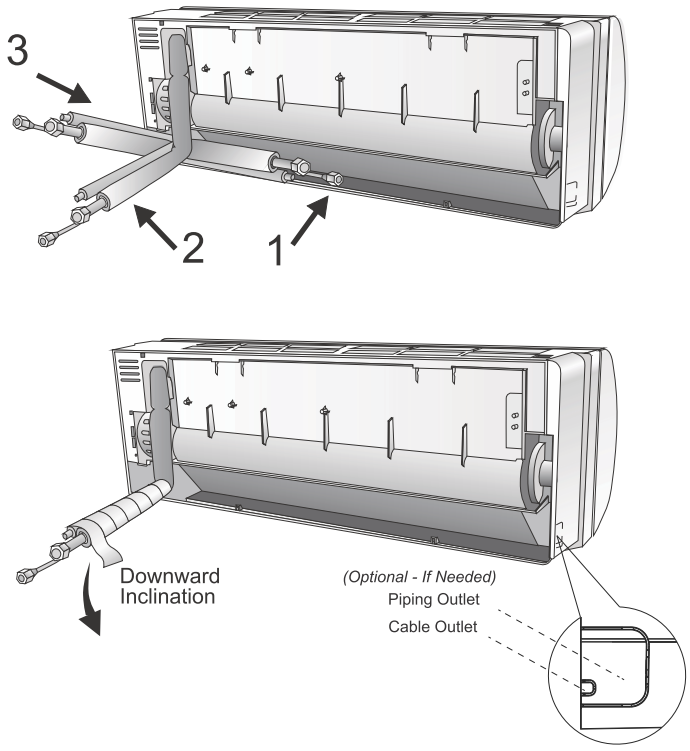
NOTICE

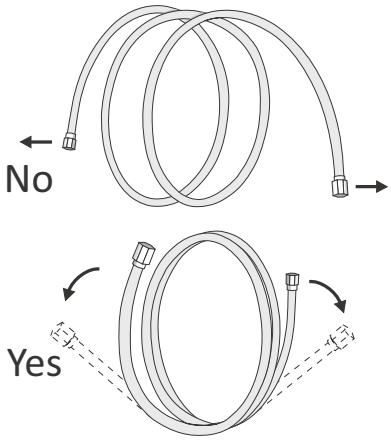
- Check that the drain hose **aligns properly** with the wall hole and remains free of obstructions.
- Verify that all drain connections are **securely taped and insulated** to prevent condensation and water leakage.
- Ensure the **unused drain port** is fully plugged before final mounting.

7. Indoor Unit Installation

Step 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)** — 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.





Lay the coil on a flat surface and unwind it carefully, avoiding pulling at the ends.

Before continuing, decide which configuration best fits the installation layout.

Routing Options

1. Left-Side Exit (Default Configuration)

- 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.

2. 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.

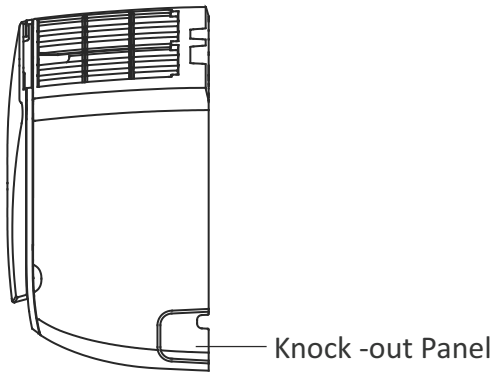
3. Right-Side Exit (Optional)

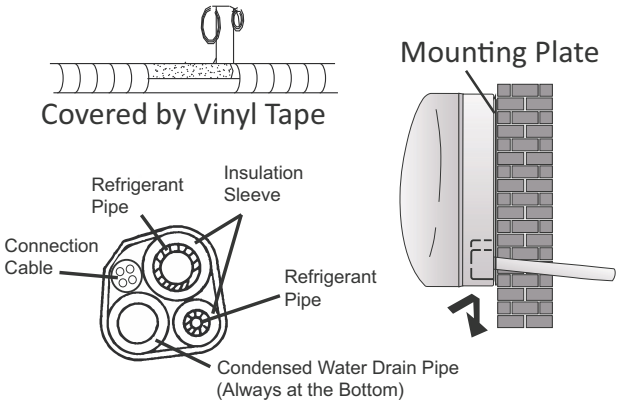
- This route involves a 180° bend of the piping, which can increase the risk of kinking.
- Bend slowly and carefully it is also recommended using a pipe bender.
- Only use this method when required by the installation layout.

7. Indoor Unit Installation

Instructions

1. If a side exit is selected, remove the knockout panel from the chosen side of the indoor unit. Smooth any sharp edges to avoid damage to the insulation or drain hose.
2. Carefully shape and align the refrigerant pipes in the direction of the drilled wall hole to ensure proper fit and clearance.
3. Bundle the refrigerant piping, drain hose, and indoor-to-outdoor communication cable together using vinyl tape.
   Keep the drain hose positioned at the lowest point of the bundle to ensure proper condensate drainage.
4. Maintain a slight downward slope toward the outdoor side when routing the bundle to prevent water backflow.
5. Do not overtighten the vinyl tape or apply excessive pressure to the copper piping.





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

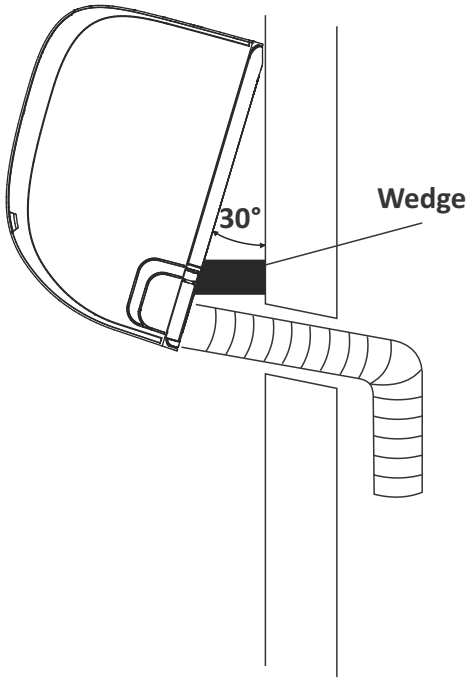
Step 6: Mounting Indoor Unit

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

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

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

1. Hook the top of the indoor unit on the upper hook of the mounting plate.
2. Use a bracket or wedge to prop up the unit, giving you enough room to connect the refrigerant piping, signal cable, and drain hose.
3. Connect drain hose and refrigerant piping (refer to Refrigerant Piping Connection section of this manual for instructions).
4. Keep pipe connection point exposed to perform the leak test (refer to Electrical Checks and Leak Checks section of this manual).
5. After the leak test, wrap the connection point with insulation tape.
6. Remove the bracket or wedge that is propping up the unit.
7. Using even pressure, push down on the bottom half of the unit. Keep pushing down until the unit snaps onto the hooks along the bottom of the mounting plate.



7. Indoor Unit Installation

Step 7: Connect the Refrigerant Pipes

After securing the drain hose, connect the indoor unit's refrigerant piping to the corresponding copper lines that lead to the outdoor unit. Make sure the connections are tight, properly aligned, and free of leaks.

Before You Begin

- Ensure the indoor and outdoor service valves are closed before connecting.
- Confirm that the pipe ends are clean, round, and free of burrs or debris.
- Match each line correctly: liquid line (smaller) and suction line (larger).
- Keep the pipe insulation intact and avoid excessive bending.

Instructions

1. Align the Piping

- Bring the ends of both the copper line and the indoor unit connection line together.
- Align the pipe centers carefully to ensure a proper fit.
- Remove the protective caps from the indoor unit's flare fittings, making sure no dust or debris enters the line.
- A slight hissing sound may be heard as residual nitrogen escapes — this is normal.

2. Apply Leak Prevention

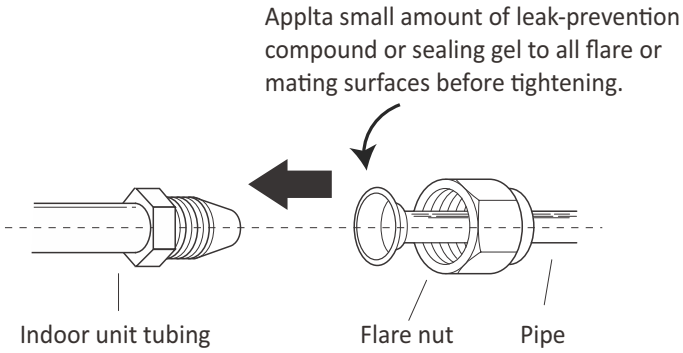
- Use a small amount of refrigerant oil, leak-prevention gel, or a flare sealer on the flare surface, if available.
- This helps achieve a secure seal and prevents micro leaks.

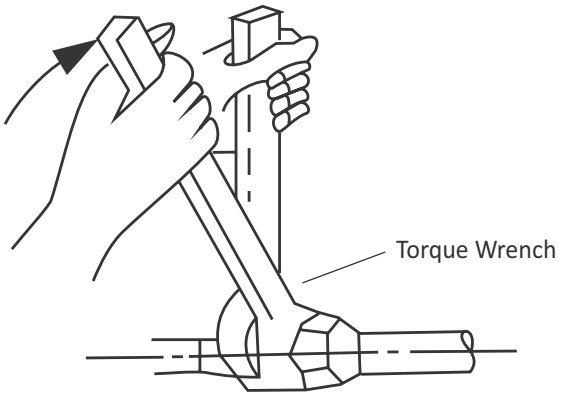
3. Attach the Flare Nuts

- Insert the copper pipes through the wall hole and hand-tighten the flare nuts onto the indoor unit fittings.
- Ensure the threads engage smoothly — do not force or cross-thread.

4. Tighten the Flare Connections

- Using two wrenches (one to hold the indoor fitting and one to tighten the nut), torque each connection according to the table below.





7. Indoor Unit Installation

Tightening Torque Reference Table(using a 8 inch wrench)

Pipe Diameter	Tightening Torque [ft-lbf]	Tightening Torque [N x m]	Corresponding Stress (Using a 20 cm wrench)
Φ 1/4 in (6.35 mm)	11 - 15	15 - 20	Wrist Strength
Φ 3/8 in (9.52 mm)	23 - 26	31 - 35	Wrist Strength
Φ 1/2 in (12 mm)	33 - 37	45 - 50	Wrist Strength
Φ 5/8 in (15.88 mm)	44 - 48	60 - 65	Wrist Strength

Additional Tightening Torques

Tightening Torque [N x m] (ft-lbf)	
Service Port Nut	[7 - 9] (5 - 7)
Protection Caps	[25 - 30] (18 - 22)

⚠ WARNING

- Always use a torque wrench to avoid overtightening, which can damage the flare or cause leaks.

5. Seal and Insulate

- Wrap each flare connection and the nearby tubing with insulation tape to prevent condensation.
- Individually insulate both the liquid and suction lines, then secure the bundle neatly with vinyl tape.
- Avoid compressing insulation, as this may cause sweating or efficiency loss.

❗ CAUTION

- Use two wrenches when tightening flare connections to avoid twisting the fittings.
- Avoid over-bending or repeatedly reshaping copper tubing; this can cause cracks or pinhole leaks.
- Keep connections clean and free from moisture or oil during installation.
- Do not use PTFE (Teflon) tape on flare joints.

ℹ NOTICE

- Confirm that the refrigerant lines align naturally with the wall opening — avoid sharp tension or pulling.
- Verify that insulation covers every joint tightly to prevent condensation.

7. Indoor Unit Installation

Step 8: Electrical Connections — Indoor Unit

⚠ WARNING

- Before performing any electrical or wiring work, **turn off the main power supply.**
- Multiple power sources may exist — failure to disconnect may result in electric shock or injury.
- Handle the signal cable carefully. Incorrect wiring or mixed terminal connections can cause communication errors between the indoor and outdoor units.

ⓘ NOTICE

1. All wiring must comply with local and national electrical codes and be performed by a licensed electrician.
2. Follow the wiring diagram on both indoor and outdoor units precisely.
3. Power voltage must remain within 90–110% of rated voltage to avoid damage.
4. Connect power through fixed wiring with a surge protector and dedicated circuit breaker rated 1.5× the maximum current.
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.

Instructions

1. Verify that the signal cable has been correctly routed as described in Step 3: Electrical Cable Preparation and Routing.
2. Refer to the Cable Wire Specifications and Simplified Indoor–Outdoor Wiring Diagram below to ensure proper terminal identification and wire pairing for the model.
3. Connect each wire of the signal cable according to the terminal numbers — 1 → 1, 2 → 2, 3 → 3, and G → G.
4. Confirm that wire ends are fully inserted into the terminal block and that there are no loose strands.
5. Tighten all terminal screws firmly to ensure secure connections and prevent overheating.
6. Ensure that all wiring connections are clean, tight, and free from oil, moisture, or debris.
7. Reinstall the cable clamp, replace the terminal block cover, and close the front panel securely.

7. Indoor Unit Installation

Instructions

1. **Color Matching:**
   - Match wires by terminal number, not color. Always connect number-to-number between indoor and outdoor units.
2. **Reference the Wiring Diagram:**
   - Consult the Cable Wire Specifications table and the Simplified Indoor–Outdoor Wiring Diagram below for wire gauge, breaker type, and connection layout.
3. **Terminal Identification:**
   - Each unit includes three communication terminals (1, 2, 3) and a ground terminal (G).
4. **Avoid Mixing Wires:**
   - Do not cross or swap wires between indoor and outdoor units. Proper terminal matching ensures safe operation and stable communication.
5. **Color Consistency:**
   - Ensure that wire colors correspond between indoor and outdoor terminals (for example, the same color wire connected to the same terminal number).
6. **Simplified Wiring Diagram:**
   - A simplified indoor-to-outdoor wiring diagram is provided below for quick reference..

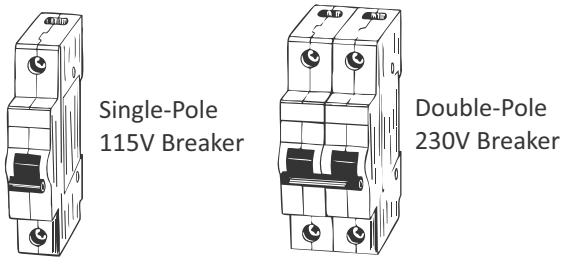
Cable Wire Specifications

Klimaire KIWE-KOIE 17 Series		12K/115V	12K/230V	18K	24K	36K
		Section Area (AWG)				
Power Supply Cable For Outdoor Unit	N(L2) L(L1) ⏚	12 AWG	12 AWG	12 AWG	12 AWG	12 AWG
Connection Cable for Communication Between Indoor and Outdoor Units	3(L) 2(N) 1(S) ⏚	16 AWG	16 AWG	16 AWG	16 AWG	16 AWG

Notes:

- Confirm the wire gauge and breaker type using the unit name plate.
- 115V systems require a **single-pole breaker**.
- 230V systems require a **double-pole breaker** (tandem types are not compatible).
- Use copper conductors only and ensure proper grounding.
- Refer to the national and local electrical code for installation compliance.

Single-Pole 115V Breaker | Double-Pole 230V Breake

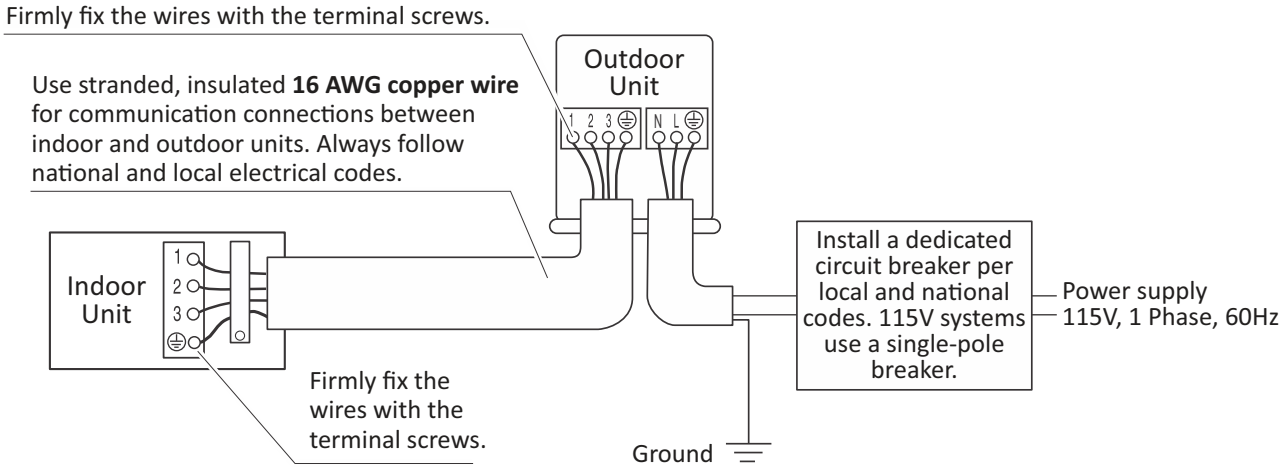


Single-Pole 115V Breaker

Double-Pole 230V Breaker

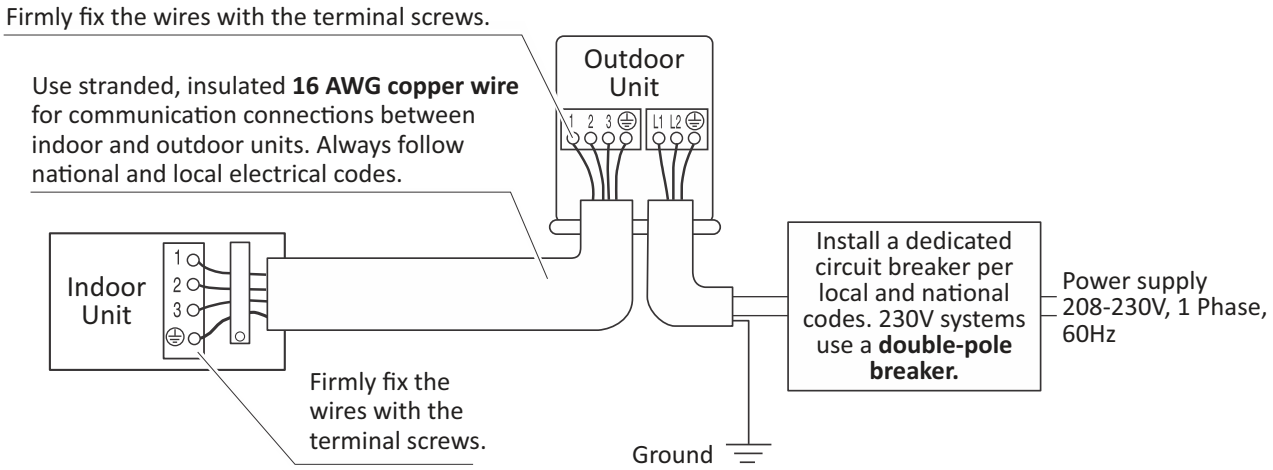
7. Indoor Unit Installation

Simplified Indoor – Outdoor Wiring Diagram



For 115 V Systems

- Ensure all terminal numbers on the indoor and outdoor units correspond.
- Firmly tighten all terminal screws. Use stranded, insulated wire of the proper gauge as shown.
- Local electrical codes always take precedence over recommendations.



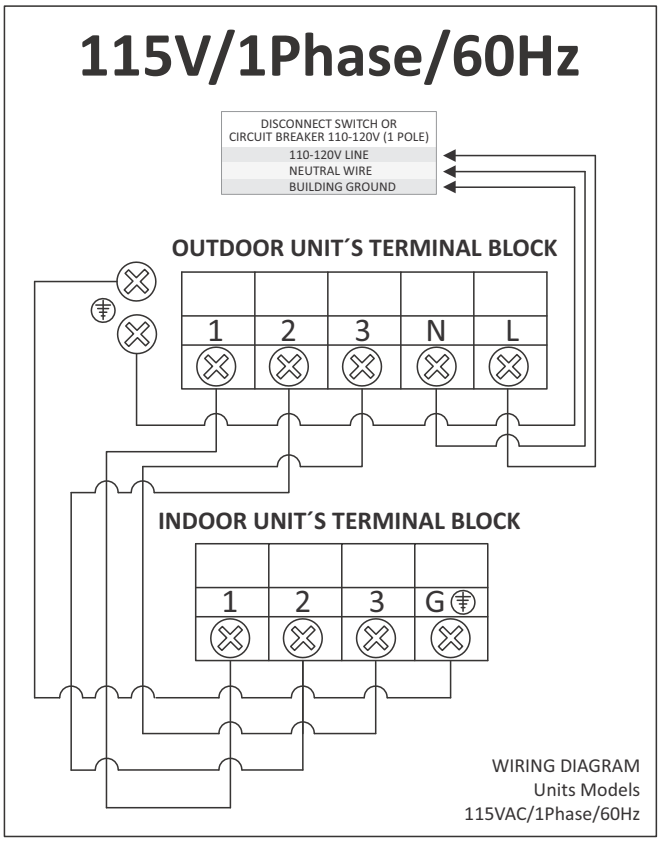
For 208-230 V Systems

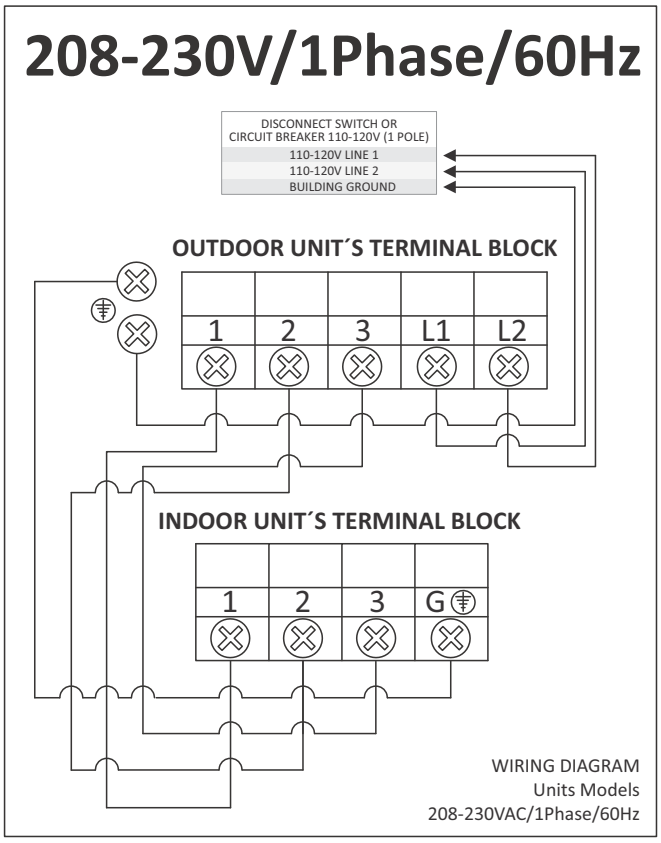
- Ensure all terminal numbers on the indoor and outdoor units correspond.
- Firmly tighten all terminal screws. Use stranded, insulated wire of the proper gauge as shown.
- Local electrical codes always take precedence over recommendations.

7. Indoor Unit Installation

Field Wiring Diagrams (115V and 208-230V)

Below are the field wiring layouts for both voltage configurations.
Ensure all terminal numbers and wire positions correspond exactly between the indoor and outdoor units.

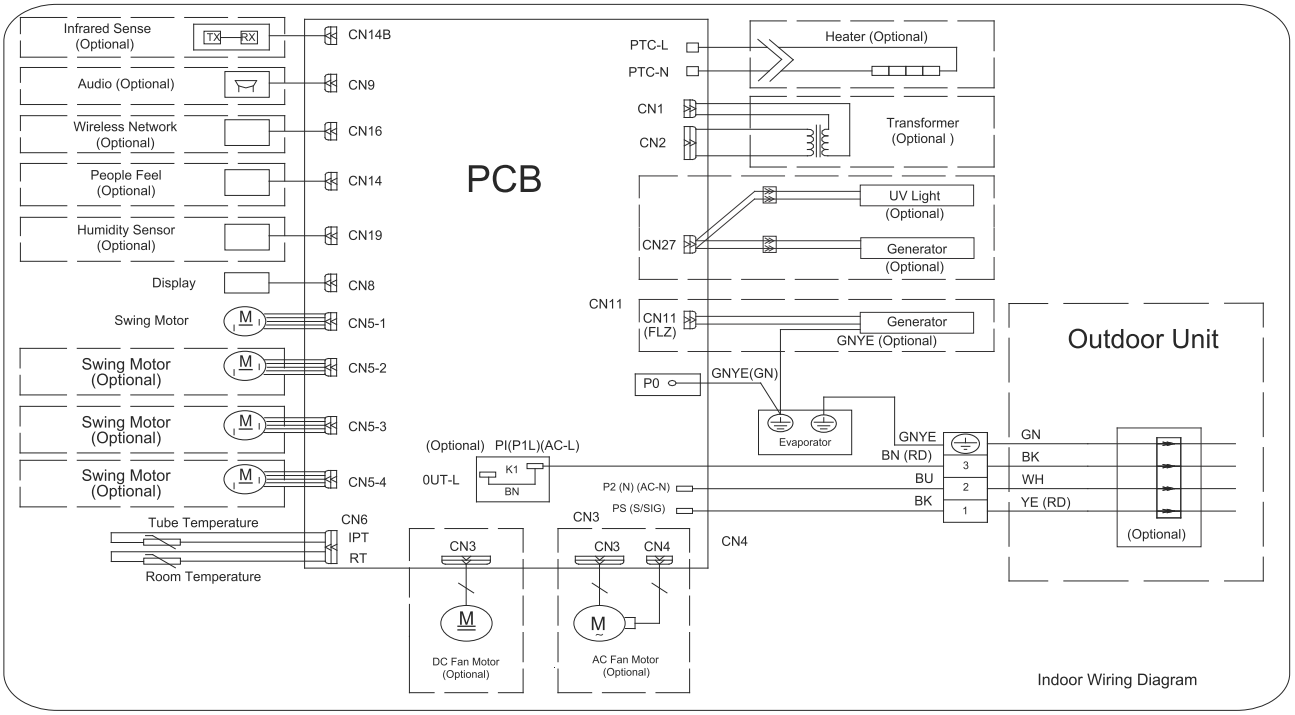




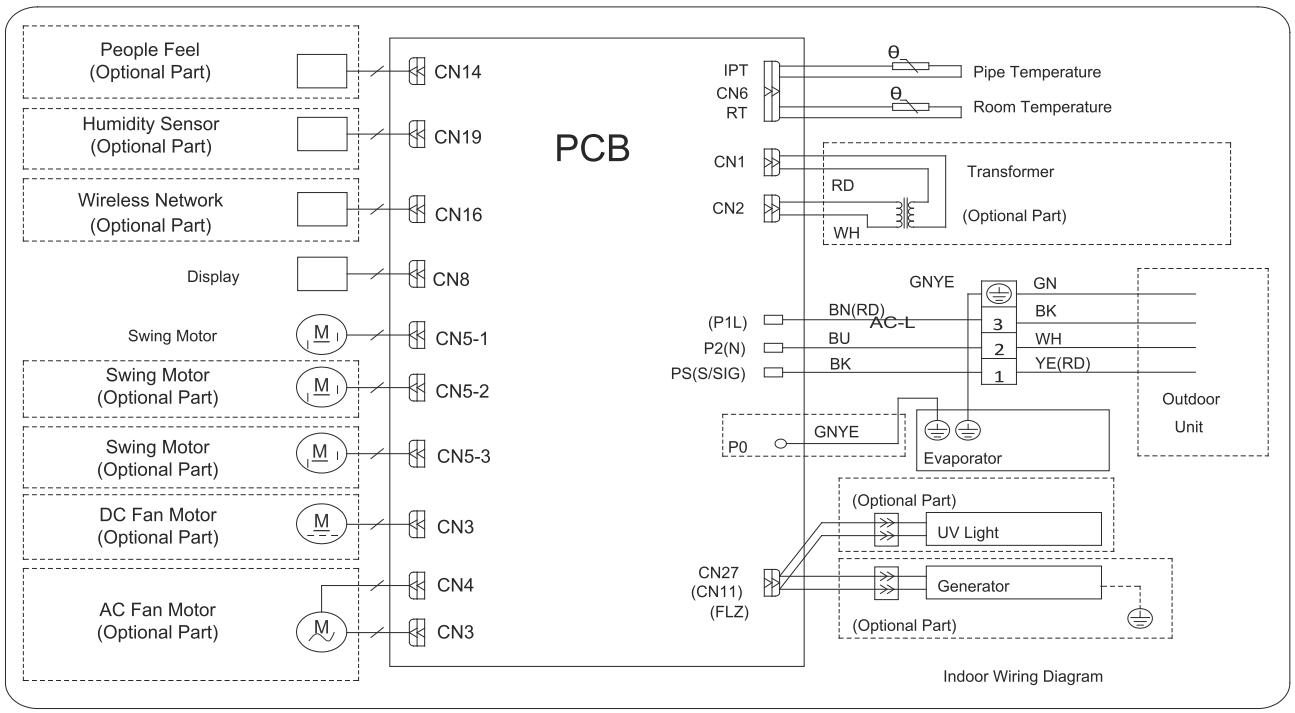
7. Indoor Unit Installation

Control Board Wiring Diagrams - Indoor Units

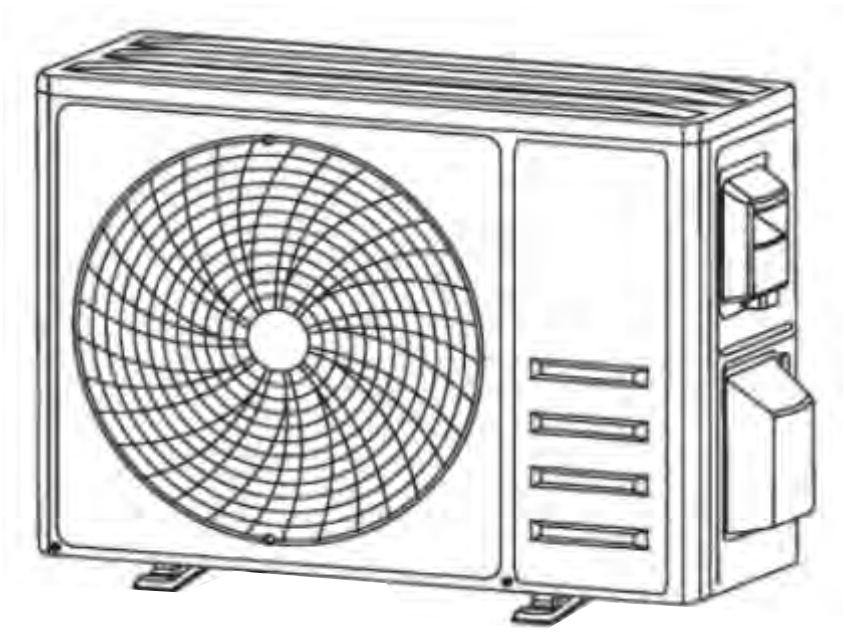
Indoor Unit Models: KIWE12H1-31X / KIWE12H2-31X / KIWE18H2-31X / KIWE24H2-31X



Indoor Unit: KIWE36H2-31X



8. Outdoor Unit Installation



Step 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.

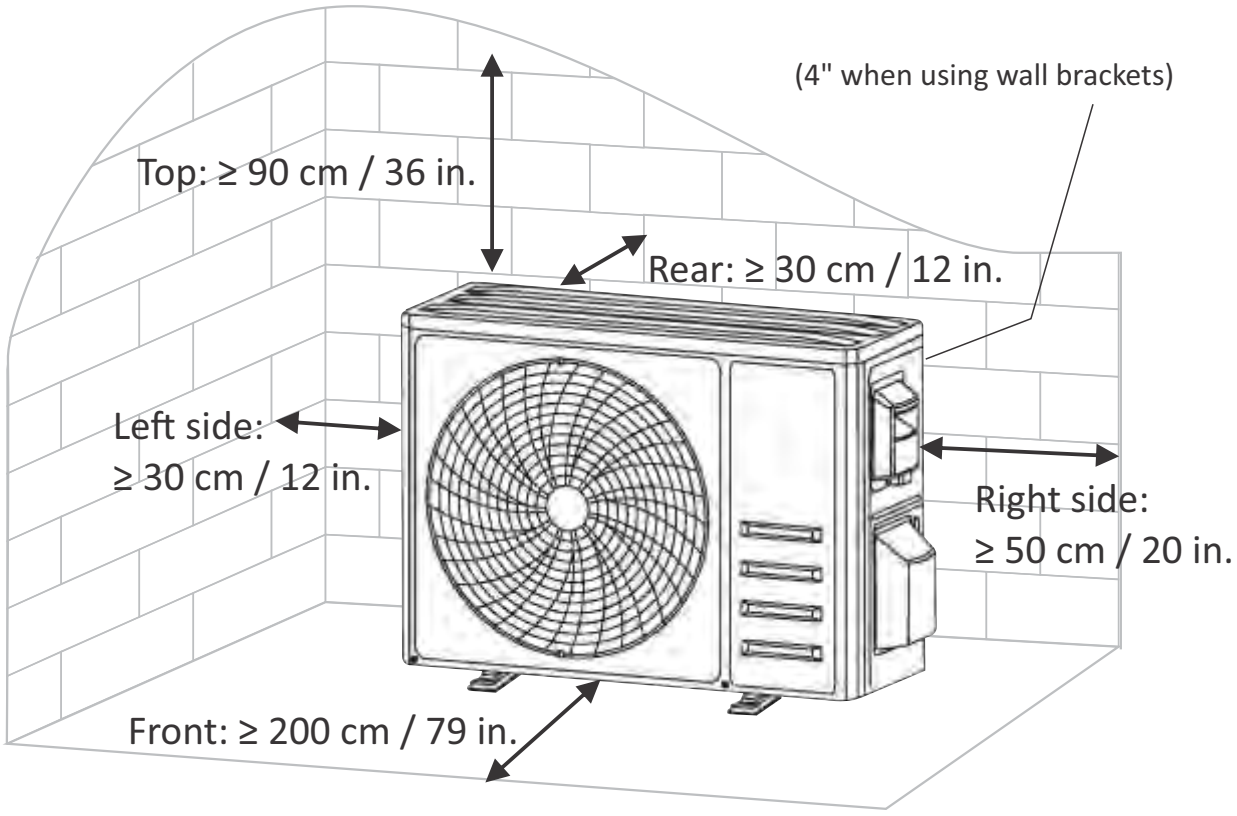
Positioning and Accessibility

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

8. Outdoor Unit Installation

Recommended minimum clearances

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



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

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.

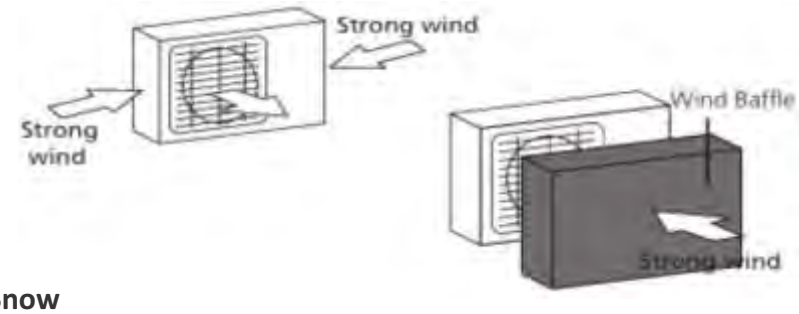
8. Outdoor Unit Installation

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.

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.

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

Step 2 – Condensate Water Drainage Setup

Before bolting the outdoor unit into place, you must install the **drain joint** at the bottom of the unit to ensure proper condensate removal during heating operation.

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.

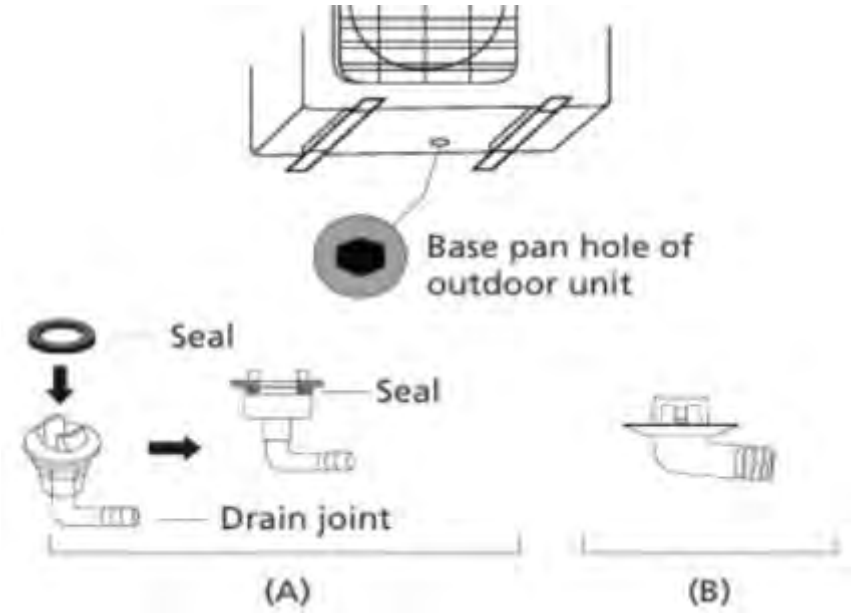
Installation of this drain assembly is **optional** and required only when the default bottom-port drainage configuration is unsuitable for the installation site.

Installation Procedure

1. **Insert the Drain Joint**
   Insert the drain joint into the hole located in the base pan of the outdoor unit until it clicks securely into place.

2. **Attach the Drain Pipe**
   Connect the provided drain pipe to the drain port and ensure the seal is tight to prevent leakage.

3. **Verify Drainage Direction**
   Confirm that the drain outlet slopes downward and that condensate can flow freely to a suitable disposal location.



CAUTION

- Ensure the drain joint is installed 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.
- Verify that the drain path remains unobstructed and away from walkways or electrical components.

NOTICE

- The drain hose must be protected from freezing in cold climates.
- If required, insulate or heat-trace the drain pipe to prevent ice buildup.
- For coastal or high-humidity installations, route condensate away from metal structures to reduce corrosion risk.

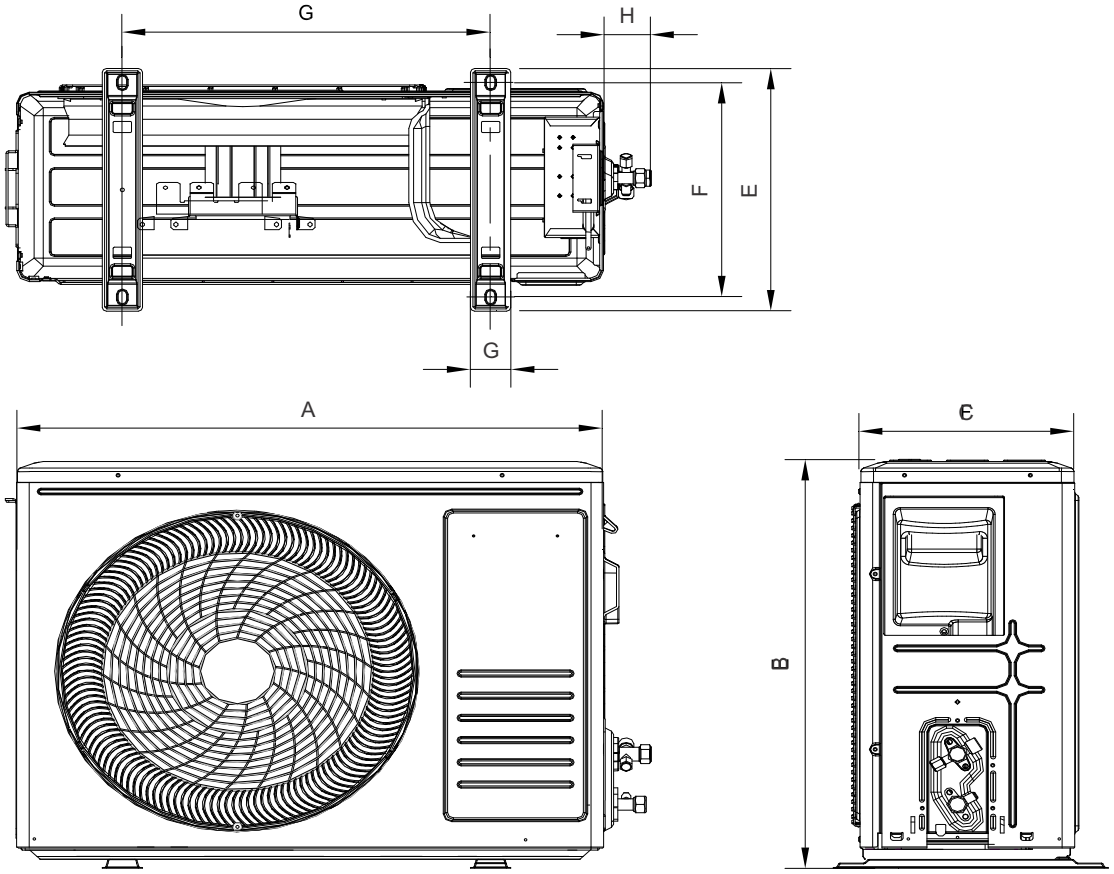
8. Outdoor Unit Installation

Step 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.

Outdoor Unit Mounting Dimensions

The following diagram and table provide the dimensions for Klimaire outdoor unit models. Use these measurements when marking and drilling anchor holes to ensure accurate placement and secure installation.



Model	Outdoor unit (inch)							
	A	B	C	D	E	F	G	H
KOIE12H1-31X	28.03	19.61	9.21	16.34	11.46	8.86	1.91	2.05
KOIE12H2-31X	28.03	19.61	9.21	16.34	11.46	8.86	1.91	2.05
KOIE18H2-31X	28.7	21.61	9.92	17.08	12.01	10.94	1.89	2.05
KOIE24H2-31X	30.71	23.7	11.34	20.31	13.74	12.36	2.13	2.24
KOIE36H2-31X	35.83	31.61	14.13	23.9	16.57	15.35	2.36	2.48

8. Outdoor Unit Installation

Ground or Concrete Pad Installation

1. Mark the anchor positions using the unit's mounting foot dimensions (refer to the diagrams above).
2. Pre-drill holes for expansion bolts at the marked locations.
3. Place a nut on each expansion bolt and hammer it into the pre-drilled holes.
4. Remove the nuts, position the outdoor unit on the bolts, and align the mounting holes.
5. Install washers and nuts on the bolts, then tighten evenly with a wrench until the unit is secure and level.
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.

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**

- Mark the hole positions for the wall bracket based on the **Mounting Dimensions Table.**
- Drill the holes for the expansion bolts using the appropriate bit size.
- Insert bolts through the bracket holes and hammer them into the wall.
- Tighten the bolts securely and verify that the brackets are **level.**
- Carefully lift the outdoor unit and position its feet on the bracket pads.
- Bolt the unit securely to the brackets using washers and nuts.
- (Optional) Install **rubber gaskets or vibration isolators** between the unit and bracket to minimize operational noise.

Final Inspection

- Verify that the unit is securely anchored and level.
- Ensure airflow clearances from Step 1 are still maintained.
- Confirm that drainage, refrigerant piping, and electrical cables are properly routed and protected.
- Check that rubber isolators, if installed, are properly seated.
- Tighten all bolts and recheck alignment before proceeding to Step 4 (Electrical Connections – Outdoor Unit).

8. Outdoor Unit Installation

Step 4:Electrical Connections - Outdoor Unit

⚠ WARNING

- Before performing any electrical or wiring work, turn off the main power supply.
- Multiple power sources may exist — failure to disconnect may result in electric shock or injury.
- Handle the signal cable carefully. Incorrect wiring or mixed terminal connections can cause communication errors between the indoor and outdoor units.

Before Performing Electrical Work

1. All wiring must comply with local and national electrical codes and be performed by a licensed electrician.
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

Use the Right Cable

- Outdoor Power Cable: THHN or THWN copper wire
- Signal Cable (Communication): TC-ER or equivalent copper wire, 16 AWG minimum

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

Circuit Breaker Size (A)	Wire Size (AWG)
10 A	18
13 A	16
15 A	14
20 A	12
30 A	10

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

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)

Wire Preparation

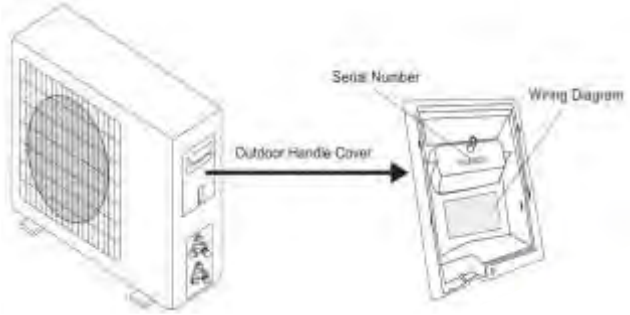
1. Using wire strippers, remove about 1.5 in (40 mm) of the cable's outer jacket.
2. Strip approximately 0.4 in (10 mm) of insulation from each wire end.
3. Attach U-lugs using a crimping tool (some cables may include preinstalled U-lugs).
4. Insert the wires into the terminal block and tighten screws firmly to prevent overheating.

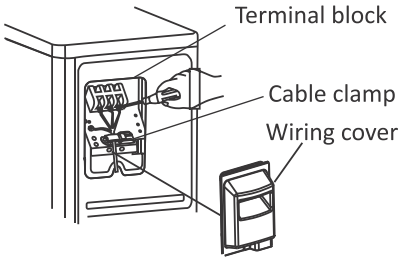
NOTICE

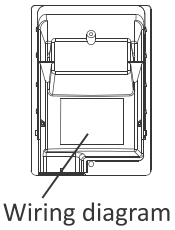
- Verify that wiring connections are properly tightened and terminals are not damaged.
- Bundle and secure excess wire length using cable ties to prevent strain.
- Ensure that power and communication wires are routed separately from refrigerant piping.

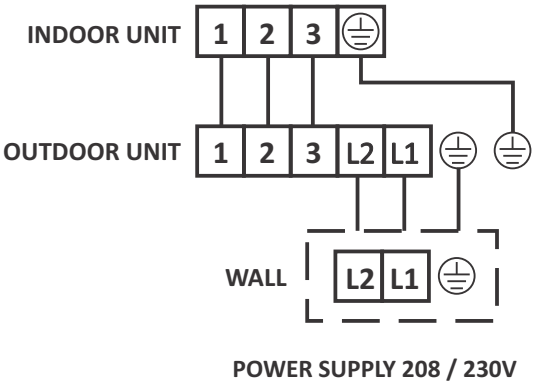
Wiring Access and Diagram Reference

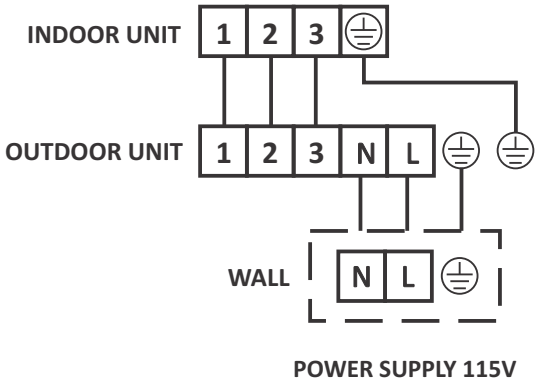
The outdoor unit wiring diagram is located on the inside of the handle cover.This diagram shows the proper terminal identification for connecting both the power supply and signal (communication) cables between the indoor and outdoor units.
Always refer to this diagram before beginning any wiring work.







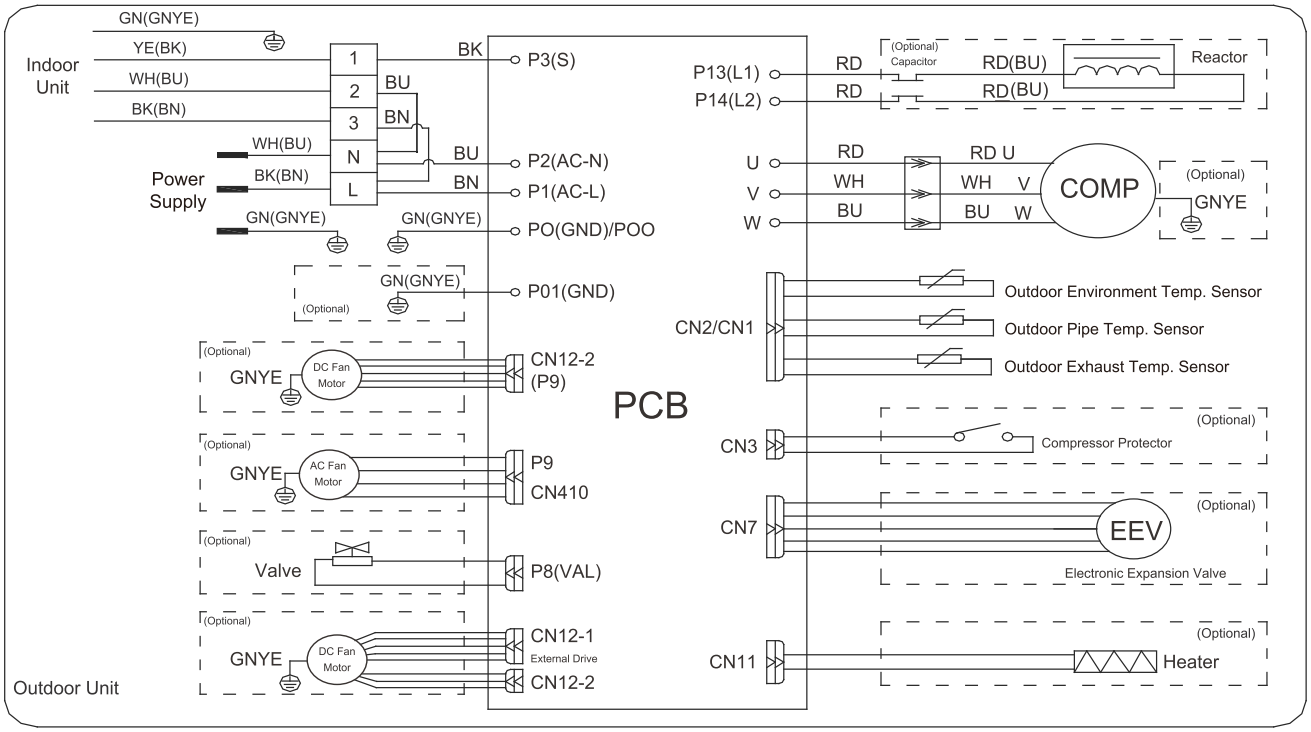




8. Outdoor Unit Installation

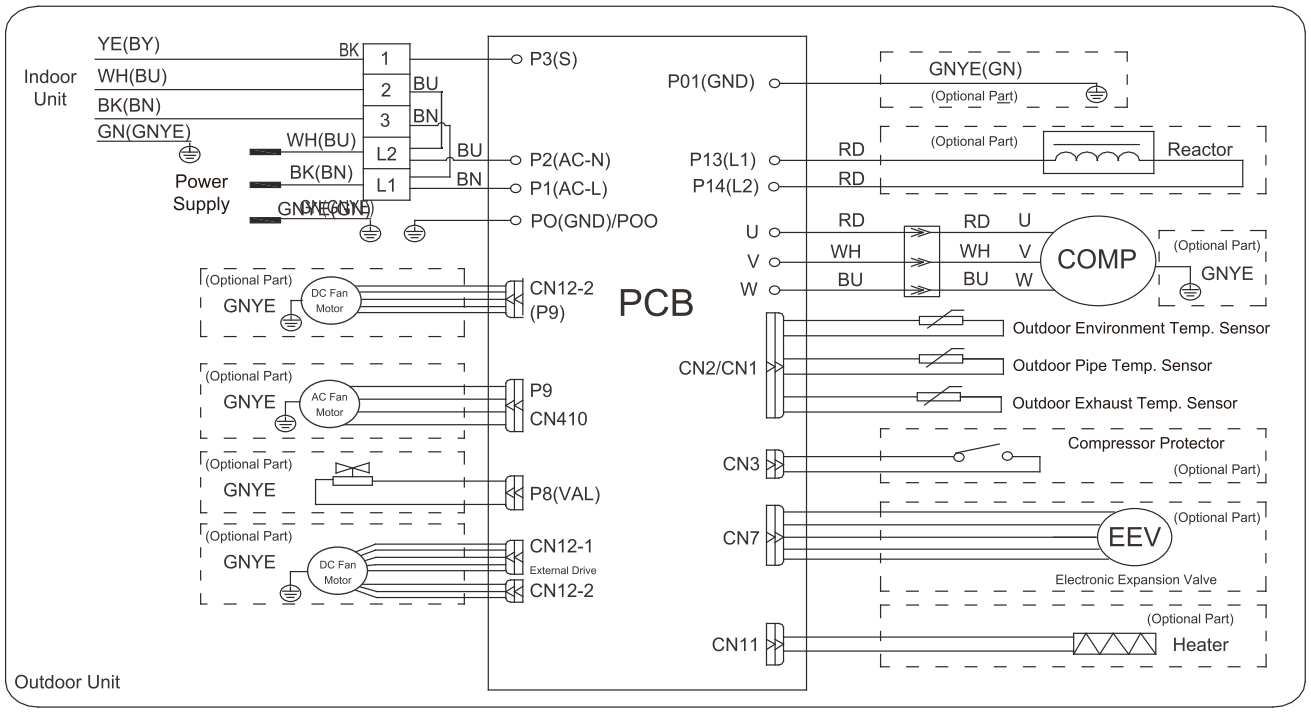
Control Board Wiring Diagrams - Outdoor Units

Outdoor Unit Model: KOIE12H1-31X



12K (115V)

Outdoor Unit Models: KOIE12H2-31X / KOIE18H2-31X / KOIE24H2-31X / KOIE24H2-31X / KOIE36H2-31X

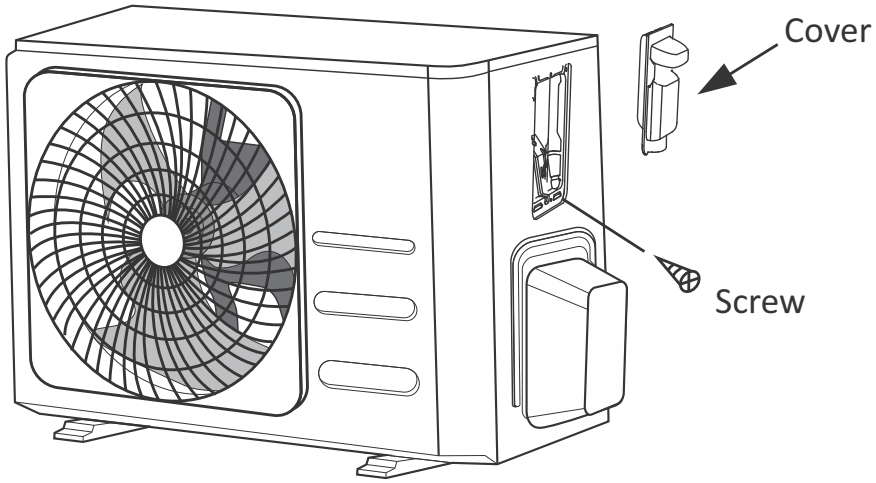


12K - 36K (208/230V)

8. Outdoor Unit Installation

Instructions to Connect Power and Signal Cables

1. **Remove the Wiring Cover**
   - Unscrew and remove the handle or cover plate on the right side of the outdoor unit to access the terminal block.
   - Place the cover and screws aside for reinstallation later.
2. **Route the Cable**
   - Use an approved flexible rain-tight conduit with the appropriate size fittings and connectors.
   - Route the power and signal cable through the conduit opening toward the terminal block.
   - Ensure the conduit is sealed and supported properly to prevent water intrusion or tension on the wiring.
3. **Connect the Wires**
   - Refer to the wiring diagram printed on the inside of the cover.
   - Match each terminal number between the indoor and outdoor units: 1 → 1, 2 → 2, 3 → 3, and G → G (Ground).
   - Insert each wire's terminal lug securely and tighten all terminal screws firmly to prevent loose connections or overheating.
4. **Ground the Unit**
   - Connect the ground wire to the terminal marked "G" or "Ground."
   - Use only copper conductors and ensure a solid ground connection.
   - Do not share the grounding point with other devices or systems.
5. **Secure the Cable**
   - Use the provided cable clamp to fasten and support the wires, ensuring there is no strain on the terminal block.
   - Arrange the wires neatly inside the cover to avoid contact with sharp edges or metal parts.
6. **Insulate Unused Wires (if applicable)**
   - Wrap any unused conductors with PVC electrical tape, ensuring they do not touch any terminals or metal surfaces.
7. **Reinstall the Cover**
   - Reattach the handle or wiring cover securely using the original screws.
   - Verify that the seal or gasket is in place to prevent water intrusion.



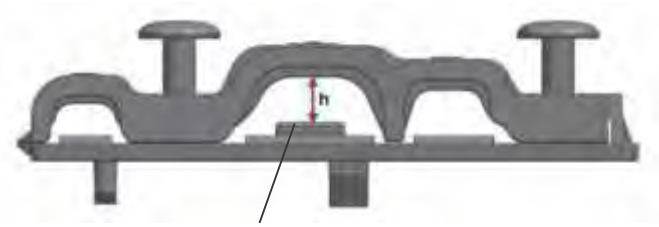
8. Outdoor Unit Installation

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.

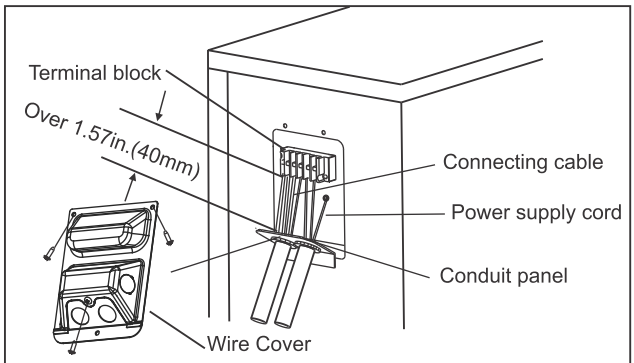
Three size hole: Small, Large, Medium



North America Installation Notes

For installations within North America:

1. Remove the wire cover from the unit by loosening the three screws.
2. Remove the caps from the conduit panel.
3. Temporarily mount conduit tubes (not included) on the conduit panel.
4. Connect both the power supply and communication wires to their corresponding terminals as shown in the wiring diagram.
5. Properly ground the unit following national and local electrical codes.
6. Ensure each wire is sized correctly and allows enough slack to avoid tension at the terminals.
7. Use lock nuts to secure the conduit tubes firmly in place.



Please select the appropriate through-hole according to the diameter of the wire.

8. Outdoor Unit Installation

Step 5: Connection of the Refrigerant Piping

- The refrigerant piping length and quality directly affect the system's cooling and heating efficiency.
- Each Klimaire outdoor unit comes with a16 ft (5m) pre-insulated and pre-flared copper tubing line set.
- The outdoor unit is factory pre-charged with refrigerant up to 25ft.
- Refer to the chart below for model-specific piping specifications and refrigerant adjustments.

CAUTION

Only use the specified refrigerant type (R32). Do not allow air, moisture, or any other gas to enter the system, as this can cause high pressure, poor performance, or serious damage.

Refrigerant Piping Specifications

Model Capacity (BTU/h)	Liquid Pipe Ø	Gas Pipe Ø	Max. Length with Factory Pre-Charged	Max. Distance Between Indoor & Outdoor Units	Adjustment Charge (per ft after 25 ft)	Max. Elevation Difference
12K	1/4" (6.35 mm)	3/8" (9.52 mm)	25 ft / 7.6 m	50 ft / 15 m	0.11 oz/ft (10 g/m)	33 ft / 10 m
18K	1/4" (6.35 mm)	3/8" (9.52 mm)	25 ft / 7.6 m	50 ft / 15 m	0.11 oz/ft (10 g/m)	33 ft / 10 m
24K	1/4" (6.35 mm)	1/2" (12 mm)	25 ft / 7.6 m	65 ft / 20 m	0.11 oz/ft (10 g/m)	50 ft / 15 m
36K	1/4" (6.35 mm)	5/8" (15.88 mm)	25 ft / 7.6 m	100 ft / 30 m	0.11 oz/ft (10 g/m)	65 ft / 20 m

Refrigerant Type: R32

NOTICE

- Factory precharge is sufficient for up to 25 ft (7.6 m) of piping.
- If the piping length exceeds this distance, additional refrigerant must be added as listed above.
- Piping shorter than 10 ft (3 m) may reduce system efficiency and is not recommended.
- If the factory precharge is modified, make a note of the **charge modification amount in Section 14 - Installer Reference.**

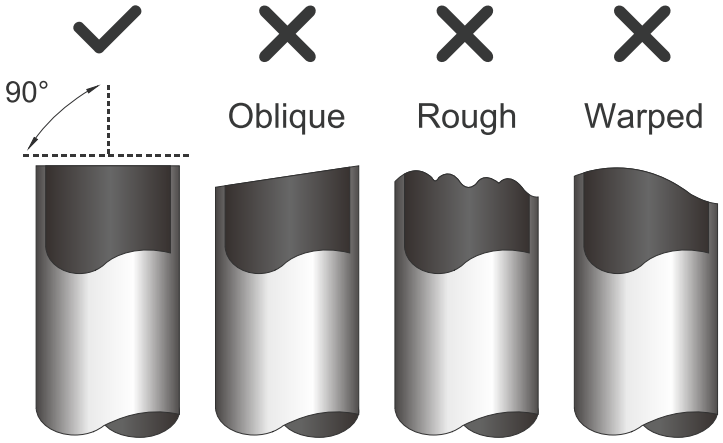
8. Outdoor Unit Installation

If you are using the included 16ft (5m) line set, you may skip Steps 1 through 3 and proceed directly to Step 4.

Step 1: Cut Pipes (Optional - Iif cutting the lineset shorter)

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

1. Measure the distance between the indoor and outdoor units.
2. Using a rolling blade-type pipe cutter, cut the pipe slightly longer than the measured distance.
3. Make sure the pipe is cut at a perfect 90° angle. Refer to the illustrations below for incorrect cut examples.



(Most standard line sets are pre-flared. In some cases, modifications are required.)

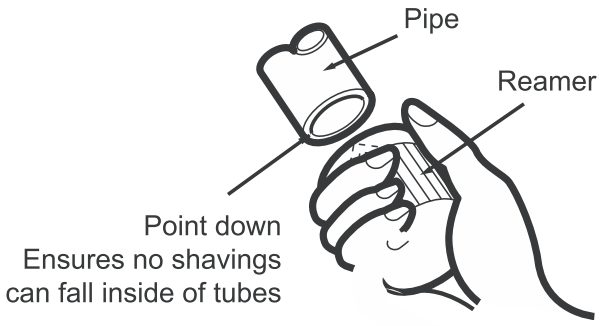
CAUTION

- **Do Not Deform Pipe While Cutting.**
- Be careful not to damage, kink, or deform the pipe during cutting.
- Deformation will reduce the system's efficiency and capacity and may cause internal damage.

Step 2: Remove Burrs

Burrs can affect the air-tight seal of the refrigerant piping connection. They must be completely removed before assembly to ensure proper sealing and prevent leakage.

1. Hold the pipe at a downward angle to prevent burrs and shavings from falling inside the pipe.
2. Using a reamer or deburring tool, carefully remove all burrs from the cut end of the pipe.

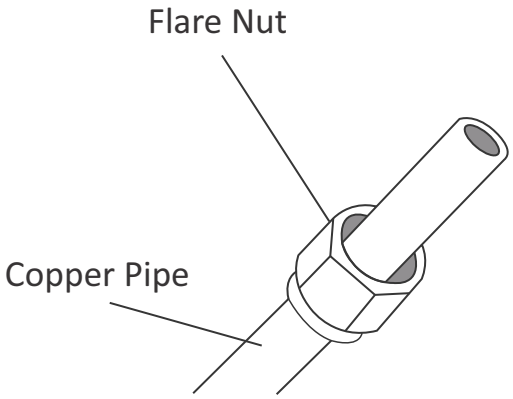


8. Outdoor Unit Installation

Step 3: Flare Pipe Ends

Proper flaring is essential to achieve an airtight seal and prevent refrigerant leakage.
Follow the procedure carefully using **R32-compatible flaring tools.**

1. Prepare the Pipe



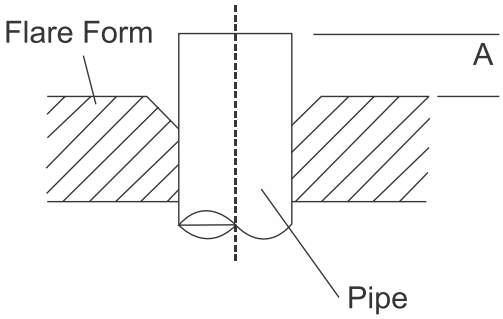
1. After removing burrs, seal both pipe ends with PVC tape to prevent dust or moisture from entering.
2. Sheath the pipe with insulation material before flaring.
3. Slide flare nuts (included with the unit) onto both ends of the pipe.
4. Make sure they face the correct direction — once flared, they cannot be removed or reversed.

2. Flaring Process

1. Remove the PVC tape from the pipe ends before beginning the flaring process.
2. Clamp the copper pipe securely in the flaring tool.
3. The pipe end should extend slightly beyond the edge of the clamp, as shown below. Refer to the table for the correct pipe projection (A).
4. Rotate the flaring tool handle clockwise until the pipe is fully flared.
5. Remove the tool and inspect the flare for cracks, uneven edges, or irregular shape.

Piping Extension Beyond Flare Form

Outer Diameter of Pipe (inch/mm)	A (inch/mm) Min.	Max.
Ø 1/4” (Ø 6.35)	0.03” (0.7)	0.05” (1.3)
Ø 3/8” (Ø 9.52)	0.04” (1.0)	0.06” (1.6)
Ø 1/2” (Ø 12.7)	0.04” (1.0)	0.07” (1.8)
Ø 5/8” (Ø 16)	0.08” (2.0)	0.09” (2.2)
Ø 3/4” (Ø 19)	0.08” (2.0)	0.1” (2.4)



CAUTION

- Use tools designed for R32 systems only — incorrect tools can create poor flare angles or cracks.
- Do not reuse old flare nuts; always use new nuts supplied with the unit.
- Avoid deforming or over-flaring the pipe — this may lead to refrigerant leaks or joint failure.

NOTICE

- Apply a small amount of refrigeration oil (R32-compatible) to the flare surface before connecting to ensure a tight seal.
- Keep the flared pipe ends capped or covered until installation to prevent contamination.

8. Outdoor Unit Installation

Step 4: Connect Pipes

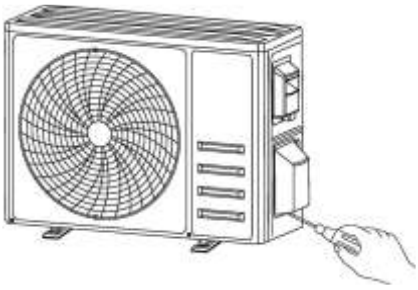
When connecting the refrigerant pipes, be careful **not to use excessive torque** or **deform the piping** in any way. Begin by connecting the **low-pressure pipe**, then the **high-pressure pipe**.

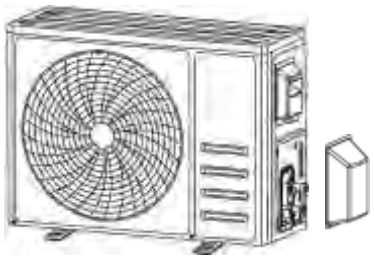
1. Remove the valve cover from the outdoor unit.
2. Remove all protective caps from the valve ends.
3. Align the flared pipe end with each service valve port on the outdoor unit and hand-tighten the flare nuts to ensure proper threading.
4. While holding the main body of the valve firmly with a spanner, use a torque wrench to tighten the flare nut according to the Tightening Torque Reference Table .

Pipe Size	Torque (ft·lb)	Torque (N·m)	Remarks
1/4 in (6.35 mm)	11 – 15	15 – 20	Wrist strength
3/8 in (9.52 mm)	23 – 26	31 – 35	Wrist strength
1/2 in (12.7 mm)	33 – 37	45 – 50	Wrist strength
5/8 in (15.88 mm)	44 – 48	60 – 65	Wrist strength

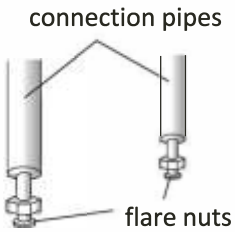
Additional Tightening Torques:

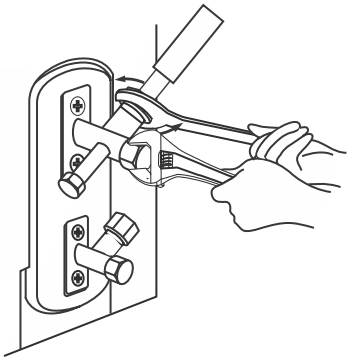
Connection Type	Torque (N·m)	Torque (ft·lb)
Service Port Nut	7 – 9	5 – 7
Protection Caps	25 – 30	18 – 22

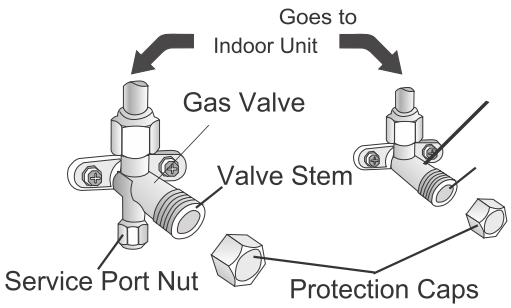


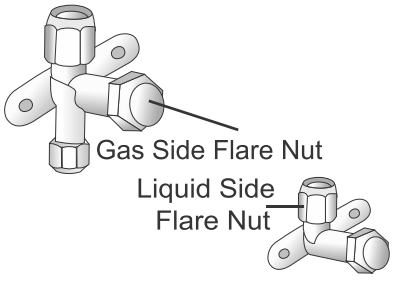


Take down the valve cover









CAUTION

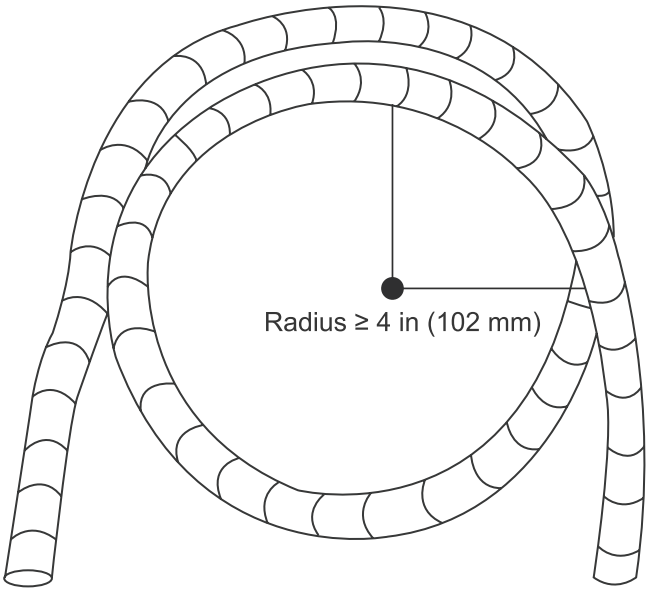
Always use a torque wrench to avoid overtightening, which can damage the flare or cause leaks.

8. Outdoor Unit Installation

5. Loosen the flare nut slightly, then retighten for a secure, leak-free seal.
6. Repeat Steps 3 to 5 for the remaining connection.
7. After all pipes are connected, verify that the gas (low-pressure) and liquid (high-pressure) lines are correctly matched, and ensure all flare joints are properly torqued.

Minimum Bend Radius

When bending refrigerant piping, maintain a minimum bending radius of 102 mm (4 in) to prevent kinks or damage.



CAUTION

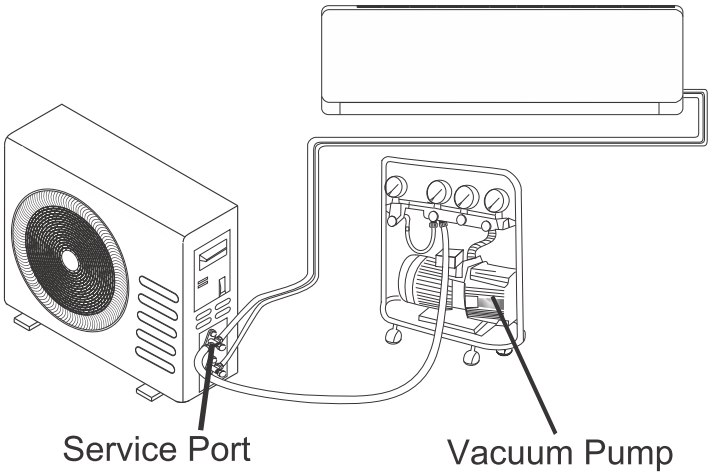
- Do not use excessive torque — over tightening may crack or deform the flare, causing refrigerant leakage.
- Always use a backup spanner to hold the valve body while tightening.
- Apply a thin layer of refrigeration oil or leak-guard compound to the flare surface only. Do not use plumbing sealant, Teflon tape, or putty.

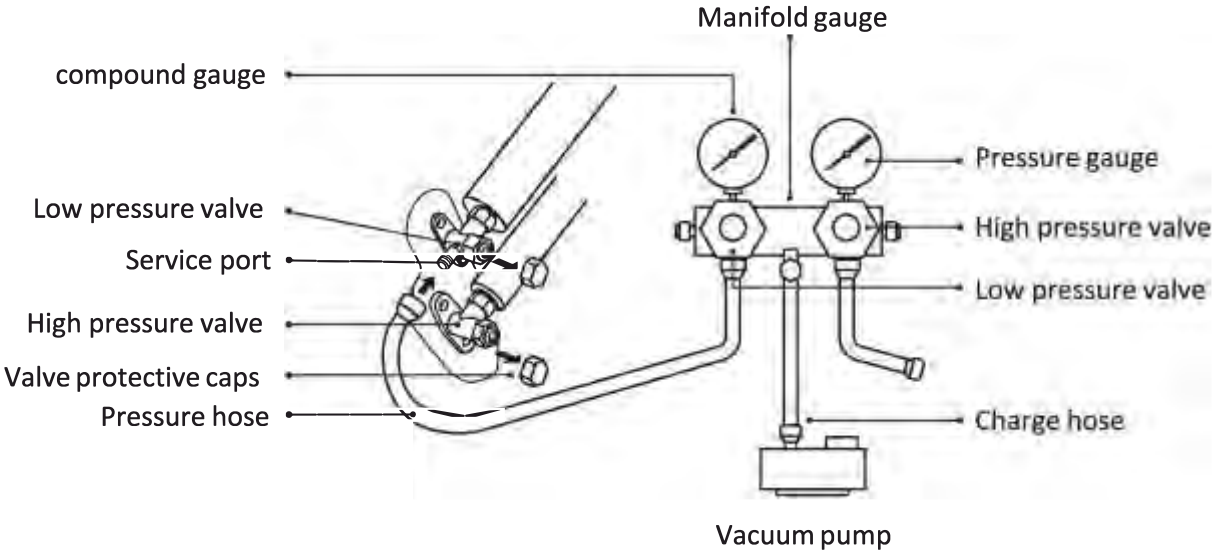
8. Outdoor Unit Installation

Step 6: Air Evacuation and Bleeding the Circuit

After connecting the indoor and outdoor units to form a closed refrigerant circuit, it is essential to **remove air and moisture** from the system using a **vacuum pump**. Any residual air or humidity can contaminate the refrigerant, cause pressure fluctuations, and lead to compressor malfunction.

Perform the evacuation **after installation or relocation** of the unit. For new installations, do not release refrigerant before completing the evacuation process.





⚠ WARNING

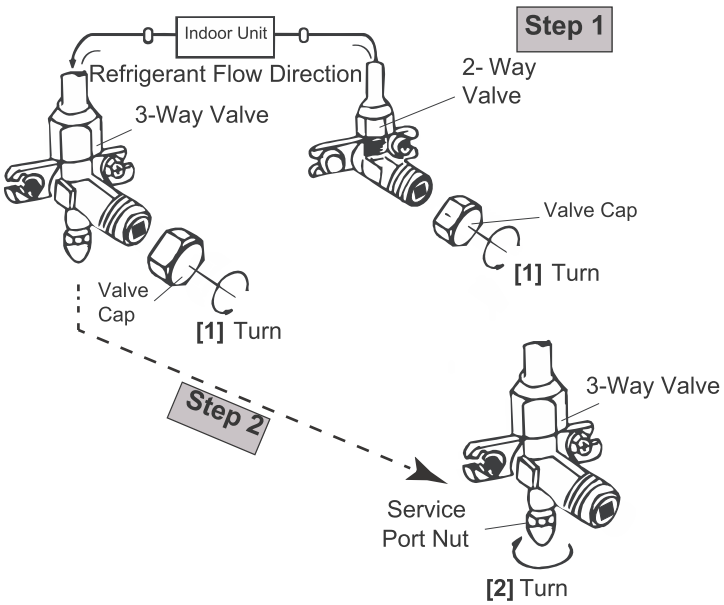
Before Performing Evacuation

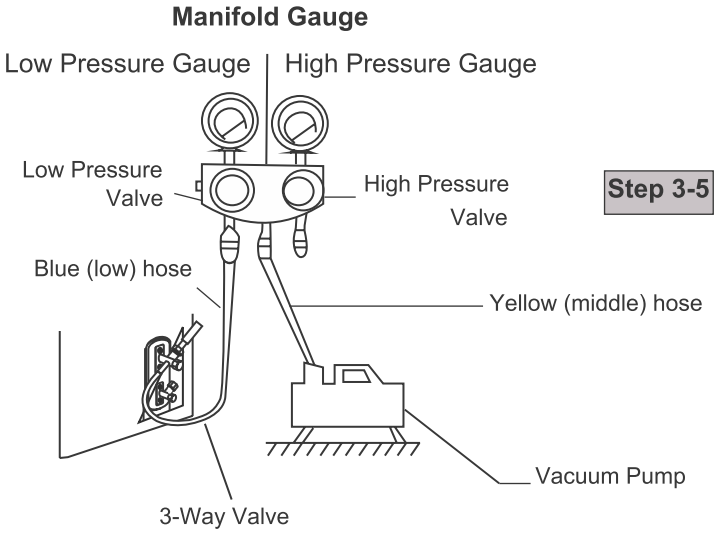
- Ensure that both **high-pressure and low-pressure pipes** between the indoor and outdoor units are properly connected in accordance with the Refrigerant Piping Connection section of this manual.
- Verify that **all electrical wiring** is connected, insulated, and secured.

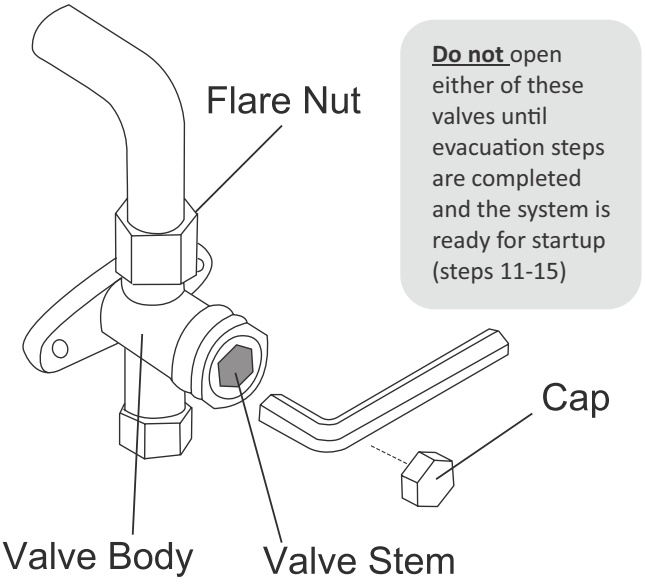
8. Outdoor Unit Installation

Evacuation Instructions

1. Remove the caps from the 2-way and 3-way service valves. (Do not manipulate the valve stems until step 11.)
2. Unscrew and remove the cap from the service port on the outdoor unit's 3-way valve.
3. Connect the blue (low-pressure) hose from the manifold gauge to the service port on the 3-way valve. Use an adapter if necessary and ensure the Schrader valve is engaged.
4. Connect the yellow (middle) hose from the manifold gauge to the vacuum pump.
5. Open the low-pressure valve of the manifold gauge. Keep the high-pressure valve closed.
6. Turn on the vacuum pump to begin evacuation.
   Run the pump for at least 15 minutes, or until the gauge reads -76 cmHg (-100 kPa or -30 inHg). The vacuum reading should gradually stabilize.
7. Close the low-pressure valve on the manifold gauge and turn off the vacuum pump.
8. Wait at least 1 hour and verify that the vacuum reading remains stable, indicating no leaks.







Do not open either of these valves until evacuation steps are completed and the system is ready for startup (steps 11-15)

8. Outdoor Unit Installation

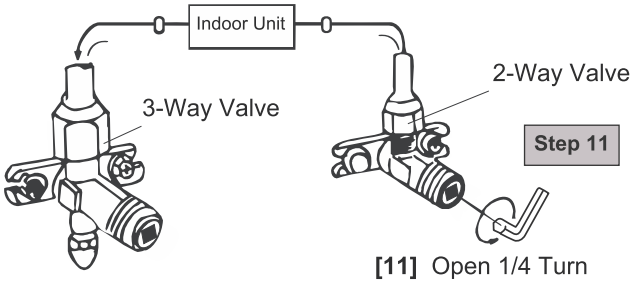
10. If the vacuum rises, refer to the Gas Leak Detection section for leak-testing procedures. If no leaks are found, continue with step 11.
11. Insert a hex wrench into the 2-way valve stem and turn ¼ turn counterclockwise to release a small amount of refrigerant. After 5 seconds, close the valve. Listen for gas escaping — this confirms the system is pressurized.

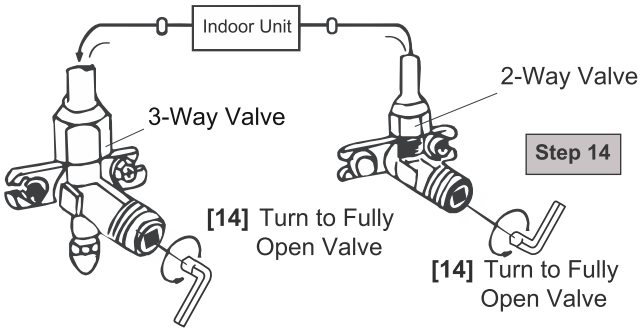
12. Observe the pressure gauge; it should now show slightly above atmospheric pressure.

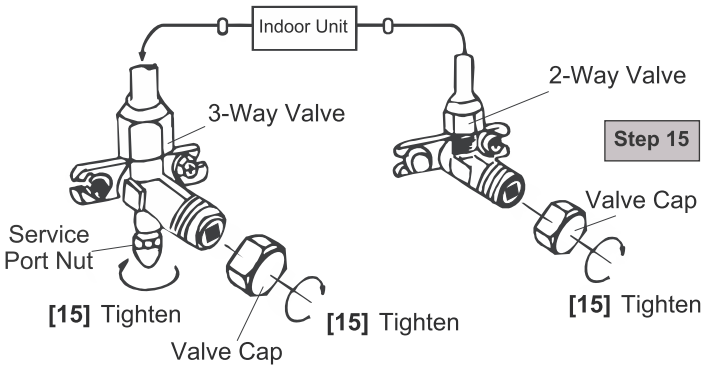
13. Disconnect the manifold set from the service port.

14. Fully open both the high-pressure and low-pressure valves by turning them counterclockwise with a hex wrench.

15. Reinstall and hand-tighten the valve caps on all three ports (service, high, and low pressure). Tighten further with a torque wrench if needed.







CAUTION

Open Valve Stems Gently

- Turn the supplied Allen wrench until it makes contact with the valve stopper.
- Do not force the valve open beyond its stop position, as this can cause damage or leaks.

9. Electrical / Gas Leak Inspection & Test Operation

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

Electrical & Gas Leak Test (Safety Verification)

Before Test Operation

- 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.

⚠ WARNING

Risk of Electric Shock - All electrical wiring must comply with local and national codes and be performed by a licensed electrician.Incorrect or unprotected connections can cause shock, fire, or equipment damage.

Electrical Safety Checks – Test

- Confirm that all electrical connections are properly installed and insulated.
- 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.)
- 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:

1. Soap and Water Method

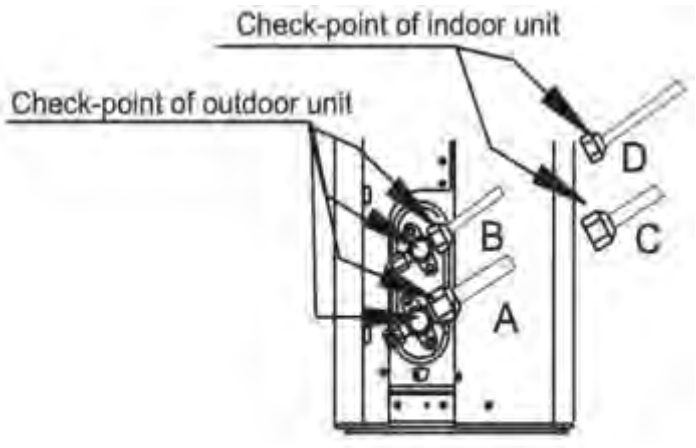
- Apply a mild soapy solution or liquid detergent to all flare and valve joints on both indoor and outdoor units.
- Watch for bubbles — their appearance indicates a leak.
- If a leak is found, release system pressure, retighten the flare nut, and repeat the test.

2. Electronic Leak Detector Method

- Use a certified electronic leak detector compatible with R-32 refrigerant.
- Slowly move the probe around flare joints, valve stems, and service ports to check for leaks.
- Follow the manufacturer's operational instructions, and refer to Section 10 – Operation Instructions for proper usage instructions.

After Performing Gas Leak Checks

- After confirming that all joints are leak-free, reinstall and tighten the valve covers on the outdoor unit.
- Ensure all refrigerant piping and insulation are securely sealed and properly enclosed.
- Double-check that no leaks are present at the low-pressure, high-pressure, and indoor flare nut points.



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

9. Electrical / Gas Leak Inspection & Test Operation

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.

1. Connect power to the unit.
2. Press the ON/OFF button on the remote controller.
3. Press the MODE button to cycle through the following:
   - COOL Mode – Select lowest possible temperature.
   - HEAT Mode – Select highest possible temperature.
4. 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	☐	☐
Unit is properly grounded	☐	☐
All electrical terminals are covered	☐	☐
Indoor and outdoor units are properly installed	☐	☐
All refrigerant joints show no leaks	☐	☐
Water drains correctly from the condensate hose	☐	☐
All piping are properly insulated	☐	☐
Indoor louvers move normally	☐	☐
Indoor unit responds to the remote controller	☐	☐
System operates properly in both Cool and Heat modes	☐	☐

9. Electrical / Gas Leak Inspection & Test Operation

After the Test Run

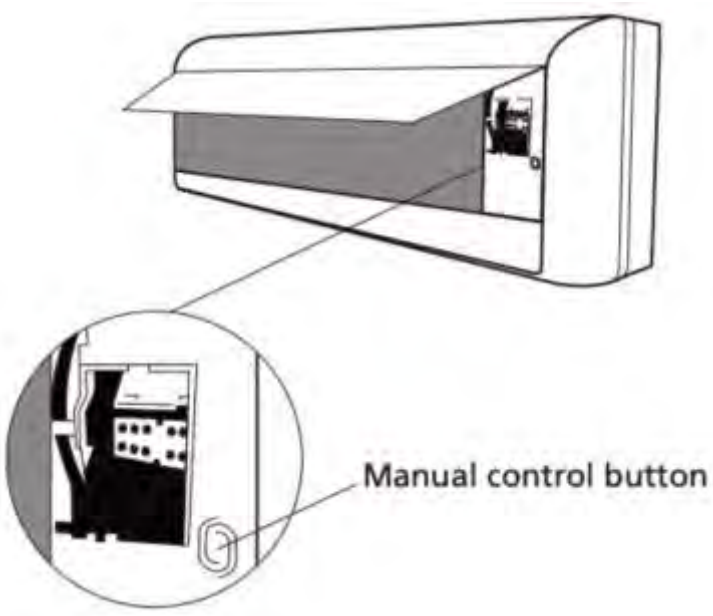
Once all checks have passed:

1. Use the remote control to return the unit to normal temperature.
2. Wrap exposed refrigerant pipe connections with insulation tape.
3. Ensure the drain hose allows proper water flow.
4. Reinstall all valve covers, electrical panels, and service caps.

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:

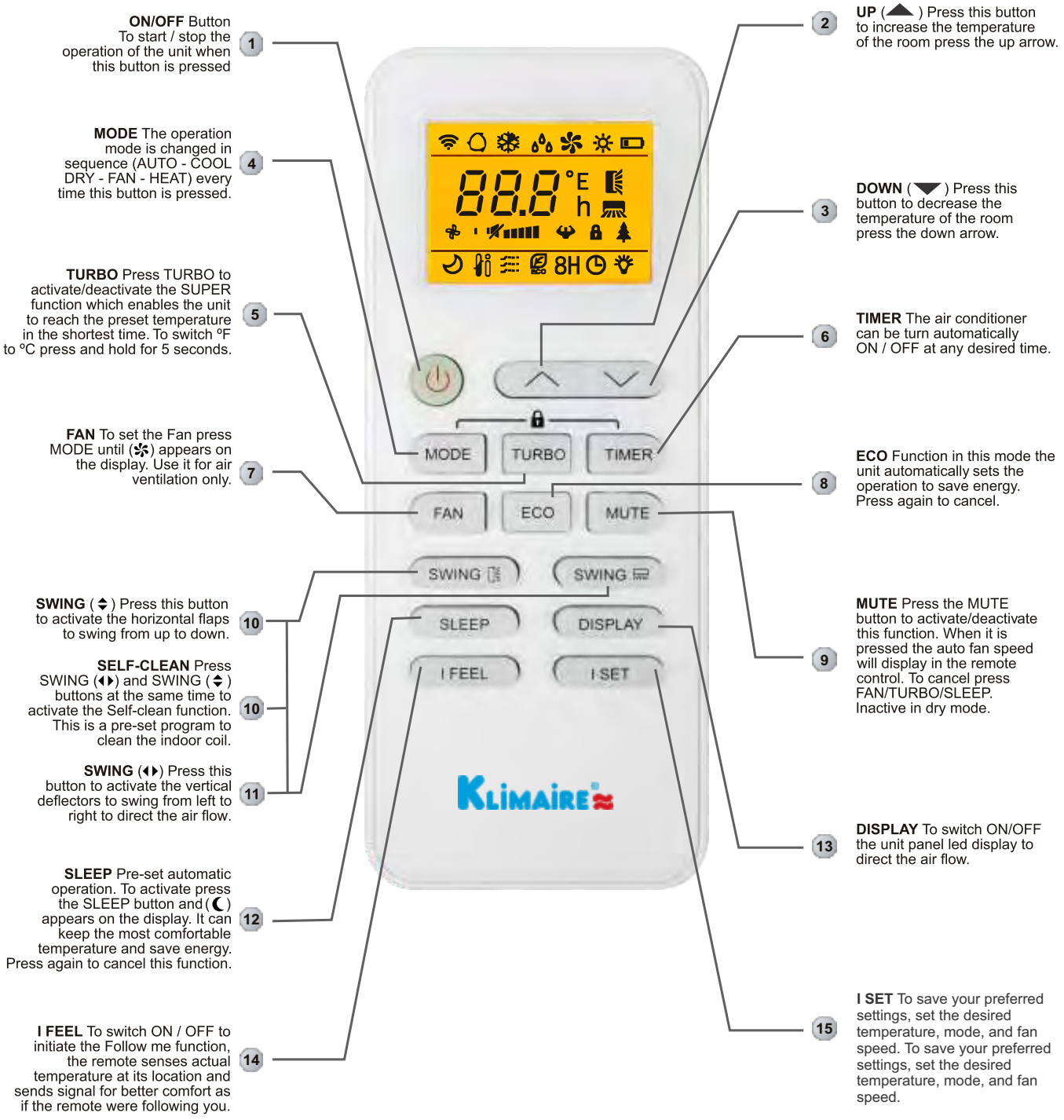
1. Lift the front panel of the indoor unit until it clicks in place.
2. Press the **MANUAL CONTROL** button (on the right-hand side) twice to activate COOL mode.
3. Perform the same Test Run steps to verify proper operation.



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.

10. Operation Instructions



ON/OFF Button To start / stop the operation of the unit when this button is pressed

1

MODE The operation mode is changed in sequence (AUTO - COOL DRY - FAN - HEAT) every time this button is pressed.

4

TURBO Press TURBO to activate/deactivate the SUPER function which enables the unit to reach the preset temperature in the shortest time. To switch ºF to ºC press and hold for 5 seconds.

5

FAN To set the Fan press MODE until (✻) appears on the display. Use it for air ventilation only.

7

SWING (⇕) Press this button to activate the horizontal flaps to swing from up to down.

10

SELF-CLEAN Press SWING (⇔) and SWING (⇕) buttons at the same time to activate the Self-clean function. This is a pre-set program to clean the indoor coil.

10

SWING (⇔) Press this button to activate the vertical deflectors to swing from left to right to direct the air flow.

11

SLEEP Pre-set automatic operation. To activate press the SLEEP button and (☾) appears on the display. It can keep the most comfortable temperature and save energy. Press again to cancel this function.

12

I FEEL To switch ON / OFF to initiate the Follow me function, the remote senses actual temperature at its location and sends signal for better comfort as if the remote were following you.

14

UP (▲) Press this button to increase the temperature of the room press the up arrow.

2

DOWN (▼) Press this button to decrease the temperature of the room press the down arrow.

3

TIMER The air conditioner can be turn automatically ON / OFF at any desired time.

6

ECO Function in this mode the unit automatically sets the operation to save energy. Press again to cancel.

8

MUTE Press the MUTE button to activate/deactivate this function. When it is pressed the auto fan speed will display in the remote control. To cancel press FAN/TURBO/SLEEP. Inactive in dry mode.

9

DISPLAY To switch ON/OFF the unit panel led display to direct the air flow.

13

I SET To save your preferred settings, set the desired temperature, mode, and fan speed. To save your preferred settings, set the desired temperature, mode, and fan speed.

15

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. Operation Instructions

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	32–80°F (0–27°C)	63–90°F (17–32°C)	63–90°F (17–32°C)
Ambient Outdoor Temperature	5–75°F (-15–24°C)	54–122°F (12–50°C)	54–122°F (12–50°C)

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

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 s**oft, 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.

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.

11. Maintenance

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.

Remove Filter **Wash Filter** **Reinstall Filter**

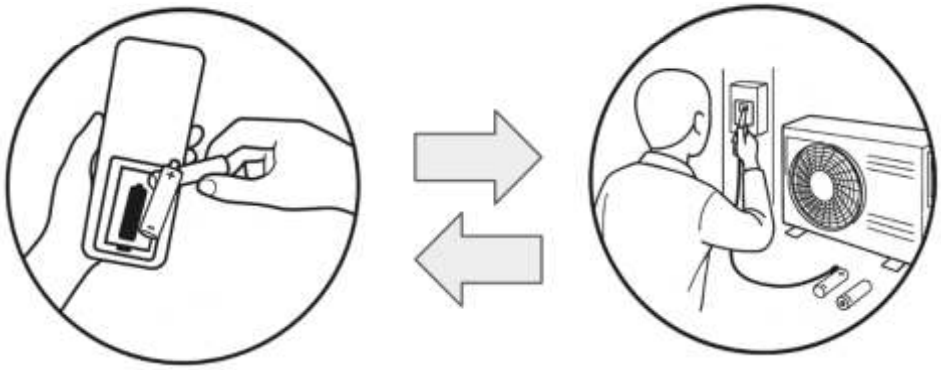
SERVICE AND MAINTENANCE

• 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

COMMON ISSUES & 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.

⚠ 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.

12. Troubleshooting

Display	Description of the trouble
E1	Indoor room temperature sensor fault
E2	Indoor pipe temperature sensor fault
E3	Outdoor pipe temperature sensor fault
E4	Refrigerantsystem leakage or fault
E6	Malfunction of indoor fan motor
E7	Outdoor ambient temperature sensor fault
E0	Indoor and outdoor communication fault
E8	Outdoor discharge temperature sensor fault
E9	Outdoor 1PM module fault
EA	Outdoor current detect fault
EE	Outdoor PCB EEPROM fault
EF	Outdoor fan motor fault
EH	Outdoor suction temperature sensor fault

Solutions to Common Issues and Scenarios

Issue: The indoor air handler does not turn on

- **Solution:** Press the manual **emergency button** on the indoor unit to confirm whether the system can start independently of the remote control.
- **Solution:** Verify that the **wiring order** between indoor and outdoor units matches correctly. Check for any loose connections, broken terminals, or damaged cables.
- **Solution:** Check the **power supply** according to the system voltage :

Solution (for 230V systems):

- Use a multimeter to check **AC voltage across terminals L1–L2** on the outdoor system. Touch one probe to L1, the other to L2.
- Do not measure each leg to ground.
- Verify that the reading is between **208–253 VAC.**
- If the reading is between **208–253 VAC,** also measure whether the reading is the same across **2–3** on both the indoor and outdoor units. All readings must match for proper operation.

The system must receive a full 230V signal to function correctly.

- If the reading is 0 VAC, the system is not receiving proper power from the source. Check for the following:
  – A fused disconnect is being used, but fuses are blown or not inserted properly.
  – The disconnect box bus-bar is in the OFF position.
  – A double-pole breaker is not being used. (Single or tandem breakers will not operate the system.)

Solution (for 115V systems):

- Measure **AC voltage between L1 (Line) and N (Neutral)** at both indoor and outdoor terminals.
- The reading should be between **108–127 VAC.**
- Voltage readings must match across both units.
- If the reading is **0 VAC** or below **108 VAC,** check for the following:
  – Blown or improperly seated fuses.
  – Loose or damaged **power cord** or wiring connection.
  – A **double-pole breaker** was installed instead of a **single-pole breaker** (required for 115V systems).
  – Bus bar connection error or overtightened neutral terminal.
  – Incorrect **Line/Neutral configuration** (line and neutral may be reversed).

Issue: The system is not holding a vacuum

- **Solution:** A leak in the **gauge hoses** is likely. Repair the leak and check the vacuum pump.
- **Solution:** Check all **connection points** for proper contact and torque, then tighten if necessary.

Issue: The indoor air handler is leaking water

- **Solution:** Verify that the **indoor unit** is both horizontally and vertically leveled.
- **Solution:** Confirm that the **drain tube** is installed at a continuous downward pitch.
  - Pour a cup of water over the indoor coil to ensure proper drainage into the pan.
  - Verify that water exits freely through the drain hose. If not, identify and correct any blockage or improper slope.

Issue: The system indicates a refrigerant leak

- **Solution**: Turn off power to the unit. Use **soapy water** to test for leaks at the connection points of the refrigerant lines. Tighten fittings as needed, then **re-test.** After repairs are confirmed, **evacuate and recharge** the system according to specifications.

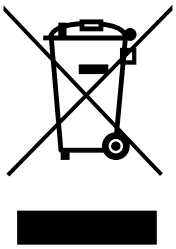
Issue: The fan runs in Cooling mode but has weak or no airflow in Heating mode

- **Solution:** The **fan speed control** may not be available in Heating mode. If the indoor coil cannot heat up properly, the fan will not ramp to full speed. This condition may also indicate **low refrigerant** or restricted airflow.

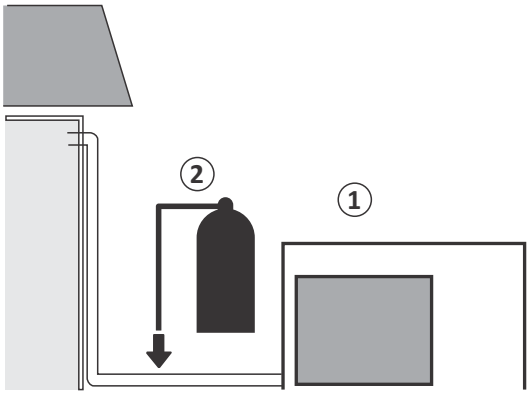
13. Disposal Guideline

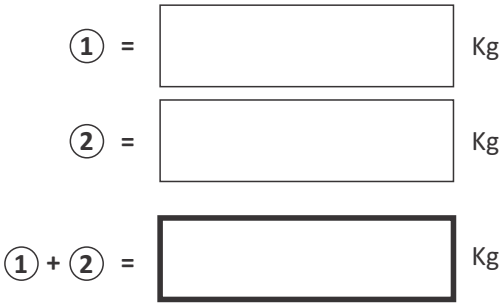
This appliance contains refrigerant and other potentially hazardous materia Is. When disposing of this appliance,the law requires special collection and treatment. DO NOT dispose of this product as household waste or unsorted municipal waste. ***When disposing of this appliance, you have the following options:***

- Dispose of the appliance at designated municipal electronic waste collection facility
- Dispose of the appliance at designated municipal electronic waste collection facility.
- When buying a new appliance, the retailer will take bac the old appliance free of charge.
- The manufacturer will also take back the old appliance f ee of charge.
- Sell the appliance to certifid scrap metal dealers.
- Disposing of this appliance in the forest or other natural surroundings endangers your health and is bad for the environment. Hazardous substances may leak into the ground water and enter the food chain.



14. Installer Reference





su3098 Refrigerant pre-charged

Key

Example 1 REFRIGERAN T CHARGE ofthe precharge d par t ofthe appliance

Example 2 REFRIGERAN T CHARG E adde d during installation

NOTICE

This table is only for reference, the installation shall meet the requirements of local laws and regulations.

System Notes

KLIMAIRE™

Mark of Superior Quality

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

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