*This product utilizes* ***R-32*** *refrigerant*

# MRCOOL® TRAVELCOOL™

## INSTALLATION & OWNER'S MANUAL

## MODELS:

MRDHP15*-D




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: June 16, 2026
Please visit www.mrcool.com/documentation
to ensure you have the latest version of this manual.

MRCOOL®
COMFORT MADE SIMPLE

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## Safety Precautions

### Read Before Using

**Incorrect usage may cause serious damage or injury.**

The symbols below are used throughout this manual to indicate instructions that should be followed closely or actions that should be avoided to prevent death, injury, and/or property damage.

**WARNING** — Indicates the possibility of personal injury or loss of life.

**CAUTION** — Indicates the possibility of property damage or serious consequences.

## WARNING FOR PRODUCT INSTALLATION

- To reduce the risk of injury, users must read the installation manual carefully.
- Installation of this device must comply with local and national regulations, and the unit should only be operated in well-ventilated areas. Please read this manual before installing and using the equipment.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or those lacking experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should not play with or use this appliance. Keep the appliance and its cord out of reach of children.
- This appliance is intended to be used in applications, such as campers, RVs, trailers or trucks.
- Properly store the product and check whether it is abnormal before use. If it is abnormal, discontinue use.
- Please use the product according to its intended use, there is a risk of injury if misused.
- Use only an external supply with the following specifications: <AC110V 60HZ, 10.7A~13.8A>.
- This appliance must be grounded. In the event of a malfunction or breakdown, grounding will reduce the risk of electric shock by providing a path of least resistance for the electric current.
- Do not damage the refrigerant circuit.
- In the appliance's enclosure or infrastructure, keep ventilation openings clear of obstructions.
- To avoid a hazard due to instability of the appliance, it must be fixed in accordance with the instructions.

## NOTE

1. Please comply with the relevant safety instructions and regulations of the vehicle manufacturer and the repair workshop.

MRCOOL® will not be held liable for any damages caused by the following:

- Incorrect installation or connection.
- Damage to the product due to mechanical impact or incorrect connection voltage.
- Unauthorized modification of the product without explicit permission from MRCOOL®.
- Use of the product for purposes other than those described in this manual.

## WARNING

- Do not use means to accelerate the defrosting process or to clean the unit, other than those recommended by MRCOOL®.
- The unit should be stored in a room without continuously-operating ignition sources, such as open flames, an operating gas appliance, or an electric heater that is in use.
- Do not pierce or burn.
- Be aware that refrigerants may not be odorous.
- The unit should be stored in a well-ventilated area where the room size corresponds to the room area, as specified for operation, and where mechanical damage can be prevented from occurring.
- The compliance with national gas regulations should be observed and the minimum applicable area for this unit is 49.21ft (15m).
- Please ensure there are no obstacles in front of the machine and keep ventilation openings clear of obstruction. Servicing should be performed only as recommended by MRCOOL®.
- Any person who is involved with servicing or maintaining into a refrigerant circuit should hold a current valid certificate from a industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely.
- Servicing should only be performed as recommended by MRCOOL®. Maintenance and repair require the assistance of other skilled personnel should be carried out under the supervision of the professional who is licensed in the use of flammable refrigerants.

# 1 SAFETY

## WARNING

- The installation, maintenance, and repair of rooftop air conditioners must only be performed by professionals according to national and local wiring regulations and instructions provided in this manual.
- Improper repairs may lead to severe damage to the air conditioner or pose a risk of personal injury or death.
- In case of fire, do not remove the upper cover of the rooftop air conditioner. Use approved fire extinguishing agents to fight the fire. Never use water for extinguishing.

## NOTE

Consult your vehicle manufacturer to determine whether a technical inspection of the vehicle is required after installing the rooftop air conditioner, as well as whether the vehicle's documented height needs to be updated: MRCOOL® TravelCool ™: Height increased by 10.62in (26.97cm).

## WARNING

- The rooftop air conditioner must be securely and reliably installed to prevent falling.
- Operation of the rooftop air conditioner is only permitted when the housing and wiring are intact and undamaged. Do not use the appliance near flammable liquids or in enclosed rooms.
- Ensure that no flammable materials are placed or installed near the air outlet. The appliance must be kept at least 19.68in (49.98cm) away from flammable materials. Do not insert hands or objects into the air inlet, outlet, or the interior of the air conditioner.

## CAUTION

- This device may only be used for its designated purpose.
- The rooftop air conditioner must not be used on agricultural or construction vehicles.
- Do not make any modifications to the device.
- Do not use automatic car washes when a rooftop air conditioner is installed on the vehicle.
- If a fault occurs in the refrigerant circuit of the rooftop air conditioner, it must be inspected and properly repaired by a professional company. Refrigerant must never be released into the atmosphere.

## WARNING

- Electrical connections must only be performed by qualified professionals.
- The rooftop air conditioner must be installed, relocated, and serviced by professionals in accordance with local and national wiring regulations and the instructions provided in this manual.
- Secure cables properly to prevent damage.

## CAUTION

- Use conduits to protect cables from being cut or damaged by sharp edges.
- Do not place loose or coiled cables near conductive materials (such as metal).
- Do not pull or strain the cables.

## NOTE

If the supply cord is damaged, it must be replaced by MRCOOL®, a service agent, or licensed contractor to avoid hazard.

## CAUTION

- This unit should only be used for its designated purpose.
- The rooftop air conditioner must not be used for agricultural and construction vehicles.
- Do not make any modifications to the device.
- Do not use automatic car washes when a rooftop unit is installed on the vehicle.
- If a fault occurs in the refrigerant circuit of the rooftop unit, it must be inspected and properly repaired by a professional. Refrigerant should not be released into the atmosphere.

## NOTE

If the supply cord is damaged, it must be replaced by MRCOOL®, a service agent, or licensed contractor to avoid hazard.

## WARNING

1. **Work Procedure**
- Work shall 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.
2. **General Work Area**
- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.
3. **Checking for the Presence of Refrigerant**
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
4. **Presence of a Fire Extinguisher**
- If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.
5. **No Ignition Sources**
- No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs should be displayed.
6. **Ventilated Area**
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
7. **Checks to the Refrigeration Equipment**
- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer' s maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance. The following checks shall be applied to installations using flammable refrigerants:
  - the charge size is in accordance with the room size within which the refrigerant containing parts are installed;
  - the ventilation machinery and outlets are operating adequately and are not obstructed;
  - if an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;

**WARNING**

- marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

**8. Checks to Electrical Devices**

- Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised. Initial safety checks shall include: that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking; that no live electrical components and wiring are exposed while charging, recovering or purging the system; that there is continuity of earth bonding.

**9. Sealed Electrical Components Should be Replaced**

**10. Intrinsically Safe Components Must be Replaced**

**11. Cabling**

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

**12. Detection of Flammable Refrigerants**

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

**13. Leak Detection Methods**

- The following leak detection methods are deemed acceptable for systems containing flammable refrigerants. Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed and the appropriate percentage of gas (25 % maximum) is confirmed.
- Leak detection fluids are suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work. If a leak is suspected, all naked flames shall be removed/ extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Oxygen free nitrogen (OFN) shall then be purged through the system both before and during the brazing process.

**14. Removal and Evacuation**

- When breaking into the refrigerant circuit to make repairs or for any other purpose conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration. The following procedure shall be adhered to:
  - safely remove refrigerant following local and national regulations;
  - evacuate;
  - purge the circuit with inert gas (optional for A2L);
  - evacuate (optional for A2L);
  - continuously flush or purge with inert gas when using flame to open circuit; and;
  - open the circuit.
- The refrigerant charge should be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall 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.

**WARNING**

- For appliances containing flammable refrigerants, refrigerant purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to the atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L).
- When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.
- The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation should be available.

**15. Charging Procedures**

- In addition to conventional charging procedures, the following requirements should be followed:
  - Ensure that contamination of different refrigerants does not occur when using charging equipment.
  - Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
  - Cylinders shall be kept upright.
  - Ensure that the refrigeration system is earthed prior to charging the system with refrigerant.
  - Label the system when charging is complete (if not already).
  - Extreme care shall be taken not to overfill the refrigeration system. Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

**16. Decommissioning**

- Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of reclaimed refrigerant. It is essential that electrical power is available before the task is commenced.

a. Become familiar with the equipment and its operation.
b. Isolate system electrically.
c. Before attempting the procedure ensure that: mechanical handling equipment is available, if required, for handling refrigerant cylinders; all personal protective equipment is available and being used correctly; the recovery process is supervised at all times by a competent person and recovery equipment and cylinders conform to the appropriate standards.
d. Pump down the refrigerant system, if possible.
e. If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
f. Make sure that cylinder is situated on the scales before recovery takes place.
g. Start the recovery machine and operate in with manufacturer's 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 the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
k. Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

**17. Labeling**

- Equipment shall be labeled stating that it has been de- commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

**18. Recovery**

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

## WARNING

- 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 are available. All cylinders to be used are 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 shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant. If in doubt, consult MRCOOL®. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses should be finished with leak-free disconnect couplings and should be in good condition.
- The recovered refrigerant shall be processed according to local codes 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 shall not be heated by an open flame or other ignition sources to accelerate this process.
- When oil is drained from a system, it shall be carried out safely.

**19. Transportation, Marking, and Storage for Units that Use Flammable Refrigerants**

- Transportation of equipment containing flammable refrigerants
  - Compliance with the transportation regulations
- Marking equipment using signs
  - Compliance with local regulations
- Disposal of equipment that uses flammable refrigerants
  - Compliance with national regulations
- Storage of equipment and appliances
  - The storage of the unit should be in accordance with the applicable regulations or instructions, whichever is more stringent
- Storage of packaged equipment
  - The unit should be packaged in such a way that if packaging is damaged, it will still protect the unit and keep it from leaking refrigerant
  - The maximum number of equipment pieces allowed to be stored together will be determined by local regulations

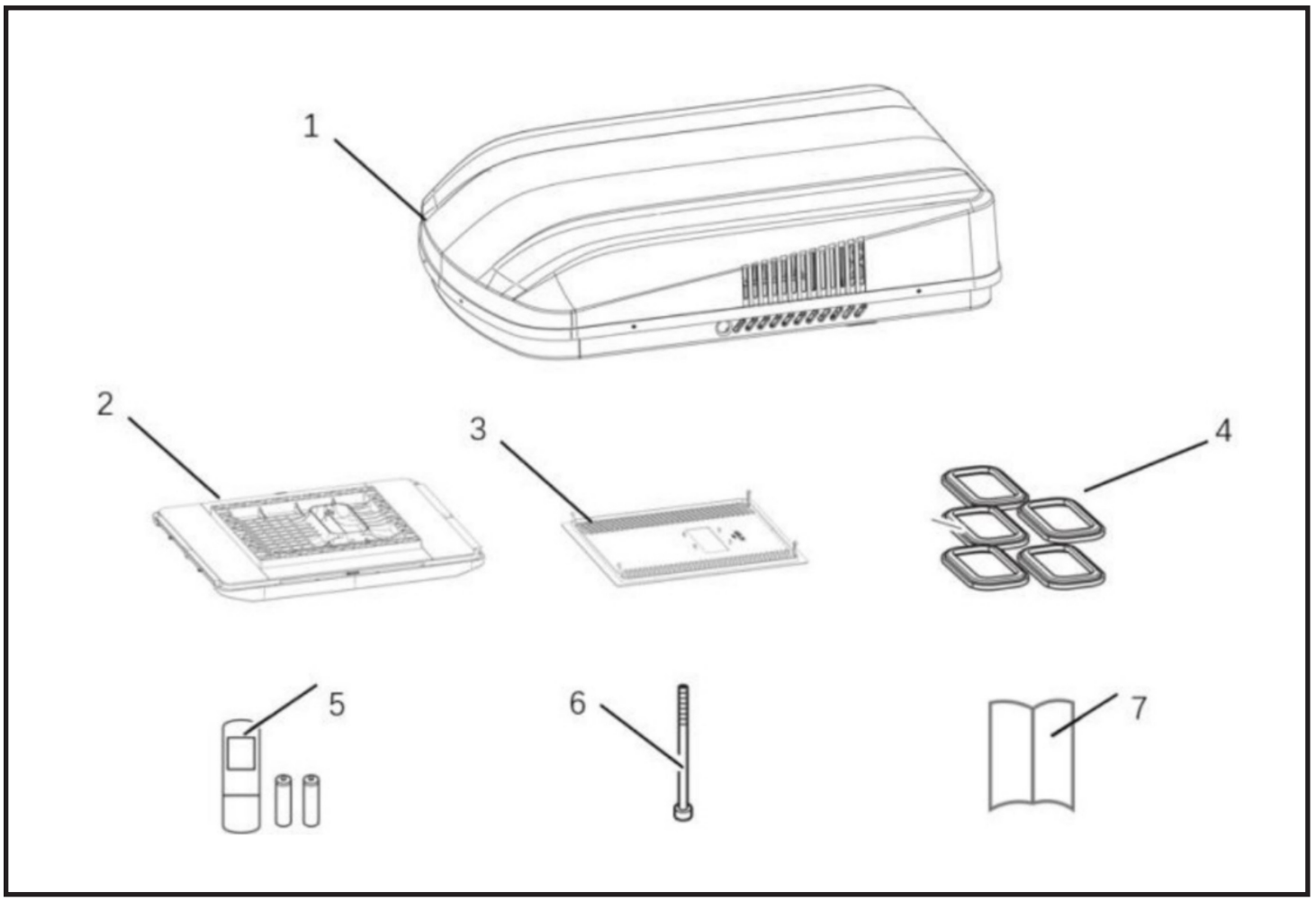
| Symbols Displayed on Indoor & Outdoor Unit | | |
|---|---|---|
|   | **WARNING** | This symbol shows that this appliance uses a flammable refrigerant. If the refrigerant is leaked and exposed to an external ignition source, there is a risk of fire. |
|  | **CAUTION** | This symbol shows that the operation 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. |

## 2.1 Operating Parameters

| | |
|---|---|
| **Voltage** | AC120V 60HZ |
| **Cooling Capacity** | 10000-15000 BTU/h |
| **Cooling Power Consumption** | 1000-1650W |
| **Heating Capacity** | 12000-16000 BTU/h |
| **Heating Power Consumption** | 1000-1400W |
| **Air Volume (High Speed) (cfm)** | 323.72 cfm |
| **Maximum Design Pressure (PSIG)** | 550 |
| **Minimum Design Pressure (PSIG)** | 290 |
| **Refrigerant Usage R-32 (oz)** | 25.39 oz |
| **Adapt to Ceiling Opening Size (in)** | 14.17*14.17 |

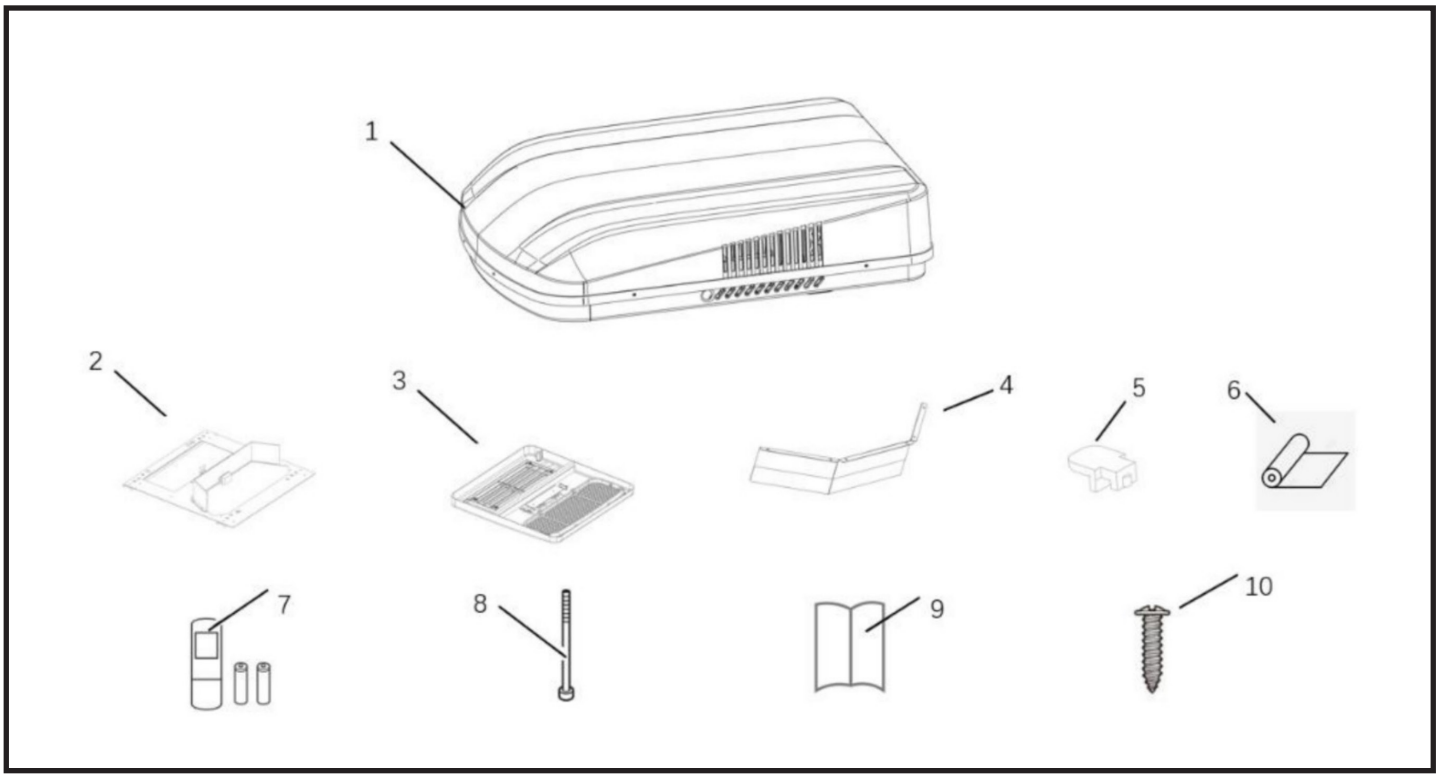
## 2.2 Parts Diagram

### Connecting the Rooftop Air Conditioner: Ductless ADB




| Serial Number (Figure) | Quantity | Description |
|---|---|---|
| 1 | 1 | Air Conditioning Unit |
| 2 | 1 | ADB Panel |
| 3 | 1 | ADB Central Panel |
| 4 | 5 | Air Duct |
| 5 | 1 | Remote Controller (with battery) |
| 6 | 4 | Long Fixing Bolt |
| 7 | 1 | User Manual |

## Connecting the Rooftop Air Conditioner: Ducted ADB




| Serial Number (Figure) | Quantity | Description |
|---|---|---|
| 1 | 1 | Air Conditioning Unit |
| 2 | 1 | Control Mounting Plate |
| 3 | 1 | ADB Control Panel Component |
| 4 | 1 | Wind-Isolating Adjustable Baffle |
| 5 | 2 | Mounting Buckle |
| 6 | 1 | Unlined Aluminum Foil |
| 7 | 1 | Remote Controller (with battery) |
| 8 | 4 | Long Fixing Bolt |
| 9 | 1 | User Manual |
| 10 | 12 | Round Head Self-Tapping Screw |

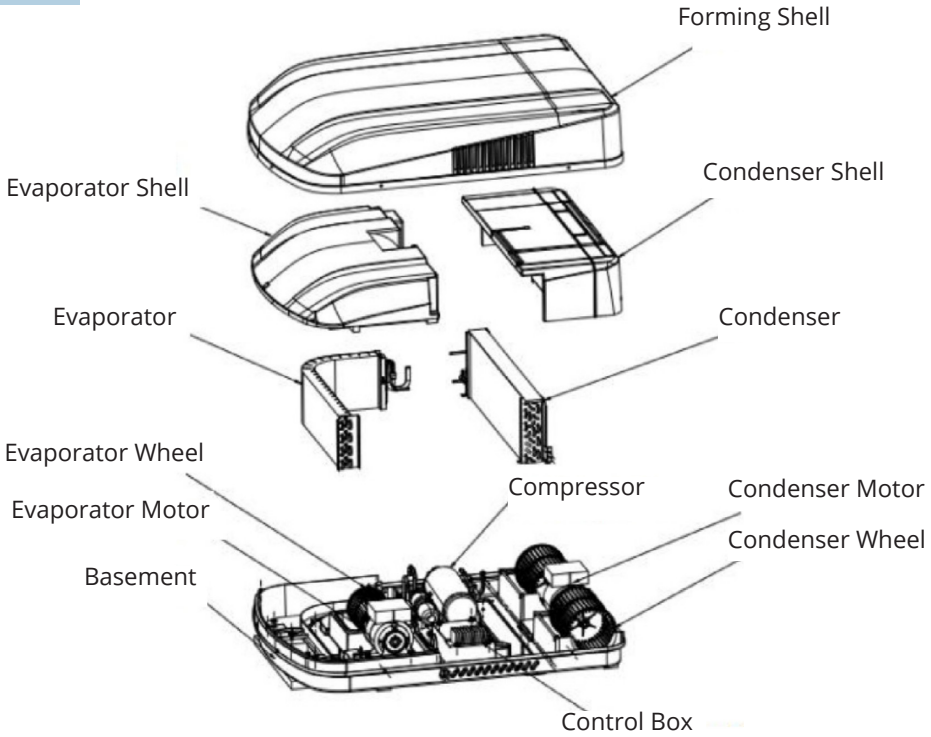
**Installation Accessories:**

Optional installation accessories must be purchased separately (not included in the standard supply scope).

**Ducted Section:**

For thickened roofs, this duct accessory must be selected as an additional option.

## 2.3 Product Map




## 3.1 Product Application

This MRCOOL® TravelCool ™ Unit is designed for installation on the roof of caravans or motor homes to regulate interior temperature and humidity. It is suitable for installation on vehicles with a roof thickness of 5in (12.7cm). The unit must be mounted within a maximum inclination of ±10° from the horizontal plate and is not approved for use in residential houses or apartments. This roof-mounted air conditioner is not suitable for installation in construction machinery, agricultural equipment, or similar applications. Performance may be impaired if the unit is subjected to significant vibration or shock.

| Ambient Temperature Range for Unit Operation | |
|---|---|
| Cooling Operation | Outdoor Temperature: 63°F-109°F (17°C-43°C) |
| | Indoor Temperature: 63°F-90°F (17°C-32°C) |
| Heating Operation | Outdoor Temperature: 41°F-75°F (5°C-24°C) |
| | Indoor Temperature: 41°F-81°F (5°C-27°C) |

## 3.2 Installation Location

Before installing the rooftop air conditioning unit, verify that its placement will not cause damage to any vehicle components (e.g., lights, storage compartments, doors).

Prior to installation, consult the vehicle manufacturer to confirm whether the vehicle structure is designed to support the static weight and load of the unit during travel. Under no circumstances should MRCOOL® be held liable for any related issues. The vehicle manufacturer may have designated pre-approved mounting points for the rooftop unit to ensure the installation opening can be made without the risk of compromising the vehicle structure or cutting through any cables. Select a flat and sufficiently level area for installation at the center of the roof between the two longitudinal sections. The inclination of the mounting surface must not exceed 10°.

Ensure no flammable objects are stored or installed near the air outlet. The unit must be kept at least 19.68in (49.98cm) away from combustible materials. Make sure that neither the air outlet nor the air inlet is obstructed. For safety reasons, during the installation of the rooftop air conditioner (e.g., when drilling or fastening), pay attention to the position of existing wiring harnesses, cables, and other components within the installation area, especially those that are not visible.

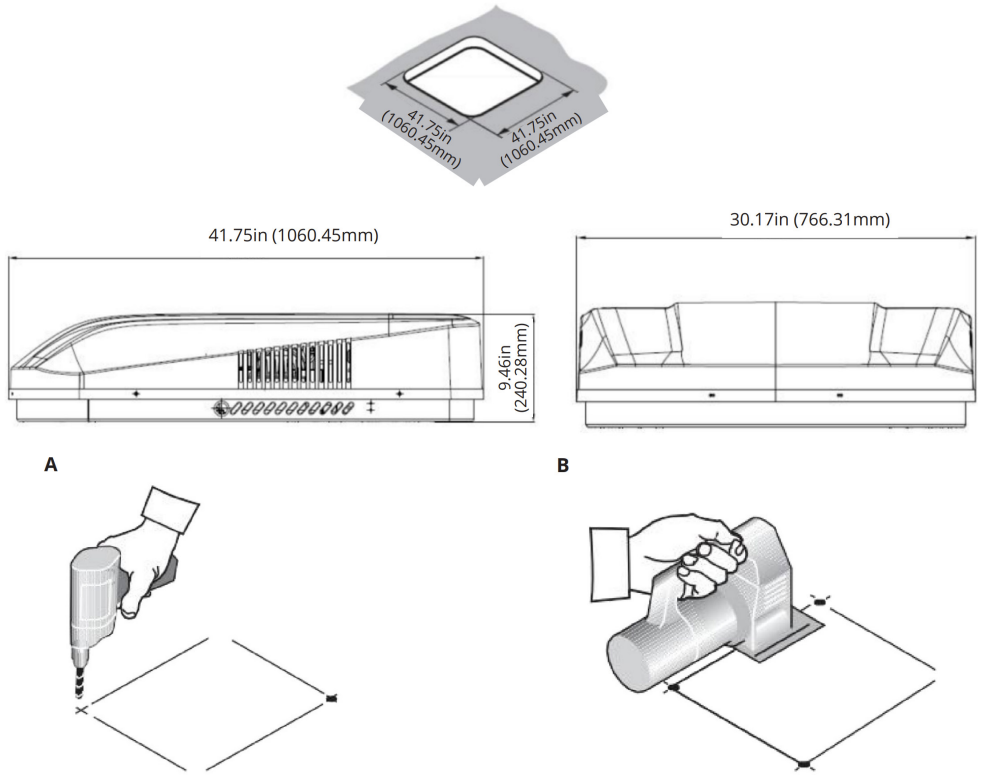
## 3.3 Electrical Specifications

- The equipment shall be installed in accordance with local and national wiring regulations.
- Only qualified personnel may connect the rooftop air conditioning unit to the power supply.
- Verify that the voltage rating on the nameplate matches the power supply specifications.
- Do not route loose or coiled cables adjacent to conductive materials (e.g., metal).
- A circuit breaker must be incorporated into the fixed wiring. This breaker must provide all-pole disconnection, with contact separation of at least 0.11in (0.27cm).
- The power supply must operate at the rated voltage and be dedicated to the air conditioner circuit. The circuit supplying the air conditioner should be equipped with a leakage current-protection device and an air circuit breaker of adequate capacity. The air circuit breaker should provide both magnetic (short-circuit) and thermal (overload) protection. The recommended rating for the air circuit breaker is 16A.
- The fuse type and rating should correspond to the markings printed on the relevant controller or fuse holder.
- The external static pressure of the unit at the test point is 0 MPa.
- This rooftop air conditioner is supplied with a Y-type power connection. If the power cord is damaged, it must be replaced by MRCOOL®, an authorized service agent, or similarly qualified personnel to avoid hazards. The air conditioner is a Class I appliance. Reliable grounding must be implemented. Ensure the grounding conductor of the air conditioner is securely connected to the vehicle's grounding system.

## 3.4 Installation Methods

**Create a New Opening**

• When creating a new opening, it must be reinforced with suitable support frames.




Refer to the diagram and drill the corner holes (A).

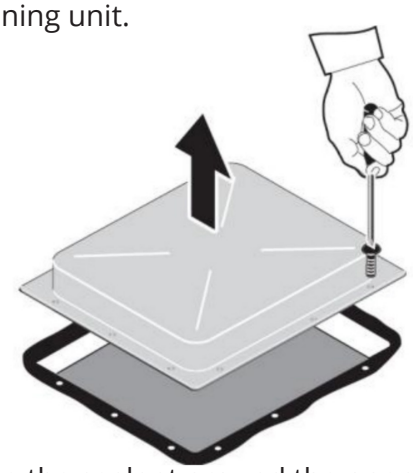
Carefully cut the opening on the roof using a keyhole saw or similar tool (B).

Ensure that no electrical wiring is damaged during the process.

**Use an Existing Opening**

• In this case, you can utilize a roof hatch or the space left after removing a preexisting air conditioner.

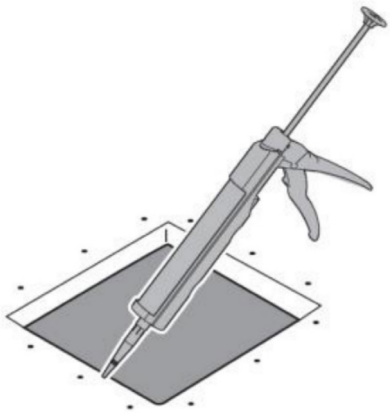
1. Remove all screws and fasteners securing the existing roof hatch or air conditioning unit.
2. Remove the roof hatch or air conditioning unit.



3. Use a scraper or similar tool to remove the sealant around the opening.



4. Seal screw holes and grooves with flexible non-hardening butyl sealant compound.



## ELECTRICAL WARNING

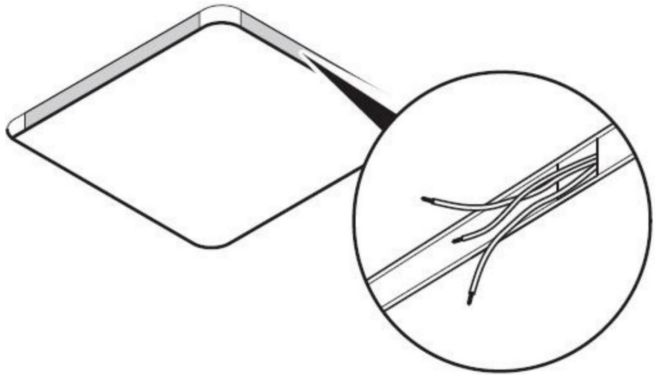
Ensure the power supply is disconnected before performing any operations.

The rooftop air conditioner must be connected to a circuit capable of supplying sufficient current. Refer to the product's technical specifications for details.

Select the cable cross-section according to the cable length:

- Length < 24.6ft: 1.5mm
- Length ≥ 24.6ft: 2.5mm

5. Provide a dedicated cable entry opening on one side of the structure, and route the power supply cable through it into the vehicle interior.

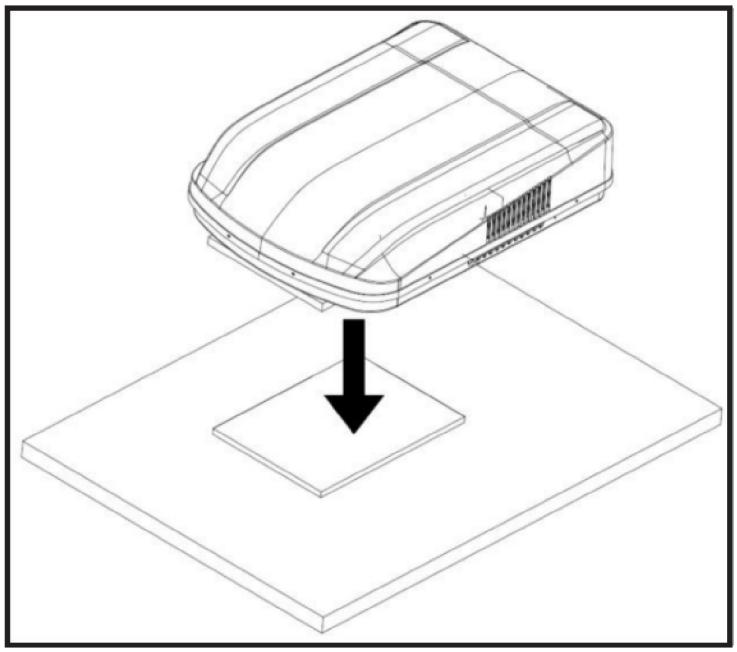


## 3.5 Installation Application

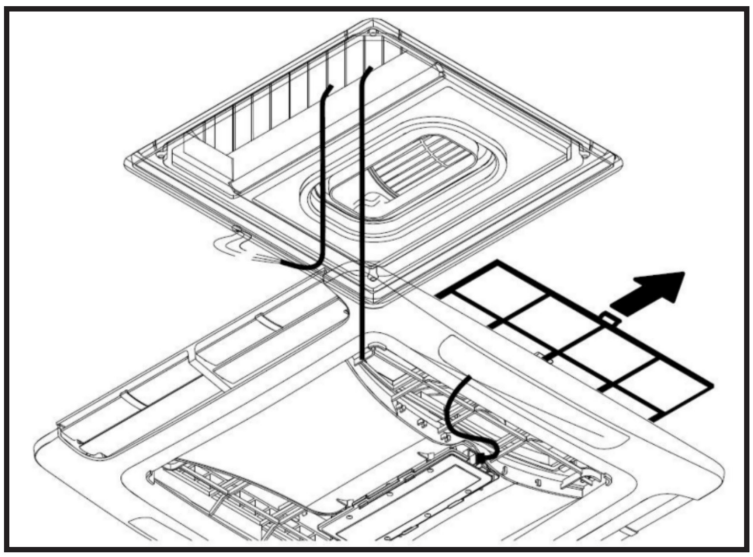
**Rooftop Air Conditioner-- Ductless ADB:**

**! CAUTION**

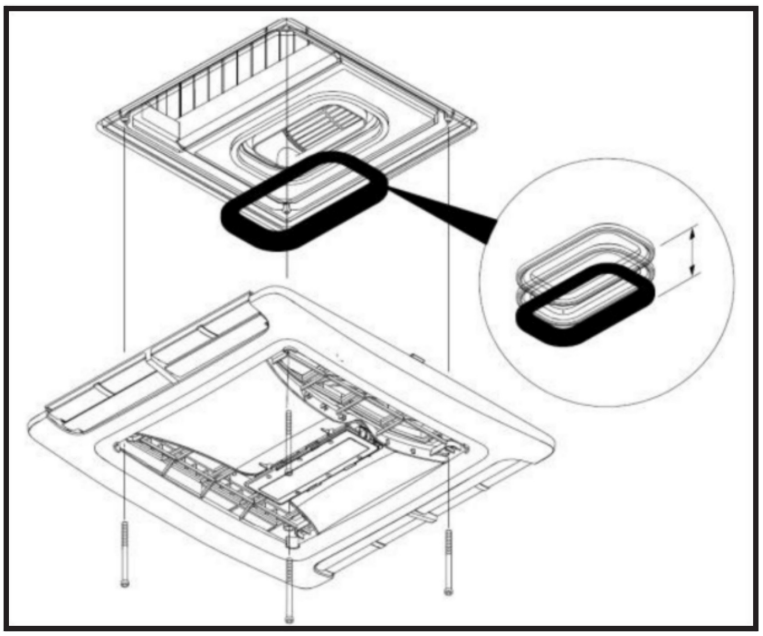
Check the structural strength of the roof. The roof must be capable of bearing the weight of the rooftop air conditioning unit. Even over an extended period of time, the roof must not sag or bow under the weight of the device.



1. Lift the rooftop air conditioning unit onto the roof.
2. Place the unit on the roof panel and align it with the mounting base's grooves.
3. Observe the operation orientation.



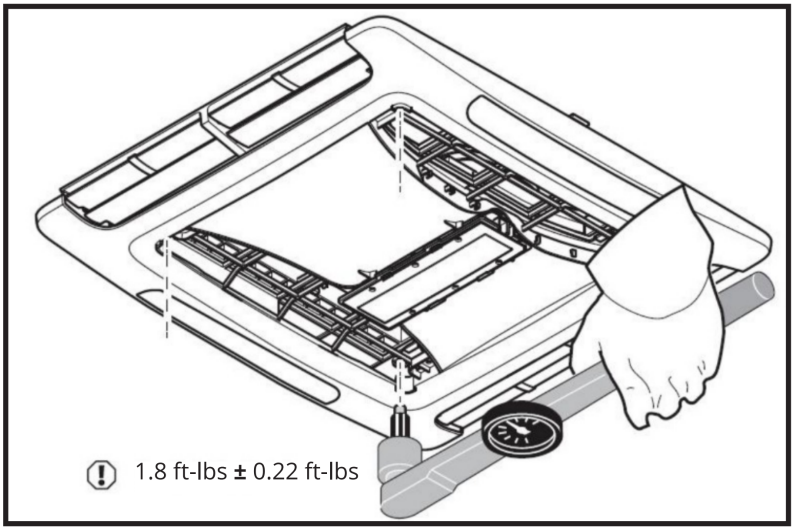
4. Connect the rooftop air conditioner to the power supply by attaching the cable to the cable connector.
5. Gently pull out the filter screen to create a passage for the communication cable.
6. Route the communication cable through the passage and insert the wire into the opening.



Stack the duct sections and position them according to roof thickness: The duct height should correspond to the roof height, refer to the following table as a guide.

| Roof Thickness in (cm) | Recommended Duct Height in (cm) |
|---|---|
| 0.98~1.1in (2.48~2.79cm) | 0.03in (0.07cm) |
| 1.1~ 1.49in (2.79~3.78cm) | 0.07in (0.17cm) |
| 1.49~1.8in (3.78~4.57cm) | 0.11in (0.27cm) |
| 1.8~2.28in (4.57~5.79cm) | 0.15in (0.38cm) |
| 2.28~2.67in (5.79~6.78cm) | 0.19in (0.48m) |

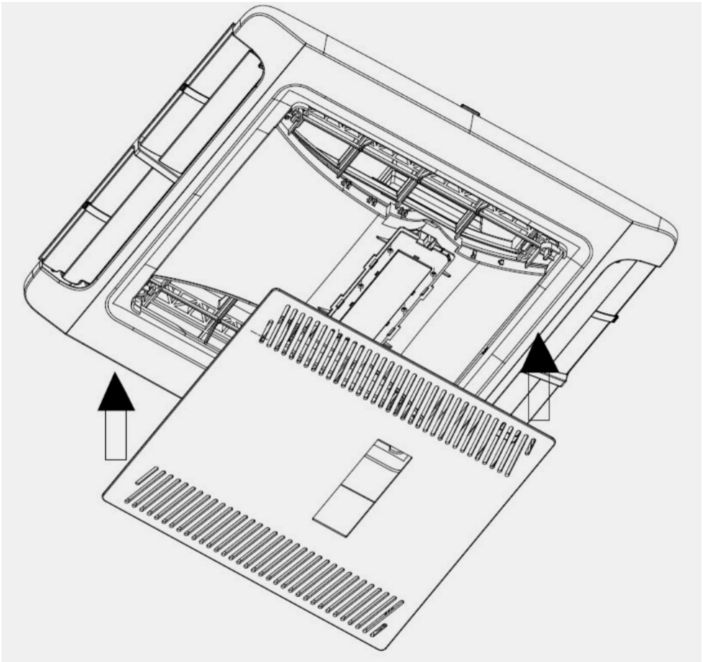
Secure the ADB to the roof through the rooftop air conditioner using the four supplied bolts.




Using a torque wrench, tighten the screws to a torque range of 1.8 ft-lbs ± 0.22 ft-lbs. Take care not to over-tighten.

## 3.6 Communication Cable

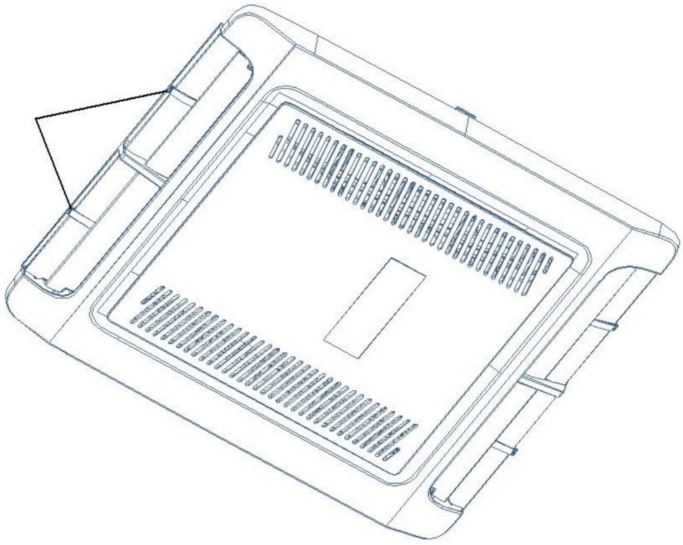
1. Connect the 4-pin communication plug to the socket on the side of the display (2) in the ADB panel.
2. Ensure the cable is routed through the small opening away from the filter area.
3. Secure any excess cable to the bracket.
4. Press the filter screen fully into place.



5. Place the central panel cover over the ADB and connect the power supply to test the unit.
6. Connect the power supply and proceed with testing.

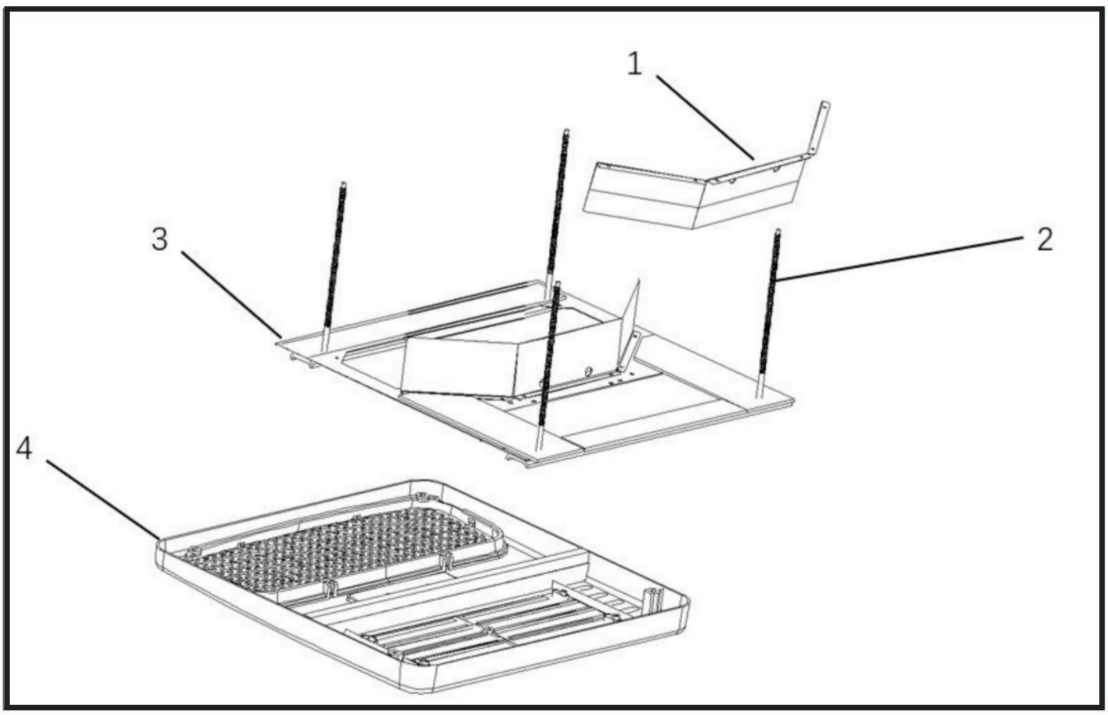
## 3.7 Adjustment of Airflow Deflector

The air outlet direction can be adjusted by setting the airflow deflector.



Simply rotate the airflow deflector to the desired direction. The airflow can be adjusted toward the ceiling or downward toward the floor.

**Connecting the Rooftop Air Conditioner-- Ducted ADB:**

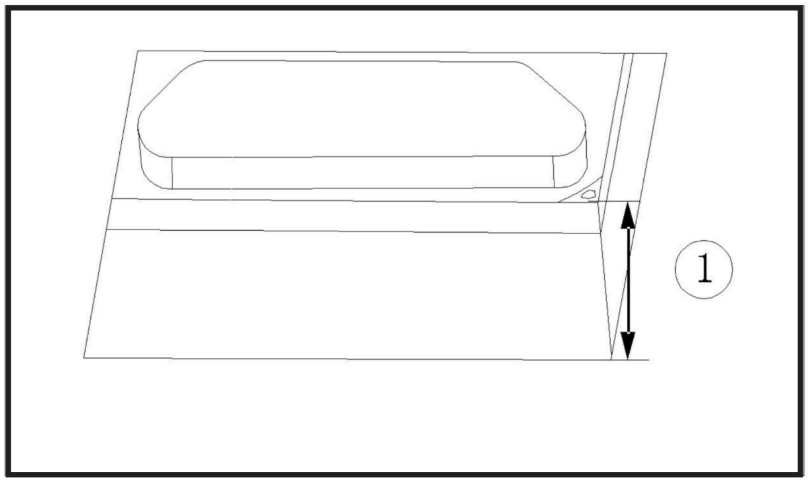



1. Wind-Isolating Adjustable Baffle
2. Long Fixing Bolt*4
3. Control Mounting Plate
4. ADB Control Panel Component

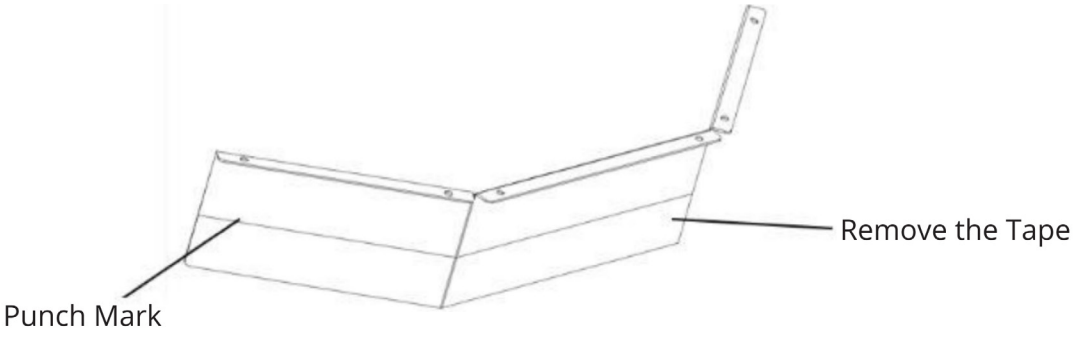
**Installation of the Wind-Isolating Adjustable Baffle**

A. Measure the thickness from the RV ceiling to the bottom of the air conditioner.

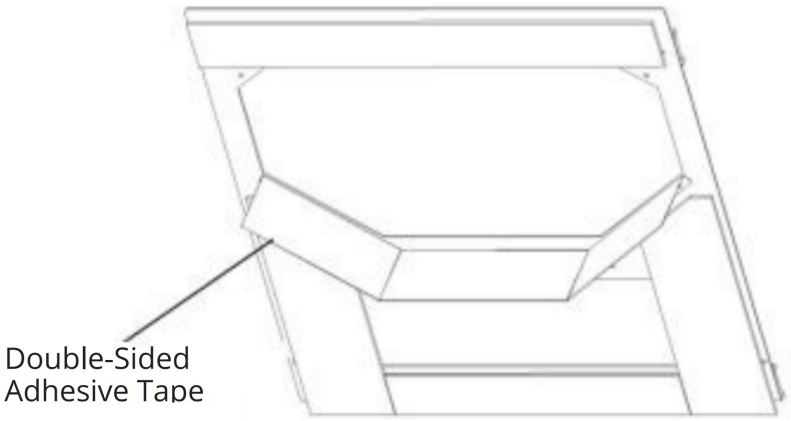
- If the distance is between 2.5-4.25in (6.35-10.795cm), a section of the air duct divider must be removed.
- If the distance is between 4.25-6 in (10.795-15.24cm), no removal is necessary.



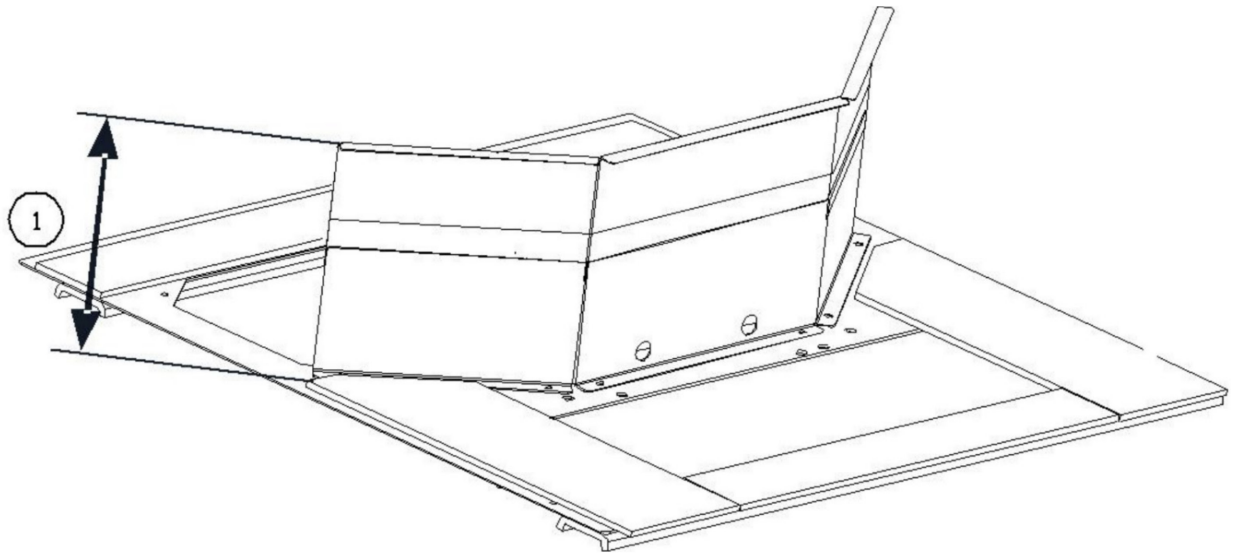

**NOTE:** Visual appearance is subject to variation.
 Represents the thickness from the RV ceiling to the bottom of the air conditioning unit.




B. Remove the backing paper from the double-sided adhesive tape on the panel mounting plate.



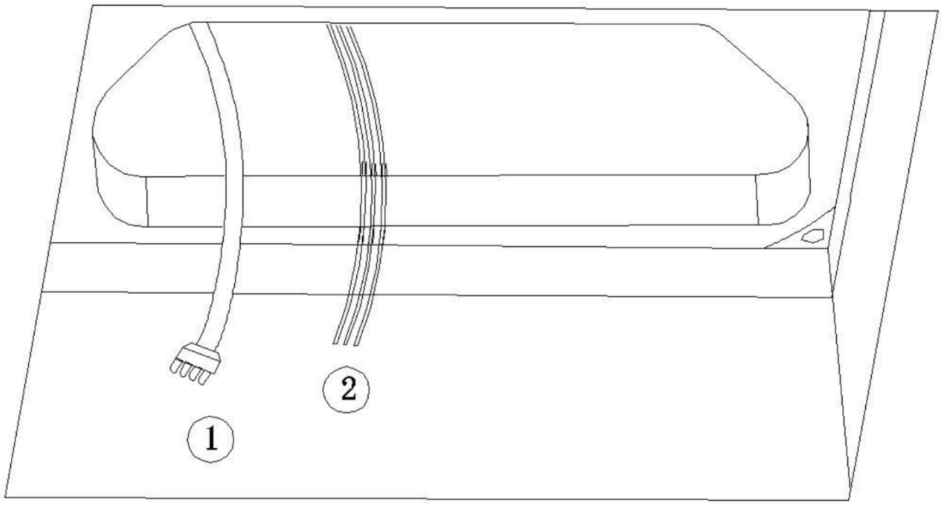
C. Install the air duct divider onto the ceiling template correctly according to the measured ceiling-to-bottom thickness. Incorrect installation may cause frequent compressor cycling, potentially leading to electrical circuit overload and degraded product performance.
The adhesive on the double-sided tape is extremely strong. Ensure the divider is properly positioned before pressing it firmly into place.




 Represents the thickness from the RV ceiling to the bottom of the air conditioning unit.

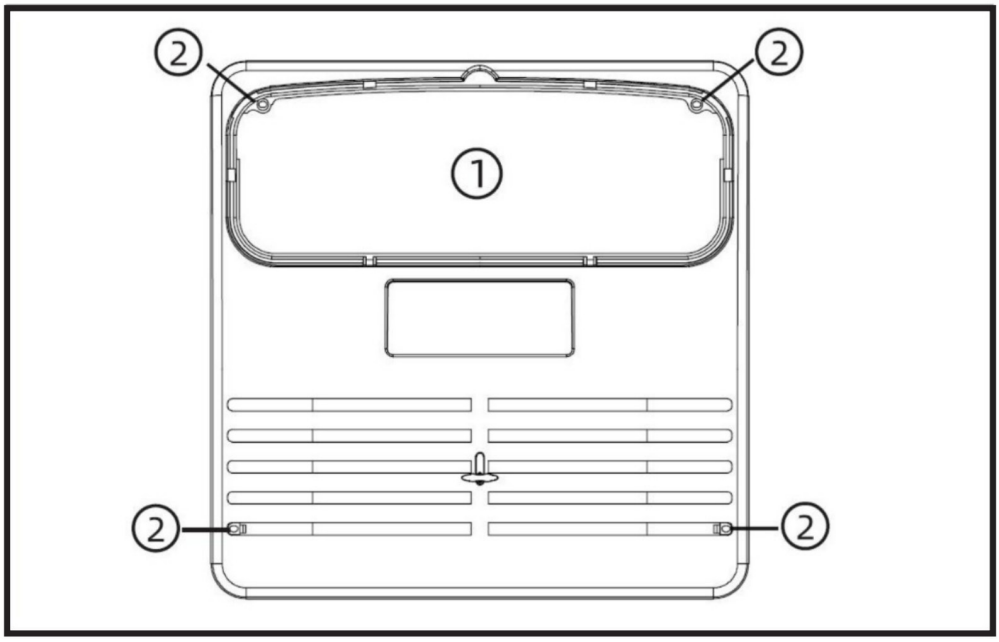
Secure the panel mounting plate to the air conditioning unit using 4 mounting bolts. Using a torque wrench, tighten the screws to a range of 1.8 ft-lbs ±0.22 ft-lbs, taking care not to over-tighten.

## 4.1 Electrical Connection



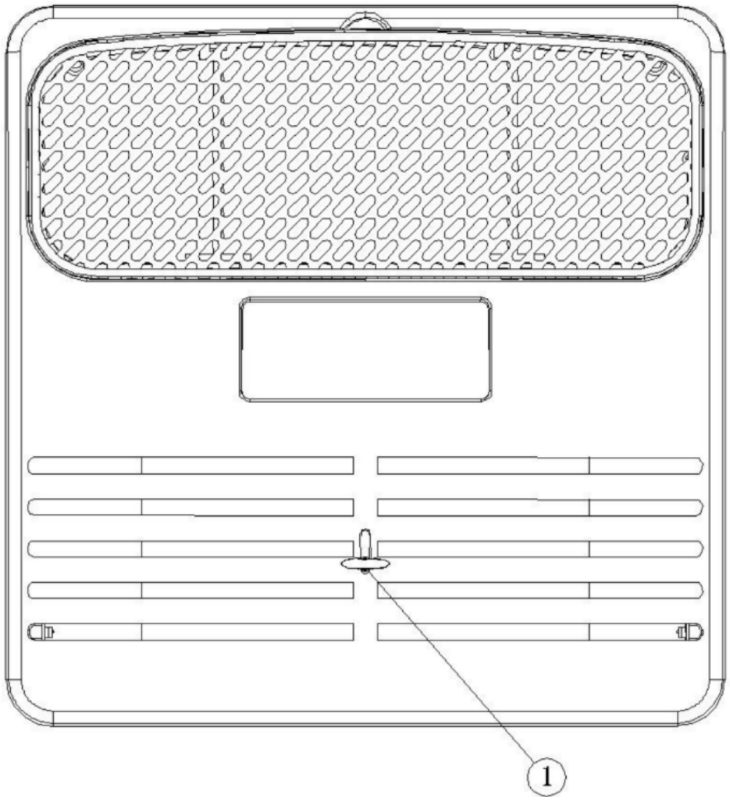

Connect to the control panel.
②Connect to the vehicle's power supply.

Install the ADB panel. Position the ADB over the top template, align its intake vent with the air return port of the main unit and secure the screws in sequence.




①Air Intake Vent
②Screws (x4)

The airflow can be adjusted by turning the air outlet control slider.




①Air Outlet Control Slider

## 4.2 Control Panel

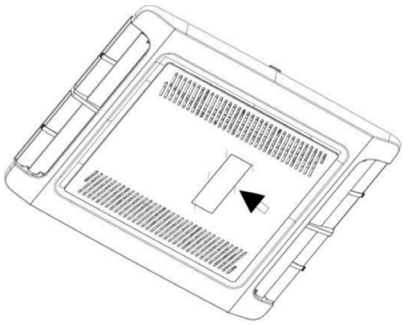


Figure 4-1




Figure 4-2

The control panel is located at the air outlet of the roof-mounted air conditioner, as indicated in Figure 4-1. Controls, buttons, and display icons are shown in Figure 4-2.

Button Descriptions:

**Power On/Off Button:** Press this button to start the rooftop air conditioner or switch to standby mode.

▽/△**Increase/Decrease** the currently displayed value.

**Select Air Conditioner Operating Mode.**

**Fan Speed Button.**

Display Icon Legend:

The set temperature can be adjusted. The air conditioner will operate in Heating or Cooling mode to reach the desired temperature with the fan speed set to Auto.

The set temperature and fan speed can be adjusted. The air conditioner will operate in Cooling mode.

The air conditioner operates in Dehumidification mode, which removes moisture from the air. In this mode, the evaporator fan runs at a low speed.

Turn the Air Circulation mode On/Off to move air without heating or cooling.

The set temperature and fan speed can be adjusted. The air conditioner will operate in Heating mode.

Turn Negative Ion Mode On/Off.

Turn Sleep Mode On/Off.

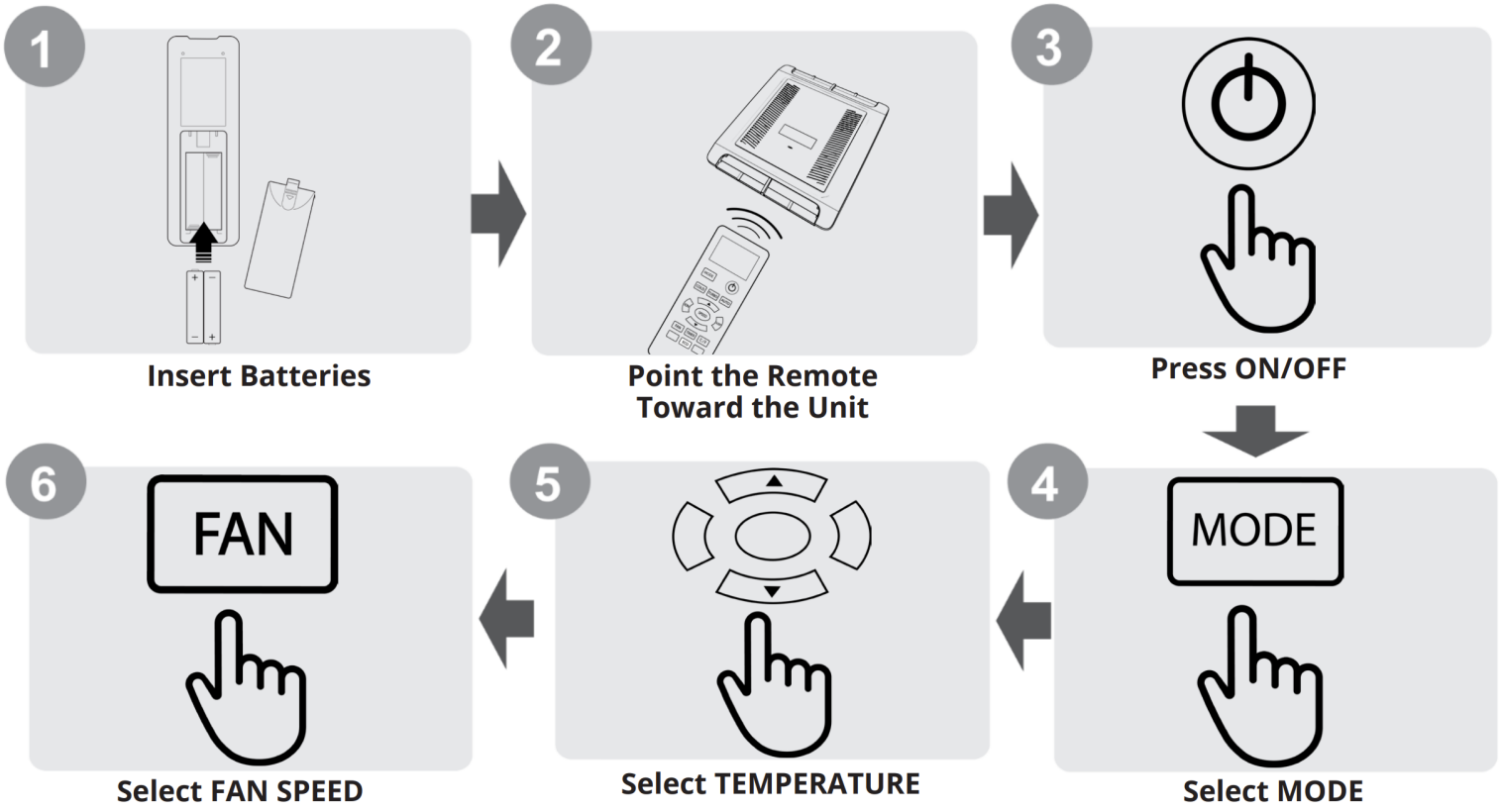
## 4.3 Remote Controller

| Specifications | |
|---|---|
| **Model** | MRDRC |
| **Rated Voltage** | 3.0V (dry batteries R03/LR03x2) |
| **Signal Receiving Range** | 26.24 ft (8m) |
| **Environment** | 23°F~140°F (-5°C~60°C) |

### NOTE

- Buttons designs on your unit may differ slightly from the example shown.
- If the indoor unit does not have a particular function, press that function's button on the remote controller will have no effect.
- If there is a difference in the description of a unit's function between the "Remote Controller Manual" and "Installation & Owner's manual", the information found in the "Installation & Owner's Manual" should take precedent.

**Quick-Start Guide**




**Display Function:**

1. **ON/OFF Button:** Used to turn the air conditioner On/Off.

Factory Default Settings: Cooling, Auto Fan, and display of the current room temperature (in Fahrenheit).
If it is not the unit's initial startup, the unit will remember the mode settings prior to power failure.

2. **Mode Button:** MODE Switches the operating mode of the air conditioner.

Cycles through the modes in the following order: "Auto>Cool>Dry>Fan>Heat".

- **Cooling Mode:** By default, the set temperature (in Fahrenheit) is displayed and the fan speed is set to Auto. If it is not the unit's initial startup, the unit will remember the temperature and the fan speed settings prior to power failure.
- **Dry Mode:** By default, the temperature is not displayed and the fan speed is set to low. If it is not the unit's initial startup, the unit will remember the Low Fan Speed setting prior to power failure.
- **Fan Mode:** By default, the fan speed is set to high. If it is not the unit's initial startup, the unit will remember the fan speed setting prior to power failure.
- **Heat Mode:** By default, the set temperature (in Fahrenheit) is displayed and the fan speed is set to Auto. If it is not the unit's initial startup, the unit will remember the temperature and fan speed settings prior to power failure.
- **Auto Mode:** By default, the set temperature (in Fahrenheit) is displayed and the fan speed is set to Auto. If it is not the unit's initial startup, the unit will remember the temperature and fan speed settings prior to power failure.

3. **Cool Button:** COLD Press this button to activate Cooling mode. The Cooling icon will remain on .
4. **Turbo Button:** TURBO Press this button to activate Turbo function. The Turbo icon will remain on .

- The Turbo function can be activated in Cooling and Heating modes. After exiting the Turbo function, the unit defaults back to the mode settings prior to entering Turbo.
- When the Turbo function is activated, the fan speed is set to high and the corresponding characters are displayed on the LCD screen.
- While the Turbo function is active, the Timer and Temperature buttons remain functional. Pressing the Mode button, Fan Speed button, Sleep button, or ECO button will turn off the Turbo function.

5. **Auto Button:** AUTO Can be used in all modes except Dry mode. Press this button to activate Auto Fan speed. The fan speed bars will be displayed dynamically while the display screen continues to show the originally-set temperature.
6. **Increase Button:** While in Auto, Cool, Fan, and Heat mode, each press increases the set temperature by 1° increments, ranging from 61-90°F (16-32°C).
7. **Decrease Button:** While in Auto, Cool, Fan, and Heat mode, each press decreases the set temperature by 1° increments, ranging from 90-61°F (32-16°C).
8. **Fan Speed Button:** SPEED Adjusts the fan speed of the air conditioner. Operation method: Low Fan/Sleep/ECO (two bars) Medium Fan (four bars), High Fan (six bars).

Note: In Auto Fan mode, this icon is displayed dynamically.

9. **Sleep Button:** SLEEP Press this button to activate the Sleep function. Pressing the button cycles through "Sleep>Cancel Sleep>Sleep". The Sleep icon will be displayed .

- While the Sleep function is active, pressing the Turbo or ECO button will leave the Sleep function.

10. **Fan Button:** FAN Press this button to activate Fan mode. The Fan icon will remain on .
11. **Eco Button:** Press this button to activate the ECO function. Pressing this button cycles through "ECO>Cancel ECO>ECO".
12. **Timer Button:**

- When the unit is on, press the Timer button once to begin setting the shutoff timer. If no operation is performed for TIMER onds, the setting is confirmed. To cancel the timer or reset it, press and hold the Timer button for 3 seconds.
- When no timer is set, press the Timer button once. The remote control screen will display "1". The timer can then be set using the Increase/Decrease buttons. Each press changes the time by one-minute increments. While setting the timer, you can quickly cancel it by pressing and holding the Timer button for 3 seconds. After 3 seconds of blinking, the setting is confirmed and the set temperature will be displayed again, and the indicator light will turn on.
- When a timer is already set, press the Timer button once to display the remaining time until shutoff. This is shown for 3 seconds, then the display returns to showing the set temperature. Press and hold the Timer button for 3 seconds to cancel the timer; the indicator light will turn off.
- Each time the Timer function is used, pressing the Timer button again to enter the Timer setting screen will recall the previously-set timer.

14. **Temperature Unit Conversion Button:** °C/°F The factory default setting is Fahrenheit. Press this button to switch the displayed temperature value between Fahrenheit and Celsius. The corresponding character icon will light up.

## 4.4 App Operation

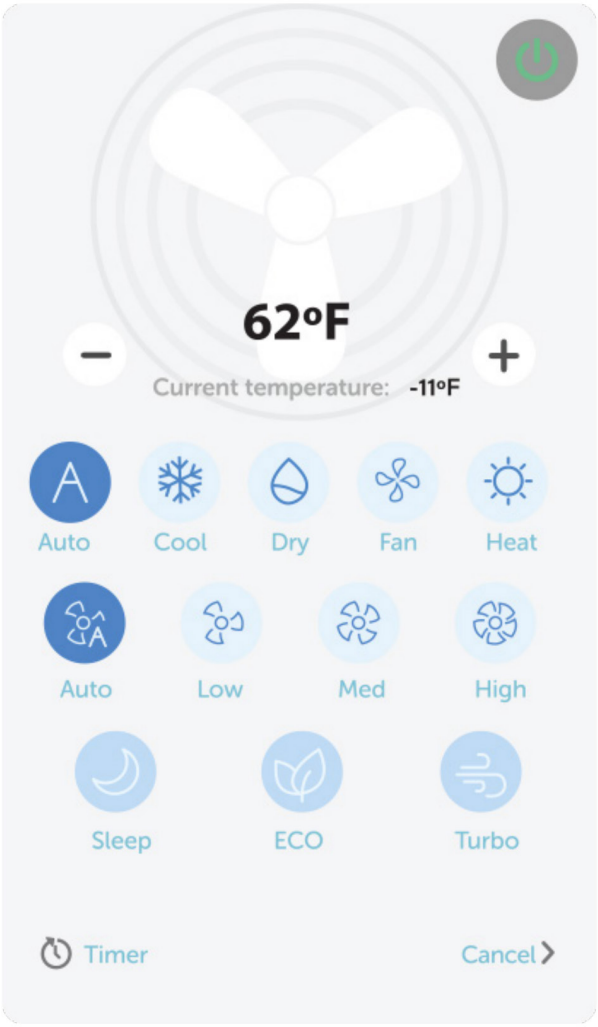
1. Scan the QR code below with your smart device to download the MRCOOL® Connect app.

CONNECT

Download on the App Store

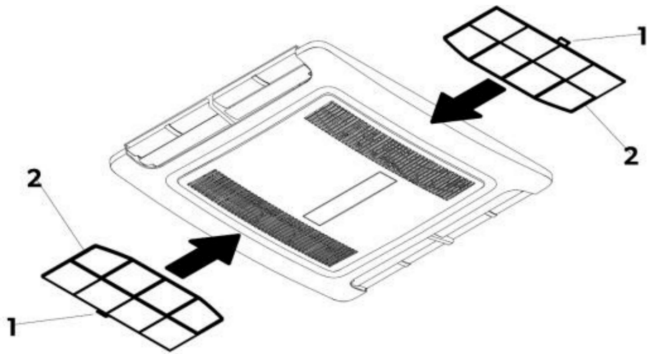
ANDROID APP ON Google play

2. Press and hold "MODE" on the display panel for 5 seconds until the Wi-Fi icon flashes.
3. Open the app and follow instructions to connect and configure Wi-Fi network compatibility.
4. The app interface appears as shown below once the Wi-Fi connection is successful.




## 4.5 Maintenance

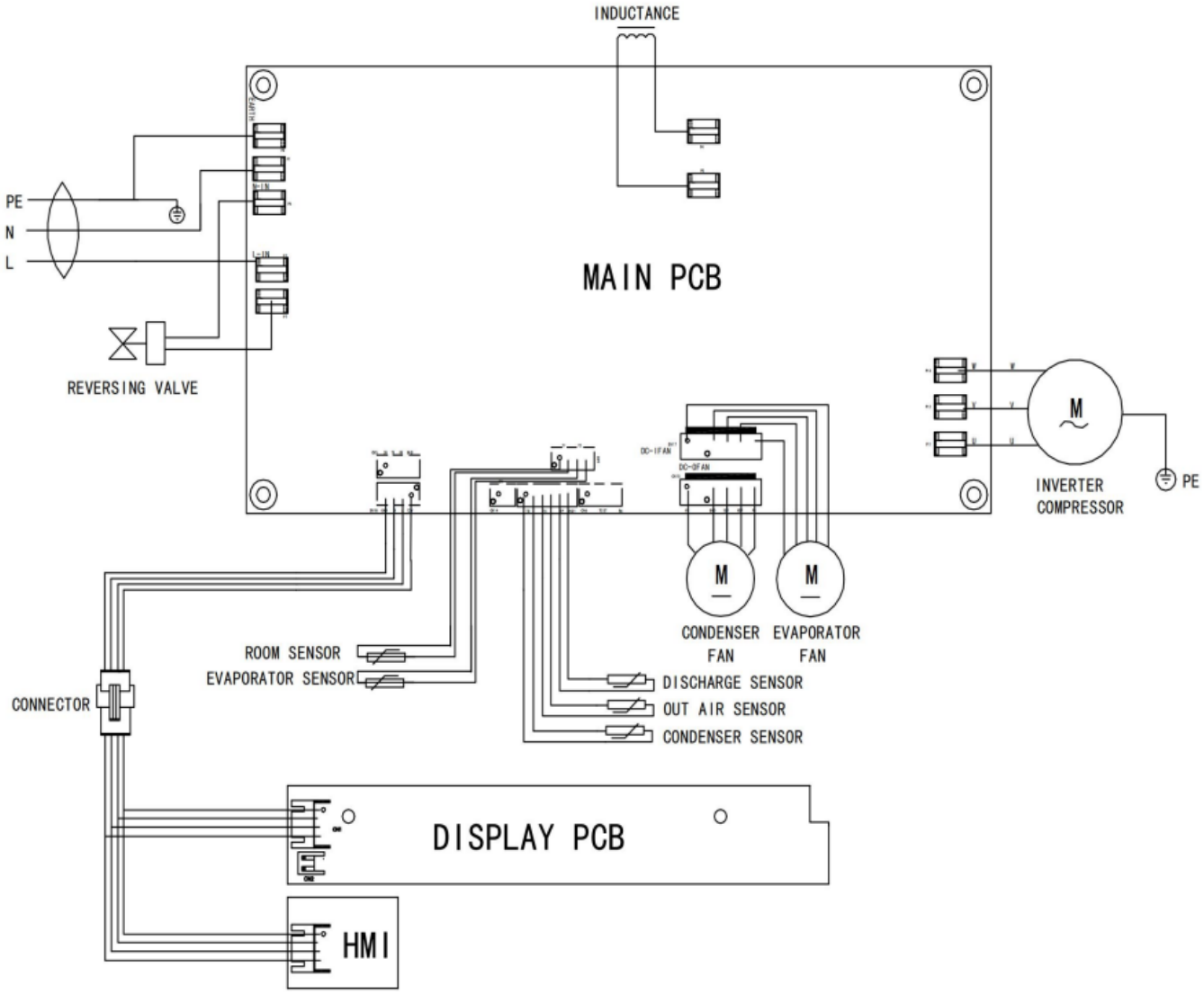
**Cleaning the Air Conditioner's Filter:**




Insert a flat-head screwdriver or small knife into the handle and gently pull out the filter screen.

1. Remove the filter screen manually.
2. Clean the filter screen with water and allow it to dry.
3. Return the dried filter screen back into its position.

## 4.6 Wiring Diagram



## 5 - Troubleshooting

| Fault Condition | Digital Display Code | Fault or Protection Handling |
|---|---|---|
| Fault in Indoor Pipe Temperature Sensor | E1/E2/E5 | Indoor unit running, outdoor unit stopped; normal operation restored after reset/recovery |
| Outdoor Coil Temperature Sensor Failure | E6 | Indoor unit running, outdoor unit stopped; normal operation restored after reset/recovery |
| Exhaust Temperature Sensor Failure | E7 | Indoor unit running, outdoor unit stopped; normal operation restored after reset/recovery |
| Indoor Fan Motor Failure | E8 | The entire unit stopped; it resumed normal operation after troubleshooting |
| Outdoor Fan Motor Failure | E9 | Outdoor unit stopped and resumed normal operation after troubleshooting |
| Exhaust Temperature Protection | F0 | Outdoor unit stopped and resumed normal operation after troubleshooting |
| AC Overcurrent Protection | F2 | Unit shutdown; reboot unit |
| Compressor Phase Overcurrent Protection | F3 | Unit shutdown; reboot unit |
| DC Bus Overvoltage Protection | F4 | Unit shutdown; reboot unit |
| DC Bus Undervoltage Protection | F5 | Unit shutdown; reboot unit |
| AC Undervoltage Protection | F6 | Unit shutdown; reboot unit |
| Main Board, Driver Board Communication Fault | F7 | Indoor unit running, outdoor unit stopped; normal operation restored after reset/recovery |
| Main Board, Display Board Communication Fault | F8 | Unit shutdown; reboot unit |
| IPM Over-Temperature Protection | H1 | Outdoor unit stopped and resumed normal operation after troubleshooting |
| Compressor Starting Fault, Phase Loss or Incorrect Phasing | H2 | Unit shutdown; reboot unit |
| IPM Module Failure | H3 | Outdoor unit stopped and resumed normal operation after troubleshooting |
| Compressor Out-of-Step or Stalling Failure | H4 | Outdoor unit stopped and resumed normal operation after troubleshooting |
| Outdoor Low Temperature Safeguard for Heating | C2 | Unit halted, restarts after the temperature normalizes |



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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.