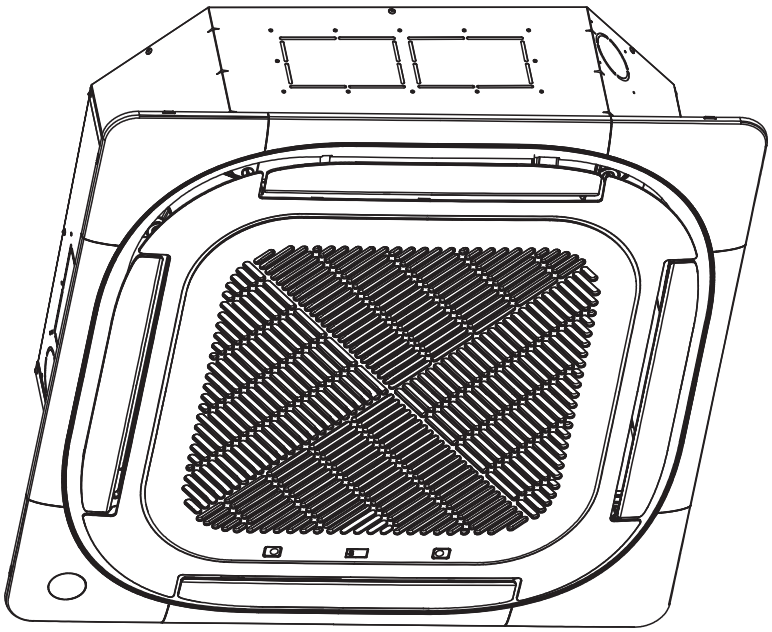
DURASTAR

OWNER'S MANUAL

FOUR–WAY CASSETTE INDOOR UNIT

DRAC0912F2A, DRAC18F2A, DRAC24F2A

R–454B, 208/230V, 1ph 60HZ



Model Number:

Serial Number:

Purchase Date:

Installing Contractor Company Name:

TIP

Capture relevant information about your Durastar mini-split equipment before it is installed and write it above for future reference.

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INTRODUCTION

To better serve you, please do the following before contacting customer service:

- If you received a damaged product, immediately contact the retailer or dealer that sold you the product.
- Read and follow this manual carefully to help you use and maintain your air handler.
- Read the troubleshooting section of this manual as it will help you diagnose and solve common issues.
- Visit us on the web at www.durastar.com to download product guides and up-to-date information.
- If you need warranty service, our friendly customer service representatives are available via email at questions@durastar.com or by telephone at 1-888-320-0706.

SYMBOLS USED IN THIS MANUAL

WARNING: The warning symbol indicates personal injury or loss of life is possible. Extra care and precautions should be taken to ensure the user's safety.

CAUTION: The caution symbol indicates property damage or other serious consequences could occur.

NOTE: The pencil indicates any manufacturer notes relating to surrounding content. These may include further clarifications or call-outs.

TIP: A light bulb symbol indicates suggested manufacturer tips for the user to get the most out of the Durastar equipment and to accommodate the best user experience.

Refrigerant Safety Group A2L

WARNING:
RISK OF FIRE DUE TO FLAMMABLE MATERIALS
Follow handling instructions carefully in compliance with national regulations.

Explanation of symbols displayed on the unit

	**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**	This symbol shows that information is available such as the operating manual or installation manual.

WARNING
Turn off the air conditioner and disconnect the power before installing, cleaning, or repairing the air conditioner. Failure to do so can cause electric shock.

IMPORTANT SAFETY PRECAUTIONS

Improper handling can cause serious damage or injury. Please read the following safety information in its entirety.

Operation, Cleaning, and Maintenance Safety Precautions

- Children and people with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, should only use, clean, or maintain this air conditioner if they are given supervision or instructions concerning use of the air conditioner in a safe way and understand the hazards involved. Children should not play with the air conditioner.
- Maintenance or repair must be performed by qualified professionals. Otherwise, you may experience personal injury or damage to the air conditioner and surrounding property.
- Disconnect the power supply by turning it off at the circuit breaker when cleaning, maintaining, or repairing the air conditioner. Otherwise, you could risk electric shock.
- When turning the unit on or off via the emergency operation switch, press the switch with an insulated object other than metal.
- If the below problems occur, please turn off the air conditioner and disconnect power at the circuit breaker immediately. Then contact your dealer or a qualified professional for service.
  - The power cord is overheating or damaged.
  - There is an abnormal sound during operation.
  - The circuit breaker trips frequently.
  - The air conditioner gives off a burning smell.
  - The indoor unit is leaking.
- Do not block the air outlet or air inlet. This could cause a malfunction.
- Never stick fingers or any other body parts into the air conditioner openings. The internal fan may be rotating at high speeds, and may result in injury.
- Do not spill water on the remote control as this can permanently damage the remote.
- Do not spray water on the indoor unit. This could cause electric shock or a unit malfunction.
- Do not clean the air conditioner with excessive amounts of water.
- Do not clean the air conditioner with combustible cleaning agents; they can cause fire or deformation.
- After removing the filter, do not touch the fins in order to avoid injury.
- Do not use fire or a hair dryer to dry the filter. This could cause a deformation or fire hazard.
- Do not step on the top panel of the unit, or put heavy objects on the top panel. This could cause damage or personal injury.
- Do not use flammable materials such as hair spray, lacquer, or paint near the air conditioner as they may catch fire.
- Do not operate the air conditioner in places near combustible gases. Emitted gases may collect around the air conditioner and cause an explosion.
- Do not operate your air conditioner in a wet room such as a bathroom or laundry room. Too much exposure to water can cause electrical components to short circuit.
- If the air conditioner is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.

Electrical Safety

- Do not modify the length of the power supply cord or use an extension cord to power the unit.
- If the supply cord is damaged, it must be replaced by the manufacturer, a service agent, or a similarly qualified person in order to avoid a safety hazard.
- Keep power plug clean. Remove any dust or grime that accumulates on or around the plug. Dirty plugs can cause fire or electric shock.
- Do not pull power cord to unplug unit. Hold the plug firmly and pull it from the outlet. Pulling directly on the cord can damage it, which can lead to fire or electric shock.
- Do not share the electrical outlet with other appliances. Improper or insufficient power supply can cause fire or electrical shock.
- The product must be properly grounded at the time of installation, or electrical shock may occur.
- For all electrical work, follow all local and national wiring standards and regulations. Connect cables tightly, and clamp them securely to prevent external forces from damaging the terminal. Improper electrical connections can overheat and cause fire, and may also cause shock. All electrical connections must be made according to the Electrical Connection Diagram located on the panels of the indoor and outdoor units.
- All wiring must be properly arranged to ensure that the control board cover can close properly. If the control board cover is not closed properly, it can lead to corrosion and cause the connection points on the terminal to heat up, catch fire, or cause electrical shock.
- If connecting power to fixed wiring, an all-pole disconnection device which has at least 3mm clearances in all poles, and have a leakage current that may exceed 10mA, the residual current device(RCD) having a rated residual operating current not exceeding 30mA, and disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- The air conditioner's circuit board (PCB) is designed with a fuse to provide over-current protection. The specifications of the fuse are printed on the circuit board.

Installation Safety

- Installation must be performed by an authorized dealer or specialist. Improper installation can cause water leakage, electrical shock, or fire. (In North America, installation must be performed in accordance with NEC and CEC requirements by authorized personnel only.)
- Installation must be performed according to the installation instructions. Improper installation can cause water leakage, electrical shock, or fire.
- This air conditioner shall be installed in accordance with national and local wiring regulations.
- Contact an authorized service technician for repair or maintenance of this unit.
- 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 fall and cause serious injury and damage.
- Install drainage piping according to the instructions in the installation 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 3 feet (1 meter) 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.
- Be careful when opening or closing valves below freezing temperatures. Refrigerant may spurt out from the gap between the valve stem and the valve body, resulting in injuries.

WARNING: REFRIGERANT SAFETY (A2L)

- Do not use means to accelerate the defrosting process or to clean the unit, other than those recommended by the manufacturer.
- 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).
- Do not pierce or burn.
- Be aware that flammable refrigerants may not contain an odor.
- Compliance with national refrigerant regulations shall be observed.

A2L REFRIGERANT SAFETY PRECAUTIONS

1. Installation (Where Refrigerant Pipes Are Allowed)

- Any person who is 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.
- 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.
- That the installation of pipe-work shall be kept to a minimum.
- That pipe-work shall be protected from physical damage.
- Where refrigerant pipes shall be compliance with national gas regulations.
- That mechanical connections shall be accessible for maintenance purposes.
- Be more careful that foreign matter(oil, water,etc) does not enter the piping. Also, when storing the piping, securely seal the opening by pinching, taping, etc.
- All working procedure that affects safety means shall only be carried by competent persons.
- Appliance shall be stored in a well ventilated area where the room size corresponds to the room area as specific for operation.
- Joints shall be tested with detection equipment with a capability of 0.18 oz (5 g) per 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 shall NOT be used in the indoor side of the unit (brazed, welded joint could be used).
- In cases that require mechanical ventilation, ventilation openings shall be kept clear of obstruction.

LEAK DETECTION SYSTEM installed. Unit must be powered except for service. For the unit with refrigerant sensor, when the refrigerant sensor detects refrigerant leakage, the indoor unit will display a error code and emit a buzzing sound, the compressor of 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 can not be repaired and can only be replaced by the manufacturer. It shall only be replaced with the sensor specified by the manufacturer.

2. Because a FLAMMABLE REFRIGERANT is used, the requirements for installation space of appliance and/or ventilation requirements are determined according to:

- the mass charge amount(M) used in the appliance,
- the installation location,
- the type of ventilation of the location or of the appliance.
- piping material, pipe routing, and installation shall include protection from physical damage in operation and service, and be in compliance with national and local codes and standards, such as ASHRAE 15, IAPMO Uniform Mechanical Code, ICC International Mechanical Code, or CSA B52. All field joints shall be accessible for inspection prior to being covered or enclosed.
- that protection devices, piping, and fittings shall be protected as far as possible against adverse environmental effects, for example, the danger of water collecting and freezing in relief pipes or the accumulation of dirt and debris;
- that piping in refrigeration systems shall be so designed and installed to minimize the likelihood of hydraulic shock damaging the system;
- that steel pipes and components shall be protected against corrosion with a rustproof coating before applying any insulation;
- that precautions shall be taken to avoid excessive vibration or pulsation;
- the minimum floor area of the room shall be mentioned in the form of a table or a single figure without reference to a formula;
- After completion of field piping for split systems, the field pipework shall be pressure tested with OXYGEN-FREE NITROGEN (OFN) and then vacuum tested prior to refrigerant charging, according to the following requirements:
  1. Pressure test the refrigerant piping to 500 PSI.
  2. The test pressure after removal of pressure source shall be maintained for at least 1 hour with no decrease of pressure indicated by the test gauge, with test gauge resolution not exceeding 5% of the test pressure.
  3. During the evacuation test, after achieving a vacuum level specified in the manual or less, the refrigeration system shall be isolated from the vacuum pump and the pressure shall not rise above 1500 microns within 10 min. The vacuum pressure level shall be specified in the manual, and shall be the lessor of 500 microns or the value required for compliance with national and local codes and standards, which may vary between residential, commercial,and industrial buildings.
- Field-made refrigerant joints indoors shall be tightness tested according to the following requirements: The test method shall have a sensitivity of 0.18 oz (5 g) per year of refrigerant or better under a pressure of at least 125% of the maximum allowable pressure. No leak shall be detected.

3 . Qualifications Of Workers

Any maintenance, service and repair operations must be performed by qualified personnel. Any working procedure that impacts safety must be performed only by qualified individuals who have completed the necessary training and obtained certification to demonstrate their competence. The training of these procedures is carried out by national training organizations or manufacturers that are accredited to teach the relevant national competency standards that may be set in legislation. All training shall follow the ANNEX HH requirements of UL 60335-2-40 4th Edition.

Examples for such working procedures are:

- breaking into the refrigerating circuit;
- opening of sealed components;
- opening of ventilated enclosures.

4. Checks To The Area
Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

5. Work Procedure
Works 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.

6. General Work Area
All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Working in confined spaces shall be avoided.

7. Checking For 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. no sparking, adequately sealed or intrinsically safe.

8. Presence Of 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 power or CO2 fire extinguisher adjacent to the charging area.

9. No Ignition Sources
No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work 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 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 shall be displayed.

10. Ventilated Area
Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any work that could produce ignition. Keep ventilation openings clear of obstruction. Ventilation continue during the period that the work is carried out. Proper ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

11. 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 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 shall be checked for the presence of refrigerant;
- marking to the equipment continues to be visible and legible, marking 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.

12. 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, and 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 there no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding;
- Sealed electrical components shall be replaced if it's damage;
- Intrinsically safe components must be replaced if it's damage.

13. Wiring

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.

14. 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.

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 to a sensitivity of 0.18 oz (5 g) per year. (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 also 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.

Note
Examples of leak detection fluids are bubble method and fluorescent method agents.

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 o valves) in a part of the system remote from the leak. See the following instructions for removal of refrigerant.

15. 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 NITROGEN
- evacuate (requirement);
- continuously flush or purge with NITROGEN when using flame to open circuit; and
- open the circuit

The refrigerant charge shall 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 (OFN) 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 shall be achieved by breaking the vacuum in the system with OXYGEN-FREE NITROGEN (OFN) and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (requirement). This process shall be repeated until no refrigerant is within the system (requirement). 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 shall be available.

16. Charging Procedures

In addition to conventional charging procedures, the following requirements shall be followed:

- Works shall be undertaken with appropriate tools only (In case of uncertainty, please consult the manufacturer 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 short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall 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 shall be taken not to overfill the refrigeration system.
- Prior to recharging the system it shall be pressure tested with OXYGEN FREE NITROGEN
- (OFN). 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.

17. 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 recovered refrigerant. It is essential that electrical power is available before the task is commenced.

- Become familiar with the equipment and its operation.
- Isolate system electrically
- Before attempting the procedure ensure that:
  1. mechanical handling equipment is available, if required, for handling refrigerant cylinders;
  2. all personal protective equipment is available and being used correctly;
  3. the recovery process is supervised at all times by a competent person;
  4. recovery equipment and cylinders conform to the appropriate standards.
- Pump down refrigerant system, if possible.
- If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- Make sure that cylinder is situated on the scales before recovery takes place.
- Start the recovery machine and operate in accordance with instructions.
- Do not overfill cylinders (no more than 80 % volume liquid charge)
- Do not exceed the maximum working pressure of the cylinder, even temporarily.
- 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.
- Recovered refrigerant shall not be charged into another refrigeration system unless it has been cleaned and checked.

18. Labeling

Equipment shall be labeled stating that it has been decommissioned 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.

19. Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good 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 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-o 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, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.

The recovered refrigerant shall 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 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.

20. Unventilated Areas

- An unventilated area where the appliance using FLAMMABLE REFRIGERANTS is installed shall be so constructed 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 with A2L REFRIGERANTS are installed in a room with an area less than Amin,that room shall be without continuously operating open flames (e.g. an operating gas appliance) or other POTENTIAL IGNITION SOURCES (for e.g. an operating electric heater, hot surfaces). A flame–producing device may be installed in the same space if the device is provided with an active flame arrest.
- Auxiliary devices which may be a POTENTIAL IGNITION SOURCE shall not be installed in the duct work. Examples of such POTENTIAL IGNITION SOURCES are hot surfaces with a temperature exceeding 700 °C and electric switching devices.
- Only auxiliary devices(such as certificated heater kit) approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork.
- For duct connected appliances, false ceilings 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 shall only be replaced with sensors specified by the appliance manufacture.
- LEAK DETECTION SYSTEM installed. Unit must be powered except for service.

21. Transportation, Marking and Storage for Units That Employ Flammable Refrigerants

The following information is provided for units that employ FLAMMABLE REFRIGERANTS

Transport of equipment containing flammable refrigerants: Attention is drawn to the fact that additional transportation regulations may exist with respect to equipment containing flammable gas. The maximum number of pieces of equipment or the configuration of the equipment permitted to be transported together will be determined by the applicable transport regulations.

Marking of equipment using signs: Signs for similar appliances used in a work area are generally addressed by local regulations and give the minimum requirements for the provision of safety and/or health signs for a work location. All required signs are to be maintained and employers should ensure that employees receive suitable and sufficient instruction and training on the meaning of appropriate safety signs and the actions that need to be taken in connection with these signs. The effectiveness of signs should not be diminished by too many signs being placed together. Any pictograms used should be as simple as possible and contain only essential details.

Disposal of equipment using flammable refrigerants: See national regulations.

Storage of equipment/appliances: The storage of the appliance should be in accordance with

the applicable regulations or instructions,whichever is more stringent.

Storage of packed (unsold) equipment: Storage package protection should be constructed in such a way 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.

Additional Precautions

- Turn off the air conditioner and disconnect the power if you are not going to use it for a long time.
- Turn off the unit during electrical storms to avoid damaging the unit.
- 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 this 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 very high.
- If the air handler is used together with burners or other heating devices, thoroughly ventilate the room to avoid oxygen deficiency and carbon monoxide build up.
- In certain environments, such as kitchens, server rooms, etc., the use of specially designed air-conditioning units is highly recommended.
- As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.
- Excessive Weight Hazard – Use two (2) or more people when moving and installing the unit. Failure to do so can result in back or other type of injury.

Specifications of R-454B Refrigerant

- **Application: R-454B is not a drop-in replacement for R-410A.** The equipment design must accommodate the A2L safety group of R-454B. It cannot be used in R-41 0A systems.
- **Physical Properties:** R-454B has an atmospheric bubble point of -59.6 °F (-50.9 °C) and an atmospheric dew point of -58.0 °F (-50.0 °C). Its bubble point saturation pressure at 77 °F (25 °C) is 213 psig (1469 kPa) and dew point saturation pressure at 77 °F (25 C) is 205 psig (1415 kPa).
- **Composition:** R-454B is classified as safety group A2L per ASHRAE Standard 34. Verify that service equipment and instruments are certified for use with group A2L refrigerants, and in particular with R-454B is a non-azeotropic mixture of 68.9% by weight difluoromethane (HFC-32) and 31.1 % by weight 2,3,3,3-tetrafluoro-1-propene (HFO-1234yf).

R454B REQUIRED ROOM HEIGHT AND MINIMUM ROOM AREA

Minimum Room Area

R454B UL guidelines require dissipation if there is a refrigerant leak and are based on total square footage and total system charge. The total system charge includes any component that holds refrigerant, including line sets, indoor coils, and outdoor units. The minimum room area for operating and storing the unit should be as specified in the following table.

A_{min}: REQUIRED MINIMUM ROOM AREA: ft² (m²)

m_C or m_{REL} Refrigerant Charge lbs (kg)	**h_{inst}: Height from the Floor to the Bottom of the Indoor Unit: ft (m)**					
	≤ 7.2 (2.2)	**7.5 (2.3)**	**7.9 (2.4)**	**8.5 (2.6)**	**9.2 (2.8)**	**9.8 (3.0)**
≤ 3.91 (1.776)	12 (1.10)					
4.0 (1.8)	60 (5.53)	57 (5.29)	55 (5.07)	51 (4.68)	47 (4.35)	44 (4.06)
4.4 (2.0)	67 (6.15)	64 (5.88)	61 (5.64)	56 (5.20)	52 (4.83)	49 (4.51)
4.9 (2.2)	73 (6.76)	70 (6.47)	67 (6.20)	62 (5.72)	58 (5.31)	54 (4.96)
5.3 (2.4)	80 (7.38)	76 (7.06)	73 (6.76)	68 (6.24)	63 (5.80)	59 (5.41)
5.7 (2.6)	86 (7.99)	83 (7.64)	79 (7.32)	73 (6.76)	68 (6.28)	64 (5.86)
6.2 (2.8)	93 (8.60)	89 (8.23)	85 (7.89)	79 (7.28)	73 (6.76)	68 (6.31)
6.6 (3.0)	100 (9.22)	95 (8.82)	91 (8.45)	84 (7.80)	78 (7.24)	73 (6.76)
7.1 (3.2)	106 (9.83)	102 (9.41)	97 (9.01)	90 (8.32)	84 (7.73)	78 (7.21)
7.5 (3.4)	113 (10.45)	108 (9.99)	104 (9.58)	96 (8.84)	89 (8.21)	83 (7.66)
7.9 (3.6)	120 (11.06)	114 (10.58)	110 (10.14)	101 (9.36)	94 (8.69)	88 (8.11)
8.4 (3.8)	126 (11.68)	121 (11.17)	116 (10.70)	107 (9.88)	99 (9.17)	93 (8.56)
8.8 (4.0)	133 (12.29)	127 (11.76)	122 (11.27)	112 (10.40)	104 (9.66)	97 (9.01)
9.3 (4.2)	139 (12.90)	133 (12.34)	128 (11.83)	118 (10.92)	110 (10.14)	102 (9.46)
9.7 (4.4)	146 (13.52)	140 (12.93)	134 (12.39)	124 (11.44)	115 (10.62)	107 (9.91)
10.1 (4.6)	153 (14.13)	146 (13.52)	140 (12.96)	129 (11.96)	120 (11.11)	112 (10.37)
10.6 (4.8)	159 (14.75)	152 (14.11)	146 (13.52)	135 (12.48)	125 (11.59)	117 (10.82)
11.0 (5.0)	166 (15.36)	159 (14.69)	152 (14.08)	140 (13.00)	130 (12.07)	122 (11.27)
Variable Definitions	**A_{min}**: the required minimum room area in ft² (m²) **m_c**: the actual refrigerant charge in the system in lbs (kg) **m_{REL}**: the refrigerant releasable charge in lbs (kg) **h_{inst}** : the height of the bottom of the appliance relative to the floor of the room after installation ft (m) **WARNING:** The minimum room area or the minimum room area of conditioned space is based on releasable charge and total system refrigerant charge.					

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

Model	**DRAC0912F2A**		**DRAC18F2A**	**DRAC24F2A**
BTU	9K	12K	18K	24K
Nominal Air Volume	353 CFM (600 m³/h)	418 CFM (710 m³/h)	448 CFM (760 m³/h)	765 CFM (1300 m³/h)

FCC COMPLIANCE STATEMENT

The remote provided with this unit complies with part 15 of the FCC Rules for Class B digital devices per the declaration of conformity below. These guidelines are meant to prevent against harmful interference in residential applications. This equipment generates a radio frequency that can interfere with radio communications if the unit is not installed in accordance with the installation manual provided and used in accordance with the owners manual provided. As mentioned in the installation manual, do not run the equipment's power and communication cables in parallel with antenna cables. If interference does occur, you are encouraged to try relocating the antenna or receiver and increasing the distance between the antenna and the equipment.

Supplier's Declaration of Conformity
Per FCC Part 2 Section 2.1077

Unique Identifier: RG10L4(M2HS)/BGEFU1

Responsible Party – U.S. Contact Information
Company name: Ferguson Enterprises LLC
Street Address: 751 Lakefront Commons
City, State:Newport News, VA
Postal Code: 23606
Telephone number or internet contact information:Durastar.com

FCC Compliance Statement
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

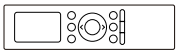
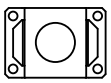
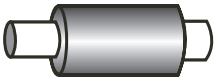
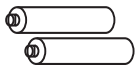
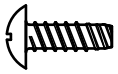
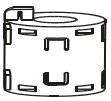
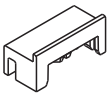
NOTE
This device complies with CAN ICES-3(B)/NMB-3(B) for sale in Canada.

HANDLING THE REMOTE CONTROLLER

- Direct sunlight can interfere with the infrared signal to the unit's receiver.
- There must be a clear line of sight between the remote and the appliance.
- If the signals from the remote control happen to control another appliance, move the appliance to another location or contact customer service.

INCLUDED ACCESSORIES

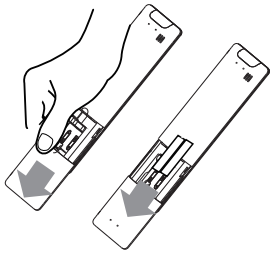
The air conditioning system comes with the following accessories.

Accessory	Quantity	Image	Accessory	Quantity	Image
Manual	1–2		Remote Control	1	
Conduit Installation Plate	1		Remote Control Holder	1	
Drain Pipe Outlet Connector	0 – 1		Battery	2	
Gas Pipe Insulation	0 – 1		Liquid Pipe Insulation	0 – 1	
Drain Pipe Worm Clamp	2		Screw	2 (9–18K) / 6 (24K)	
Copper Nut	2		Wireless Module Cable	1	
Magnetic Ring	0 – 2		Cable Tie	0 – 6	
Rubber Block	0 – 1				

INSERTING AND REPLACING BATTERIES

Your air conditioning unit may come with two batteries. Put the batteries in the remote control before use.

1. Slide the back cover from the remote control downward, exposing the battery compartment. Insert the batteries, paying attention to match up the (+) and (–) ends of the batteries with the symbols inside the battery compartment.
2. Slide the battery cover back into place.



Do not dispose of batteries as unsorted municipal waste. Refer to local laws for proper disposal of batteries. Batteries may have a chemical symbol at the bottom of the disposal icon. This chemical symbol means that the battery contains a heavy metal that exceeds a certain concentration. An example is Pb: Lead (>0.004%). Appliances and used batteries must be treated in a specialized facility for reuse, recycling and recovery. By ensuring correct disposal, you will help avoid possible negative consequences for the environment and human health.

OPERATING TEMPERATURES

Your air conditioner is designed to operate in the following indoor and outdoor temperatures. When your air conditioner is used outside of the following temperature ranges, certain safety features may activate and turn off the unit to protect it from damage.

TEMPERATURE RANGES

	COOL mode	HEAT mode	DRY mode
Indoor Air Temperature	60°F – 90°F (16°C – 32°C)	32°F – 86°F (0°C – 30°C)	50°F – 90°F (10°C – 32°C)
Outdoor Air Temperature	–13°F / –22°F* – 122°F (–25°C / –30°C* – 50°C)	–13°F / –22°F* – 75°F (–25°C / –30°C* – 24°C)	32°F – 122°F (0°C – 50°C)

* The minimum outdoor air operating temperature depends on the outdoor unit. Low ambient Sirius Heat™ models have a minimum outdoor air operating temperature of –22°F (–30°C).

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

- Keep doors and windows closed.
- Limit energy usage by using TIMER ON and TIMER OFF features.
- Do not block air inlets or outlets.
- Regularly inspect and clean air filters.

NOTE

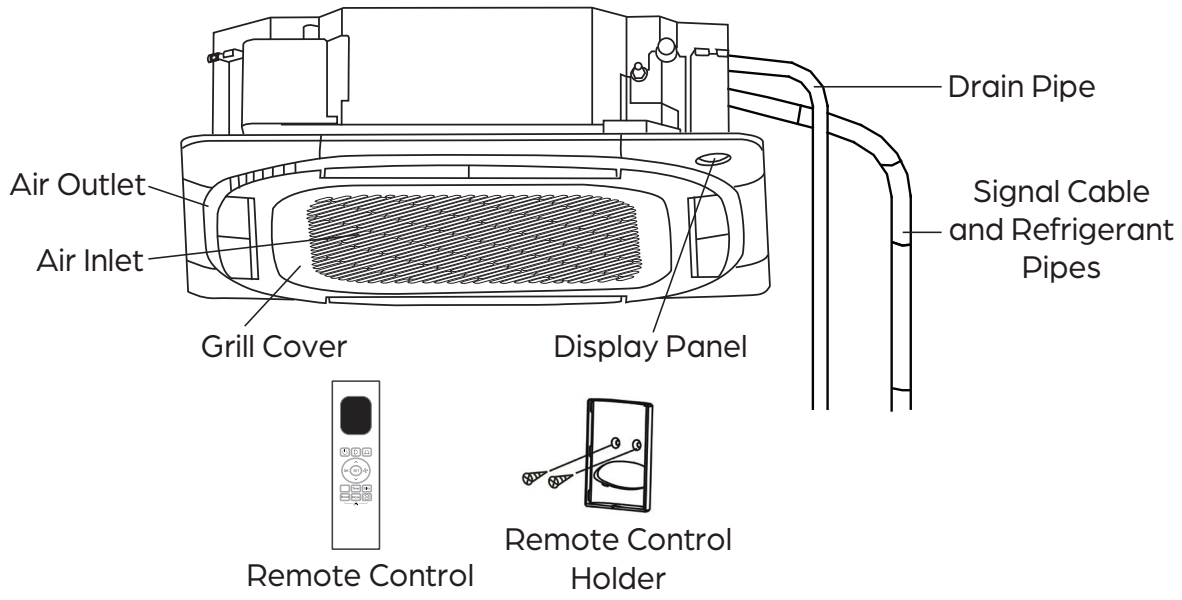
Your Durastar air conditioner's outdoor unit is equipped with a base pan heater, allowing it to continue to operate at freezing temperatures as low as –22°F (–30°C). When outdoor air temperatures are at or below 32°F (0°C), we strongly recommend keeping the unit plugged in at all times to ensure smooth ongoing performance.

NOTE

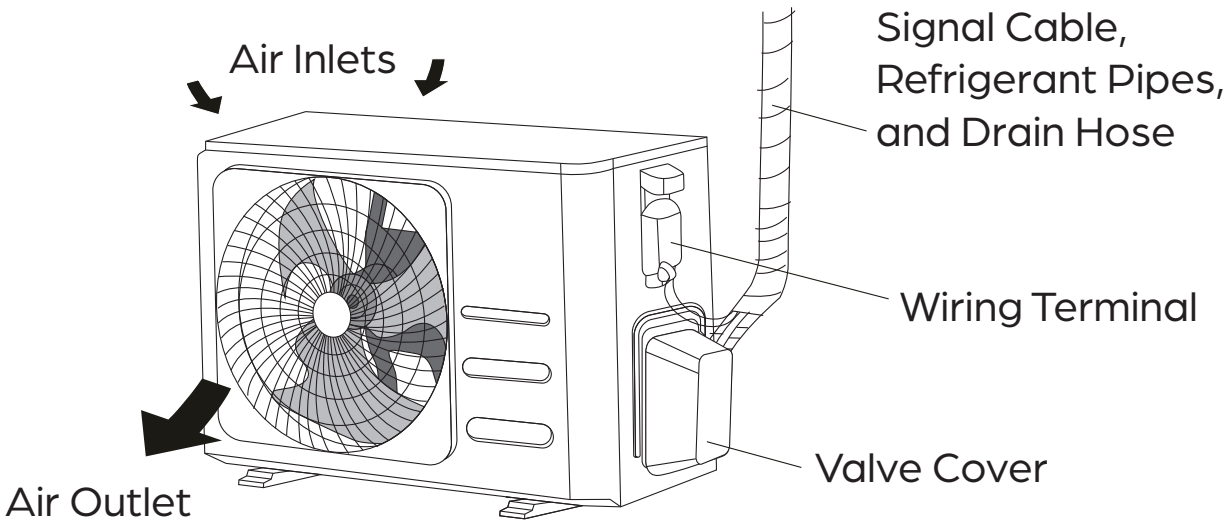
Keep the room's relative humidity below 80%. If the air conditioner operates in excess of this, the surface of the air conditioner may attract condensation. To help prevent condensation from forming and dripping, set the vertical airflow louver to its maximum angle (vertically to the floor) and set the fan to HIGH.

PARTS IDENTIFICATION

INDOOR UNIT



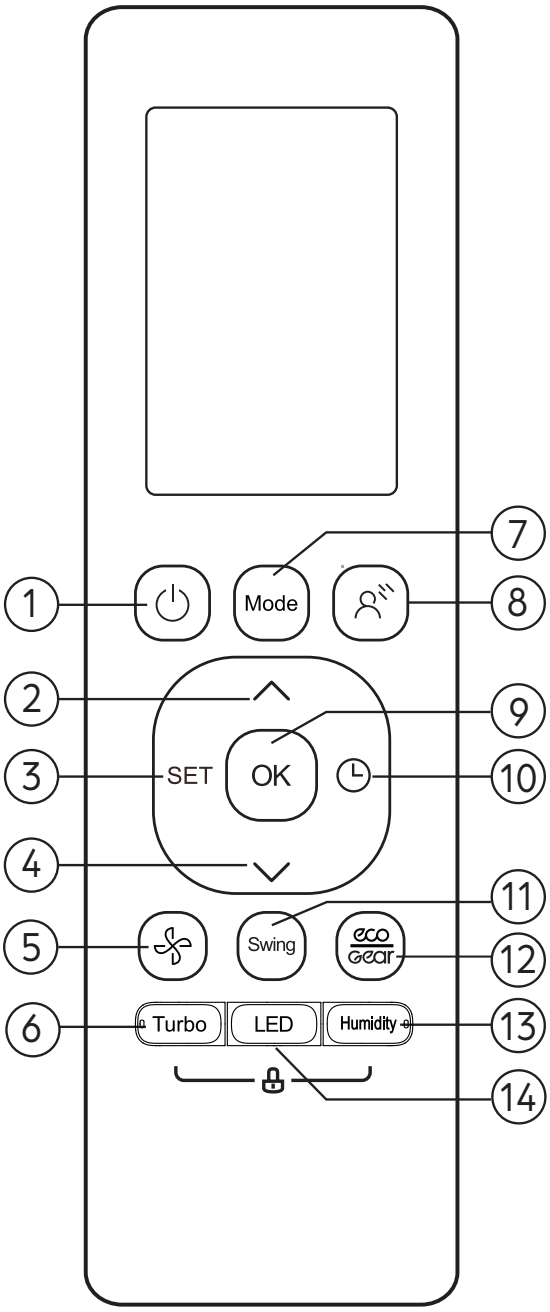
OUTDOOR UNIT



NOTE

Outdoor units will vary in appearance.

REMOTE CONTROL



1. ON/OFF Button
Turns the air conditioner ON and OFF.

2. UP Button (^)
Press to increase the set temperature in 1°F / 0.5°C increments .

3. SET Button
Press to access the SET features menu. See "Advanced Buttons and Features" section.

4. DOWN Button (v)
Press to decrease the set temperature in 1°F / 0.5°C increments. Press (^) and (v) at the same time for 3 seconds to switch between °F and °C.

5. FAN Button: Press to select FAN speed.

6. TURBO Button
Press to turn on and off the TURBO feature. See "Advanced Buttons and Features" section.

7. MODE Button
Press to adjust the air conditioner MODE in the following sequence: AUTO → COOL → DRY → HEAT → FAN

8. GENTLE Button
Press to stop the air flow from blowing directly on you if it becomes uncomfortable. See "Advanced Buttons and Features" section.

9. OK Button: Press to confirm selected functions.

10. TIMER Button
Press to initiate the TIMER feature. See "Advanced Buttons and Features" section.

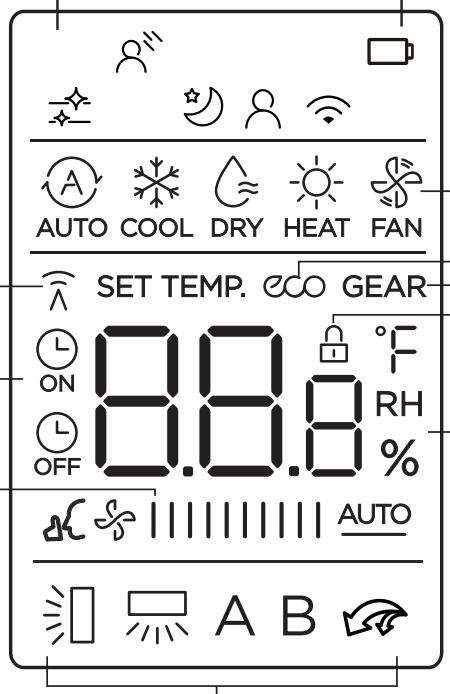
11. SWING Button
Press to start and stop the automatic horizontal louver movement or set a fixed louver angle.

12. ECO/GEAR Button
Press to enter one of three energy efficiency modes. See "Advanced Buttons and Features" section.
ECO → GEAR (75%) → GEAR (50%) → PREVIOUS SETTING

13. HUMIDITY Button: Adjust the room humidity during DRY operation in a range of 35%~85%. Press to increase the humidity in 5% increments. After setting, the humidity settings will display on the screen.

14. LED Button: Press to turn on and off the indoor unit's display screen.

REMOTE CONTROL SCREEN INDICATORS



GENTLE feature display

ACTIVE CLEAN feature display

SLEEP feature display

FOLLOW ME feature display

Network display (only shown if available for this unit)

Low battery display (If flashing)

Transmission Indicator
Lights up when remote sends signal to indoor unit.

ON
TIMER ON display
OFF
TIMER OFF display

SILENCE feature display

MODE display
Displays the current mode, including:
AUTO COOL DRY HEAT FAN

ECO display
Displays when ECO feature is activated.

GEAR display
Displays when GEAR feature is activated.

LOCK display
Displays when LOCK feature is activated.

FAN SPEED display
Displays selected fan speed:

Silence		1%
		2%-20%
LOW		21%-40%
MED		41%-60%
HIGH		61%-80%
		81%-100%
AUTO		AUTO

The fan speed cannot be adjusted in AUTO or DRY mode.

Horizontal louver swing display

Vertical louver swing (not available on unit)

TURBO feature display

A Not available for
B this unit

Temperature/Timer/ Fan Speed % display
Displays the set temperature unless the fan speed, humidity or timer setting functions are in use.
TIMER ON/OFF functions.

- Temperature range: 60–86°F (16–30°C)
- Timer setting range: 0–24 hours
- Fan speed setting range: AUTO – 100%
- Humidity setting range: 35% – 85%

This display is blank when operating in **FAN** mode.

NOTE

All indicators shown in the above figure are for purposes of clear representation. During actual operation, only the relative indicators are illuminated in the display window.

OPERATING MODES (Mode)

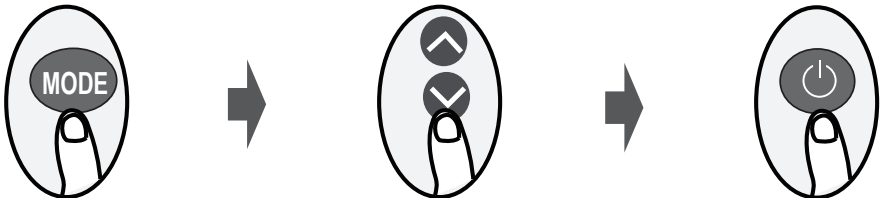
SETTING TEMPERATURE

This unit can be set at any temperature within its operating range in AUTO, COOL, HEAT, and DRY modes (see "Temperature Ranges" section). You can increase or decrease the set temperature in 1°F (1°C) increments by pressing the UP (^) or DOWN (v) button.

AUTO (Ⓐ)

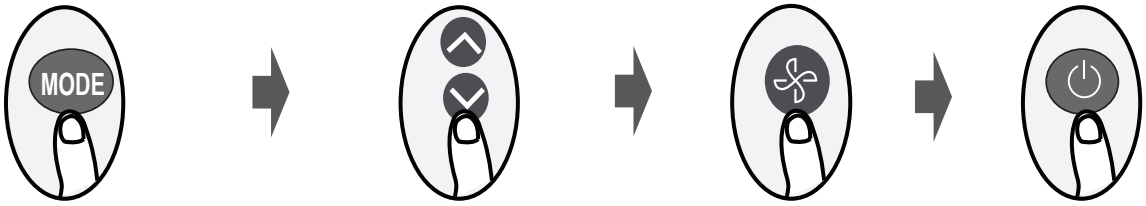
In AUTO mode, the unit will automatically select the COOL, FAN, HEAT, or DRY modes to maintain the set temperature. In AUTO mode, the fan speed cannot be set.

1. Select AUTO mode 2. Set desired temperature 3. Turn on air conditioner



COOL or HEAT (❄ or ☼)

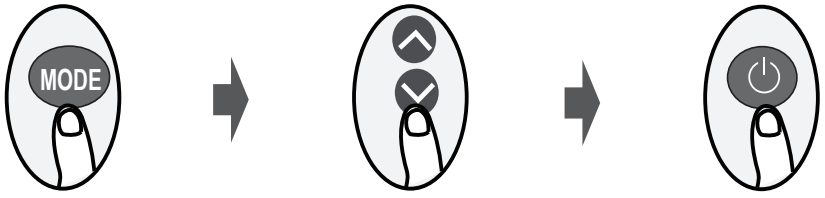
1. Select COOL or HEAT mode 2. Set desired temperature 3. Set fan speed 4. Turn on air conditioner



DRY/DEHUMIDIFY (💧)

In DRY mode, the fan runs continuously on low speed. A humidity setting takes the place of the temperature readout on the remote control screen. Humidity is adjusted in DRY mode between 35%– 85% and can be set using the humidity button to increase in 5% increments. The temperature setting does not affect the unit performance in DRY mode.

1. Select DRY mode 2. Set any temperature 3. Turn on air conditioner



NOTE

*For this series of mini-splits, changing the temperature in DRY mode does not deviate performance from the above mode description.

NOTE

The FAN speed cannot be adjusted in AUTO or DRY Mode.

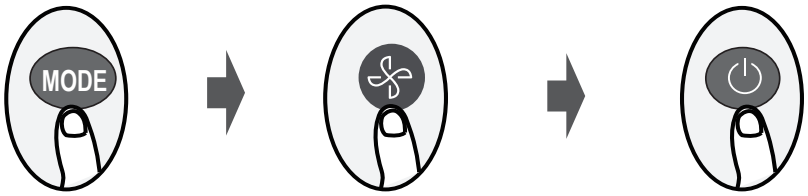
NOTE

Press and hold the UP and DOWN buttons simultaneously for 3 seconds to switch between °F and °C.

FAN ( )

In FAN mode, the temperature cannot be set and no temperature will be displayed on the remote screen.

1. Select FAN mode 2. Set fan speed 3. Turn on air conditioner



NOTE
You cannot adjust the temperature in FAN mode. As a result, your remote control's LCD display will not display a temperature.

NOTE
As outdoor temperature drops, the performance of your unit's HEAT function may be affected.

NOTE
Two or more indoor units can be operated by one outdoor unit. However, two or more indoor units cannot operate simultaneously when different operating modes have been selected. If COOL/DRY/FAN is selected with one or more indoor units and HEAT with another, the unit(s) in HEAT has priority.

ADVANCED BUTTONS AND FEATURES

ECO/GEAR ( )

The ECO/GEAR feature provides three levels of energy saving options. ECO/GEAR is only available in COOL mode. Some of these options may result in insufficient cooling in circumstances of high ambient heat. The ECO/GEAR feature is not available in multiple zone configurations.

ECO (eco)

While the unit is in COOL mode, press the ECO/GEAR button once. If the set temperature is above 75°F (24°C) the FAN speed will be set to AUTO. If the set temperature is below 75°F (24°C) it will automatically be adjusted to 75°F (24°C) and the FAN speed will be set to AUTO. When functioning in this mode, the unit can reduce its energy consumption up to 10%. Press the ECO/GEAR button to turn off this feature.

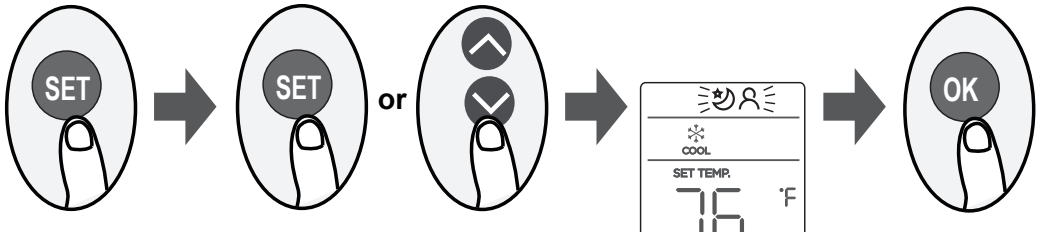
GEAR (GEAR)

GEAR has two levels – 75% and 50% energy usage. While the unit is in COOL mode, press the ECO/GEAR button twice (x2) within two (2) seconds to select 75% or three times (x3) to select 50%. If the set temperature is above 75°F (24°C) the FAN speed will be set to AUTO. If the set temperature is below 75°F (24°C) it will automatically be adjusted to 75°F (24°C) and the FAN speed will be set to AUTO. When functioning in these modes, the unit can reduce its energy usage by up to 25% or 50% based on the selection. Press the ECO/GEAR button to turn off this feature.

NOTE
The overall energy consumption of the unit is affected by many factors and this feature's energy reduction level setting will not result in directly proportional money savings on your energy bill.

SET BUTTON FEATURES (SET)

Press the SET button to open the feature menu at the top of the display. Next, press SET or UP (^) and DOWN (v) to highlight the desired feature's icon. Finally, press OK to activate it.

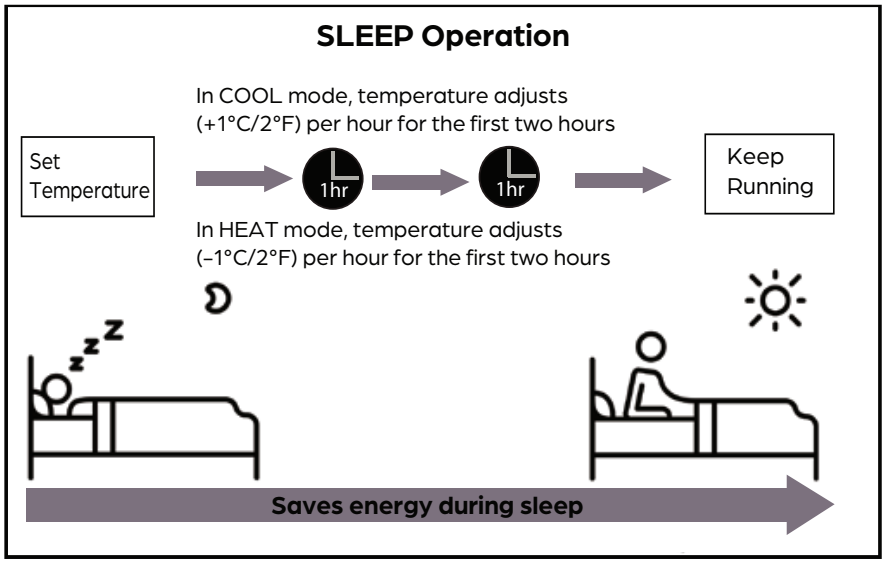


SLEEP ( )

The SLEEP feature is designed to decrease energy use while you sleep. The SLEEP feature is not available in FAN or DRY mode.

When you are ready to go to sleep, press the SET button, select the SLEEP icon and press OK. When in COOL mode, the unit will increase the temperature by 2°F (1°C) after one hour, and will increase an additional 2°F (1°C) after another hour. When in HEAT mode, the unit will decrease the temperature by 2°F (1°C) after one hour, and will decrease an additional 2°F (1°C) after another hour.

The SLEEP feature will turn off after eight hours and the system will return to normal functioning.



FOLLOW ME ( )

This feature uses the temperature at the remote's location, instead of the indoor unit's location, to optimize the temperature around you and ensure maximum comfort. To activate the FOLLOW ME feature, press the SET button, select the FOLLOW ME icon and press OK. To deactivate FOLLOW ME press ON/OFF or change the MODE.

To lock the FOLLOW ME feature, press and hold the TURBO button for seven (7) seconds. The remote will display "ON" for three (3) seconds and the temperature at its location. When using AUTO, COOL, and HEAT modes the air conditioner will continue running until the temperature at the remote's location is satisfied. Power failures, pressing ON/OFF or changing MODES will no longer cancel the feature. Press and hold the TURBO button again for seven (7) seconds to unlock and turn off this feature. The remote will display "OF" for three (3) seconds.

NETWORK SETUP ( )

This feature is only shown if available on this unit.

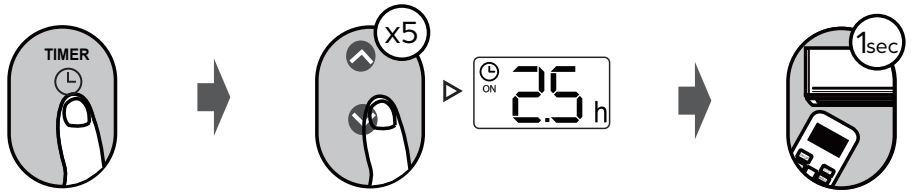
TIMER ( )

The TIMER feature establishes the amount of time that will elapse before the unit will automatically turn on/off.

1. Press TIMER button to initiate the time ON sequence.

2. Press UP or DOWN button the required number of times to set the desired time to turn on the unit.

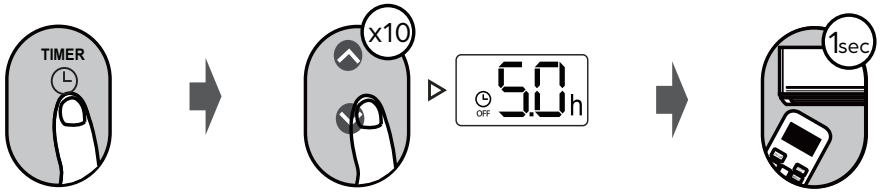
3. Point remote at unit for 1 second. The TIMER ON will be activated.



1. Press TIMER button to initiate the time OFF sequence.

2. Press UP or DOWN button the required number of times to set the desired time to turn on the unit.

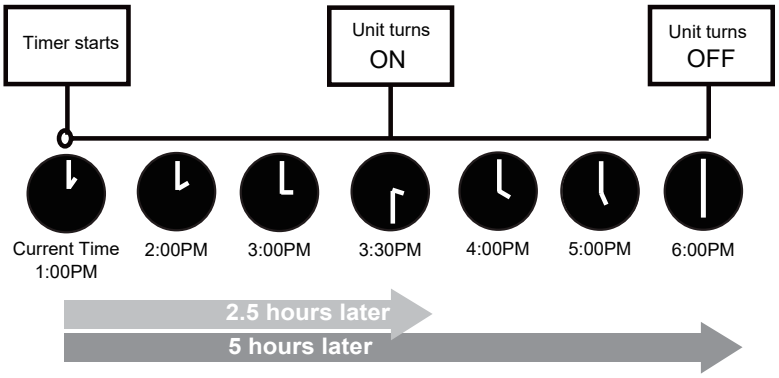
3. Point remote at unit for 1 second. The TIMER OFF will be activated.



TIMER ON and OFF setting example.

Keep in mind that the time periods you set for both the on and off feature refers to hours after the current time.

If the current time is 1:00 PM and the TIMER ON setting is adjusted to 2.5 hours, the auto-on time sequence will turn the air conditioner on 2.5 hours later at 3:30 PM. Setting the TIMER OFF auto-off sequence to 5.0 hours will turn off the air conditioner 5 hours later at 6:00 PM.



GENTLE ( )

If the air flow from the unit becomes uncomfortable because it is too intense or blowing directly on you, simply press the GENTLE button to slow the unit and divert the air flow away from you. Press the GENTLE button again to turn this feature off. This feature is only available under COOL, DRY, and FAN modes. This feature is not available in multiple zone configurations.

TURBO (Turbo)

Press the TURBO button to turn this feature on and off. The TURBO feature enables the unit to reach the set temperature in the shortest time by setting the fan speed to the highest setting. This feature is only available in COOL and HEAT modes.

Hold the TURBO button for 5 seconds when in HEAT mode to initiate the SUPER HEAT function. This function improves the heating speed at low temperatures. The louver will open to its maximum angle to enable the unit to reach the preset temperature in the shortest possible time. Hold the TURBO button for 3 seconds to stop this feature. When the SUPER HEAT function is activated ON displays for 3 seconds on the unit's display and when it is deactivated OF displays for 3 seconds.

LED (LED)

Press the LED button to turn on and off the display of the indoor unit. Hold this button for more than 5 seconds and the indoor unit will display the actual room temperature. Hold for more than 5 seconds again, and the unit will revert back to display the setting temperature.

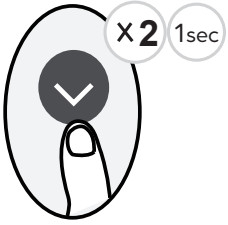
ACTIVE CLEAN (Clean)

By pressing the CLEAN button, your unit will clean itself automatically. This function washes away dust, mold, and grease that may cause odors by freezing then rapidly thawing condensation on the indoor unit coil. The display window on the unit will show CL when the function is on. After 20–45 minutes, the unit will turn off automatically. Pressing the CLEAN button mid-cycle will cancel the operation and turn off the unit. You can use CLEAN as often as you like. You can only activate the CLEAN function in COOL or DRY modes. This feature is not available in multi-zone configurations.

SILENCE ( )

Press the FAN button for two (2) seconds to turn on and off the SILENCE feature. When the SILENCE feature is activated, the compressor will slow and the indoor unit will turn the fan to low. This will reduce the noise of the indoor unit to the lowest level. Due to the slow operation of the compressor, it may result in insufficient cooling and heating capacity. This feature is not available in multiple zone configurations.

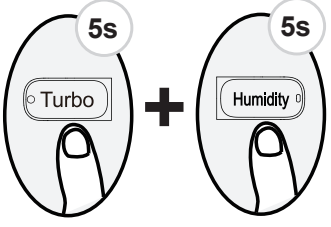
FREEZE PROTECTION (FP)



The FREEZE PROTECTION feature sets the indoor temperature to 46°F (8°C). The unit will maintain this temperature and prevent indoor pipes and household items from freezing when the house is unoccupied for long periods of time in the winter. The display will show "FP" when this feature is on.

To activate, first turn the unit to HEAT mode and set the temperature to 60°F (16°C). Then, press the DOWN (∨) button twice (x2) in one (1) second to start the FREEZE PROTECTION feature. Press the ON/OFF button to turn off the feature. This feature is only available in HEAT mode.

LOCK ( )



The LOCK feature disables the remote's buttons so your settings cannot be changed. To activate the remote LOCK feature, simultaneously press the CLEAN and TURBO buttons for five (5) seconds. To turn off the LOCK feature, simultaneously press CLEAN and TURBO again for five (5) seconds.

AUTO-RESTART

The AUTO-RESTART feature is enabled when power is interrupted to the unit. After power is restored, the unit will automatically return to its prior settings before power was lost. No buttons need to be pressed to set this feature – it is automatic.

REFRIGERANT LEAK DETECTION (EC)

The indoor unit will automatically display one of the error codes below if it detects a refrigerant leak. In this case, do not be alarmed, the unit will automatically go into TURBO mode to mitigate refrigerant collection. When "EHC1" or "EHC2" error occurs, the unit will continue to beep for 5 to 6 minutes before stopping. You can also press any button on the remote controller to stop the beeping. If a leak is detected, do not try and service the unit yourself. Contact your dealer or certified technician for service as soon as possible.

CODE DISPLAYED	OPERATION OR ERROR DESCRIPTION
EC C1	Other IDU refrigerant sensor detects leakage (Multi-zone)
EH C1	Refrigerant sensor detects leakage
EH C2	Refrigerant sensor is out of range and leakage is detected
EH C3	Refrigerant sensor is out of range
EL 0C	System lacks refrigerant
FH CC	Refrigerant sensor error

LOUVERED AIR FLOW

CAUTION

When using COOL or DRY mode, do not set louver at too vertical an angle for long periods of time. This can cause water to condense on the louver blade, which will drop on your floor or furnishings. When using COOL or HEAT mode, setting the louver at too small an angle can reduce the performance of the unit due to restricted air flow.

SETTING THE LOUVER ANGLE (Swing)

While the unit is on, press the SWING button on the remote control to set the vertical direction of airflow.

AUTOMATIC SWING ( )

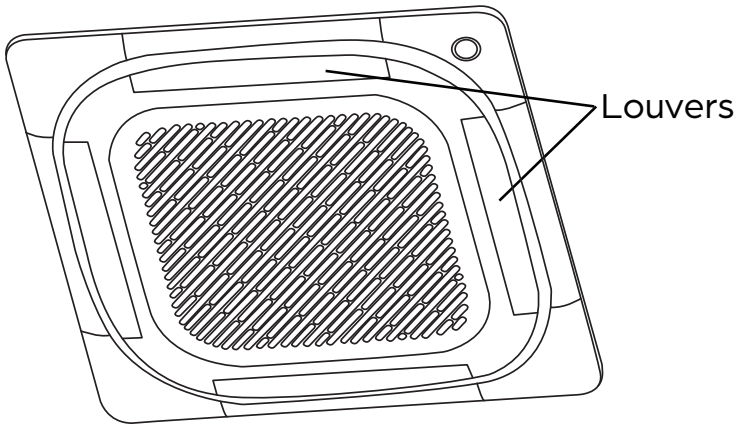
Press the SWING button once to start the automatic vertical (up and down) movement of the louver. Press again to make it stop.

FIXED LOUVER ANGLE (□→□→□→□→□→□)

Quickly press the SWING button 2–6 times to adjust the fixed angle of the louver. Each press will adjust the louver by 6°. Press the button until the desired angle is reached. The remote will display the selected angle. The unit automatically remembers the louver angle next time it is turned on.

CAUTION

Do not move louver by hand. This will cause the louver to become out of sync or could damage the unit. If this occurs, turn off the unit and shut off the breaker for 30 seconds, then restart the unit. This will reset the louver.

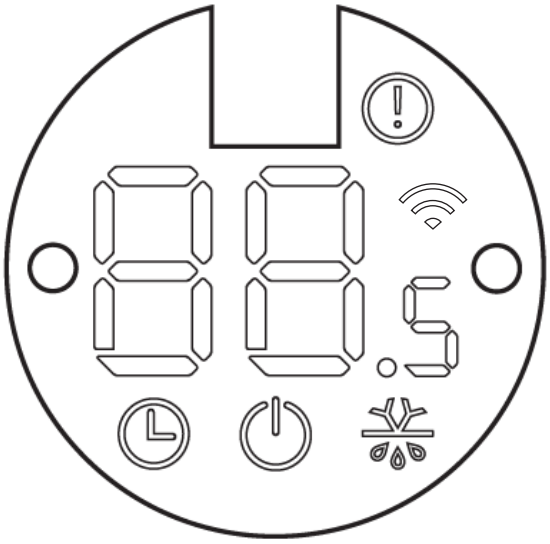


WARNING

Do not put your fingers in or near the blower and suction side of the unit. The high-speed fan inside the unit may cause injury.

LED DISPLAY INDICATORS

The following is a list of possible indicators that may appear on the indoor unit's display. Not all the display indicators may be available on the unit purchased.



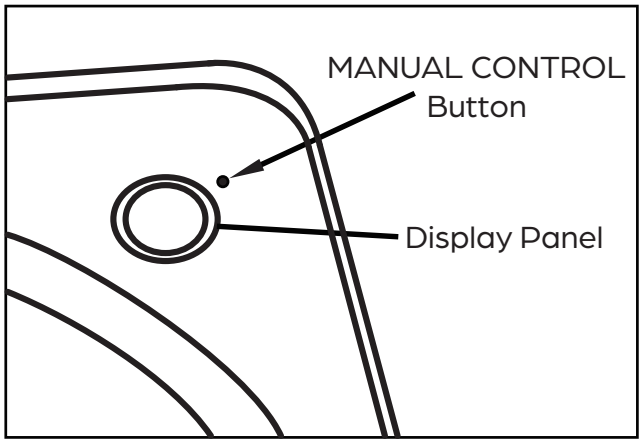
Feature	Indicator	Notes
NUMERICAL DISPLAY	88.5	Displays temperature, operation feature and Error codes.
CLEAN	CL	Displays when the CLEANING feature is on.
FP	FP	Displays when the Freeze Protection feature is on.
FORCED COOLING	FC	Displays when the FORCED COOLING mode is selected with the manual control button. See Manual Operation section.
POWER		Displays when the unit is ON.
PRE-DEF		Displays when the unit is preheating the air or defrosting.
TIMER		Displays when the TIMER feature is active.
ALARM		Displays when there is an alarm.
WIRELESS		Displays when the wireless control feature is activated (if available)

MANUAL OPERATION (USE WITHOUT REMOTE)

The manual override button is intended for testing purposes and emergency operation. Please do not use this button unless the remote control is lost and it is absolutely necessary. The unit must be turned off before manual operation.

Locate the MANUAL CONTROL button next to the display panel. Using a paper clip:

1. Press the MANUAL CONTROL button one time to activate FORCED AUTO mode.
2. Press the MANUAL CONTROL button again to activate FORCED COOLING mode.
3. Press the MANUAL CONTROL button a third time to turn the unit off.



CARE AND MAINTENANCE

CAUTION

- Always turn off the unit and disconnect power before cleaning or maintenance.
- Maintenance and cleaning should only be performed by a certified technician. Improper repair or maintenance could result in water leakage, electrical shock, or fire, and may void your warranty.
- Use care when working on the unit at heights.
- Only use a soft, dry cloth to wipe the unit clean. If the unit is especially dirty, you can use a cloth soaked in warm water to wipe it clean.

MAINTAINING THE INDOOR UNIT

- DO NOT substitute a blown fuse with a higher or lower amperage rating fuse, as this may cause circuit damage or an electrical fire.
- 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, and electrical shock.
- Make sure that all wires are connected properly. Failure to connect wires according to instructions can result in electrical shock or fire.

CLEANING THE INDOOR UNIT

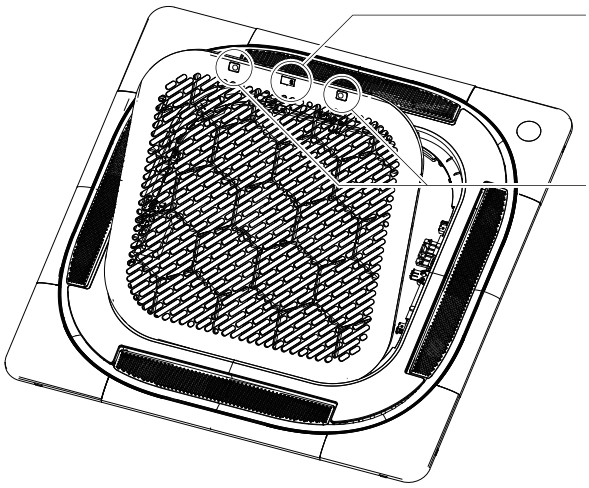
- Do not use chemicals or chemically treated cloths to clean the unit.
- Do not use benzene, paint thinner, polishing powder or other solvents to clean the unit. They can cause the plastic surface to crack or deform.
- Do not use water hotter than 104°F (40°C) to clean the front panel. This can cause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

CAUTION

- Before changing the filter or cleaning, turn off the unit and disconnect its power supply.
- When removing the filter, do not touch the metal parts in the unit. The sharp metal edges can cut you.
- Do not use water to clean the inside of the indoor unit. This can destroy insulation and cause electrical shock.
- Do not expose filter to direct sunlight when drying. This can shrink the filter.

CLEANING THE AIR FILTER

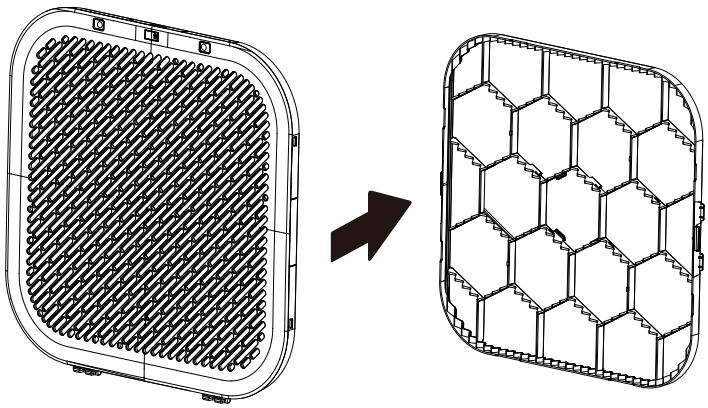
A dirty air filter can reduce the cooling efficiency of your unit, and can also be bad for your health. Be sure to clean the filter every month, if you use the unit regularly. To clean the air filter, do the following:



1: Open the screw cover and twist out the screw.

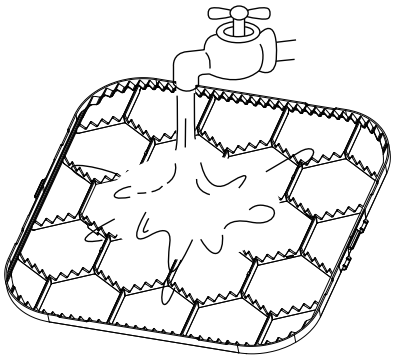
2: Press the buttons on both sides to pull out the air inlet frame.

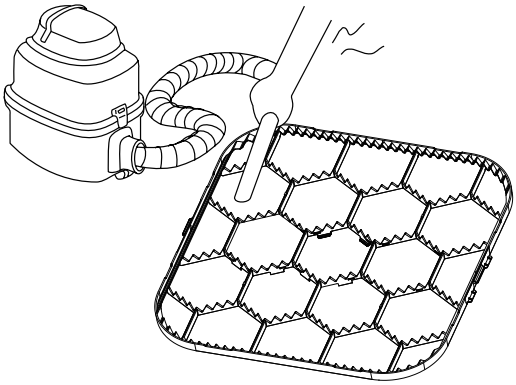
3: Separate the frame from the filter assembly.



4. Clean the air filter with water or a vacuum cleaner.

If using water, the inlet side of the filter should face down and away from the water stream.
If using a vacuum cleaner, the filter inlet should face the vacuum.





5. Reinstall the filter on the filter frame.
6. Reinstall the filter frame on the unit, latch the frame closed and replace the screw in the grille.

MAINTENANCE – LONG PERIODS OF NON-USE

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

- Clean all filters.
- Turn on the FAN until the unit dries out completely.
- Turn off the unit and disconnect the power.
- Remove batteries from remote control.

MAINTENANCE – PRE-SEASON INSPECTION

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

- Inspect for damaged wires
- Clean all filters.
- Check for leaks.
- Replace batteries.
- Make sure nothing is blocking the air inlets and outlets.

TROUBLESHOOTING

SAFETY PRECAUTIONS

If ANY of the following conditions occurs, turn off your unit immediately!

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

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

COMMON ISSUES

The following problems are not a malfunction and in most situations will not require repairs.

ISSUE	POSSIBLE CAUSES
Unit does not turn on when pressing ON/OFF button	The unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off.
The unit changes from COOL/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 during the defrosting process.
The indoor unit makes noises	A rushing air sound may occur when the louver resets its position.
	A squeaking sound may occur after running the unit in HEAT mode due to expansion and contraction of the unit's plastic parts.

ISSUE	POSSIBLE CAUSES
Both the indoor unit and outdoor unit make noises	Low hissing sound during operation: This is normal and is caused by refrigerant gas flowing through both indoor and outdoor units.
	Low hissing sound when the system starts, has just stopped running, or is defrosting: This noise is normal and is caused by the refrigerant gas stopping or changing direction.
	Squeaking sound: Normal expansion and contraction of plastic and metal parts caused by temperature changes during operation can cause squeaking noises.
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.
The unit emits a bad odor	The unit may absorb odors from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations.
	The unit's filters have become moldy and should be cleaned.
The fan of the outdoor unit does not operate	During operation, the fan speed is controlled to optimize product operation.
Operation is erratic, unpredictable, or unit is unresponsive	Interference from cell phone towers and remote boosters may cause the unit to malfunction. In this case, try the following: • Disconnect the power, then reconnect. • Press ON/OFF button on remote control to restart operation.

NOTE

If problem persists, contact a local dealer or your nearest customer service center. Provide them with a detailed description of the unit malfunction as well as your model number.

TROUBLESHOOTING

When troubles occurs, please check the following points before contacting a repair company.

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 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
	Low refrigerant due to leak or long-term use	Check for leaks, re-seal if necessary and top off refrigerant
	Too many sources of heat in the room (people, computers, electronics, etc.)	Reduce amount of heat sources
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
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
	The compressor is broken	Replace the compressor
	The voltage is too high or too low	Install a manostat to regulate the voltage
Indicator lamps continue flashing or error code appears	The unit may stop operation or continue to run safely. If the indicator lamps continue to flash or error codes appear, wait for about 10 minutes. The problem may resolve itself. If the problem persists, contact your nearest service technician.	

PROBLEM	POSSIBLE CAUSES	SOLUTION
The unit is not working	Power failure	Wait for the power to be restored
	The power is turned off	Turn on the power
	The fuse is burned out	Replace the fuse
	Remote control batteries are dead	Replace batteries
	The unit's 3-minute protection has been activated	Wait three minutes after restarting the unit
	Timer is activated	Turn timer off

NOTE

If your problem persists after performing the checks and diagnostics above, or the error code remains, turn off your unit immediately and contact an authorized service center.

LIMITED WARRANTY – PARTS

This Limited Warranty applies to Covered Equipment manufactured on or after November 1st, 2024.

COVERED EQUIPMENT is defined by the following model number categories:
DRA1_S2A, DRA3_M2A, DRA4_M2A, DRA5_M2A, DRA6_M2A, DRU1_S2A,
DRAC_F2A, DRAD_F2A, DRAF_F2A, DRAL_F2A, DRAM_F2A, DRAS_F2A, DRAW_F2A, DRUM_S2A.
Durastar accessories installed with Covered Equipment carry the balance of the Covered Equipment warranty.

BASE RESIDENTIAL WARRANTY: SEVEN (7) YEARS PARTS
Subject to the terms of this Limited Warranty, Manufacturer will repair or replace, at its option, any part of the Covered Equipment that is found to be defective in material or workmanship.

Covered Equipment Parts are warranted to be free from defects in material and workmanship for a period of seven (7) years from the date of installation, under normal use and service. Durastar will, at its option, repair or replace any part determined by Durastar to be defective. Replacement parts carry the balance of the original parts warranty. If an exact replacement part is not available, an equivalent part or credit will be provided.

To qualify:
- The Covered Equipment must be installed in a residential single-family home.*
- The Covered Equipment must be properly installed by a licensed HVAC professional pursuant to all local and state laws.
- Any part to be replaced must be made available to Durastar in exchange for the replacement.

*Single-family home is defined as any single-family dwelling, which includes apartments, condominiums, duplexes, and homes.

BASE COMMERCIAL WARRANTY: TWO (2) YEAR PARTS
Subject to the terms of this Limited Warranty, Covered Equipment installed in commercial applications are warranted against defects in material and workmanship for a period of TWO (2) YEARS.

REGISTERED WARRANTY
Parts for Covered Equipment that is registered by the purchaser online within ninety (90) days of the original installation date shall be warranted for an extended period subject to the terms in this Limited Warranty. Any Covered Equipment not properly registered within the ninety (90) day registration window will be subject to the base warranty terms outlined herein. To register your Covered Equipment online, go to: **www.durastar.com/warranty-registration**

Registered Residential Warranty: TEN (10) years
Registered Commercial Warranty: FIVE (5) years

FLORIDA, TEXAS, AND CALIFORNIA RESIDENTS ONLY: Failure to register Covered Equipment does not diminish or decrease your limited warranty length. Covered Equipment will receive the full REGISTERED WARRANTY terms.

EFFECTIVE DATE OF WARRANTY
The Effective Date of warranty coverage is determined as follows: (a) If the original installation date can be verified by the installer's invoice then the Effective Date of warranty coverage is the original installation date as shown on the installer's invoice. For residential new construction installations, the final occupancy permit, or proof of purchase from the builder can be substituted for the installer's invoice. (b) if the original installation date cannot be verified by the installer's invoice, or proof of purchase from the builder in residential new construction applications, then the Effective Date of warranty coverage is the Covered Equipment's manufacture date (as verified by the product's serial number) plus ninety (90) days.

LIMITATIONS
There is NO LABOR component provided with this warranty. This Limited Warranty does NOT cover any labor costs or expenses for service, NOR for removing or reinstalling parts.

This Limited Warranty does NOT cover shipping costs for warranty replacement parts from our factory to the Manufacturer's distributor or from the distributor to the location of your Covered Equipment. You also are responsible for the cost of shipping allegedly defective parts to the distributor and for incidental costs incurred locally, including handling charges. (If in Alaska, Hawaii or Canada, you also must pay the shipping costs of returning the failed part to the port of entry into the continental United States.)

Manufacturer's Liability hereunder is limited to the repair or replacement of Covered Equipment Parts, and in no event shall exceed the value of the original Covered Equipment Purchase Price. Liability for incidental, consequential or special damages are specifically excluded.

EXCLUSIONS

In addition to the other exclusions identified in this Limited Warranty, this Limited Warranty excludes:

- Damages, malfunctions, or failures resulting from failure to properly install, operate, or maintain Covered Equipment in accordance with the Manufacturer's instructions.
- Damages, malfunctions, or failures resulting from misuse, accident, contaminated, or corrosive atmosphere, vandalism, freight damage, fire, flood, freeze, lightning, acts of war, acts of God and the like.
- Non-original parts installed with Covered Equipment or used in connection with normal maintenance, such as cleaning or replacing air filters, refrigerant, thermostats, tubing, or concrete pads.
- Covered Equipment that is not installed in the United States.
- Covered Equipment that is not installed by a qualified, trained or licensed HVAC professional in accordance with applicable codes, ordinances, and good trade practices.
- Damages, malfunctions, or failures resulting from the use of any attachment, accessory, or component not authorized by the Manufacturer or resulting from alteration or modification of the unit.
- Covered Equipment moved from the original installation location.
- Covered Equipment when operated with system components (indoor unit, outdoor unit, coil, and refrigerant control devices) or accessories which do not match or meet the specifications recommended by the Manufacturer.
- Any Covered Equipment manufactured that has been sold to the consumer via the Internet or auction website, and has not been installed by a trained, qualified HVAC professional.
- Covered Equipment that is not part of a properly matched system as specified by the Air Conditioning, Heating & Refrigeration Institute (AHRI).

OBTAINING WARRANTY SERVICE

If you believe your Covered Equipment is defective, contact the licensed contractor who installed your mini-split system. Alternatively, contact a licensed contractor, dealer, or distributor.

Durastar Customer Support is available for troubleshooting assistance. Before contacting Customer Support, please locate your model number, serial number, and proof of purchase. These items will be required to complete any warranty service. A Durastar authorized representative will verify warranty eligibility and determine appropriate service options. Service will be provided during normal business hours.

The warranty claim must be submitted at www.durastar.com/warranty-claim by the servicing contractor within 90 DAYS after the date of service in order for the warranty to be approved. The service invoice and/or return of parts may be requested to verify eligibility.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTY IS REQUIRED BY LAW, IT IS LIMITED IN DURATION TO THE EXPRESS WARRANTY PERIOD ABOVE. NEITHER THE MANUFACTURER NOR ITS DISTRIBUTORS SHALL BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY NATURE, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, OR ANY OTHER DAMAGE WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. IN NO EVENT AND UNDER NO CIRCUMSTANCE OF ANY TYPE OR KIND SHALL THE SELLER, MANUFACTURER AND/OR DISTRIBUTOR BE LIABLE FOR ANY REASON, UNDER ANY THEORY, FOR MORE THAN THE BASIC COST OF THE PRODUCT TO THE PURCHASER OR END USER. SOME STATES DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

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