Before using your air conditioner, please read this manual carefully and keep it for future reference.

SPLIT-TYPE
ROOM AIR CONDITIONER

INSTALLATION MANUAL

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

- Please read this installation manual completely before installing the product.
- If the power cord is damaged, replacement work shall be performed by authorised personnel only.
- Installation work must be performed in accordance with the national wiring Standards by authorised personnel only.
- Contact an authorised service technician for repair, maintenance or installation of this unit.
CONTENTS

SAFETY PRECAUTIONS
Warning ......................................................................................................................... 2
Caution .......................................................................................................................... 2

INSTALLATION INSTRUCTIONS
Selecting installation place .......................................................................................... 3
Accessories ..................................................................................................................... 3
Indoor & outdoor unit installation drawings ................................................................. 4

INDOOR UNIT INSTALLATION
Installation plate mounting ......................................................................................... 5
Connective pipe installation ......................................................................................... 6
Drain piping ................................................................................................................... 7
Connect the cable to the indoor unit ........................................................................... 7
Indoor unit installation ............................................................................................... 9

OUTDOOR UNIT INSTALLATION
Outdoor installation precaution .................................................................................. 9
Settlement of outdoor unit .......................................................................................... 10
Refrigerant pipe connection ......................................................................................... 10
Connect the cable to the outdoor unit ......................................................................... 12
Air purging .................................................................................................................. 12

TEST RUNNING
Test running ............................................................................................................... 14

CAUTION
- Contact an authorised service technician for repair or maintenance of this unit.
- The appliance shall be installed in accordance with national wiring regulations.
- 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.
- Young children should be supervised to ensure that they do not play with the air conditioner.
- Do not operate your air conditioner in a wet room such as a bathroom or laundry room.
- Installation work must be performed in accordance with the national wiring standards by authorised personnel only.

SAFETY PRECAUTIONS
- Read the following SAFETY PRECAUTIONS carefully before installation.
- Incorrect installation due to ignoring of the instruction will cause harm or damage, and the seriousness is classified by the following indications.

WARNING
This symbol indicates the possibility of death or serious injury.

CAUTION
This symbol indicates the possibility of injury or damage to property.

The items to be followed are classified by the symbols:

Symbol will background white denotes item that is PROHIBITED from doing.

WARNING
1) Engage dealer or specialist for installation. If installation done by the user is defective, it will cause water leakage, electrical shock or fire.
2) Install according to this installation instructions strictly. If installation is defective, it will cause water leakage, electrical shock or fire.
3) Use the attached accessories parts and specified parts for installation, otherwise, it will cause the set to fall, water leakage, electrical shock or fire.
4) Install at a strong and firm location which is able to withstand the set’s weight. If the strength is not enough or installation is not properly done, the set will drop and cause injury.
5) For electrical work, follow the local national wiring standard, regulation and this installation instructions. An independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical work, it will cause electrical shock or fire.
6) Use the specified cable and connect tightly and clamp the cable so that no external force will be acted on the terminal. If connection or fixing is not perfect, it will cause heat-up or fire at the connection.
7) Wiring routing must be properly arranged so that control board cover is fixed properly. If control board cover is not fixed perfectly, it will cause heat-up at connection point of terminal, fire or electrical shock.
8) When carrying out piping connection, take care not to let air substances other than the specified refrigerant go into refrigeration cycle. Otherwise, it will cause lower capacity, abnormal high pressure in the refrigeration cycle, explosion and injury.
9) Do not modify the length of the power supply cord or use of extension cord, and do not share the single outlet with other electrical appliances. Otherwise, it will cause fire or electrical shock.

CAUTION
1) This equipment must be earthed and installed with earth leakage current breaker. It may cause electrical shock if grounding is not perfect.
2) Do not install the unit at place where leakage of flammable gas may occur. In case gas leaks and accumulates at surrounding of the unit, it may cause fire.
3) Carry out drainage piping as mentioned in installation instructions. If drainage is not perfect, water may enter the room and damage the furniture.
4) For the unit adopts auxiliary electric heater, keep at least 1 meter away from the nearest combustible materials.
INSTALLATION INSTRUCTIONS

Selecting installation place

Read completely, then follow step by step.

**Indoor unit**
- There should not be any heat source, inflammable gas or stream near the unit.
- There should not be any obstacles blocking the air circulation.
- A place where air circulation in the room is good.
- A place where drainage can be easily done.
- A place where noise prevention is taken into consideration.
- Do not install the unit near the door way.
- Ensure the restrictions on installation specified in the indoor unit installation drawings are met.
- Select a location which is firm enough for installation so that the device is not subjected to vibrations.
- The device should be reinstalled at a distance of at least 1m from all other electrical devices and installations, e.g. TV, radio, computer, etc.
- There should not be any direct sunlight. If unavoidable, sunlight prevention should be taken into consideration.

**Outdoor unit**
- If an awning is built over the unit to prevent direct sunlight or rain, be careful that heat radiation from the condenser is not obstructed.
- There should not be any animal or plant which could be affected by hot air discharged.
- Make sure that there is sufficient space as specified in the installation drawings.
- Do not place any obstacles which may cause a short circuit of the discharged air.
- Select a location which avoids causing a nuisance to neighbours from noise and air emissions from device.
- Select a location which is sufficiently well ventilated.
- Never cover the air inlets and outlets.
- The location must be sufficiently firm for installation and the prevention of vibrations.
- There must be no risk presented by combustible gas or gas escaping as a result of corrosion.
- Avoid a location where there is a high salt content.
- Avoid a location which is heavily exposed to dust.
- Avoid a location to which the general public have access.

**Accessories**

<table>
<thead>
<tr>
<th><strong>Indoor unit</strong></th>
<th><strong>Outdoor unit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation plate</td>
<td>1</td>
</tr>
<tr>
<td>Clip Anchor</td>
<td>5</td>
</tr>
<tr>
<td>Mounting plate fixing screw ST3.9x25</td>
<td>5</td>
</tr>
<tr>
<td>Remote controller</td>
<td>1</td>
</tr>
<tr>
<td>Fixing screw for remote controller holder ST2.9X10</td>
<td>2</td>
</tr>
<tr>
<td>Remote controller holder</td>
<td>1</td>
</tr>
<tr>
<td>Dry battery AAA LR03</td>
<td>2</td>
</tr>
<tr>
<td>Air freshening filter (used to install on Air filter)</td>
<td>1</td>
</tr>
<tr>
<td>Seal</td>
<td>1</td>
</tr>
<tr>
<td>Drain joint</td>
<td>1</td>
</tr>
<tr>
<td>Owner’s manual</td>
<td>1</td>
</tr>
<tr>
<td>Installation manual</td>
<td>1</td>
</tr>
<tr>
<td>Remote controller illustration</td>
<td>1</td>
</tr>
</tbody>
</table>

**NOTE:** Use the supplied installation accessories as required. The items necessary to install this air conditioner are not included and must be purchased separately.

**Indoor & outdoor unit installation drawings**

1. The mounting plate should be installed on a wall which can support the weight of the indoor unit.
2. Clip Anchor(5)
3. Fixing screw for remote controller holder ST2.9X10
4. Install the air freshening filter at the back of air filter
5. Before screwing the remote controller holder to the wall, make sure that control signals are properly received by indoor unit.
6. In sites with poor drainage, use block bases for outdoor unit. Adjust its height until the unit is leveled. Otherwise, water leakage or pooling of water may occur.

**NOTE:** Appearance of outdoor unit and indoor unit may differ from some models. The actual shape shall prevail.
**INDOOR UNIT INSTALLATION**

**INDOOR UNIT INSTALLATION**

Remove the installation plate from the indoor unit. The installation plate should be installed on a wall which can support the weight of the indoor unit.

1. **Installation Plate Mounting**
   1. Fit the installation plate horizontally on structural parts of the wall with spaces around the installation plate.
   2. If the wall is made of brick, concrete or the like, drill five 5mm diameter holes in the wall and insert Clip anchor for appropriate mounting screws.
   3. Secure the installation plate to the wall with screws.

**NOTE:**

Mount the Installation Plate and drill holes in the wall according to the wall structure and corresponding mounting points on the installation plate. The installation plate provided with the machine differ from appliance to appliance. (Dimensions are in "mm" unless otherwise stated)

The installation plate is fixed with a screw for the convenience of shipment, please remove the screw first before installation.

---

**2. Drill a hole in the wall**

1. Determine hole positions according to left and right side of the installation plate. The hole center is obtained by measuring the distance as shown in the diagram of Fig.2.
2. Drill the piping plate hole with ø65mm hole-core drill.
3. Drill the piping hole at either the right or the left and the hole should be slightly slanted to the outdoor side, so that the outside end is lower than inside end, see Fig.3.
4. Always take steps to protect the pipe when drilling metal grid, metal plate or the like.

**3. Connective pipe installation**

1. For the left-hand and right-hand piping, remove the pipe cover from the side panel.
2. For the right back and left back piping, install the piping as shown.
   
   **NOTE:** Both sides drainage structure is standard. For both sides drainage structure, it can be chosen for right, left or both sides drainage connection. If choosing both sides drainage connection, another proper drain hose is needed as there is only one drain hose offered by factory. If choosing one side drainage connection, make sure the drain hole on the other side is well plugged. For 9k/12k models, if choosing left-hand or left-back piping, please choosing left side drainage connection. The connection of the drain hose is supposed to be done by qualified installer in case of water leakage.
3. Attach the drain hose to the underside of the refrigerant pipes with adhesive vinyl tape.
4. Wrap the refrigerant pipes and drain hose together with insulation tape.
5. Open the front panel, then open the wire cover, connecting the cables.
6. Bundle the pipes, connecting cable, and drain hose with tape securely, evenly as shown in Figure on the right.
7. Pass them through the wall hole.

- Because the condensed water from rear of the indoor unit is gathered in ponding box and is piped out of room. Do not put anything else in the box.

---

**Fig.2**

**Fig.3**

**Fig.4**

**Fig.5**
INDOOR UNIT INSTALLATION

**CAUTION**
- Connect the indoor unit first, then the outdoor unit.
- Do not allow the piping to let out from the back of the indoor unit.
- Be careful not to let the drain hose slack.
- Heat insulation should be done to the extension drain hose of indoor unit.
- Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause drain pan to overflow inside the unit.
- Never intercross nor intertwwist the power wire with any other wiring.

4. **Drain piping**
   1. Connect the drain hose as described in Fig.6. The drain hose should be inclined downward.
   2. When drain hose requires extension, obtain an extension hose commercially available. Be sure to thermally insulate the indoor section of the extension hose. Do not let the drain hose slack.
   3. Remove the air filter and pour some water into the drain pan to check the water flows smoothly.

5. Connect the cable to the indoor unit

**Electrical work**

Electric safety regulations for the initial Installation
1. If there is serious safety problem about the power supply, the technicians should refuse to install the air conditioner and explain to the client until the problem is solved.
2. The surge protector and main powerswitch with a 1.5 times capacity of Max. Current of the unit should be installed in power circuit. Ensure the air conditioner is grounded well.
3. The appliance shall be installed in accordance with national wiring regulations. Do not operate your air conditioner in a wet room such as a bathroom or laundry room.
4. All wiring must comply with local and national electrical codes and be installed by qualified and skilled electricians.
5. Every wire must be connected firmly. No wire should be allowed to touch refrigerant tubing, the compressor, or any moving parts.
6. Loose wiring may cause the terminal to overheat or result in unit malfunction. A fire hazard may also exist. Therefore, be sure all wiring is tightly connected.

**NOTE:**
- Before performing any electrical work, turn off the main power to the system.
- The indoor power cord type is H05VV-F or H05V2V2-F, the outdoor power cord and interconnected cord type is H07RN-F.
- Lift the indoor unit panel up, use an sharp end tool like a screwdriver to pry the wire cover.
- Remove the cable clamp. Match wire colours with terminal numbers on indoor and outdoor unit’s terminal blocks and firmly screw wires to the corresponding terminals.
- Connect the end of the connection cable fully inserting into the terminal block.
- Fasten the connection cable with a cable clamp.

**Minimum cross-sectional area of conductors:**

<table>
<thead>
<tr>
<th>Rated current of appliance (A)</th>
<th>Nominal cross-sectional area (mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;3 and ≤ 6</td>
<td>0.75</td>
</tr>
<tr>
<td>&gt;6 and ≤ 10</td>
<td>1</td>
</tr>
<tr>
<td>&gt;10 and ≤ 16</td>
<td>1.5</td>
</tr>
<tr>
<td>&gt;16 and ≤ 25</td>
<td>2.5</td>
</tr>
<tr>
<td>&gt;25 and ≤ 32</td>
<td>4</td>
</tr>
<tr>
<td>&gt;32 and ≤ 40</td>
<td>6</td>
</tr>
</tbody>
</table>

**NOTE:**
- The wire size of power supply cord and interconnected wire are determined by the maximum current indicated on the nameplate which located on the side panel of the unit. Please refer to the nameplate before selecting the wire size, fuse or switch.
- The controller of the air conditioner designed with a fuse protection function under abnormal conditions, the specifications of the fuse have printed on the circuit board, such as: T3.15A/250VAC, T5A/250VAC, etc.
**Indoor unit installation**

1. Pass the piping through the hole in the wall.
2. Hook the indoor unit onto the upper portion of the installation plate (engage the indoor unit with the upper edge of the installation plate). Ensure the hooks are properly seated on the installation plate by moving it in left and right.
3. Piping can easily be made by lifting the indoor unit with a cushioning material between the indoor unit and the wall. Get it out after finish piping. When use a wall embedded pipe, the indoor unit can be moved to the left or right for 30~50mm (model dependent), which offers sufficient space to arrange the pipes and ensure the indoor unit fully close to the wall after installation.
4. Press the lower left and right side of the unit against the installation plate until hooks engages with the their slots.

**OUTDOOR UNIT INSTALLATION**

**Outdoor installation precaution**
- Install the outdoor unit on a rigid base to prevent increasing noise level and vibration.
- Determine the air outlet direction where the discharged air is not blocked.
- In the case that the installation place is exposed to strong wind such as a seaside, make sure the fan operating properly by putting the unit lengthwise along the wall or using a dust or shield plates. Specially in windy area, install the unit to prevent the admission of wind. If need suspending installation, the installation bracket should accord with technique requirement in the installation bracket diagram.
- The installation wall should be solid brick, concrete or the same intensity construction, or actions to reinforce, damping supporting should be taken. The connection between bracket and wall, bracket and the air conditioner should be firm, stable and reliable.
- Be sure there is no obstacle which block radiating air.

**Settlement of outdoorunit**
- Anchor the outdoor unit with a bolt and nut ø10 or ø8 tightly and horizontally on a concrete or rigid mount.

**NOTE:** The outdoor unit you purchase may be like one of the following. Install the outdoor unit according to the dimension as indicated in the table below:

<table>
<thead>
<tr>
<th>Outdoor unit dimension (mm(WxHxD))</th>
<th>Mounting dimensions (mm) A x B</th>
</tr>
</thead>
<tbody>
<tr>
<td>700x540x240</td>
<td>458 x 250</td>
</tr>
<tr>
<td>770x555x300</td>
<td>487 x 298</td>
</tr>
<tr>
<td>780x540x250</td>
<td>549 x 276</td>
</tr>
<tr>
<td>810x558x324</td>
<td>504 x 340</td>
</tr>
<tr>
<td>845x700x320</td>
<td>560 x 335</td>
</tr>
</tbody>
</table>

**Drain joint installation**
- The drain joint is slightly different according to the different outdoor unit. For the drain joint with the seal (Fig. 11 (A)), first fit the seal onto the drain joint, then insert the drain joint into the base pan hole of outdoor unit, rotate 90° to securely assemble them. To install drain joint as shown in Fig. 11 (B), insert the drain joint into the base pan hole of outdoor unit until it remains fixed with a clicking sound. Connecting the drain joint with an extension drain hose (Locally purchased), in case of the water draining off the outdoor unit during the heating mode.
- **NOTE:** In cold areas, do not use a drain hose with the outdoor unit. (otherwise, drain water may freeze)

**Refrigerant pipe connection**
- **NOTE:** Connective pipe length will affect the capacity and energy efficiency of the unit. The nominal efficiency is tested basing on the pipe length of 5 meters. Consult the technicians to purchase proper size connective pipe for your machine.

1. **Flaring work**
   - Main cause for refrigerant leakage is due to defect in the flaring work. Carry out correct flaring work using the following procedure:
   - **A:** Cut the pipes and the cable.
     1. Use the piping kit accessory or pipes purchased locally.
     2. Measure the distance between the indoor and the outdoor unit.
     3. Cut the pipes a little longer than the measured distance.
     4. Cut the cable 1.5m longer than the pipe length.
Air and other foreign matter in the refrigerant circuit causes abnormal pressure rise, which may result in equipment damage and even injury. Therefore, the indoor unit and tubing between the indoor and outdoor unit must be leak tested and evacuated to remove any noncondensables and moisture from the system.

1. Air purging with vacuum pump

**Preparation**
Check that each tube (both liquid and gas side tubes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed. Remove the service valve caps from both the gas and the liquid side on the outdoor unit. Note that both the liquid and the gas side service valves on the outdoor unit are kept closed at this stage.

**Pipe length and refrigerant amount:**

<table>
<thead>
<tr>
<th>Pipe length</th>
<th>Refrigerant amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5m</td>
<td>Use vacuum pump.</td>
</tr>
<tr>
<td>More than 5m</td>
<td>Use vacuum pump.</td>
</tr>
</tbody>
</table>

**2. Tightening Connection**
- Align the center of the pipes.
- Sufficiently tighten the flare nut with fingers, and then tighten it with a spanner and torque wrench as shown in Fig.16 & 17.

<table>
<thead>
<tr>
<th>Outer diam. (mm)</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>φ 6.35</td>
<td>0.7</td>
<td>1.3</td>
</tr>
<tr>
<td>φ 9.52</td>
<td>1.0</td>
<td>1.6</td>
</tr>
<tr>
<td>φ 12.7</td>
<td>1.0</td>
<td>1.8</td>
</tr>
<tr>
<td>φ 16</td>
<td>2.0</td>
<td>2.2</td>
</tr>
</tbody>
</table>

---

**Caution**
- Excessive torque can break nut depending on installation conditions.
When relocate the unit to another place, perform evacuation using vacuum pump.

Make sure the refrigerant added into the air conditioner is liquid form in any case. (Not applicable to the units adopt freon R22)

Caution in handling the packed valve
- Open the valve stem until it hits against the stopper. Do not try to open it further.
- Securely tighten the valve stem cap with a spanner or the like.
- Valve stem cap tightening torque (See Tightening torque table in previous page).

2. When Using the Vacuum Pump
(For method of using a manifold valve, refer to its operation manual.)
1. Completely tighten the flare nuts, A, B, C, D, connect the manifold valve charge hose to a charge port of the low-pressure valve on the gas pipe side.
2. Connect the charge hose connection to the vacuum pump.
3. Fully open the handle Lo of the manifold valve.
4. Operate the vacuum pump to evacuate. After starting evacuation, slightly loose the flare nut of the Lo valve on the gas pipe side and check that the air is entering (Operation noise of the vacuum pump changes and a compound meter indicates 0 instead of minus)
5. After the evacuation is complete, fully close the handle Lo of the manifold valve and stop the operation of the vacuum pump. Make evacuation for 15 minutes or more and check that the compound meter indicates -76cmHg (-1x10^5 Pa).
6. Turn the stem of the packed valve B about 45° counterclockwise for 6~7 seconds after the gas coming out, then tighten the flare nut again. Make sure the pressure display in the pressure indicator is a little higher than the atmosphere pressure.
7. Remove the charge hose from the Low pressure charge hose.
8. Fully open the packed valve stems B and A.
9. Securely tighten the cap of the packed valve.

3. Safety and leakage check
- Electrical safety check
Perform the electric safe check after completing installation:
1. Grounding work
   After finishing grounding work, measure the grounding resistance by visual detection and grounding resistance tester. Make sure the grounding resistance is less than 4 .
2. Electrical leakage check (performing during test running)
   During test operation after finishing installation, the serviceman can use the electroprobe and multimeter to perform the electrical leakage check. Turn off the unit immediately if leakage happens. Check and find out the solution ways till the unit operate properly.
- Gas leak check
1. Soap water method:
   Apply a soap water or a liquid neutral detergent on the indoor unit connections and outdoor unit connections by a soft brush to check for leakage of the connecting points of the piping. If bubbles come out, it indicates that the pipes have leakage.
2. Leak detector
   Use the leak detector to check for leakage.

CAUTION
A: Lo packed valve  B: Hi packed valve
C and D are ends of indoor unit connection.

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