MULTI-ZONE DUCTLESS INVERTER SPLIT AIR CONDITIONER WITH HEAT PUMP

»OWNER'S MANUAL«

OUTDOOR CONDENSER

IMPORTANT NOTE:
- Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.
- This manual only describes features of the OUTDOOR UNIT in depth. When looking for information on the indoor unit, refer to the indoor unit manuals: ("Installation Manual • Wall Mounted Type" "Owner’s Manual • Wall Mounted Type")
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**Owner’s Manual**

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Thank you for purchasing this air conditioner. This manual will provide you with information on how to operate, maintain, and troubleshoot your air conditioner. Following the instructions will ensure the proper function and extended lifespan of your unit.

Please pay attention to the following signs:

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**WARNING**

- Ask an authorized dealer to install this air conditioner. Inappropriate installation may cause water leakage, electric shock, or fire.
- The warranty will be voided if the unit is not installed by professionals.
- If abnormal situation arises (like burning smell), turn off the power supply and call your dealer for instructions to avoid electric shock, fire or injury.
- **DO NOT** let the indoor unit or the remote control get wet. It may cause electric shock or fire.
- **DO NOT** insert fingers, rods or other objects into the air inlet or outlet. This may cause injury, since the fan may be rotating at high speeds.
- **DO NOT** use a flammable spray such as hair spray, lacquer or paint near the unit. This may cause fire or combustion.

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**CAUTION**

- **DO NOT** operate the air conditioner with wet hands. It may cause electric shock.
- **DO NOT** place items that might be affected by moisture damage under the indoor unit. Condensation can occur at a relative humidity of 80%.
- **DO NOT** expose heat-producing appliances to cold air or place them under the indoor unit. This may cause incomplete combustion or deformation of the unit due to the heat.
- After long periods of usage, check the indoor unit to see if anything is damaged. If the indoor unit is damaged, it may fall and cause injury.
- If the air conditioner is used together with other heating devices, thoroughly ventilate the room to avoid oxygen deficiency.
- **DO NOT** climb onto or place objects on top of the outdoor unit.
- **DO NOT** operate the air conditioner when using fumigant insecticides. The chemicals may become layered with the unit and endanger those who are hypersensitive to chemicals.
- **DO NOT** let children play with the air conditioner.
- The air conditioner can be used by children aged 8 years and older and people with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, if they have been given instruction on how to properly and safely operate the system.
- **DO NOT** operate the air conditioner in a wet room (e.g. bathroom or laundry room). This can cause electrical shock and cause the product to deteriorate.

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Failure to observe a warning may result in death. The appliance must be installed in accordance with national regulations.

Failure to observe a caution may result in injury or equipment damage.
Unit Parts And Major Functions

Unit Parts

Wall-mounted type

1. Panel frame
2. Rear air intake grille
3. Front panel
4. Air Purifying filter & Air filter(behind)
5. Horizontal louver
6. LCD display window
7. Vertical louver
8. Manual control button(behind)
9. Remote controller holder

Outdoor unit

10. Drain hose, refrigerant connecting pipe
11. Connective cable
12. Stop valve
13. Fan hood

Indoor unit

Fig. 2.1

Duct / Ceiling type

1. Air outlet
2. Air inlet
3. Air filter
4. Electric control cabinet
5. Wire controller

Outdoor unit

6. Drain hose, refrigerant connecting pipe
7. Connective cable
8. Stop valve
9. Fan hood

Fig. 2.2
Unit Parts and Major Functions

Floor and standing type (console)

Indoor unit
1. Air flow louver (at air outlet)
2. Air inlet (containing air filter)
3. Remote controller
4. Installation part
5. Display panel

Outdoor unit
6. Drain pump (drain water from indoor unit)
7. Drain hose
8. Air outlet
9. Air inlet
10. Air-in grill
11. Display panel
12. Remote controller

Compact four-way cassette type

Indoor unit
1. Drain pump (drain water from indoor unit)
2. Drain hose
3. Air outlet
4. Air inlet
5. Air-in grill
6. Display panel
7. Remote controller

Outdoor unit
8. Refrigerant connecting pipe
9. Connective cable
10. Stop valve
11. Fan hood
Operating Conditions

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

<table>
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<tr>
<th>COOL Mode</th>
<th>HEAT mode</th>
<th>DRY mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor Temperature</td>
<td>62-90°F (17-32°C)</td>
<td>32-86°F (0-30°C)</td>
</tr>
<tr>
<td>Outdoor Temperature</td>
<td>32-122°F (0-50°C)</td>
<td>5-76°F (-15-24°C)</td>
</tr>
</tbody>
</table>

Features

Protection of the air conditioner
Compressor protection
- The compressor cannot restart for 3 minutes after it stops.
Anti-cold air (Cooling and heating models only)
- The unit is designed not to blow cold air on HEAT mode, when the indoor heat exchanger is in one of the following three situations and the set temperature has not been reached.
  A) When heating has just started.
  B) During defrosting.
  C) Low temperature heating.
- The indoor or outdoor fan stop running when defrosting (Cooling and heating models only).
Defrosting (Cooling and heating models only)
- Frost may be generated on the outdoor unit during a heat cycle when outdoor temperature is low and humidity is high resulting in lower heating efficiency in the air conditioner.
- Under these conditions, the air conditioner will stop heating operations and start defrosting automatically.
- The time to defrost may vary from 4 to 10 minutes, depending the outdoor temperature and the amount of frost buildup on the outdoor unit.
Auto-Restart (some models)
In case of power failure, the system will immediately stop. When power returns, the Operation light on the indoor unit will flash. To restart the unit, press the ON/OFF button on the remote control. If the system has an auto restart function, the unit will restart with the same settings.

White mist emerging from the indoor unit
- A white mist may be generated due to a large temperature difference between air inlet and air outlet on COOL mode in places with high relative humidity.
- A white mist may be generated due to moisture created in the defrosting process when the air conditioner restarts in HEAT mode operation after defrosting.

Noise coming from the air conditioner
- You may hear a low hissing sound when the compressor is running or has just stopped running. This sound is the sound of the refrigerant flowing or coming to a stop.
- You may also hear a low "squeaking" sound when the compressor is running or has just stopped running. This is caused by tempera heat expansion and cold contraction of the plastic parts in the unit when the temperature is changing.
- A noise may be heard due to the louver restoring itself to its original position when power is first turned on.

Dust blowing out from the indoor unit.
This is happens when the air conditioner has not been used for a long time or during its first use.

Smell emitting from the indoor unit.
This is caused by the indoor unit giving off smells permeated from building materials, furniture, or smoke.
The air conditioner turns to FAN ONLY mode from COOL or HEAT (for cooling and heating models only) mode.

When the indoor temperature reaches the set temperature setting, the compressor will stop automatically, and the air conditioner turns to FAN only mode. The compressor will start again when the indoor temperature rises on COOL mode or falls on HEAT mode to the set point.

Droplets of water may form on the surface of the indoor unit when cooling occurs in relatively high humidity (defined as higher than 80%). Adjust the horizontal louver to the maximum air outlet position and select HIGH fan speed.

Heating mode (for cooling and heating models only)

The air conditioner draws in heat from the outdoor unit and releases it via the indoor unit during heating. When the outdoor temperature falls, heat drawn in by the air conditioner decreases accordingly. At the same time, heat loading of the air conditioner increases due to larger difference between indoor and outdoor temperature. If a comfortable temperature cannot be achieved with the air conditioner alone, it is recommended that you use a supplementary heating device.

Lightning or a car wireless telephone operating nearby may cause the unit to malfunction. Disconnect the unit from its power source and then re-connect the unit with the power source again. Push the ON/OFF button on the remote controller to restart operations.

Energy Saving Tips

- **DO NOT** set the unit to excessive temperature levels.
- While cooling, close the curtains to avoid direct sunlight.
- Doors and windows should be kept closed to keep cool or warm air in the room.
- **DO NOT** place objects near the air inlet and outlet of the unit.
- Set a timer and use the built-in SLEEP/ECONOMY mode if applicable.
- If you don't plan to use the unit for a long time, remove the batteries from the remote control.
- Clean the air filter every two weeks.
- Adjust louvers properly and avoid direct airflow.

Closing curtains during heating also helps keep the heat in

Doors and windows should be kept closed
Operation mode selection

While two or more indoor units are simultaneously operating, make sure the modes do not conflict with each other. The heat mode claims precedence over all other modes. If the unit initially started to operate in HEAT mode, the other units can operate in HEAT mode only. For example: If the unit initially started operates under COOL (or FAN) mode, the other units can operate under any mode except HEAT. If one of the unit selects HEAT mode, the other operating units will stop operation and display "--" (for units with display window only) or the auto and operation indication light will flash rapidly, the defrost indication light will turn off, and the timer indication light will remain on (for units without a display window). Alternatively, the defrost and alarm indication light (if applicable) will light up, or the operation indication light will flash rapidly, and the timer indication light will turn off (for the floor and standing type).

Optimal operation

To achieve optimal performance, please note the following:
- Adjust the direction of the air flow so that it is not blowing directly on people.
- Adjust the temperature to achieve the highest possible level of comfort. Do not adjust the unit to excessive temperature levels.
- Close doors and windows in COOL mode or HEAT mode.
- Use the TIMER ON button on the remote controller to select a time you want to start your air conditioner.
- Do not place any object near the air inlet or air outlet, as the efficiency of the air conditioner may be reduced and the air conditioner may stop running.
- Clean the air filter periodically, otherwise cooling or heating performance may be reduced.
- Do not operate unit with horizontal louvre in closed position.

Suggestion:
For units that feature an electric heater, when the outside ambient temperature is below 0°C (32°F), it is strongly recommended that you to keep the machine plugged in so as to guarantee smooth operation.

When the air conditioner is to be used again:

- Use a dry cloth to wipe off the dust accumulated on the rear air intake grille in order to avoid the dust being dispersed from the indoor unit.
- Check that the wiring is not broken off or disconnected.
- Check that the air filter is installed.
- Check if the air outlet or inlet is blocked after the air conditioner has not been used for a long time.

Maintenance

If you plan to leave the unit idle for a long time, perform the following tasks:
1. Clean the indoor unit and air filter.
2. Select FAN ONLY mode and let the indoor fan run for a time to dry the inside of the unit.
3. Disconnect the power supply and remove the battery from the remote control.
4. Check the components of the outdoor unit periodically. Contact a local dealer or a customer service centre if the unit requires servicing.

NOTE: Before you clean the air conditioner, be sure to switch off the unit and disconnect the power supply plug.
## Troubleshooting

### CAUTIONS

If one of the following conditions occurs, switch off the power supply immediately and contact your dealer for further assistance.

- The operation light continues to flash rapidly after the unit has been restarted.
- The remote control buttons do not work.
- The unit continually trips fuses or circuit breakers.
- A foreign object or water enters the air conditioner.
- Other abnormal situations.

### Common Problems

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

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit does not turn on when pressing ON/OFF button</td>
<td>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.</td>
</tr>
<tr>
<td>The unit changes from COOL mode to FAN mode</td>
<td>The set temperature has been reached, at which point the unit turns off the compressor. The unit will resume operating when the temperature fluctuates again.</td>
</tr>
<tr>
<td>The indoor unit emits white mist</td>
<td>In humid regions, a large temperature difference between the room's air and the conditioned air can cause white mist.</td>
</tr>
<tr>
<td>Both the indoor and outdoor units emit white mist</td>
<td>When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.</td>
</tr>
<tr>
<td>The indoor unit makes noises</td>
<td>A squeaking sound is heard when the system is OFF or in COOL mode. The noise is also heard when the drain pump (optional) is in operation.</td>
</tr>
<tr>
<td>Both the indoor unit and outdoor unit make noises</td>
<td>A low hissing sound may occur during operation. This is normal and is caused by refrigerant gas flowing through both the indoor and outdoor units.</td>
</tr>
<tr>
<td>The outdoor unit makes noises</td>
<td>The unit will make different sounds based on its current operating mode.</td>
</tr>
</tbody>
</table>
### Troubleshooting

#### Problem Possible Causes

- **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 fan of the outdoor unit does not operate**
  - During operation, the fan speed is controlled to optimize product operation.

### Troubleshooting Tips

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

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Causes</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The unit is not working</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power failure</td>
<td></td>
<td>Wait for the power to be restored</td>
</tr>
<tr>
<td>The power switch is off</td>
<td></td>
<td>Turn on the power</td>
</tr>
<tr>
<td>The fuse is burned out</td>
<td></td>
<td>Replace the fuse</td>
</tr>
<tr>
<td>Remote control batteries are dead</td>
<td></td>
<td>Replace the remote control batteries</td>
</tr>
<tr>
<td>The unit's 3-minute protection has been activated</td>
<td></td>
<td>Wait three minutes after restarting the unit</td>
</tr>
<tr>
<td><strong>Poor cooling performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature setting may be higher than the ambient room temperature</td>
<td></td>
<td>Lower the temperature setting</td>
</tr>
<tr>
<td>The heat exchanger on the indoor or outdoor unit is dirty</td>
<td></td>
<td>Clean the affected heat exchanger</td>
</tr>
<tr>
<td>The air filter is dirty</td>
<td></td>
<td>Remove the filter and clean it according to instructions</td>
</tr>
<tr>
<td>The air inlet or outlet of either unit is blocked</td>
<td></td>
<td>Turn the unit off, remove the obstruction and turn it back on</td>
</tr>
<tr>
<td>Doors and windows are open</td>
<td></td>
<td>Make sure that all doors and windows are closed while operating the unit</td>
</tr>
<tr>
<td>Excessive heat is generated by sunlight</td>
<td></td>
<td>Close windows and curtains during periods of high heat or bright sunshine</td>
</tr>
<tr>
<td>Low refrigerant due to leak or long-term use</td>
<td></td>
<td>Check for leaks, re-seal if necessary and top off refrigerant</td>
</tr>
<tr>
<td><strong>The unit starts and stops frequently</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There's too much or too little refrigerant in the system</td>
<td></td>
<td>Check for leaks and recharge the system with refrigerant</td>
</tr>
<tr>
<td>There is air, incompressible gas or foreign material in the refrigeration system.</td>
<td></td>
<td>Evacuate and recharge the system with refrigerant</td>
</tr>
<tr>
<td>System circuit is blocked</td>
<td></td>
<td>Determine which circuit is blocked and replace the malfunctioning piece of equipment</td>
</tr>
<tr>
<td>The compressor is broken</td>
<td></td>
<td>Replace the compressor</td>
</tr>
<tr>
<td>The voltage is too high or too low</td>
<td></td>
<td>Install a manostat to regulate the voltage</td>
</tr>
<tr>
<td><strong>Poor heating performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The outdoor temperature is lower than 7°C (44.5°F)</td>
<td></td>
<td>Check for leaks and recharge the system with refrigerant</td>
</tr>
<tr>
<td>Cold air is entering through doors and windows</td>
<td></td>
<td>Make sure that all doors and windows are closed during use</td>
</tr>
<tr>
<td>Low refrigerant due to leak or long-term use</td>
<td></td>
<td>Check for leaks, re-seal if necessary and top off refrigerant</td>
</tr>
</tbody>
</table>
**SYSTEM OPERATION**

**COOLING OPERATION**

**How it works:**
In cooling mode, your indoor evaporator will absorb heat from the room, then the outdoor condenser will discharge the heat to the outdoors. The cooling capacity decreases as the outdoor temperature increases. This causes the compressor to work harder and longer to hold the selected room temperature.

**Indoor Coil Freeze Protection:**
Frost may form on the indoor coil during cooling operations when the outdoor temperature below 50°F (10°C). Prolong operation may cause ice to form on the indoor coil and block airflow. If the indoor evaporator’s microcomputer detects ice on the indoor coil it will stop the compressor to defrost the coil and protect the unit.

**HEATING OPERATION**

**How it works:**
In heating mode, your outdoor condenser will absorb ambient heat from outdoors, then the indoor evaporator will discharge the heat to the room. The heating capacity decreases as the outdoor temperature decreases.

During extreme cold outdoor temperatures, you may need an additional heating source to supplement the heating output.

**Defrost Function:**
In heating mode, frost may form on the outdoor coil during humid and low outdoor temperature conditions. Prolonged operation may cause ice to form on the outdoor coil and block airflow. This will reduce the heating capacity.

If the microcomputer detects ice on the outdoor coil, it will switch automatically to defrost mode to melt the ice and clear the coil. During defrost mode, heating will pause and the indoor evaporator will flash the Defrost indicator. The compressor will continue to run while the indoor and outdoor fans will stop. It is normal to see steam or vapor coming from the outdoor unit during defrost. Defrost mode will terminate 12 minutes after it begins the cycle or when the outdoor coil temperature is 50°F (10°C) or greater.
ENERGY SAVING TIPS

1. Relaxing room temperature at night is OK: During the nighttime hours you don’t require the same level of conscious cooling or heating. Try using Sleep Mode to gradually relax room temperature and allow the unit to run less and save energy.

2. Curtains and shades: In the summer, you need to block the effects of the sun. Close window curtains and shades on the south and west side of your home to help block solar heat. In winter, the sun is your friend. Open curtains and shades to allow solar heat into your room.

3. Close doors: If you don’t need to heat and cool your whole home, confine the heating and cooling to one room by closing doors. Limit the space you’re heating and cooling to specified capability of the unit.

4. Service the unit: Some basic maintenance might be all you need. The outdoor unit will greatly benefit from a good hosing out, especially in treed areas where seeds and other debris can stick to coil fins and make the unit work up to 15% harder!

5. Rearrange the room: Furniture that obstructs airflow means you could be heating and cooling the back of a chair or the front of a sofa instead of the actual living space. Use the Swing Louvers to help direct the air in the right direction for the room; remove or rearrange obstacles blocking airflow.

6. Lighting: Turning lights off can help reduce your heat. Each light bulb is a tiny heater. Your air conditioner must waste energy overcoming the heat from your lights to reach and hold your desired room temperature.

7. Is anyone home? If possible, while you’re away turn your unit to Auto mode and make sure windows and drapes are closed. Although the room temperature will be uncomfortable for a few minutes when you come home, the unit will have the room back to your desired temperature in no time.

8. Don’t forget the fan: The fan is much like a car. The faster it runs, the more energy is uses. Sometimes we need the car to go fast, but slow is good enough most of the time. Try saving money by using the comfortable quiet low fan speed as much as possible.