This product utilizes **R-454B** *refrigerant*

MRCOOL®
Pre-Charged Coil
Installation & Owner's Manual

MODELS:

MCMP*OTB

Read this manual carefully before installation and keep it where the operator can easily find it for future reference.

Due to updates and constantly improving performance, the information and instructions within this manual are subject to change without notice.

Version Date: March 5, 2026
Please visit www.mrcool.com/documentation
to ensure you have the latest version of this manual.

MRCOOL®
COMFORT MADE SIMPLE

CONTENTS

Safety Precautions

Read Before Using

Incorrect usage may cause serious damage or injury.

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

WARNING	Indicates the possibility of personal injury or loss of life.
CAUTION	Indicates the possibility of property damage or serious consequences.

WARNING FOR USERS

This appliance can be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

WARNING FOR CLEANING & MAINTENANCE

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

WARNING FOR PRODUCT USE

- Turn off the air conditioner and disconnect the power before performing any cleaning, installation, or repairing. Failure to do so can cause electric shock.
- If an abnormal situation arises (like a burning smell), immediately turn off the unit and disconnect the power. Call your dealer for instructions to avoid electric shock, fire, or injury.
- **DO NOT** insert fingers, rods, or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.
- **DO NOT** use flammable sprays such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.
- **DO NOT** operate the unit in places near or around combustible gases. Emitted gas may collect around the unit and cause explosion.
- **DO NOT** operate the unit in a wet room such as a bathroom or laundry room. Too much exposure to water can cause electrical components to short circuit.
- **DO NOT** expose your body directly to cool air for a prolonged period of time.
- **DO NOT** allow children to play with the unit. Children must be supervised around the unit at all times.
- If the unit is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- In certain functional environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.
- Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

1 SAFETY

WARNINGS FOR PRODUCT INSTALLATION

- Turn off the air conditioner and disconnect the power before performing any installation or repairs. Failure to do so can cause electric shock.
- Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire. Contact an authorized service technician for repair or maintenance.
- This appliance shall be installed in accordance with national wiring regulations.
- Only use the included accessories, parts, and specified parts for installation.
- Using non-standard parts can cause water leakage, electrical shock, fire, and can cause the unit to fail.
- Install the unit in a firm location that can support the unit's weight. If the chosen location cannot support the unit's weight, or the installation is not done properly, the unit may drop and cause serious injury and damage.
- Install drainage piping according to the instructions in this manual. Improper drainage may cause water damage to your home and property.
- For units that have an auxiliary electric heater, do not install the unit within 3ft (1m) of any combustible materials.
- **DO NOT** install the unit in a location that may be exposed to combustible gas leaks. If combustible gas accumulates around the unit, it may cause a fire.
- **DO NOT** turn on the power until all work has been completed.
- When moving or relocating the air conditioner, consult experienced service technicians for disconnection and re-installation of the unit.

TAKE NOTE OF FUSE SPECIFICATIONS

The air conditioner's circuit board (PCB) is designed with a fuse to provide overcurrent protection.
The specifications of the fuse are printed on the circuit board, examples of such are: T3.15AL/250VAC, T5AL/250VAC. T3.15A/250VAC, T5A/250VAC, T20A/250VAC, T30A/250VAC, etc.
NOTE: Only the blast-proof ceramic fuse can be used.

ELECTRICAL WARNINGS

- The power supply of the Coil Interface must meet the requirements of safety isolation.
- Before obtaining access to terminals, all supply circuits must be disconnected.
- Risk of electric shock which can cause injury or death, disconnect all electric power supplies before servicing.
- The electronic control board only provides control signals and does not drive high-power loads. The external load power cannot exceed 15W.
- Only use the specified wire. If the wire is damaged, it must be replaced by MRCOOL®, its service agent, or a similarly qualified person in order to avoid a hazard.
- The product must be properly grounded at the time of installation, or electric shock may occur.
- For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause a fire, and may also cause shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electric shock.

ELECTRICAL WARNINGS, CONTD.

- All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.
- Disconnection must be incorporated in the fixed wiring in accordance with the electrical local code.
- **DO NOT** share the electrical outlet with other appliances. Improper or insufficient power supply can cause fire or electric shock.
- If connecting power to fixed wiring, an all-pole disconnection device must be incorporated in the fixed wiring in accordance with the local electrical code.

CAUTION

- Turn off the air conditioner and disconnect the power if you are not going to use it for a long time.
- Turn off and unplug the unit during storms.
- Make sure that water condensation can drain unhindered from the unit.
- **DO NOT** operate the air conditioner with wet hands. This may cause electric shock.
- **DO NOT** use device for any other purpose than its intended use.
- **DO NOT** climb onto or place objects on top of the outdoor unit.
- **DO NOT** allow the air conditioner to operate for long periods of time with doors or windows open, or if the humidity is high.

NOTE ABOUT FLUORINATED GASES (NOT APPLICABLE TO A UNIT USING R290 REFRIGERANT)

- This air-conditioning unit contains fluorinated greenhouse gases.
- Installation, service, maintenance, and repair of this unit must be performed by a certified technician.
- Product uninstallation and recycling must be performed by a certified technician.
- When the unit is installed check for leaks, proper record-keeping of all checks is strongly recommended.
- Tested external static pressure for performance is .3 i.n.W.C. (3Pa).

NOTE

1. All joints made in the installation between parts of the refrigeration system should be made with a brazed, welded, or mechanical connection before opening the valves to permit refrigerant to flow between the refrigeration system parts. A vacuum valve should be provided to evacuate the interconnecting pipe or any uncharged refrigeration system part.
2. The minimum average fan airflow velocity is no less than 200ft/m (1.0m/s).
3. The refrigerant detection system should de-energize the heat source when a leak is detected.
4. The control system for the coil should be provided with a fan interlock designed to prevent operation of the heat pump unless the circulating fan is energized and preventing simultaneous operation of the heat pump and the installed fossil fuel furnace.

FLAMMABLE REFRIGERANT WARNINGS

1. The installation of pipe-work should be kept to a minimum and should be protected from physical damage.
2. Refrigerant pipes should comply with national gas regulations.
3. All mechanical connections and ventilation openings should be kept clear of obstruction.
4. Utilize proper disposal processes based on national regulations.
5. Any person involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.
6. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.
7. Do not use any means to accelerate the defrosting process or to clean, other than those recommended by the MRCOOL®.
8. The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater).
9. Do not allow foreign matter (oil, water, etc.) to enter the piping, and securely seal the opening by pinching, taping, etc.
10. Do not pierce or burn.
11. Refrigerants may not contain an odor.
12. Working procedures that affect safety should only be carried out by competent persons.
13. The unit should be stored in a well-ventilated area where the room size corresponds to the room area as specific for operation, and should be stored so as to prevent potential mechanical damage from occurring.
14. Joints should be tested with detection equipment with a capability of 5 g/year of refrigerant or better, with the equipment in standstill and under operation or under a pressure of at least these standstill or operation conditions after installation. Detachable joints should NOT be used in the indoor side of the unit (brazed, welded joint could be used).
15. A leak detection system is installed. The unit must be powered except for service. For units with a refrigerant sensor, the indoor unit will display an error code and emit a buzzing sound, the compressor of the outdoor unit will immediately stop, and the indoor fan will start running. The service life of the refrigerant sensor is 15 years. When the refrigerant sensor malfunctions, the indoor unit will display the error code "FHCC". The refrigerant sensor cannot be repaired and can only be replaced by MRCOOL®. It should only be replaced with the sensor specified by MRCOOL®.
16. Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repairs to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.
17. Work should be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.
18. All maintenance staff and others working in the local area should be instructed on the nature of work being carried out. Avoid work in confined spaces.
19. The area should be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. no sparking, adequately sealed, or intrinsically safe.
20. If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment should be on site and readily available. Have a dry power or CO2 fire extinguisher adjacent to the charging area.
21. No person carrying out work in relation to a refrigerating system which involves exposing any pipe work should use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing, and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs should be displayed.
22. Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

FLAMMABLE REFRIGERANT WARNINGS

23. Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the MRCOOL® maintenance and service guidelines shall be followed. If in doubt, consult the MRCOOL®'s technical department for assistance. The following checks should be applied to installations using flammable refrigerants:
    - the actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed;
    - the ventilation machinery and outlets are operating adequately and are not obstructed;
    - if an indirect refrigerating circuit is being used, the secondary circuits should be checked for the presence of refrigerant;
    - marking to the equipment continues to be visible and legible, marking and signs that are illegible should be corrected;
    - refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.
24. Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution should be used.
25. Initial safety checks should include:
    - that capacitors are discharged: this should be done in a safe manner to avoid the possibility of sparking;
    - that there are no live electrical components and wiring are exposed while charging, recovering, or purging the system;
    - that there is continuity of earth bonding.
26. Sealed electrical components should be replaced if damaged.
27. Intrinsically safe components should be replaced if damaged.
28. Check that wiring will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges, or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.
29. Under no circumstances should potential sources of ignition be used in the search for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) should not be used.

The following leak detection methods are deemed acceptable for refrigerant systems. Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and should be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% minimum) is confirmed. Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine may react with the refrigerant and corrode the copper work. Examples of leak detection fluids are the bubble method, fluorescent method agents, etc. If a leak is suspected, all naked flames should be removed/extinguished.
If a leakage of refrigerant is found which requires brazing, all of the refrigerant should be recovered from the system, or isolated (by means of shut-off valves) in a part of the system remote from the leak. See the following instructions of removal of refrigerant.

30. When breaking into the refrigerant circuit to make repairs, or for any other purpose, conventional procedures should be used. However, for flammable refrigerants, it is even more vital to follow best practice. The following procedure should be adhered to:
    - safely remove refrigerant following local and national regulations;
    - evacuate;
    - purge the circuit with inert gas;
    - evacuate;
    - continuously flush or purge with inert gas when using flame to open circuit;
    - open the circuit

FLAMMABLE REFRIGERANT WARNINGS

31. The refrigerant charge should be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For units containing flammable refrigerants, the system should be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems. For appliances containing flammable refrigerants, refrigerant purging should be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process should be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system should be vented down to atmospheric pressure to enable work to take place. The outlet for the vacuum pump should not be close to any potential ignition sources, and ventilation should be available.
32. In addition to conventional charging procedures, the following requirements should be followed:
    - Work should be undertaken with appropriate tools only (in case of uncertainty, please consult the MRCOOL® of the tools for use with flammable refrigerants).
    - Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as shot as possible to minimize the amount of refrigerant contained in them.
    - Cylinders should be kept upright.
    - Ensure that the refrigeration system is grounded prior to charging the system with refrigerant.
    - Label the system when charging is complete (if not already).
    - Extreme care should be taken not to overfill the refrigeration system.
    - Prior to recharging the system, it should be pressure tested with oxygen-free nitrogen (OFN). The system should be leak-tested on completion of charging but prior to commissioning. A follow-up leak test shall be carried out prior to leaving the site.
33. Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is good recommended practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample should be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.
    a. Become familiar with the equipment and its operation.
    b. Isolate the system electrically.
    c. Before attempting the procedure ensure that:
        - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
        - all personal protective equipment is available and being used correctly;
        - the recovery process is supervised at all times by a competent person;
        - recovery equipment and cylinders conform to the appropriate standards

    d. Pump down refrigerant system, if possible.
    e. If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
    f. Make sure that the cylinder is situated on the scales before recovery takes place.
    g. Start the recovery machine and operate in accordance with instructions.
    h. Do not overfill cylinders (no more than 80% volume liquid charge).
    i. Do not exceed the maximum working pressure of the cylinder, even temporarily.
    j. When the cylinders have been filled correctly and the process completed, make sure that the cylinders and equipment are removed from the site promptly and all isolation valves on the equipment are closed off.
    k. Recovered refrigerant should not be charged into another refrigeration system unless it has been cleaned and checked.
34. Equipment shall be labeled stating that it has been decommissioned and emptied of refrigerant. The label should be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

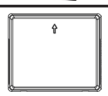
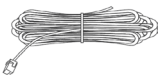
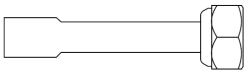
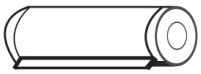
FLAMMABLE REFRIGERANT WARNINGS

35. When removing refrigerant from a system, either for servicing or decommissioning, it is good recommended practice that all refrigerants are removed safely. When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used should be designated for the recovered refrigerant and labeled for that refrigerant (i.e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs. The recovery equipment should be in good working order with a set of instructions concerning the equipment that is at hand and should be suitable for the recovery of the flammable refrigerant. If in doubt, M should be consulted. In addition, a set of calibrated weighing scales should be available and in good working order. Hoses should be complete with leak-free disconnect couplings and in good condition. The recovered refrigerant should be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders. If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The compressor body should not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it should be carried out safely.
36. An unventilated area where the appliance using flammable refrigerants is installed should be constructed so that should any refrigerant leak, it will not stagnate so as to create a fire or explosion hazard. If appliances connected via an air duct system to one or more rooms below the ventilation requirements, that room should never contain potential ignition sources. A flame-producing device may be installed in the space if the device is provided with an effective flame arrest. Auxiliary devices which may be a potential ignition source should not be installed in the duct work. Examples of such are hot surfaces with a temperature exceeding 1292°F (700°C) and electric switching devices. Only auxiliary devices (such as a certified heater kit) approved by the manufacturer or declared suitable with the refrigerant should be installed in connecting ductwork. False or drop ceilings may be used as a return air plenum if a refrigerant detection system is provided in the appliance and any external connections are also provided with a sensor immediately below the return air plenum duct joint. Refrigerant sensors for refrigerant detection systems should only be replaced with sensors specified by the manufacturer. A leak detection system is installed. The unit must be powered except for service.
37. Transport of equipment containing flammable refrigerants should comply with transportation regulations.
38. Marking of equipment using signs should comply with local regulations.
39. Disposal of equipment using flammable refrigerants should comply with national regulations.
40. Storage of equipment/appliances should be in accordance with the manufacturer's instructions.
41. Storage of packed (unsold) equipment should be constructed so that mechanical damage to the equipment inside the package will not cause a leak of the refrigerant charge. The maximum number of pieces of equipment permitted to be stored together will be determined by local regulations.

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

2 ACCESSORIES

The unit comes with the following accessories. Use all of the installation parts and accessories to install the unit. Improper installation may result in water leakage, electrical shock and fire, or equipment failure.

PART	LOOKS LIKE	QUANTITY	REMARK
Manual		1	
COIL Interface		1	With separate package
M4*35 Screws		4	(For mounting on the wall), in the control box package
M4*16 Screws		4	In the control box package
Anchors		3	(For mounting on the wall), in the control box package
Room Temp. Sensor (T1)		1	In the control box package
Room Temp. Sensor (T1) (5m)		1	In the control box package
Ferrite Clamp		1	In the control box package
Cable Ties-1		1	In the control box package
Cable Ties-2		6	
Braze to Flare Adapter		2	In the control box package
Insulation Sleeve		2	
Flare Nut		2	

3.1 Operating Conditions

Use the system under the following temperature ranges for safe and effective operation. If the air conditioner is used under different conditions, it may malfunction or become less efficient.

Inverter Split Type

	Cool Mode	Heat Mode	Dry Mode
Recommened Outdoor Temperature	-22°F (-30°C) - 122°F (50°C) For Hyper Heat Series	-22°F (-30°C) - 75°F (24°C) For Hyper Heat Series	32°F (0°C) - 122°F (50°C)
	-13°F (-25°C) - 122°F (50°C) For Regular Heat Series	-13°F (-25°C) - 75°F (24°C) For Regular Heat Series	

For Outdoor Unit with Auxiliary Electric Heaters

When the outside temperature is below 32°F (0°C), we strongly recommend keeping the outdoor unit powered at all times to prevent damage to the equipment.

NOTE

Room relative humidity less than 80%: If the air conditioner operates in excess of this figure, the surface of the air conditioner may attract condensation.

To Further Optimize the Performance of Your Unit, do the Following:

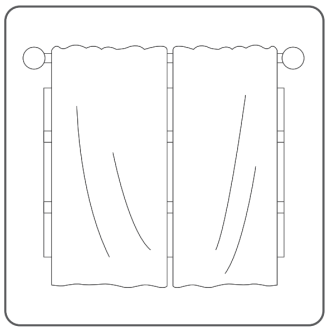
- Keep doors and windows closed.
- Do not block air inlets or outlets.
- Regularly inspect and clean air filters.

Refrigerant Leak Detection System

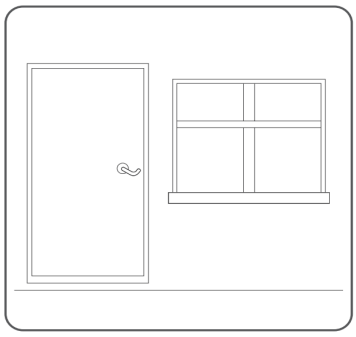
In the event of a refrigerant leak, the LCD screen will display "EL0C" or "EHC1" or "EHC2" and the LED indicator light will flash.

3.2 Energy Saving Tips

- **DO NOT** set the unit to excessive temperature levels.
- While cooling, close the curtains to avoid direct sunlight.
- Doors and windows should be kept closed to keep cool or warm air in the room.
- **DO NOT** place objects near the air inlet and outlet of the unit.
- Replace the air filter every 30 to 90 days depending on thickness and MERV rating.



Closing curtains during heating also helps keep the heat in.



Doors and windows should be kept closed.

4 CARE & MAINTENANCE

To continue high performance and minimize possible equipment failure, it is essential that periodic maintenance be performed on this equipment annually. The ability to properly perform maintenance on this equipment requires certain mechanical skills and tools. If you do not possess these, contact a service technician for maintenance. The only consumer service required is changing/cleaning your air filter every 1-3 months.

! CAUTION: CLEANING OR MAINTENANCE

Before Cleaning or Maintenance:
Always turn off your unit and disconnect its power supply before cleaning or maintenance.

- Contact an authorized service technician for repair or maintenance. Improper repair and maintenance may cause water leakage, electrical shock, or fire which may void the warranty.
- **DO NOT** substitute a blown fuse with a higher or lower amperage rating fuse as this may cause circuit damage or an electrical fire. The replacement fuse must be identical to the one removed.
- Make sure the drain hose is set up according to the instructions. Failure to do so could cause leakage and result in personal property damage, fire, or electrical shock.
- Make sure that all wires are connected properly. Failure to connect wires according to the instructions can result in electrical shock or fire.

! CAUTION: PIPE INSTALLATION

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

- **DO NOT** use chemicals or chemically treated cloths to clean the unit.
- **DO NOT** use benzene, paint thinner, polishing powder, or other solvents to clean the unit. They can cause the plastic surface to crack or deform. Use of volatile cleaners may cause fire resulting in injury or death.
- **DO NOT** use water hotter than 104°F (40°C) to clean the front panel. This can cause the panel to deform or become discolored.
- **DO NOT** wash the unit under running water. Doing so creates an electrical hazard.
- Clean the unit using a damp, lint-free cloth and neutral detergent. Dry the unit with a dry, lint-free cloth.

NOTE

Inspect and clean or replace the air filter each month or as required. Failure to do so may result in environmental damage, poor performance of the system, or component failure. Remove and throw away used air filters after replacing.

CAUTION

- Before changing the filter or cleaning, turn off the unit and disconnect its power supply.
- When removing the filter **DO NOT** touch metal parts in the unit. The sharp metal edges can cut you.
- **DO NOT** use water to clean the inside of the indoor unit. This can destroy insulation and cause electrical shock.
- **DO NOT** expose the filter to direct sunlight when drying. This can shrink the filter.
- Any maintenance and cleaning of the outdoor unit should be performed by an authorized dealer or service technician.
- Any unit repairs should be performed by an authorized dealer or service technician.

Long Periods of Non-Use
If you plan not to use the unit for an extended period of time, do the following:

Turn on fan function until unit dries out completely.

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

Check for damaged wires.

Check for leaks.

Ensure nothing is blocking the air inlets & outlets.

5 INSTALLATION

5.1 Location

CAUTION

Install the indoor and outdoor units, cables, and wires at least 3-1/5ft (1m) from televisions or radios to prevent static or image distortion. Depending on the appliances, a 3-1/5ft (1m) distance may not be sufficient.
The indoor unit must be electrically grounded per national and local electrical code.

DO NOT install the unit in the following locations:

DO NOT install the indoor unit in a moist enviroment. Excessive moisture can corrode the equipment, electrical components, and cause electrical shorts.

Areas with strong electromagnetic waves.

Coastal areas with high salt content in the air.

Areas with oil drilling or fracking.

Areas that store flammable materials or gas.

Areas where there may be detergent or other corrosive gases in the air, such as bathrooms, or laundry rooms.

Areas where the air inlet and outlet may be obstructed.

Danger of explosion. Keep flammable materials and vapors, such as gasoline, away from the air handler.

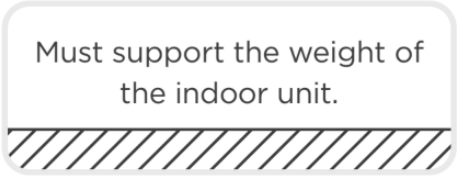
The unit must be installed in a location that meets the following requirements:

Securely install the indoor unit on a structure that can support its weight. If the structure is too weak, the unit may fall and cause personal injury, unit and property damage, or death.

Place the air handler so that the heating elements are at least 18in (46cm) above the floor for a garage installation. Failure to follow these instructions can result in death, explosion, or fire.

Enough room for installation and maintenance.

Enough room for the connecting pipe and drainpipe.



The structure that the equipment is suspended from must support the weight of the indoor unit.

5.2 Area Limitations

For R454B Refrigerant Charge Amount & Minimum Room Area:

The machine you purchased may be one of the types in the table below. The indoor and outdoor units are designed to be used together, and the indoor unit is connected via an air duct system to one or more room(s). Please check the machine you purchased. The height of the room cannot be less than 7.3ft (2.2m), and the minimum room area of operating or storage should be as specified in the following table:

Product Series	Dimensions	Indoor Unit	Outdoor Unit
Coil	14.5"x21"x18"	MCMP1824AOTB	MVP-18-HP-C-230A00-O MVP-24-HP-C-230A00-O CENTRAL-24-HP-C-230B00-O
	17.5"x21"x18"	MCMP1824BOTB	MVP-18-HP-C-230A00-O MVP-24-HP-C-230A00-O CENTRAL-24-HP-C-230B00-O
	17.5"x21"x24"	MCMP3036BOTB	MVP-30-HP-C-230A00-O MVP-36-HP-C-230A00-O CENTRAL-30-HP-C-230B00-O CENTRAL-36-HP-C-230B00-O
	21.5"x21.5"x28"	MCMP4860COTB	MVP-48-HP-C-230A00-O MVP-60-HP-C-230A00-O CENTRAL-48-HP-C-230B00-O CENTRAL-60-HP-C-230B00-O
	24.5"x21"x28"	MCMP4860DOTB	MVP-48-HP-C-230A00-O MVP-60-HP-C-230A00-O CENTRAL-48-HP-C-230B00-O CENTRAL-60-HP-C-230B00-O

Mc or Mrel (oz/kg)	TAmin (ft^2/m^2)	Mc or Mrel (oz/kg)	TAmin (ft^2/m^2)	Mc or Mrel (oz/kg)	TAmin (ft^2/m^2)	Mc or Mrel (oz/kg)	TAmin (ft^2/m^2)
<=62.7/1.776	12/1.1	134/3.8	126/11.6	211.6/6.0	198/18343	289.2/8.2	271/25.18
63.5/1.8	60/5.53	141./4	132/12.29	218.7/6.2	205/19.04	296.3/8.4	278/25.8
70.5/2	66/6.14	148.1/4.2	139/12.9	225.8/6.4	212/19.66	303.4/8.6	284/26.41
77.6/2.2	73/6.76	155.2/4.4	145/13.51	232.8/6.6	218/20.27	310.4/8.8	291/27.63
84.6/2.4	79/7.37	162.2/4.6	152/14.13	239.9/6.8	225/20.88	317.5/90	298/27.64
91.7/2.6	86/7.99	169.3/4.8	159/14.74	246.9/7.0	231/21.5	324.5/9.2	304/28.26
98.8/2.8	93/8.6	176.4/5	165/15.36	254/7.2	238/22.11	331.6/9.4	311/28.87
105.8/3	99/9.21	183.4/5.2	172/15.97	261/7.4	245/22.73	338.6/9.6	317/29.48
112.9/3.2	106/9.83	190.5/5.4	179/16.58	268.1/7.6	251/23.34	345.7/9.8	324/30.10
119.9/3.4	112/10.44	197.5/5.6	185/17.2	275.1/7.8	258/23.96	352.7/10.0	331/30.71
127/3.6	119/11.06	204.6/5.8	192/17.81	282.2/8.0	264/24.57		
Area Formula	**TAmin** is the required minimum area of the total conditioned space connected by air ducts in ft^2/m^2. **Mc** is the actual refrigerant charge in the system in oz/kg. **Mrel** is the refrigerant releasable charge in oz/kg. **Hinst** is the height of the bottom of the appliance relative to the floor of the room after installation. **WARNING:** The minimum room area or minimum room area of conditioned space is based on releasable charge and total system refrigerant charge. TAmin shall refer to the table above for a larger refrigerant charge size than actual charge, if releasable charge and total the system refrigerant charge is not equal to any of the size in the table above.						

For R454B Refrigerant Charge Amount & Minimum Airflow

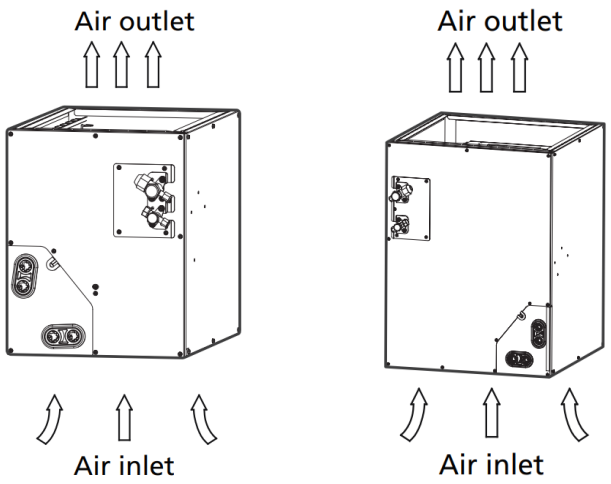
Please check the furnace you purchased. The minimum airflow of operating or storage should be as specified in the following table.

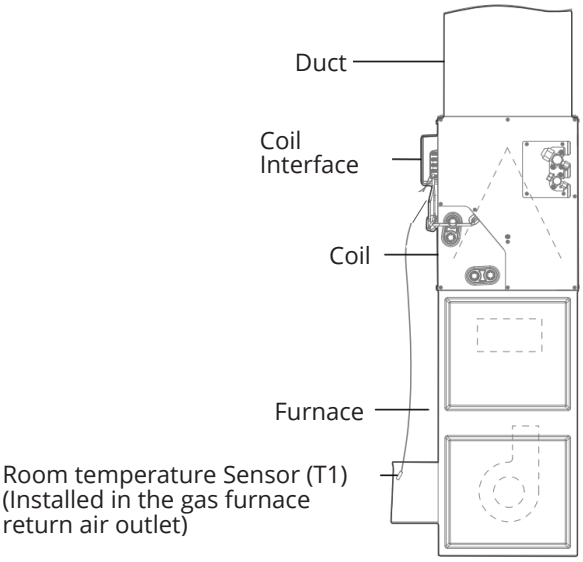
Mc (kg)	QHmin (m^3/h)	Mc (kg)	QHmin (m^3/h)	Mc (kg)	QHmin (m^3/h)	Mc (kg)	QHmin (m^3/h)	Mc (kg)	QHmin (m^3/h)	Mc (kg)	QHmin (m^3/h)
1.4	141.8918919	3.0	304.0540541	4.6	466.2162162	6.2	628.3783784	7.8	790.5405405	9.4	952.7027027
1.6	162.1621622	3.2	324.3243243	4.8	486.4864865	6.4	648.6486486	8.0	810.8108108	9.6	972.972973
1.8	182.4324324	3.4	344.5945946	5.0	506.7567568	6.6	668.9189189	8.2	831.0810811	9.8	993.2432432
2	202.7027027	3.6	364.8648649	5.2	527.027027	6.8	689.1891892	8.4	851.3513514	10.0	1013.513514
2.2	222.972973	3.8	385.1351351	5.4	547.2972973	7.0	709.4594595	8.6	871.6216216	10.2	1033.783784
2.4	243.2432432	4.0	405.4054054	5.6	567.5675676	7.2	729.7297297	8.8	891.8918919	10.4	1054.054054
2.6	263.5135135	4.2	425.6756757	5.8	587.8378378	7.4	750	9.0	912.1621622	10.6	1074.324324
2.8	283.7837838	4.4	445.9459459	6.0	608.1081081	7.6	770.2702703	9.2	932.4324324	10.8	1094.594595
Airflow Formula	**QHmin** is the required minimum Airflow in m^3/h **Mc** is the actual refrigerant charge in the system in kg **WARNING:** The minimum Airflow of conditioned space is based on releasable charge and total system refrigerant charge, and cooling full-load airflow not exceeding 400 scfm per specified ton of cooling.										

WARNING

There must be an airtight seal between the bottom of the air handler and the return air plenum. Use fiberglass sealing strips, foil duct tape, caulking, or equivalent sealing method between the plenum and the air handler cabinet to ensure a tight seal. Return air must not be drawn from a room where this air handler or any gas-fueled appliance (i.e., water heater), or carbon monoxide-producing device (i.e., wood fireplace) is installed.

5.3 System Introduction





Airflow Performance

Airflow performance (CFM vs Pressure Drop)

Model	Static Pressure/Pa	25	40	50	65	75	85	100	110	120	130	140	150	160	170	180
	Static Pressure/ inch	0.1	0.16	0.2	0.26	0.3	0.34	0.4	0.44	0.48	0.52	0.56	0.6	0.64	0.68	0.72
MCMP1824AOTB	Dry/m3/h	896	1185	1343	1587	1723	1883	2033	/	/	/	/	/	/	/	/
	Dry/CFM	527	697	790	933	1014	1108	1178	/	/	/	/	/	/	/	/
	Wet/m3/h	826	1088	1225	1441	1562	1713	1828	/	/	/	/	/	/	/	/
	Wet/CFM	486	640	720	848	919	1008	1075	/	/	/	/	/	/	/	/
MCMP1824BOTB	Dry/m3/h	913	1238	1426	1703	1858	203	2175	/	/	/	/	/	/	/	/
	Dry/CFM	537	728	839	1002	1093	1196	1279	/	/	/	/	/	/	/	/
	Wet/m3/h	843	1141	1308	1557	1697	1873	2002	/	/	/	/	/	/	/	/
	Wet/CFM	496	671	769	916	998	1102	1178	/	/	/	/	/	/	/	/
MCMP3036BOTB	Dry/m3/h	941	1252	1422	1662	1815	1994	2256	/	/	/	/	/	/	/	/
	Dry/CFM	554	736	836	978	1068	1173	1327	/	/	/	/	/	/	/	/
	Wet/m3/h	848	1139	1305	1522	1646	1834	2066	/	/	/	/	/	/	/	/
	Wet/CFM	499	670	768	895	968	1079	1215	/	/	/	/	/	/	/	/
MCMP4860COTB	Dry/m3/h	1050	1362	1536	1775	1924	2050	2335	2520	2623	2711	2798	2917	3008	3093	3190
	Dry/CFM	618	801	904	1044	1132	1206	1374	1482	1543	1595	1646	1716	1749	1819	1876
	Wet/m3/h	980	1265	1418	1629	1763	1880	2050	2310	2423	2485	2548	2650	2779	2890	3005
	Wet/CFM	576	744	834	958	1037	1106	1206	1359	1425	1462	1499	1559	1635	1700	1768
MCMP4860DOTB	Dry/m3/h	980	1280	1433	1705	1850	1985	2280	2450	2580	2652	2713	2862	2935	3012	3110
	Dry/CFM	576	753	843	1003	1088	1168	1341	1441	1518	1560	1596	1684	1726	1772	1829
	Wet/m3/h	910	1238	1380	1660	1778	1855	2018	2280	2400	2430	2522	2580	2722	2840	2980
	Wet/CFM	535	728	812	976	1046	1091	1187	1341	1412	1429	1484	1518	1601	1671	1753

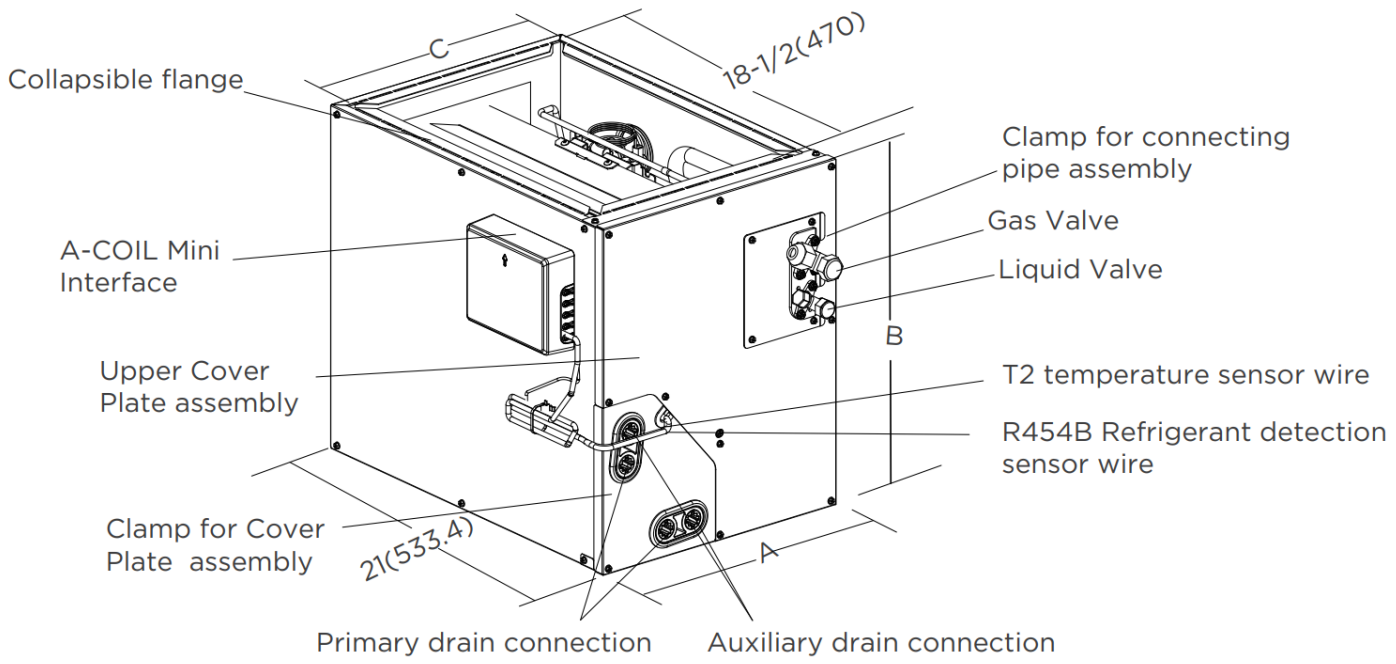
The data is based on a wet coil with the air inlet at 80°F Db/67°F Wb without an air filter.

The maximum allowable pressure drop is 0.4 in.w.c.

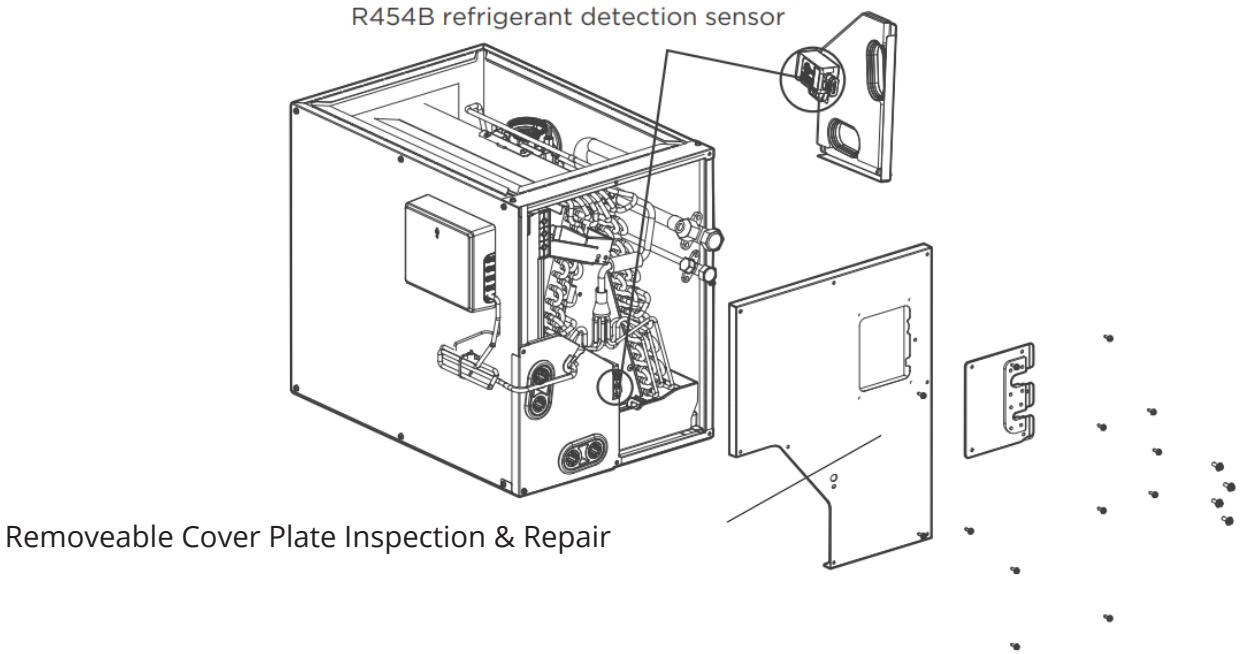
The maximum CFM is the data at 0.4 in.w.c. pressure.

5.4 Unit Dimensions

Unit: in(mm)

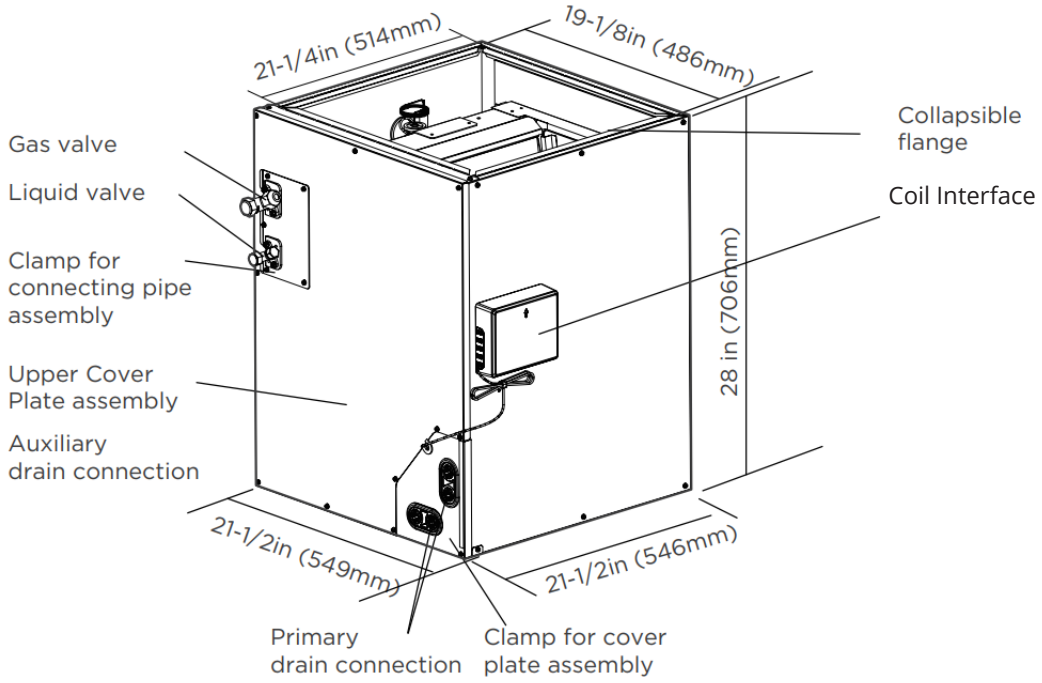


Model	MCMP1824AOTB		MCMP1824BOTB		MCMP3036BOTB		MCMP4860DOTB	
Dimensions	inch	mm	inch	mm	inch	mm	inch	mm
A	14-1/2	368	17-1/2	445	17-1/2	445	24-1/2	622
B	18	457	18	457	23-1/2	599	28	711
C	13-1/4	336	16-3/16	411	16-3/16	411	23-1/4	591

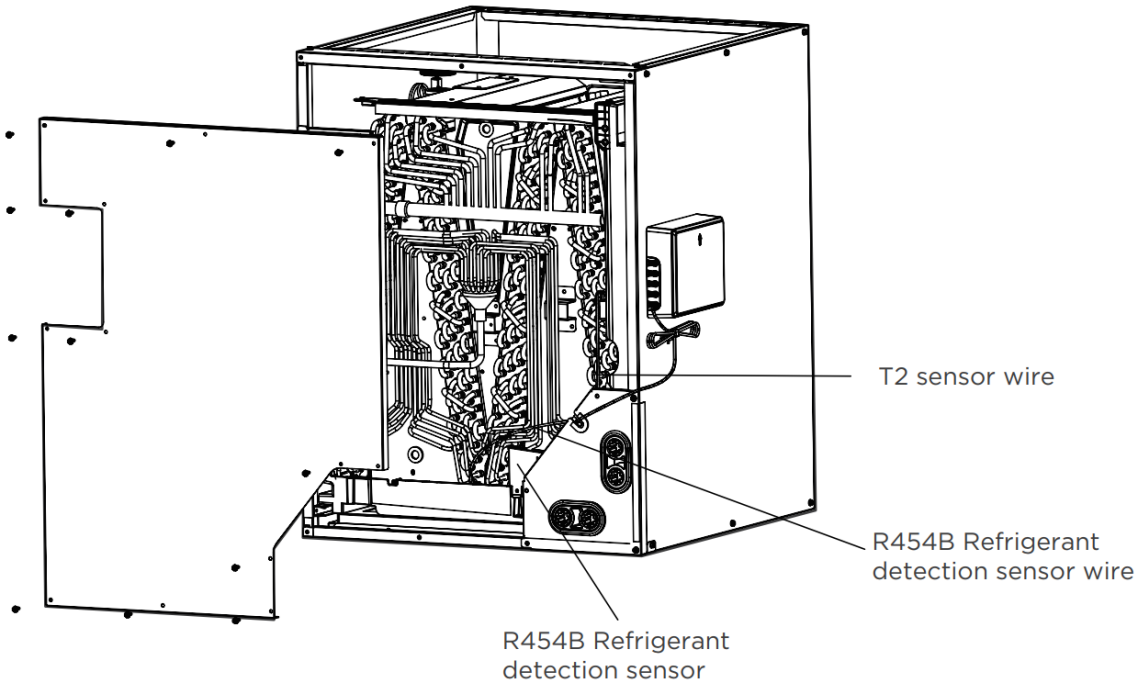


Removeable Cover Plate Inspection & Repair

CASED DIMENSIONS AND COMPONENT LOCATION



Model	MCMP4860COTB



5.5 Codes & Regulations

This product is designed and manufactured to comply with national codes.

Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations.

The United States Environmental Protection Agency (EPA) has issued various regulations regarding the introduction and disposal of refrigerants. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. Should you have any questions please contact the local office of the EPA.

5.6 Inspection Upon Arrival

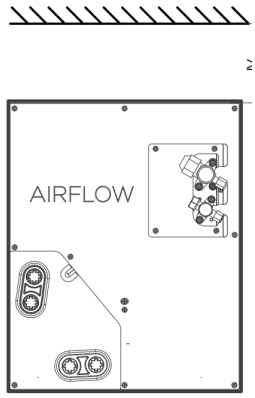
As soon as the unit is received, it should be inspected and noted for possible shipping damage during transportation. It is the carrier's responsibility to cover the cost of shipping damage. The manufacturer or distributor will not accept a claim from the contractors for any transportation damage.

5.7 Clearances

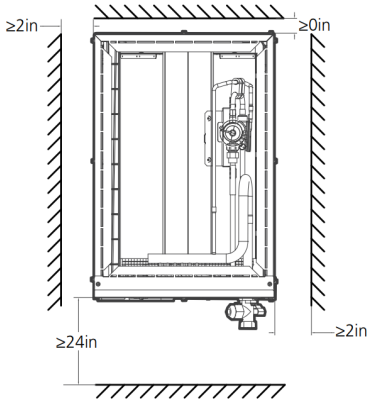
The following clearances should be provided during installation:

A. Maintenance and service access, including coil cleaning and coil assembly removal
B. Refrigerant piping and connections
C. Condensate drain line

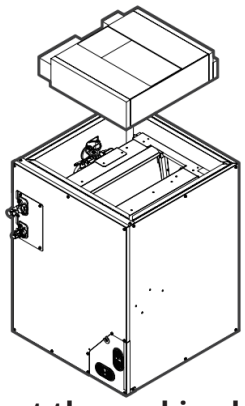
To ensure proper installation, select a solid and level site and ensure there is enough space required for installation and maintenance.



Front view of the indoor coil clearance (including air duct)



Top view of the indoor unit clearance (including air duct)



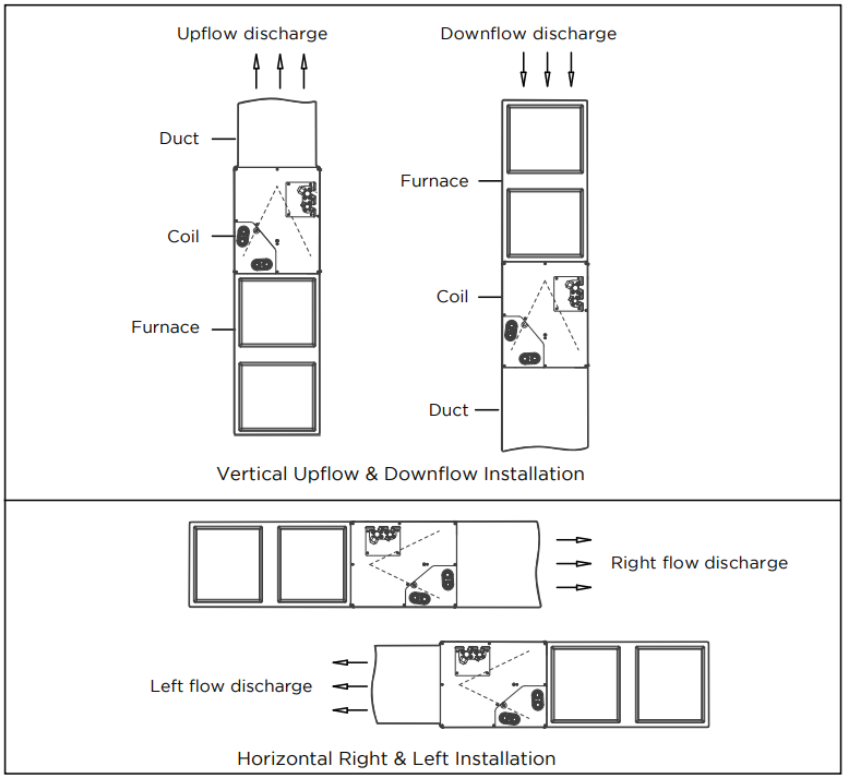
Take out the packing before installation (some models).

5.8 Coil Installation

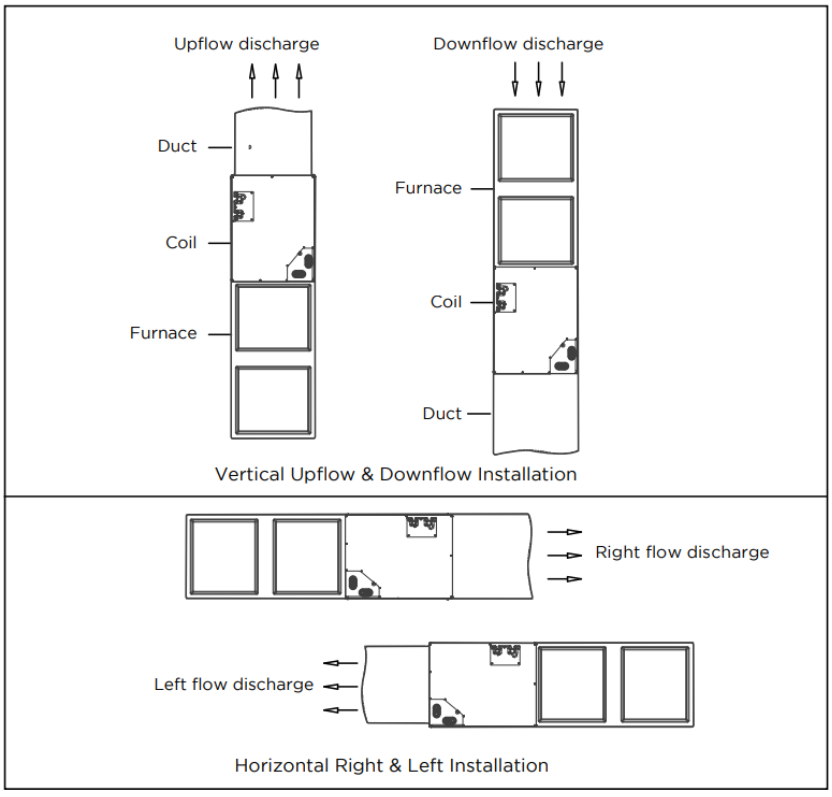
Installation Steps for Cased Coil:

1. Shut off or disconnect gas furnace's power and remove gas pipe if necessary.
2. Disconnect and remove a sufficient portion of the supply duct work to provide clearance for the cased coil.
3. Ensure that the coil is leveled well and seal the gap between the coil and furnace. In the case that the coil and furnace sizes do not match, use properly sized sheet metal or other material to fill the gap and seal the gap to prevent air leakage.
4. Reconnect the ductwork to the coil case and seal any leakage.
5. Reconnect power to the gas furnace and turn on the furnace to check for any signs of leakage.

Installation Type 1: Typical Coil Installation on Furnace



Installation Type 2: Typical MCMP4860COTB Coil Installation on Furnace

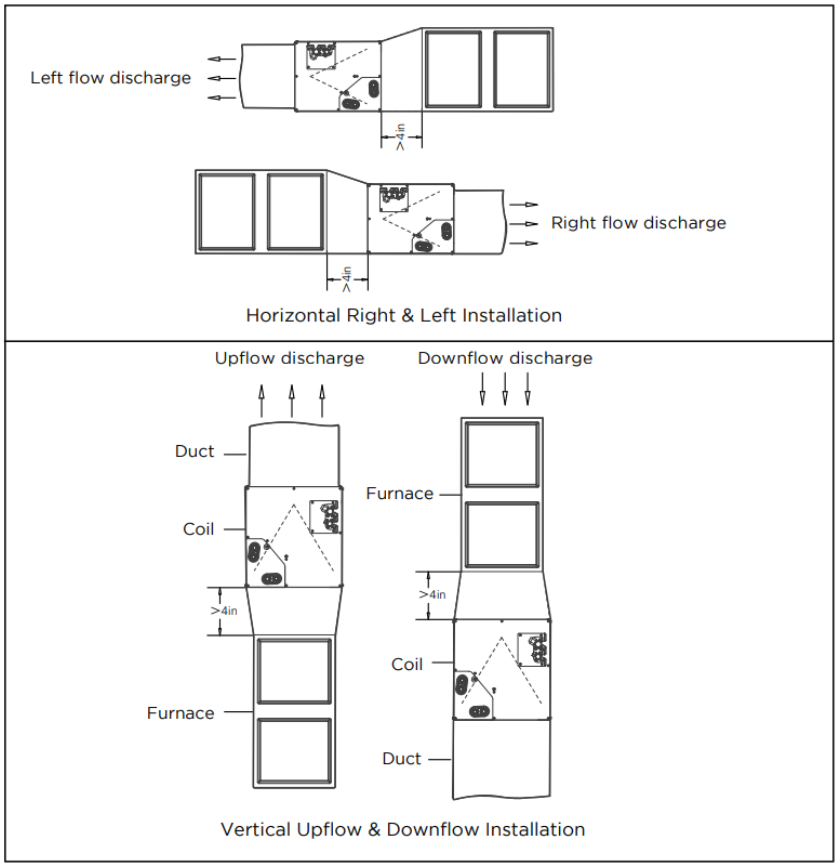


Upflow Coil Installation:

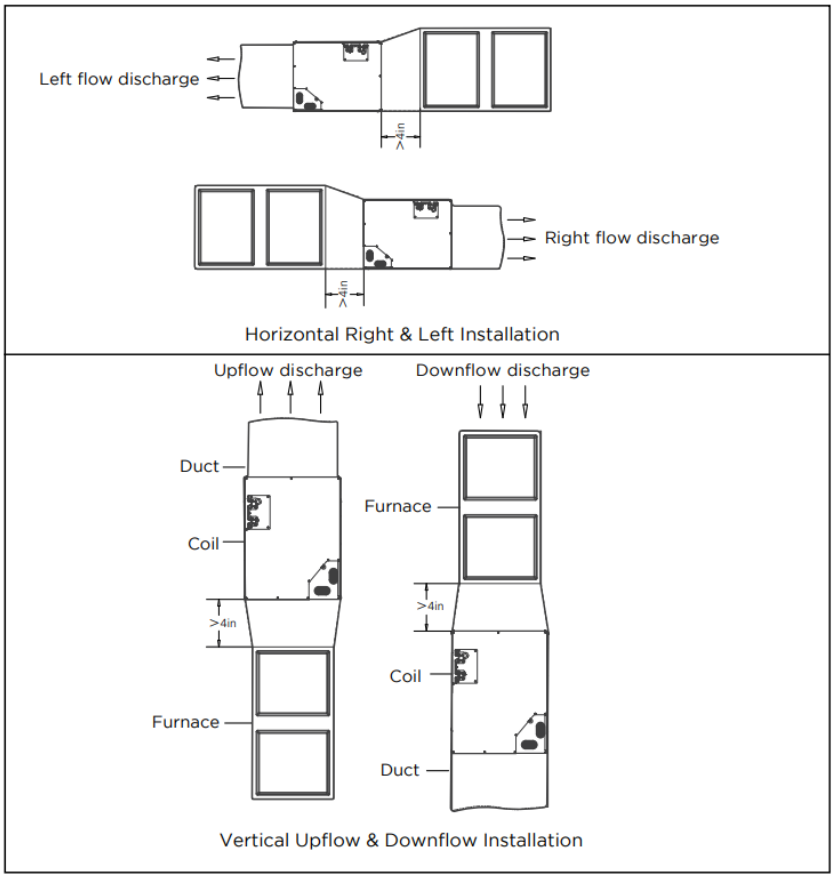
The cased coil is designed to fit furnace of the same width.

1. Set the coil in place on top of the discharge air opening.
2. Ensure the coil is level for proper condensate drainage. **DO NOT** tip the coil towards the condensate drain. The coil casing does not need to be screwed or fastened to the furnace.
3. When installing a wider coil on a narrow furnace, create a field-fabricated adapter.

Installation Type 3: Adapter(s) Installation When the Coil Overhangs on the Furnace



Installation Type 4: Adapter(s) Installation When Model MCMP4860COTB Overhangs the Furnace



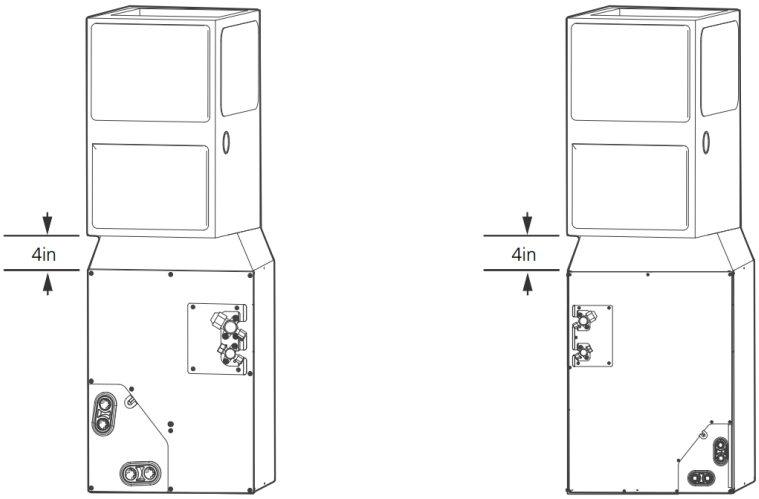
NOTE

On upflow installations where the indoor coil is placed in an unconditioned space, a 6in (15.24cm) wide piece of insulation should be applied and wrapped around the outside of the coil casing and supply duct contact point.

Consult the furnace installation instructions for any special requirements when installing the coil to the furnace.

Downflow Coil Installation:

IMPORTANT: If the airflow is high due to ductwork or other causes and there is a chance for water blow off, it is recommended that a 4in (10.16cm) minimum field-supplied adapter be placed between the coil and the furnace to allow the air to distribute evenly to both coil slabs.



1. Set the cased coil on the supply duct opening.
2. Place the field fabricated 4in (10.16cm) minimum adapter on the coil casing. The adapter should be tapered to fit the coil/furnace combination when one of them is larger than the other.
3. Set the furnace on the adapter.

NOTE

In a downflow installation with a 4-way multi-position furnace, break off the perforated duct flanges on the furnace. See furnace installation instructions.

Horizontal Coil Installation:

The unit can be installed on a work platform, secured to the roof trusses in the attic, suspended from a hanger on floor joists in a crawl space, or installed on blocks. It is designed to allow airflow in either direction to join with horizontal-left or horizontal-right furnace installations. Ensure the coil cabinet is level side to side and front to back. It is allowable to add up to .5in (1.27cm) additional slope over length and depth of the coil cabinet in the direction of the drain pan connection.

Horizontal Right Installation:

1. Use field-fabricated attachment plates to secure the coil to the furnace.
2. Use self-tapping screws to mount the attachment plates to the coil casing.
3. Connect the furnace snugly against the coil casing.
4. Use self-tapping screws to attach the furnace.
5. Seal the joint between the coil casing and furnace to create an airtight seal using locally approved materials.
6. If the coil is wider than the furnace, use a 4in (10.16cm) minimum transition and self-tapping screws to attach the furnace.

Horizontal Left Installation:

1. Unbend the 4 tabs at the right side of the casing.
2. Connect the furnace snugly against the coil casing.
3. Use self-tapping screws to attach the furnace.
4. Seal the joint between the coil casing and furnace to create an airtight seal using locally approved materials.
5. If the coil is wider than the furnace, use a 4in (10.16cm) minimum transition and self-tapping screws to attach the furnace.

5.9 Installation of Refrigerant Sensor

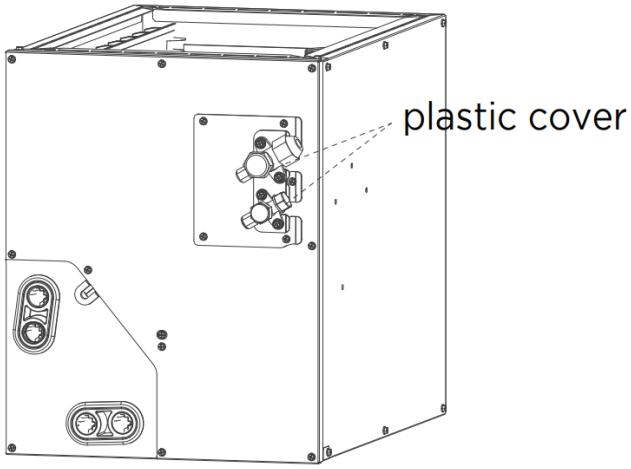
The wire of the refrigerant sensor must be connected to the leak mitigation control kit. For specific operation instructions, please refer to the Wiring Diagrams and Explanatory Label of the leak mitigation control kit.

WARNING

When using a gas furnace for heating, ensure that the heat exchanger temperature does not exceed 200°F (93.3°C). Exceeding this temperature may cause the refrigerant leak sensor to malfunction, which can lead to a hazardous situation.

5.10 Refrigerant Line Connections (Standard)

Step 1: Remove the Plastic Cover



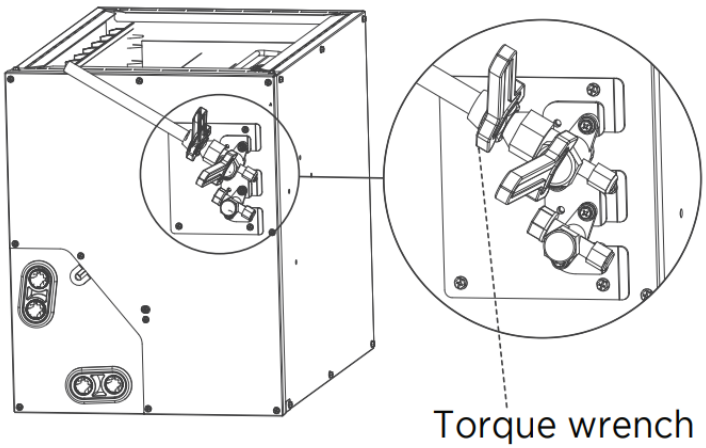
Step 2: Connect the Pipes

Connect the copper pipes to the indoor unit first, then connect it to the outdoor unit. You should first connect the low-pressure pipe, then the high-pressure pipe.

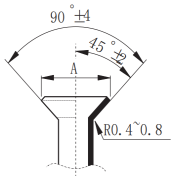
- When connecting the flare nuts, apply a thin coat of refrigeration oil to the flared ends of the pipes.
- Align the center of the two pipes that you will connect.
- Tighten the flare nut snugly by hand.
- Using a wrench, grip the nut on the unit tubing.
- While firmly gripping the nut, use a torque wrench to tighten the flare nut according to the torque values in the table below.

NOTE

Use both a crescent wrench and a torque wrench when connecting or disconnecting the pipes to/from the unit.



Torque Value Chart

Pipe Gauge	Tightening Torque	Flare Dimension (A)		Flare Shape
		Min.	Max.	
Ø3/8in (Ø9.52mm)	23.6~28.8lb-ft (32~39Nm)	0.52in (13.2mm)	0.53in (13.5mm)	
Ø5/8in (Ø16mm)	42~52.4lb-ft (57~71Nm)	0.76in (19.2mm)	0.78in (19.7mm)	
Ø3/4in (Ø19mm)	50.2~74.5lb-ft (67~101Nm)	0.91in (23.2mm)	0.93in (23.7mm)	

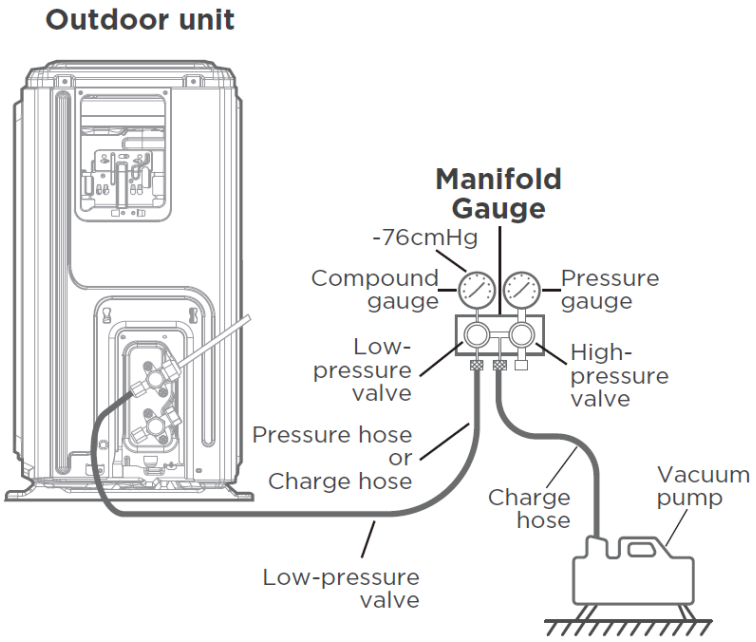
CAUTION

Be sure to wrap insulation around the piping. Direct contact with the bare piping may result in burns or frostbite.

- Make sure the pipe is properly connected. Over-tightening may damage the bell mouth and under tightening may lead to leakage.

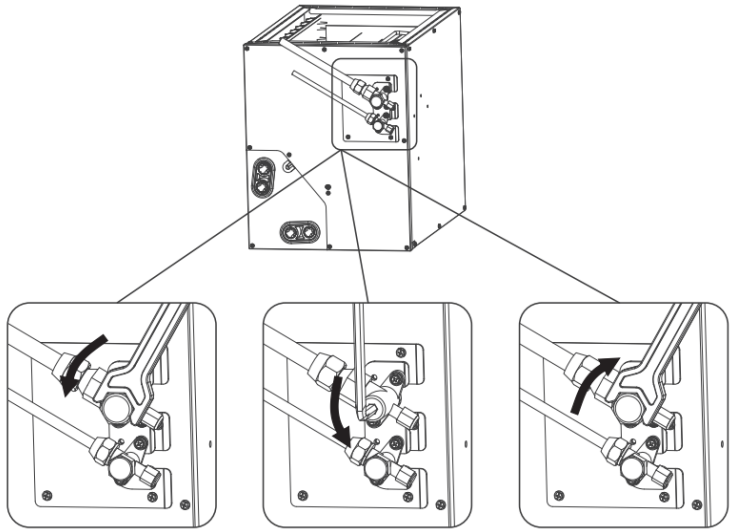
Step 3:

1. Connect the hoses from the manifold gauge to the service port on the otudoor unit's low-pressure valve.
2. Connect another hose from the gauge to the vacuum pump.
3. Open the low-pressure side of the manifold gauge, Keep the high pressure side closed.
4. Turn on the vacuum pump to evacuate the system.
5. Run the vacuum for at least 15 minutes, or until the compound meter read -750 microns (-10Pa).



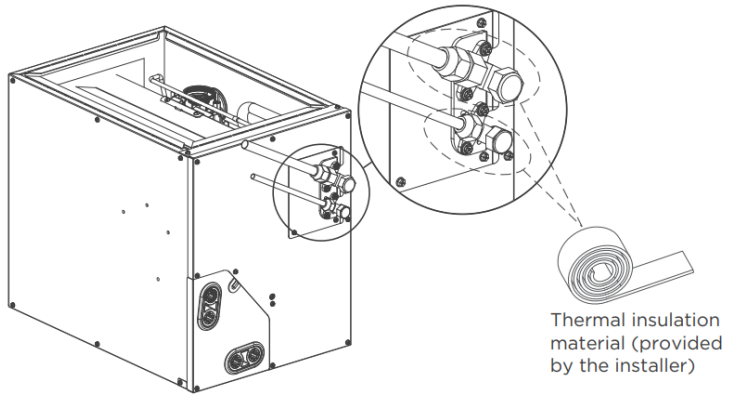
Step 4:

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



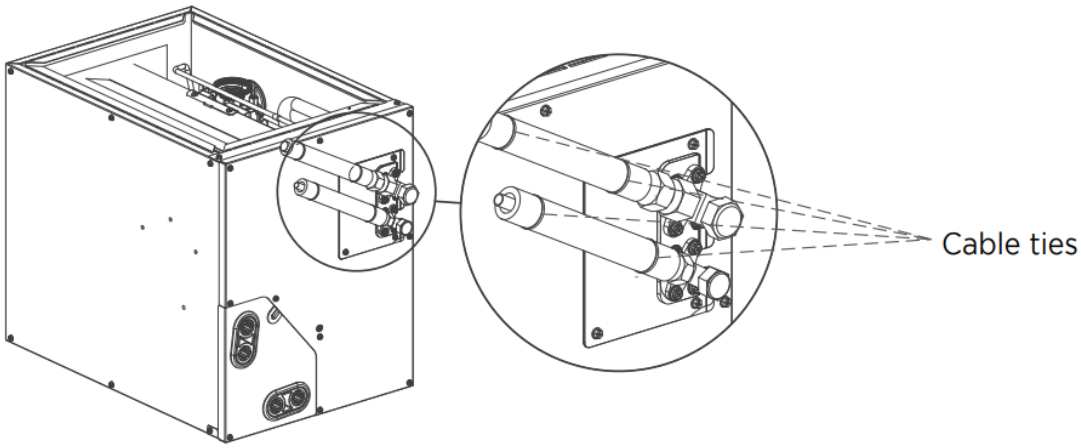
Step 5:

After the unit is installed, wrap the valve body with insulation material and make sure the valve is sealed.



Step 5:

Wrap the lines with insulation and secure with a cable tie.



Connect Refrigerant Liquid and Suction Lines:

For matched systems, use line sizes recommended in the outdoor unit installation instructions.

CAUTION

Failure to follow this caution may result in property damage. Take precautions to ensure the aluminum tubes **DO NOT** come in direct contact or allow for condensate run off with a dissimilar metal (dissimilar metals can cause galvanic corrosion and possible premature failure).

The coil can be connected to outdoor units using refrigerant grade field-supplied tubing. Always evacuate tubing and reclaim refrigerant when making connections or flaring tubing then leak check connections before insulating the entire suction line.

1. Remove the cabinet access door.
2. Remove the suction plug first then liquid plug from the coil stubs using a pulling and twisting motion. Hold the coil stubs steady to avoid bending or distorting.
3. Remove the tubing plate with rubber grommets and slide the plate with the grommets onto the refrigerant lines (field line-set), away from the braze joints.
4. Fit the refrigerant lines into the coil stubs. Wrap a heat sinking material such as a wet cloth behind braze joints.
5. Wrap the TXV and nearby tubing with a heat-sinking material such as a wet cloth.
6. Use 1/2 psi nitrogen purge through the suction line and out the liquid line.
7. Braze using a Sil-Fos or Phos-Copper alloy. **DO NOT** use soft solder.
8. After brazing, allow joints to cool. Carefully remove the TXV bulb insulation and verify that the TXV bulb is securely fastened with a hose clamp. Tighten the screw a half-turn past hand-tight with the TXV bulb placed in the indentation with full contact with the vapor line tube. Re-wrap the TXV bulb with insulation.
9. Leak check connections before insulating the entire suction line.
10. Slide the tubing plate with rubber grommets over joints. Position tubing at the center of each grommet to ensure an air seal around the tube. Reinstall the cabinet door.

CAUTION

Failure to follow this caution may result in product damage. To avoid valve damage to the refrigerant control device while brazing, the valves must be wrapped with a heat-sinking material such as a wet cloth.

5.11 Refrigerant Line Connections (No-Vac)

Please read and follow the instructions below: (Connections must be made exactly as specified to avoid system leaks and/or damage).

1. Take out matching male connectors M1 and M2.
2. Remove protective cap with the copper gasket at each stop valve on the CONDENSER and ensure the threads are clean and complete.
3. Tighten the M1 connector to the cutoff valve *1 with a tightening force of 37 ft/lb (50 Nm). Tighten the M2 connector to the cutoff valve *2 with a tightening force of 52 ft/lb (70 Nm).
4. Repeat step 3 for AIR HANDLER at the other end of the LINE SET.
5. Unroll and route the LINE SET between the AIR HANDLER and the CONDENSER. Bend the line set piping by hand to route the line set to suit your application. Use care when bending the line set.
6. Remove the protective caps of the valves at both ends of the LINE SET. Verify that all threads are clean and complete.
7. Tighten the LINE SET F1 valve to the M1 Connector (attached in step 3) with a force of 33 ft/lb (45 Nm). Tighten the LINE SET F2 valve to the M2 Connector (attached in step 3) with a tightening force of 33 ft/lb (45 Nm).
8. Repeat this process for the AIR HANDLER at the other end of the LINE SET. Connections must be made exactly as specified to avoid system leaks and /or damage
9. At the OUTDOOR UNIT remove the protective cap at the cutoff valve switch and open the stop/cutoff valve with a hex wrench to release refrigerant into the system. If there is any fizz, grease or other leakage, then close the valve immediately and check that steps 3 and 7 were done properly. Otherwise, using a sponge or spray bottle, apply a soapy water solution to the connection points to check for micro leaks. If any bubbles form it indicates there is a leak. If this does occur, close the valve immediately and check that steps 3 and 7 were done properly and re-tighten the valves and line set if necessary.
10. After the correct connection, re-tighten the cutoff valve's protection cap and cover the M1, M2 and F1, F2 connections with the gray insulating sleeve to help prevent condensation.

NOTE ON WRENCHES

The wrench size needed for tightening the NO-Vac® Quick Connect® Line set are listed below. However, based on the availability of the wrench sizes needed, it is recommended to use two large crescent (adjustable-type) wrenches. Using one to hold the valve while using the other wrench to tighten the line set connector.

Piping Size (Stamped on piping)	Wrench Size Required	
	Standard	Metric
3/8"	1"	25 mm
3/4"	1-3/8"	35 mm
Or 2x large crescent (adjustable-type) wrenches		

Allen/Hex Wrench Sizes Needed To OPen Stop/Cutoff Valves	
Piping/Vale Size (Stamped on piping)	Allen Wrench Size
3/8"	5 mm
3/4"	8 mm

CAUTION

The stop/cutoff valves on the unit must be opened AFTER connecting the lines and BEFORE turning on the unit. Otherwise operation can cause leakage and/or damage the unit.

Failure to follow the instructions provided could result in severe harm to you, this product, or other property. The distributor, seller, and MRCOOL® are not responsible for any harm resulting from the failure to follow the instructions and failure to follow these instructions will void any and all warranties express or implied.

5.12 Refrigerant Metering Device

These coils have a factory installed hard shut-off TXV designed only for use with R454B refrigerant. Use only with outdoor units designed for R454B.

NOTE

All TXV's have preset superheat settings and are field non-adjustable.

CAUTION

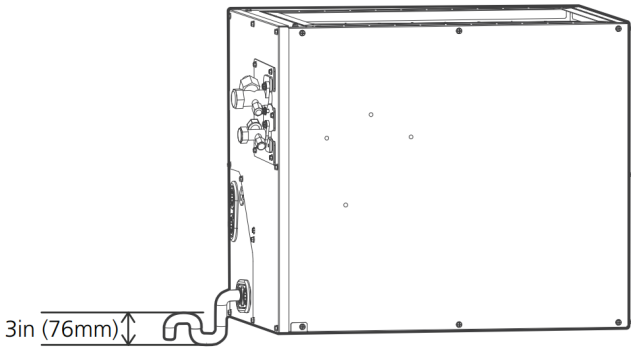
Failure to follow this caution may result in product damage. **DO NOT BURY MORE THAN 36IN (91.4CM) OF REFRIGERANT TUBING IN THE GROUND.** If any section of tubing is buried, there must be a 6in vertical rise to the valve connections on the outdoor unit. If more than the recommended length is buried, refrigerant may migrate to cooler buried sections during extended periods of the system being off causing refrigerant slugging and possible compressor damage at start-up.

5.13 Condensate Drain Line Connection

CAUTION

Failure to follow this caution may result in product damage. When installing over a finished ceiling and/or living area, install a field-fabricated secondary condensate pan under the entire unit.

The coil is designed to dispose of accumulated water through built-in condensate drain fittings. It is recommended that PVC fittings be used on the condensate pan. **DO NOT** over-tighten. Finger tighten the fittings plus 1-1/2 turns. Be sure to install the plastic plug in the unused condensate drain fitting. Two 3/4in female threaded pipe connections are provided in each coil condensate pan. Consult local codes for additional restrictions or precautions. Install a trap in the condensate line of the coil as close to the coil as possible. Make the trap at least 3in (7.62cm) deep and no higher than the bottom condensate drain opening. Pitch the condensate line 1in (2.54cm) for every 10ft (3.4m) of length to an open drain or sump. Make sure that the outlet of each trap is below its connection to the condensate pan to prevent condensate from overflowing the drain pan. Prime all traps, test for leaks, and insulate traps and lines if located above a living area.



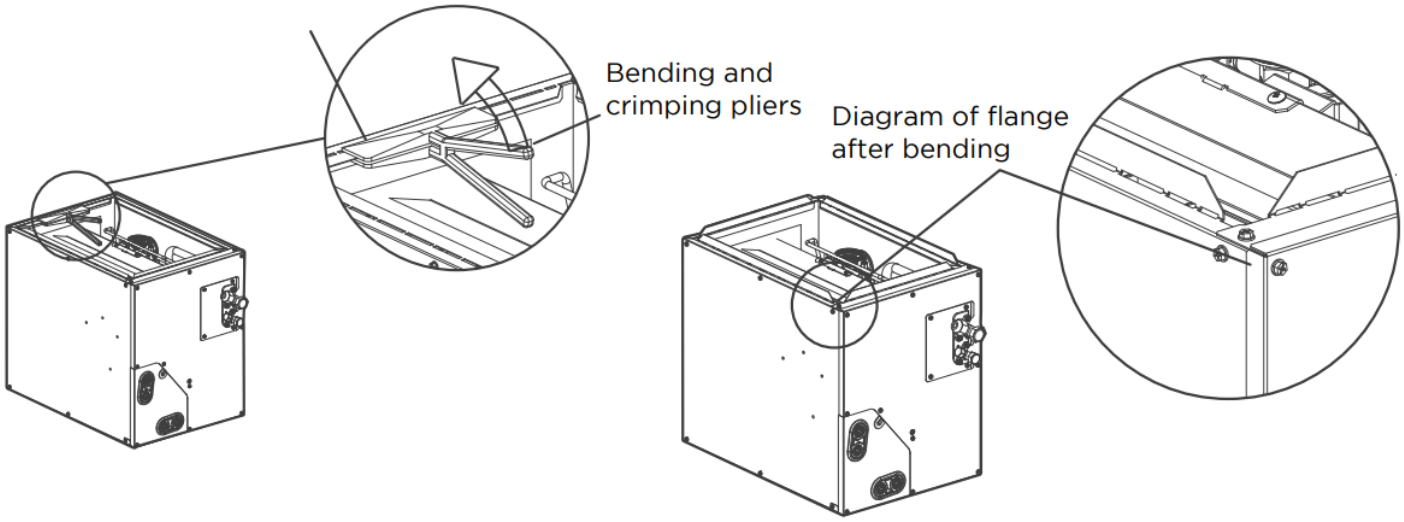
NOTE

If the unit is located in or above a living space where damage may result from condensate overflow, a field-supplied external condensate pan should be installed underneath the entire unit, and a secondary condensate line (with an appropriate trap) should be run from the unit into the pan. Any condensate in this external condensate pan should be drained to a noticeable place. As an alternative to using an external condensate pan, some localities may allow running a separate 3/4in (19cm) condensate line (with an appropriate trap) per local code to a place where the condensate will be noticeable. The owner of the structure must be informed that when condensate flows from the secondary drain or external condensate pan the unit requires servicing or water damage will occur. To further protect against water damage install a float switch to shut the unit off if the water in the secondary pan gets too high.

5.14 Air Duct Installation

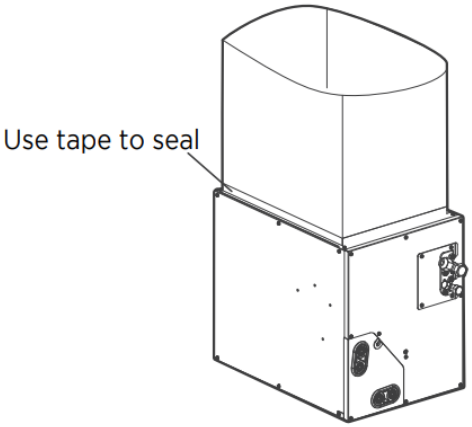
1. Flanged mounting

Clamp it in the middle of the hole and bend it up 90 degrees



step 1 :Use a tool to fold up the flange

Step 2:Fold the flanges around



step3: Seal all sides with tape and keep warm with sponge

5.15 Coil Interface Installation

1. Choose Installation Location

Priority should be given to installing on the front of the coil, or you can choose to install it on the side or on nearby walls as needed.

2. Dismantling Panels

Figure 1: Installed on the side of the coil. (Vertical mounting, you can choose left or right).

Figure 2: Installed on the wall of the coil attach. (Horizontal mounting).

Figure 3: Installed on the wall of the coil attach.

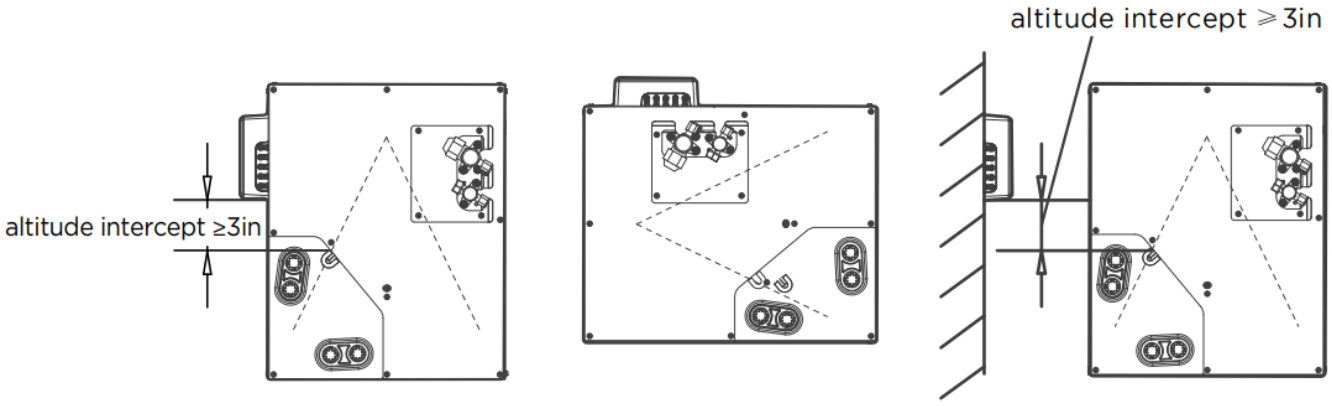
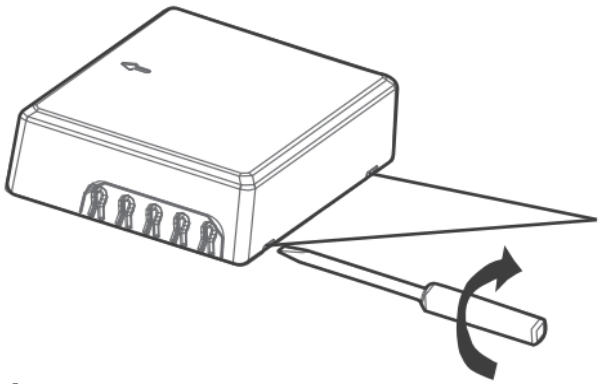


Figure 1 Figure 2 Figure 3

3. Dismantling the Control Box

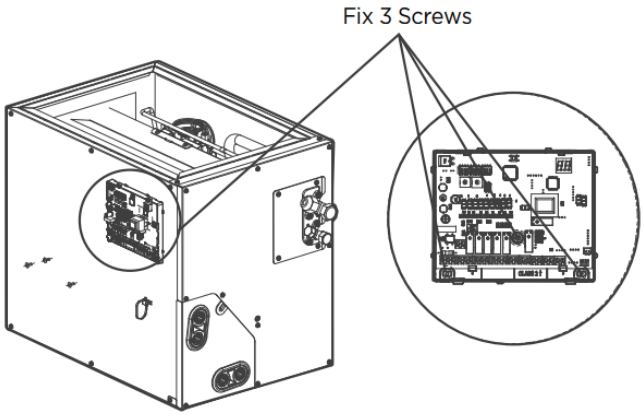
Using a screwdriver, pull at the two positions shown in the diagram.



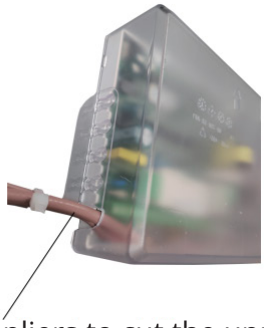
Using a flat-head screwdriver, insert the two marked positions and gently rotate the screwdriver to open the cover.

4. Fixed Box

Fix 3 screws, 2 of which require drilling.



5. Cut off the Cover Wiring Port

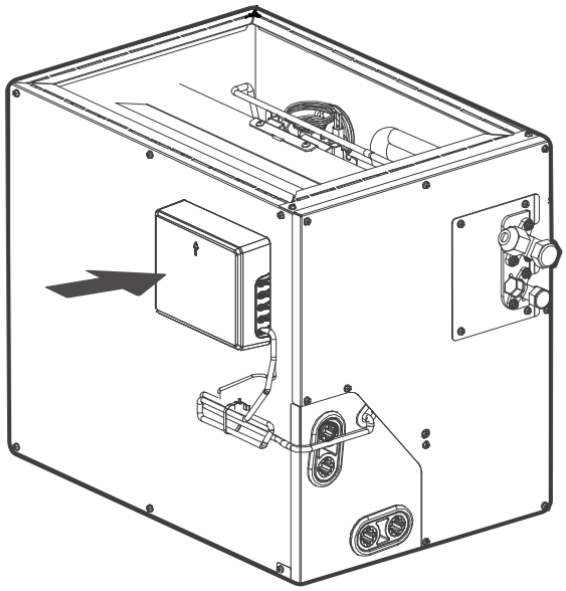


Use pliers to cut the upper cover, and cut the left position according to the diagram.

Close the cover.

Cut off the appropriate part according to the position for the wire outlet. If it is a single wire, you can cut a single wire hole. If there are multiple wires, you can cut off the cover along the maximum outline.

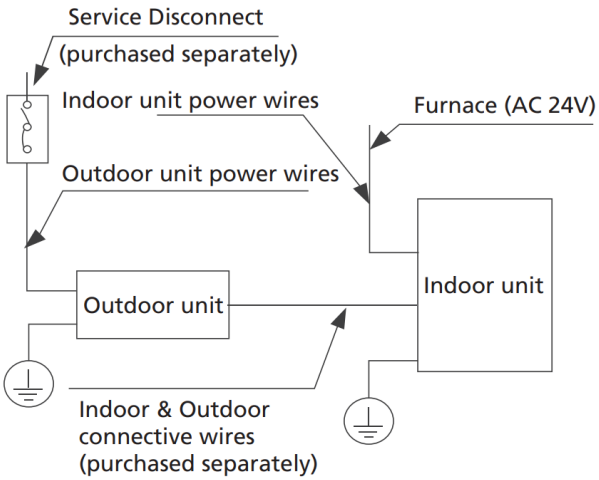
6. Close the Lid



6.1 Indoor Unit Wiring

WARNING

- All wiring must comply with local and national electrical codes and regulations.
- Must be installed by a licensed electrician.
- All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- If there is a serious safety issue with the power supply, stop work immediately. Explain your reasoning to the client, and refuse to install the unit until the safety issue is properly resolved.
- Power voltage should be within 90-110% of rated voltage. Insufficient power supply can cause malfunction, electrical shock, or fire.
- Installation of an external surge protector at the outdoor disconnect is recommended.
- If connecting power to fixed wiring, a switch or circuit breaker that disconnects all poles and has a contact separation of at least 1/8in (3mm) must be incorporated in the fixed wiring. The qualified technician must use an approved circuit breaker or switch.
- Only connect the unit to an individual branch circuit. **DO NOT** connect another appliance to that circuit.
- Make sure to properly ground the air conditioner.
- Every wire must be firmly connected. Loose wiring can cause the terminal to overheat resulting in product malfunction and possible fire.
- **DO NOT** let wires touch or rest against refrigerant tubing, the compressor, or any moving parts within the unit.
- To avoid getting an electric shock, never touch the electrical components soon after the power supply has been turned off. After turning off the power, always wait 10 minutes or more before you touch the electrical components.
- Make sure that you do not cross your electrical wiring with your signal wiring. This may cause distortion, interference, or damage to the circuit boards.
- Connect the outdoor wires before connection the indoor wires.
- **Before performing any electrical or wiring work, turn off the main power to the system.**



NOTE

The diagrams are for explanation purposes only. Your machine may be slightly different. The actual diagram shall prevail. The service disconnect should be selected as required by local, regional, and national codes.

6 WIRING

The power to the unit must be disconnected before any wiring. Be sure to show application of the ferrite clamp, room temperature sensor, and cable. Make note to review the different application (scenarios) options for proper wiring. Make sure strain relief and proper conduit are used when connecting to the box, recommended use of metal-clad cable.

Note: Use copper wire only. Separate the power supply leads and communication leads by the strain relief or segregate the power supply leads from communication leads.

Instruction for installation of the critical-to-safety wiring connection of the leak detection sensor or leak detection system to the furnace assembly:

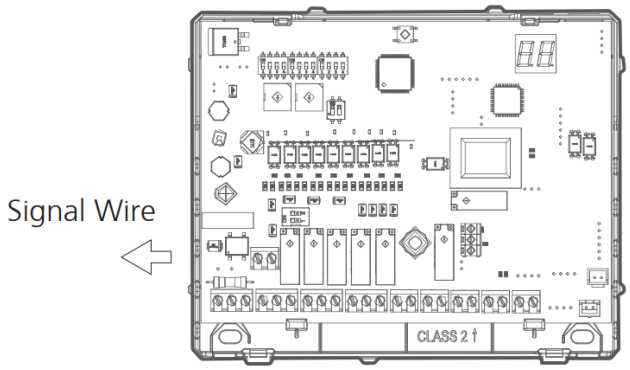
The wiring should be no less than 18 AWG with a minimum insulation thickness of .06in (1.58mm) or protected from damage. Critical-to-safety wiring is any field installed wiring necessary to fulfill the requirements of the minimum room area in the event of detection of a leak.

The appliance shall not be installed on furnaces with an inductive electrical greater than Le as calculated as follows:

-Le= 5 x (6,7/Su)4 when breaking all phases;

-Le= 2,5 x (6,7/Su)4 when breaking two legs of a three-phased load, or when breaking one or two legs of a single-phased load.

Where Le is the switched inductive electrical load in kilo volt-amperes (kVA); Su is the burning velocity of a refrigerant in centimeters per second (cm/s). Detection of a leak shall turn on the indoor fan at the highest available speed or turn it on to not less than minimum airflow (Qhmin).



Lines Gauge		
Outdoor-Indoor Signal wire	Line Diameter (AWG)	20
24V Signal Wire	Line Diameter (AWG)	18

Ratings:

Electrical-Inputs:

Input Type	Input Rating	Terminals	Recommended Wire Range/Torque
Power Input	24VAC, 60Hz, 300mA, Class 2	Terminal Block CN1-3(R), CN1-2(C)	14-22 AWG/0.5N·m
Remove Control Signal Input	12VDC, SELV	CN2	14-22 AWG/0.5N·m

Communication:

Type	Rating	Terminal	Recommended Wire Range/Torque
Communication Between Indoor and Outdoor Unit	5VDC, Class 2, Limited Energy (≤15W)	CN17	14-22 AWG/0.5N·m
Communication Between Data Conversion Board and External Thermostat	24VAC, 60Hz, Class 2	CN4, CN6, CN11	14-22 AWG/0.5N·m
Communication Between Data Conversion Module PWB and Centralized Controller	5VDC, Class 2	CN3	14-22 AWG/0.5N·m

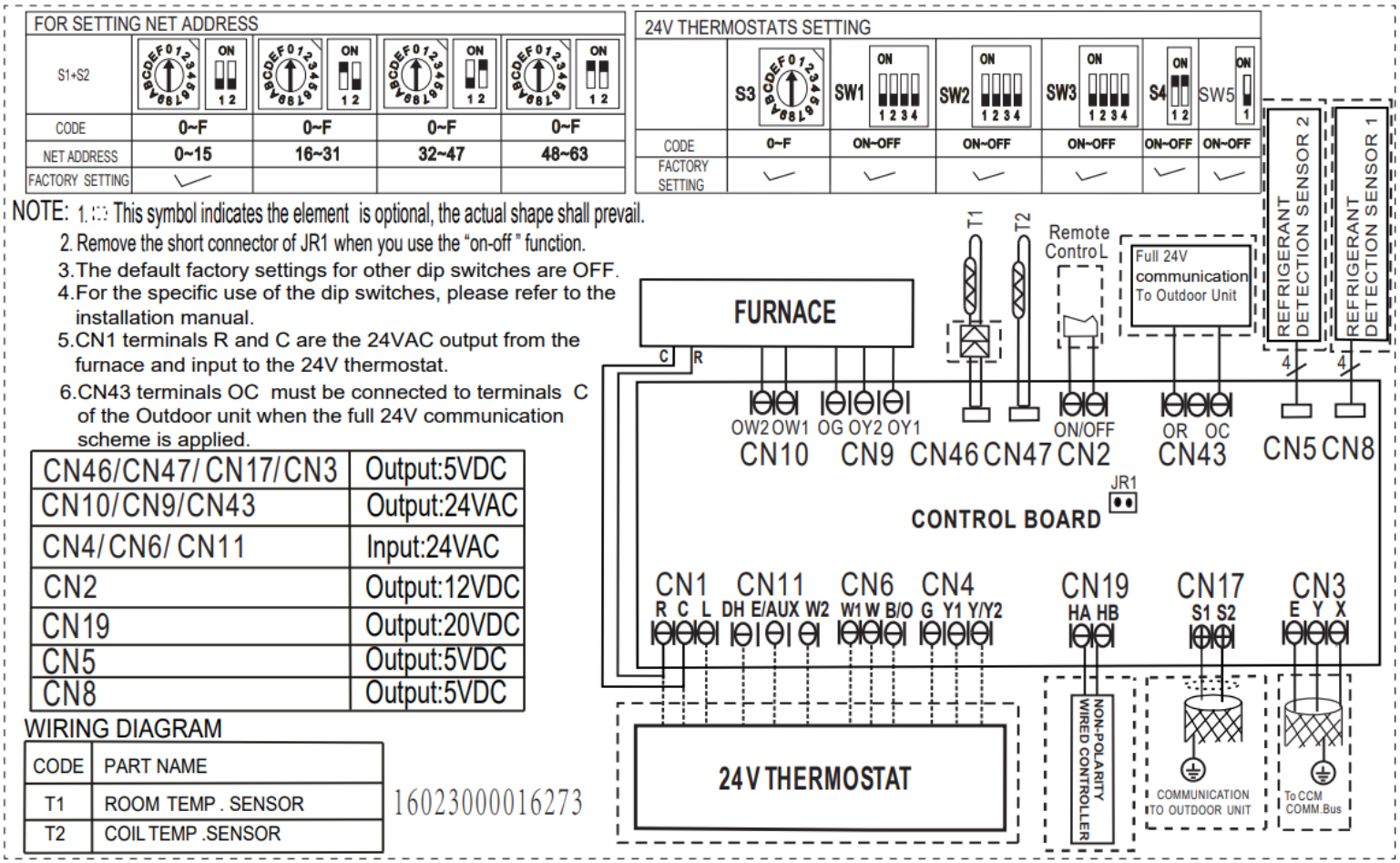
Communication Contd.:

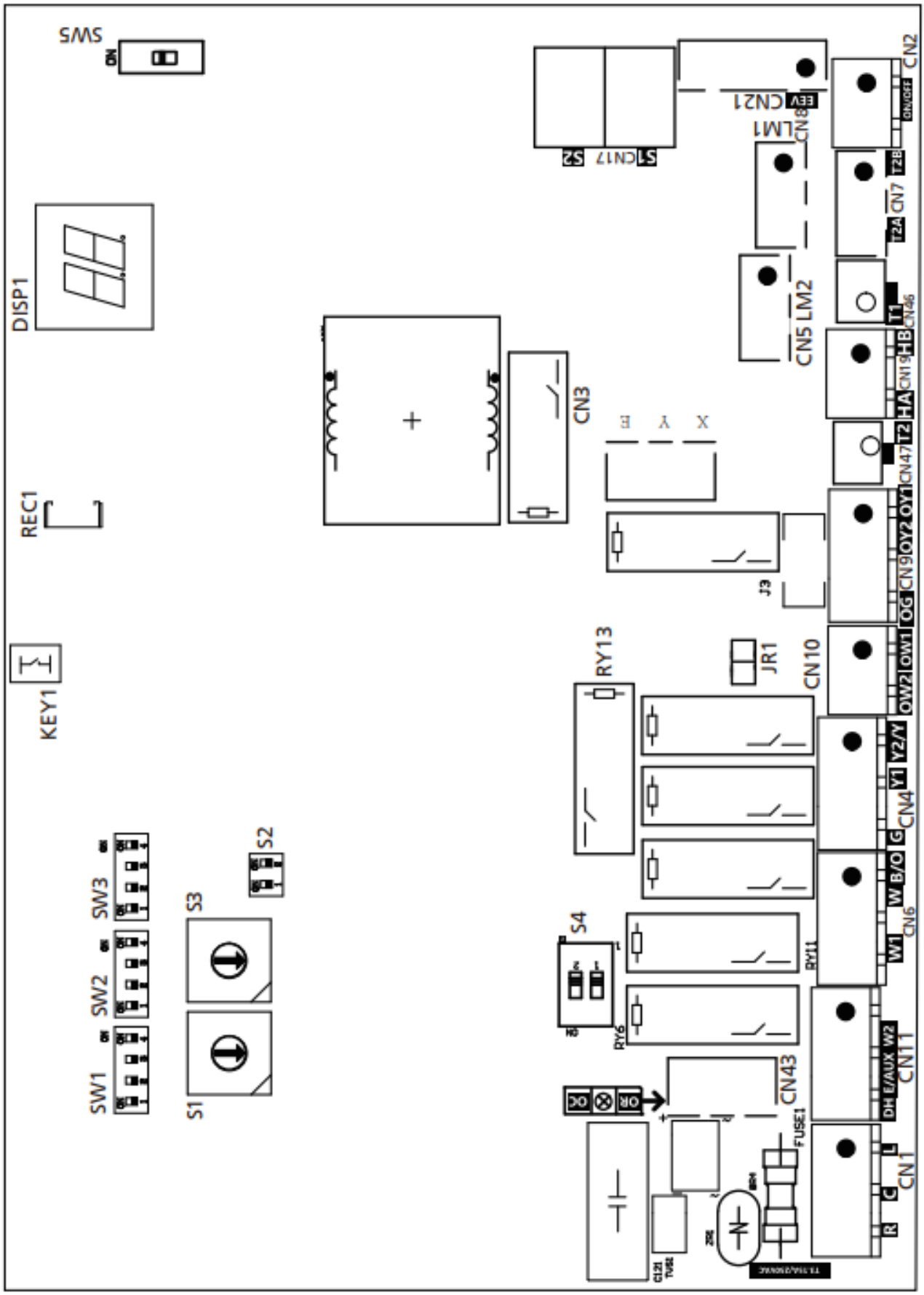
Type	Rating	Terminal	Recommended Wire Range/Torque
External Communication	18VDC, Class 2, Limited Energy (≤15W)	CN19	14-22 AWG/0.5N·m
Communication Between Data Conversion Module PWB and Refrigerant Sensor	5VDC, Class 2	CN5, CN8	14-22 AWG/0.5N·m

Outputs:

Type	Rating	Terminal	Recommended Wire Range/Torque
Control Device for Furnace (Relay, RY7, RY8)	24VAC, 60Hz, Class 2, General Use (Signal Use)	CN9	14-22 AWG/0.5N·m
Control Device for Furnace (Relay, RY9, RY10)	24VAC, 60Hz, Class 2, General Use (Signal Use)	CN10	14-22 AWG/0.5N·m
Control Device for Outdoor Unit When Full 24V communication (Relay, RY11)		CN43	14-22 AWG/0.5N·m

Wiring Diagram:




SW5
ON
DISP1
REC1
KEY1
SW1
SW2
SW3
S1
S3
S2
S4
CN3
CN5 LM2
LM1
CN8
CN21
EEV
CN17
S1
S2
CN2
GIN/OFF
CN7
T2B
T2A
T1
CN46
HB
HA
CN19
T2
CN47
OY1
OY2
CN9
OG
OW1
OW2
CN10
JR1
RY13
Y2/Y
Y1
CN4
G
B/O
W
CN6
RY11
W1
RY6
W2
E/AUX
DH
CN11
L
C
R
CN1
CN43
OR
OC
FUSE1
J3
X
Y
E

Control Signals to the Furnace:

Control signals to the furnace are the standard thermostat control signals R, C, OW1, OW2, OG, OY1, and OY2.

Connector	Usage
R	Provides 24VAC power from the furnace to the board.
C	The 24VAC common wire between the furnace and the board.
OW1	First stage of furnace command line from the board to the furnace (OW1-W1). If the furnaces that only have a W and do not have a W2, connect OW1 to the W of the furnace and make no connection with the OW2 signal wire (OW1-W).
OW2	Second stage of furnace command line from the board to the furnace (OW2-W2). OW2 cannot be ON unless OW1 is already ON.
OG	Connect the OG signal to G of the furnace (OG-G). If the furnace does not have a G, connect OG to Y or Y1 of the furnace (OG-Y or OG-Y1).
OY1	For 1-speed configuration, connect the OY1 signal to Y of the furnace and make no connection with the OY2 signal wire (OY1-Y). For 2 speed configuration, connect the OY1 signal to Y1 of the furnace (OY1-Y1).
OY2	For 2-speed configuration, connect the OY2 signal to Y2 of the furnace (OY2-Y2). In this configuration, the OY2 signal turns on as follows: In Cool mode or Heat mode with HP when high fan is requested. In Auto Fan and Cool mode, the signal goes to high speed when the difference between room temperature and set point temperature is more than or equal to 34.7°F (1.5°C). The signal goes back to low speed when the temperature difference is less than 33.8°F (1°C). In Auto Fan and Heat mode with the HP, the signal goes to high speed when the difference between room temperature and set point temperature is less than or equal to 29.3°F (-1.5°C). The signal goes back to low speed when the temperature difference is more than 32°F (0°C).

In Addition:

Room temperature sensor to be installed in the return air.

Duct temperature sensor to be installed on the coil as specified.

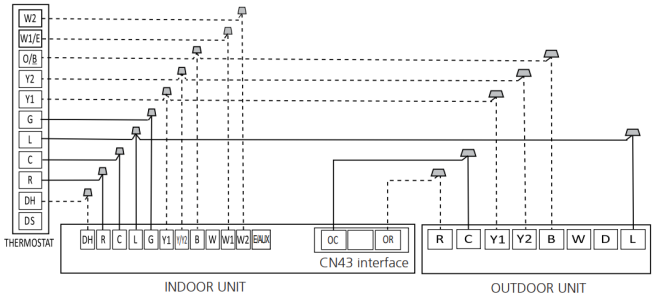
WARNING

Please refer to the wiring nameplate for the wiring method. **DO NOT** connect the power cord to the communication line as this may damage the system.

Wiring Methods:

The following wiring diagram are suitable for the AHU and ODU with 24V thermostat.
Non-communication scheme wiring reference
NOTE: CN43 terminals OC of COIL Interface must be connected to the outdoor unit when the full 24V communication scheme is applied. That will stop the operation of the outdoor unit for safety if there is a refrigerant leak.

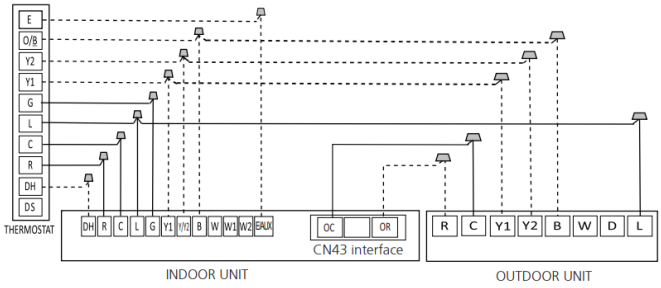
Wiring for 4H and 2C thermostat



S4-2 Default on, DH function off. Turn switch off to activate DH function.

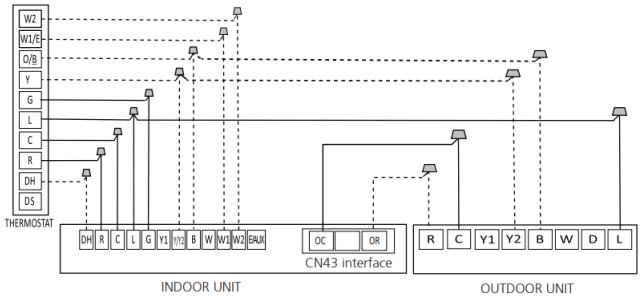
S4-1 Default on, W1 and W2 shorted for single stage Aux heat operation. Turn off to separate stages.

Wiring for 3H and 2C thermostat



S4-2 Default on, DH function off. Turn switch off to activate DH function.

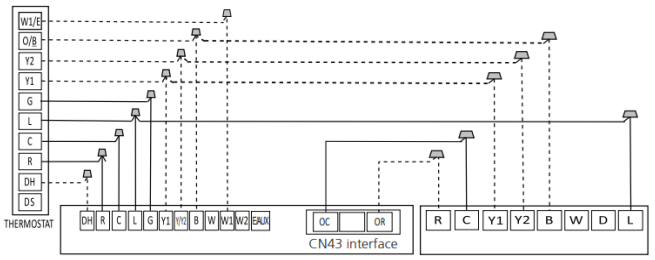
Wiring for 3H and 1C thermostat



S4-2 Default on, DH function off. Turn switch off to activate DH function.

S4-1 Default on, W1 and W2 shorted for single stage Aux heat operation. Turn off to separate stages.

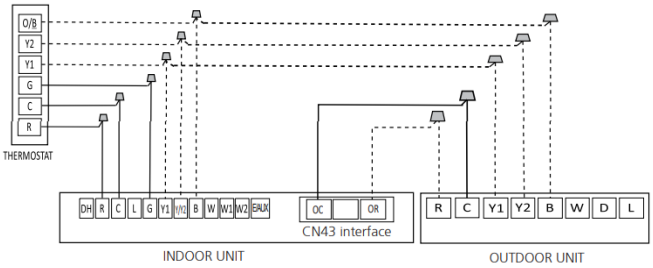
Wiring for 3H and 3C thermostat



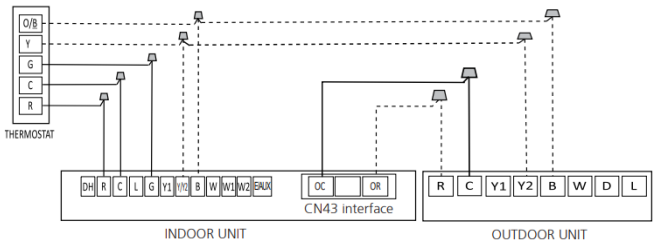
S4-2 Default on, DH function off. Turn switch off to activate DH function.

S4-1 Default on, W1 and W2 shorted for single stage Aux heat operation. Turn off to separate stages.

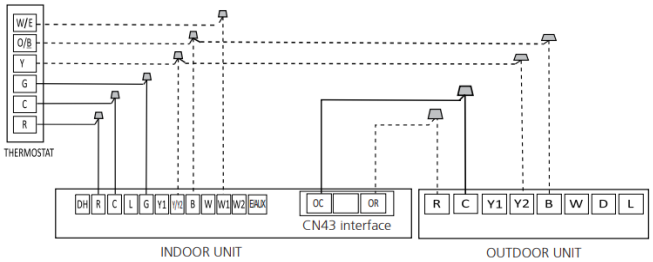
Wiring for 2H and 2C thermostat



Wiring for 1H and 1C thermostat



Wiring for 2H and 1C thermostat

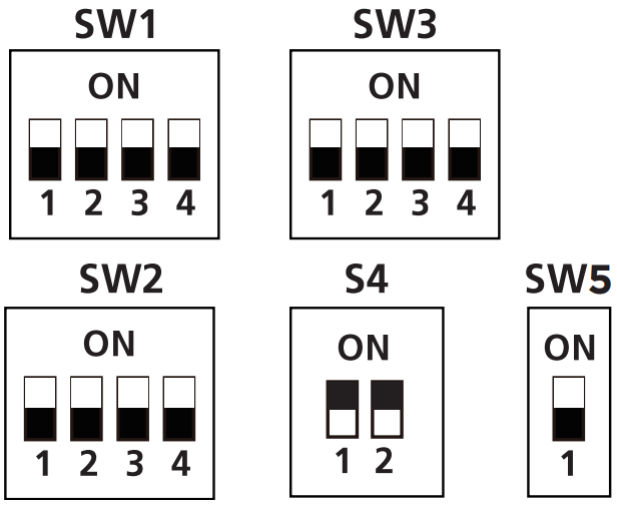


S4-1 Default on, W1 and W2 shorted for single stage Aux heat operation. Turn off to separate stages.

6.2 Dip Switch

Function DIP Switch Settings:

The 24V thermostat mode needs to refer to the following settings:



Control Box Dial Code:

No.	Dial Code	Control Scenario	Function	ON	OFF	Note
1	SW1-2	1,2	Anti-cold blow protection option	NO	(Default) Yes	
2	SW1-3	1,2,3	Single cooling/heating and cooling options	Cooling	(Default) Cooling & Heating	
3	SW2-1	2	Temperature differential to active first stage furnace heating for HP+furnace mode.	35.6°F (2°C)	(Default) 33.8°F (1°C)	
4	SW2-4	1	Compressor	The operation of heat pump is limited by the outdoor temperature, and the operation of furnace heat is not limited. The system makes judgments based on the following rules: 1. The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch. 2. The compressor can be operated when the outdoor temperature is >S3 DIP switch temperature +35.6°F (2°C).		SW2-4 and S3 need to be working together
5	SW2-4	2	Compressor/Auxiliary heat outdoor ambient lockout	The operation of heat pump is limited by the outdoor temperature, and the operation of auxiliary heat is not limited. The system makes judgments according to the following rules: 3. The compressor can be operated when the outdoor temperature is ≥S3 DIP switch temperature +35.6°F (2°C). 4. The compressor cannot be operated when the outdoor temperature is lower than the S3 DIP switch temperature.	(Default) Only one heat pump or auxiliary heat can be operated. The system makes judgments according to the following rules: 1. When the outdoor temperature is lower than the S3 DIP switch temperature, the compressor is not allowed to operate, but auxiliary heat is allowed to operate. 2. When the outdoor temperature is ≥S3 DIP switch temperature +35.6°F (2°C), the compressor can be operated, but auxiliary heat cannot be operated.	SW2-4 and S3 need to be working together
6	Rotary Switch S3	1,2	Set outdoor temperature limitation (for auxiliary heating or compressor)	Table A		
7	SW3-1	1	System automatically stages up capacity to satisfy set point. This adds 1 to 5°F to the user set point in the calculated control point to increase capacity and satisfy user set point	30 minutes	(Default) 90 minutes	
8	SW3-2	1	Cooling and heating Y/Y2 temperature differential adjustment.	Compressor slower speed	(Default) Faster compressor	Only affects compressor

No.	Dial Code	Control Scenario	Function	ON	OFF	Note
9	SW3-3	2	Temperature differential to active second stage furnace heating for furnace only or HP+furnace mode.	37.4°F (3°C)	(Default) 35.6°F (2°C)	
10	S4-1	1,3	Default ON	(Default) For single stage supplemental heat, W1 and W2 are connected	For dual stage supplemental heat, W1 and W2 are controlled independently	
11	S4-2	1,3	DH function selection	(Default) Dehumidification control not available	Dehumidification feature is enabled through thermostat	
12	SW5	1,2,3	Selection of the second Refrigerant Sensor	Both Refrigerant Sensor are used	(Default) Only use the first Refrigerant Sensor, interface is CN8	

Description of Wired Controller Modes:

Furnace	Single-furnace heating
Heat Pump	HP heating
Dual Fuel	Furnace heating, HP heating automatic control

7 TEST RUN

! CAUTION

Failure to perform the test run may result in unit damage, property damage, or personal injury.

7.1 Before Test Run

A test run must be performed after the entire system has been completely installed. Confirm the following points before performing the test:

a) Indoor and outdoor units are properly installed.

b) Piping and wiring are properly connected.

c) No obstacles near the inlet and outlet of the unit that might cause poor performance or product malfunction.

d) Refrigeration system does not leak.

e) Drainage system is unimpeded and draining to a safe location.

f) Insulation of piping and duct is properly installed.

g) Grounding wires are properly connected.

h) Length of the piping and additional refrigerant capacity have been recorded.

i) Power voltage is the correct voltage for the system.

7.2 Test Run Instructions

1. Open both the liquid and gas service valves.
2. Turn on the main power switch and allow the unit to warm up.
3. Set the unit to COOL mode.
4. For the Indoor Unit
    a. Double check to see if the room temperature is being registered correctly.
    b. Ensure the manual buttons on the indoor unit work properly.
    c. Check to see that the drainage system is unimpeded and draining smoothly.
    d. Ensure there is no vibration or abnormal noise during operation.
5. For the Outdoor Unit
    a. Check for any leaks from the refrigeration system.
    b. Make sure there is no vibration or abnormal noise during operation.
    c. Ensure the wind, noise, and water generated by the unit do not disturb individuals nearby or pose a safety hazard.
6. Drainage Test
    a. Ensure the drainpipe flows smoothly. New buildings should perform this test before finishing the ceiling.
    b. Turn on the main power switch and run the unit in COOL mode.
    c. Check to see that the water is discharged. It may take up to one minute before the unit begins to drain depending on the drainpipe.
    d. Make sure that there are no leaks in any of the piping.
    e. Stop the unit. Turn off the main power switch and reinstall the test cover.

NOTICE

If the unit malfunctions or does not operate according to expectations, refer to the Troubleshooting section of the Service Manual before calling customer service.

24V Signal Chart (Cooling & Heating)

Mode	Priority	G	Y1	Y/Y2	B	W	W1	W2	E/AUX	DH	Display
OFF	/	0	0	0	0	0	0	0	0	*	00
FAN	7	1	0	0	*	0	0	0	0	*	01
Cooling Stage 1	6	*	1	0	0	0	0	0	0	1	02
Cooling Stage 2		*	*	1	0	0	0	0	0	1	03
Dehumidification 1		*	1	0	0	0	0	0	0	0	04
Dehumidification 2		*	*	1	0	0	0	0	0	0	05
Heat Pump Stage 1	5	*	1	0	1	0	0	0	0	1	06
Heat Pump Stage 2		*	*	1	1	0	0	0	0	1	07
Heat Pump Stage 2		*	*	*	*	1	0	0	0	1	
Furnace	3	*	0	0	*	0	1	0	0	*	12
Furnace		*	0	0	*	0	0	1	0	*	
Furnace		*	0	0	*	0	1	1	0	*	12
Furnace	4	*	1	0	1	0	1	0	0	1	12
Furnace		*	1	0	1	0	0	1	0	1	
Furnace		*	*	1	1	0	1	0	0	1	
Furnace		*	*	*	*	1	1	0	0	1	
Furnace		*	*	1	1	0	0	1	0	1	
Furnace		*	*	*	*	1	0	1	0	1	
Furnace		*	1	0	1	0	1	1	0	1	12
Furnace		*	*	1	1	0	1	1	0	1	
Furnace		*	*	*	*	1	1	1	0	1	
Furnace	1	*	*	*	*	*	*	*	1	*	12
Heating Zone Control	2	*	1	0	1	0	*	*	0	0	13
Heating Zone Control		*	*	1	1	0	*	*	0	0	
Heating Zone Control		*	*	*	*	1	*	*	0	0	

Note:
1: 24V signal
0: No 24V signal
*: 1 or 0
The AHU will turn off if the 24V input cannot meet the table.

8 24V SIGNAL CHART

24V Signal Chart (Cooling Only)

Mode	Priority	G	Y1	Y/Y2	B	W	W1	W2	E/AUX	DH	Display
OFF	/	0	0	0	0	0	0	0	0	*	00
FAN	7	1	0	0	*	0	0	0	0	*	01
Cooling Stage 1	6	*	1	0	0	0	0	0	0	1	02
Cooling Stage 2		*	*	1	0	0	0	0	0	1	03
Dehumidification 1		*	1	0	0	0	0	0	0	0	04
Dehumidification 2		*	*	1	0	0	0	0	0	0	05
Furnace	5	*	1	0	1	0	0	0	0	1	12
Furnace		*	*	1	1	0	0	0	0	1	
Furnace		*	*	*	*	1	0	0	0	1	
Furnace	3	*	0	0	*	0	1	0	0	*	12
Furnace		*	0	0	*	0	0	1	0	*	
Furnace		*	0	0	*	0	1	1	0	*	12
Furnace	4	*	1	0	1	0	1	0	0	1	12
Furnace		*	1	0	1	0	0	1	0	1	
Furnace		*	*	1	1	0	1	0	0	1	
Furnace		*	*	*	*	1	1	0	0	1	
Furnace		*	*	1	1	0	0	1	0	1	
Furnace		*	*	*	*	1	0	1	0	1	
Furnace		*	1	0	1	0	1	1	0	1	12
Furnace		*	*	1	1	0	1	1	0	1	
Furnace		*	*	*	*	1	1	1	0	1	
Furnace	1	*	*	*	*	*	*	*	1	*	12
Furnace	2	*	1	0	1	0	*	*	0	0	12
Furnace		*	*	1	1	0	*	*	0	0	
Furnace		*	*	*	*	1	*	*	0	0	

Note:
1: 24V signal
0: No 24V signal
*: 1 or 0
The AHU will turn off if the 24V input cannot meet the table.

WARNING

If any of the following conditions occur, turn off your unit immediately!

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

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

Issue	Possible Causes
Unit does not turn on when pressing ON/OFF button	The unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off.
	Cooling and Heating Models: If the Operation light and PRE-DEF (Pre-heating/ Defrost) indicators are lit up, the outdoor temperature is too cold and the unit's anti-cold wind is activated in order to defrost the unit.
	In Cooling-only Models: If the "Fan Only" indicator is lit up, the outdoor temperature is too cold and the unit's anti-freeze protection is activated in order to defrost the unit.
The unit changed from COOL/HEAT mode to FAN mode	The unit may change its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating in the previously selected mode again.
	The set temperature has been reached, at which point the unit turns off the compressor. The unit will continue operating when the temperature fluctuates again.
The indoor unit emits white mist	In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist.
Both the indoor and outdoor units emit white mist	When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.
The indoor unit makes noises	A squeaking sound is heard when the system is OFF or in COOL mode. The noise is heard when the drain pump (optional) is in operation.
	A squeaking sound may occur after running the unit in HEAT mode due to expansion and contraction of the unit's plastic parts.
Both the indoor and outdoor unit make noises	Low hissing sound during operation: This is normal and is caused by refrigerant gas flowing through both indoor and outdoor units.
	Low hissing sound when the system starts, has just stopped running, or is defrosting: This noise is normal and is caused by the refrigerant gas stopping or changing direction.
	Squeaking sound: Normal expansion and contraction of plastic and metal parts.
The outdoor unit makes noises	The unit will make different sounds based on its current operating mode.
Dust is emitted from either the indoor or outdoor unit	The unit may accumulate dust during extended periods of non-use, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity.

9 TROUBLESHOOTING

Issue	Possible Causes
The unit emits a bad odor	The unit may absorb odors from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations.
	The unit's filters have become moldy and should be cleaned.
The fan of the outdoor unit does not operate	During operation, the fan speed is controlled to optimize product operation.

NOTE

If a problem persists, contact your local dealer or service technician and provide them with a detailed description of the units malfunction as well as your model number.

Problem	Possible Causes	Solution
Poor Cooling Performance	Temperature setting may be higher than ambient room temperature	Lower the temperature setting
	The heat exchanger on the indoor or outdoor unit is dirty	Clean the affected heat exchanger
	The air filter is dirty	Remove the filter and clean it according to the instructions
	The air inlet or outlet of either unit is blocked	Turn the unit off, remove the obstruction and turn it back on
	Doors and windows are open	Make sure that all doors and windows are closed while operating the unit
	Excessive heat is generated by sunlight	Close windows and curtains during periods of high heat or bright sunshine
	Too many sources of heat in the room (people, computers, electronics, etc.)	Reduce the amount of heat sources
	Low refrigerant due to leak or long-term use	Check for leaks, re-seal if necessary and top off refrigerant
The unit is not working	Power failure	Wait for the power to be restored
	The power is turned off	Turn on the power
	The fuse is burned out	Replace the fuse
	The unit's 3-minute protection has been activated	Wait three minutes after restarting the unit
	Timer is activated	Turn the timer off

Problem	Possible Causes	Solution
The unit starts and stops frequently	There's too much or too little refrigerant in the system	Check for leaks and recharge the system with refrigerant
	Incompressible gas or moisture has entered the system	Evacuate and recharge the system with refrigerant
	System circuit is blocked	Determine which circuit is blocked and replace the malfunctioning piece of equipment
	The compressor is broken	Replace the compressor
	The voltage is too high or too low	Install a manostat to regulate the voltage
Poor Heating Performance	The outdoor temperature is extremely low	Use auxiliary heating device
	Cold air is entering through doors and windows	Make sure that all doors and windows are closed during use
	Low refrigerant due to leak or long-term use	Check for leaks, re-seal if necessary and top off refrigerant

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Installation & Owner's Manual

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