Thank you for choosing Residential Air Conditioners, please read this owner’s manual carefully before operation and retain it for future reference.
Never attempt. Be sure to follow this instruction

The physical product may differ from the drawing in this manual for different display. If there are some differences between them, please refer to the physical product as the standard.

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

Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
Notices for installation

Caution

1. The unit should be installed only by authorized service center according to local or
government regulations and in compliance with this manual.
2. Installation must be performed in accordance with the NEC/CEC by authorized person only.
3. Before installing, please contact with local authorized maintenance center. If the unit is
not installed by the authorized service center, the malfunction may not be solved
due to inconvenient contact between the user and the service personnel.
4. When removing the unit to the other place, please firstly contact with the local authorized
service center.
5. Warning: Before obtaining access to terminals, all supply circuits must be disconnected.
6. For appliances with type Y attachment, the instructions shall contain the substance of
the following. If the supply cord is damaged, it must be replaced by the manufacturer, its
service agent or similarly qualified persons in order to avoid a hazard.
7. The appliance must be positioned so that the plug is accessible.
8. The temperature of refrigerant line will be high; please keep the interconnection cable
away from the copper tube.
9. The instructions shall state the substance of the following:
   This appliance is not intended for use by persons(including children) with reduced physical,
sensory or mental capabilities, or lack of experience and knowledge, unless they have been
given supervision or instruction concerning use of the appliance by a person responsible
for their safety.
   Children should be supervised to ensure that they do not play with the appliance.

Installation Site Instructions

Proper installation site is vital for correct and efficient operation of the unit. Avoid the
following sites where:
• strong heat sources, vapours, flammable gas or volatile liquids are emitted.
• high-frequency electro-magnetic waves are generated by radio equipment,
welders and medical equipment.
• salt-laden air prevails (such as close to coastal areas).
• the air is contaminated with industrial vapours and oils.
• the air contains sulphures gas such as in hot spring zones.
• corrosion or poor air quality exists.

Installation Site of Indoor Unit

1. The air inlet and outlet should be away from the obstructions. Ensure the air can be
blown through the whole room.
2. Select a site where the condensate can be easily drained out, and where it is
easily connected to outdoor unit.
3. Select a place where it is out of reach of children.
4. Select a place where the wall is strong enough to withstand the full weight and vibration
of the unit.
5. Be sure to leave enough space to allow access for routine maintenance. The installation
site should be 98.4 inch or more above the floor.
Notices for installation

6. Select a place about 3.3ft or more away from TV set or any other electric appliance.
7. Select a place where the filter can be easily taken out.
8. Make sure that the indoor unit is installed in accordance with installation dimension instructions.
9. Do not use the unit in the laundry or by swimming pool etc.

Installation Site of Outdoor Unit

1. Select a site where noise and outflow air emitted by the unit will not annoy neighbors.
2. Select a site where there is sufficient ventilation.
3. Select a site where there is no obstruction blocking the inlet and outlet.
4. The site should be able to withstand the full weight and vibration.
5. Select a dry place, but do not expose the unit to direct sunlight or strong wind.
6. Make sure that the outdoor unit is installed in accordance with the installation instructions, and is convenient for maintenance and repair.
7. The height difference between indoor and outdoor units is within 16.4ft, and the length of the connecting tubing does not exceed 32.8ft.
8. Select a place where it is out of reach of children.
9. Select a place where the unit does not have negative impact on pedestrians or on the city.

Safety Precautions for Electric Appliances

1. A dedicated power supply circuit should be used in accordance with local electrical safety regulations.
2. Don't drag the power cord with excessive force.
3. The appliance shall be installed in accordance with national wiring regulations.
4. The air switch must have the functions of magnetic tripping and heat tripping to prevent short circuit and overload.
5. The minimum distance between the unit and combustive surface is 4.9ft.
6. The appliance shall be installed in accordance with national wiring regulations.
7. An all-pole disconnection switch with a contact separation of at least 9.8ft in all poles should be connected in fixed wiring.

Note:
- Make sure the live wire, neutral wire and earth wire in the family power socket are properly connected. There should be reliable circuit in the diagram.
- Inadequate or incorrect electrical connections may cause electric shock or fire.

Earthing Requirements

1. Air conditioner is type I electric appliance. Please ensure that the unit is reliably earthed.
2. The yellow-green wire in air conditioner is the earthing wire which can not be used for other purposes. Improper earthing may cause electric shock.
3. The earth resistance should accord to the national criterion.
4. The power must have reliable earthing terminal. Please do not connect the earthing wire with the following:
   ① Water pipe  ② Gas pipe  ③ Contamination pipe  ④ Other place that professional personnel consider is unreliable
5. The model and rated values of fuses should accord with the silk print on fuse cover or related PCB.
**Installation dimension diagram**

- **Indoor unit**

  - Space to the ceiling
  - Space to the wall
  - Air outlet side
  - Space to the floor

- **Outdoor unit**

  - Space to the obstruction
  - Air inlet side
  - Space to the wall
**Installation of Indoor Unit**

**Installation of Mounting Plate**

1. Mounting plate should be installed horizontally. As the water tray’s outlet for the indoor unit is two-way type, during installation, the indoor unit should slightly slant to water tray’s outlet for smooth drainage of condensate.

2. Fix the mounting plate on the wall with screws.

3. Be sure that the mounting plate has been fixed firmly enough to withstand about 132.3 lb. Meanwhile, the weight should be evenly shared by each screw.

---

**09K, 12K UNIT:**

![Diagram of 09K, 12K UNIT]

- Wall
- Space to the wall: 6 inch above
- (Rear piping hole)
- (Rear piping hold)

**18K UNIT:**

![Diagram of 18K UNIT]

- Wall
- Space to the wall: 5 inch above
- (Rear piping hole)
- (Rear piping hold)

**24K UNIT:**

![Diagram of 24K UNIT]

- Wall
- Space to the wall: 4 3/4 inch above
- (Rear piping hole)
- (Rear piping hold)

**30K&36K UNIT:**

![Diagram of 30K&36K UNIT]

- Wall
- Space to the wall: 3 1/2 inch above
- (Rear piping hole)
- (Rear piping hold)

---

*Unit: inch*
**Installation of Indoor Unit**

**Drill Piping Hole**

1. Slant the piping hole (Ø2 1/6 or Ø2 3/4) on the wall slightly downward to the outdoor side.
2. Insert the piping-hole sleeve into the hole to prevent the connection piping and wiring from being damaged when passing through the hole.

**Installation of Drain Hose**

1. Connect the drain hose to the outlet pipe of the indoor unit. Bind the joint with rubber belt.
2. Put the drain hose into insulating tube.
3. Wrap the insulating tube with wide rubber belt to prevent the shift of insulating tube. Slant the drain hose downward slightly for smooth drainage of condensate.

**Connecting Indoor and Outdoor Electric Wires**

1. Open the front panel.
2. Remove the wiring cover and wire clamp. Make the power connection cord pass through the hole at the back of indoor unit.
3. Connect and fix the power connection cord to the terminal board. (As shown in Fig.6)
4. Fix the power connection cord with wire clamp and reinstall wiring cover.
**Installation of indoor unit**

**NOTE:**
All wires between indoor and outdoor units must be connected by the qualified electric contractor.

- Electric wires must be connected correctly. Improper connection may cause malfunction.
- Tighten the terminal screws securely.
- After tightening the screws, pull the wire slightly to confirm whether it’s firm or not.
- Make sure that the electric connections are earthed properly to prevent electric shock.
- Make sure that all wiring connections are secure and the cover plates are reinstalled properly. Poor installation may cause fire or electric shock.

#### Installation of Indoor Unit

- The piping can be output from right, right rear, left or left rear.

1. When routing the piping and wiring from the left or right side of indoor unit, cut off the tailings from the chassis when necessary (As shown in Fig.7)  
   (1) Cut off tailing 1 when routing the wiring only;  
   (2) Cut off tailing 1 and tailing 2 when routing both the wiring and piping.
2. Take out the piping from body case; wrap the piping, power cords, drain hose with the tape and then make them pass through the piping hole. (As shown in Fig.8)
3. Hang the mounting slots of the indoor unit on the upper hooks of the mounting plate and check if it is firm enough. (As shown in Fig.9)
4. The installation site should be 98.4 inch or more above the floor.

#### Installation of Connection Pipe

1. Align the center of the pipe flare with the related valve.
2. Screw in the flare nut by hand and then tighten the nut with spanner and torque wrench by referring to the following:

<table>
<thead>
<tr>
<th>Tube diameter</th>
<th>Tightening torque approximate (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Φ6.35 (1/4&quot;)</td>
<td>14 ~ 18 N·m (140 - 180 kgf.cm)</td>
</tr>
<tr>
<td>Φ9.52 (3/8&quot;)</td>
<td>34 ~ 42 N·m (340 - 420 kgf.cm)</td>
</tr>
<tr>
<td>Φ12.7 (1/2&quot;)</td>
<td>49 ~ 61 N·m (490 - 610 kgf.cm)</td>
</tr>
<tr>
<td>Φ15.88 (5/8&quot;)</td>
<td>68 ~ 82 N·m (680 - 820 kgf.cm)</td>
</tr>
</tbody>
</table>

**NOTE:** Connect the connection pipe to indoor unit at first and then to outdoor unit. Handle piping bending with care. Do not damage the connection pipe. Ensure that the joint nut is tightened firmly, otherwise, it may cause leakage.
Installation of outdoor unit

**Electric Wiring**

1. Remove the handle of right side plate from outdoor unit;
2. Pass power connection cord and power cord through the wire hole;
3. Remove wire clamp, and then connect power connection cord and power cord to the terminal and fix them tightly. Wiring distribution must be consistent with the wiring diagram;
4. Fix power connection cord and power cord with wire clamp;
5. Make sure that the wiring is fixed tightly;
6. Reinstall the wire-passing plate.

**NOTE:**
- Incorrect wiring may cause malfunction of spare part.
- After the wire has been fixed, ensure there is free space between the connection and fixing places on the lead wire.

Schematic diagram being reference only, please refer to real product for authentic information.

**Air purging**

- **Air purging method:**

<table>
<thead>
<tr>
<th>Air purging method</th>
<th>Length of connection pipe</th>
<th>Refrigerant charging amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use vacuum pump</td>
<td>Not longer than 24.6ft</td>
<td>Nameplate value +20g/m (for 9k, 12k, 18k heat pump unit)</td>
</tr>
<tr>
<td></td>
<td>24.6~65.6ft</td>
<td>Nameplate value +15g/m (for 18k, 24k cool only unit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nameplate value +50g/m (for 24k heat pump unit)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>add 15g/20g/50g of refrigerant for additional 1m of pipe length</td>
</tr>
</tbody>
</table>

- **Use vacuum pump**

  (Note: R410A refrigerant special vacuum pump should be applied for R410A unit.)

1. Connect the charging hose of manifold valve to charging port of low-pressure valve. Both high-pressure valve and low-pressure valve must be tighten up).
2. Connect joint of charging hose to vacuum pump.
3. Fully open Lo (low pressure) handle of manifold valve and start the vacuum pump for vacuum pumping.
4. Usually the vacuum pumping time of 2600W AC is about 15min. The vacuum pumping time of 5000W AC is about 20min. The vacuum pumping time of 7200W AC is about 30min. Make sure the pressure is -1.0X105pa (-76cmHg). When vacuum pumping is finished, close Lo (low pressure) handle of manifold valve completely to stop the vacuum pump.
5. Maintain the pressure for a while after finishing vacuum pumping to see if there is leakage of the system. Usually the pressure maintenance time of the air conditioner above 5000W is 5min and the pressure maintenance time of the air conditioner below 5000W is 3min. During pressure maintenance period, the rebound of pressure should not exceed 0.005Mpa (0.11lb).

6. After finishing vacuum pumping, open the liquid valve slightly to release air in order to balance the system pressure and present air inlet when removing the hose. Fully open high-pressure valve and low-pressure valve after removing the hose.

7. Tighten bonnets of high-pressure valve, low-pressure valve and charging port.

**Leakage test**

Apply soap water to check whether the joints are leaky. Leak detector can also be applied for leakage test.

**Outdoor Condensate Drainage (only for Heat pump unit)**

During heating operation, the condensate and defrosting water should be drained out reliably through the drain hose. Install the outdoor drain connector in a Φ1 inch hole on the base plate and attach the drain hose to the connector so that the waste water formed in the outdoor unit can be drained out. The hole diameter 25 must be plugged.

Whether to plug other holes will be determined by the dealers according to actual conditions.
**Check after installation and operation test**

### Check after Installation

<table>
<thead>
<tr>
<th>Items to be checked</th>
<th>Possible malfunction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the unit been fixed firmly?</td>
<td>The unit may drop, shake or emit noise.</td>
</tr>
<tr>
<td>Have you done the refrigerant leakage test?</td>
<td>It may cause insufficient cooling(heating).</td>
</tr>
<tr>
<td>Is thermal insulation sufficient?</td>
<td>It may cause condensation.</td>
</tr>
<tr>
<td>Is water drainage satisfactory?</td>
<td>It may cause water leakage.</td>
</tr>
<tr>
<td>Is the voltage in accordance with the rated voltage marked on the nameplate?</td>
<td>It may cause electric malfunction or damage the unit.</td>
</tr>
<tr>
<td>Is the electric wiring or piping connection installed correctly and securely?</td>
<td>It may cause electric malfunction or damage the parts.</td>
</tr>
<tr>
<td>Has the unit been securely earthed?</td>
<td>It may cause electrical leakage.</td>
</tr>
<tr>
<td>Is the power cord specified?</td>
<td>It may cause electric malfunction or damage the parts.</td>
</tr>
<tr>
<td>Is the inlet or outlet blocked?</td>
<td>It may cause insufficient cooling(heating).</td>
</tr>
<tr>
<td>Is the length of connection pipes and refrigerant capacity recorded?</td>
<td>The refrigerant capacity is not accurate.</td>
</tr>
</tbody>
</table>

### Operation Test

1. **Before Operation Test**
   1. Do not switch on power before installation is finished completely.
   2. Electric wiring must be connected correctly and securely.
   3. Cut-off valves of the connection pipes should be opened.
   4. All the impurities such as scraps and thrums must be cleared from the unit.

2. **Operation Test Method**
   1. Switch on power and press "ON/OFF" button on the wireless remote controller to start the operation.
   2. Press MODE button to select the COOL, HEAT (Not available for cooling only unit), FAN to check whether the operation is normal or not.
Installation and maintenance of healthy filter (optional)

Installation of Healthy Filter

1. Lift up the front panel from its two ends, as shown by the arrow direction, and then remove the air filter. (as shown in Fig.a)

2. Attach the healthy filter onto the air filter, (as shown in Fig.b).

3. Install the air filter properly along the arrow direction in Fig.c, and then close the panel.

Cleaning and Maintenance

Remove the healthy filter and reinstall it after cleaning according to the installation instruction. Do not use brush or hard objects to clean the filter. After cleaning, be sure to dry it in the shade.

Service Life

The general service life for the healthy filter is about one year under normal condition. As for silver ion filter, it is ineffective when its surface becomes black (green).

- This supplementary instruction is provided for reference to the unit with healthy filter. If the graphics provided herein are different from the actual product, please refer to the actual product. The quantity of healthy filters is based on the actual delivery.
1. Standard length of connection pipe
   5m, 7.5m, 8m

2. Min length of connection pipe
   For the unit with standard connection pipe of 5m, there is no limitation for the min length of connection pipe. For the unit with standard connection pipe of 7.5m and 8m, the min length of connection pipe is 3m.

3. Max length of connection pipe

   Sheet 1 Max length of connection pipe  Unit: m

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Max length of connection pipe</th>
<th>Capacity</th>
<th>Max length of connection pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>5000 Btu/h</td>
<td>1465 W</td>
<td>24000 Btu/h</td>
<td>7032 W</td>
</tr>
<tr>
<td>7000 Btu/h</td>
<td>2051 W</td>
<td>28000 Btu/h</td>
<td>8204 W</td>
</tr>
<tr>
<td>9000 Btu/h</td>
<td>2637 W</td>
<td>36000 Btu/h</td>
<td>10548 W</td>
</tr>
<tr>
<td>12000 Btu/h</td>
<td>3516 W</td>
<td>42000 Btu/h</td>
<td>12306 W</td>
</tr>
<tr>
<td>18000 Btu/h</td>
<td>5274 W</td>
<td>48000 Btu/h</td>
<td>14064 W</td>
</tr>
</tbody>
</table>

4. The calculation method of additional refrigerant oil and refrigerant charging amount after prolonging connection pipe

   After the length of connection pipe is prolonged for 10m at the basis of standard length, you should add 5ml of refrigerant oil for each additional 5m of connection pipe.

   The calculation method of additional refrigerant charging amount (on the basis of liquid pipe):

   (1) Additional refrigerant charging amount= prolonged length of liquid pipe × additional refrigerant charging amount per meter

   (2) When the length of connection pipe is above 5m, add refrigerant according to the prolonged length of liquid pipe. The additional refrigerant charging amount per meter is different according to the diameter of liquid pipe. See Sheet 2.
### Configuration of connection pipe and additional volume of refrigerant

Sheet 2. Additional refrigerant charging amount for R22, R407C, R410A and R134a

<table>
<thead>
<tr>
<th>Diameter of connection pipe mm</th>
<th>Liquid pipe</th>
<th>Gas pipe</th>
<th>Indoor unit throttle (g / m)</th>
<th>Outdoor unit throttle (g / m)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Cooling only,</td>
<td>Cooling only</td>
<td>Cooling and heating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cooling and</td>
<td>(g / m)</td>
<td>(g / m)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>heating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Φ6</td>
<td>Φ6</td>
<td>Φ9.5 or Φ12</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Φ6 or Φ9.5</td>
<td>Φ12</td>
<td>Φ16 or Φ19</td>
<td>50</td>
<td>15</td>
</tr>
<tr>
<td>Φ12</td>
<td>Φ19</td>
<td>Φ19 or Φ22.2</td>
<td>100</td>
<td>30</td>
</tr>
<tr>
<td>Φ16</td>
<td>Φ25.4</td>
<td>Φ25.4 or Φ31.8</td>
<td>170</td>
<td>60</td>
</tr>
<tr>
<td>Φ19</td>
<td>-</td>
<td></td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Φ22.2</td>
<td>-</td>
<td></td>
<td>350</td>
<td>350</td>
</tr>
</tbody>
</table>

Note: The additional refrigerant charging amount in Sheet 2 is recommended value, not compulsory.