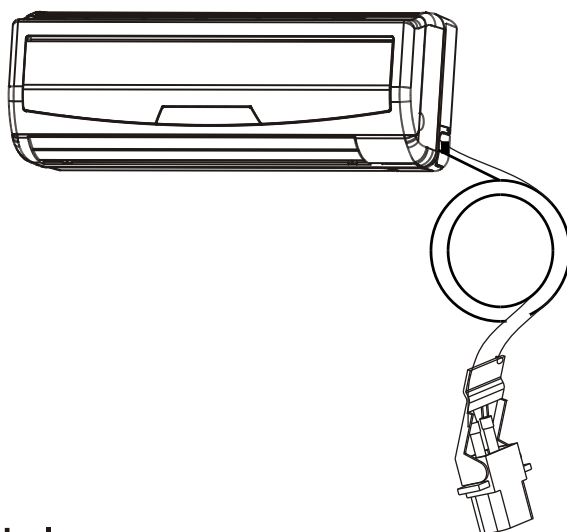


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# INSTALLATION MANUAL

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## R410A SPLIT SERIES FIXED SPEED QUICK COUPLING



Models

**ECO902SQN**

**ECO1202SQN**

**ECO1802SQN**

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

## BS PLUG WIRING

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(For models up to 12000 Btu)


**Wiring Instructions:** Should it be necessary to change the plug please note the wires in the mains lead are coloured in accordance with the following code :

**BLUE - NEUTRAL**  
**BROWN LIVE**  
**GREEN AND YELLOW - EARTH**

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The **BLUE** wire is the **NEUTRAL** and must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**.


The **BROWN** wire is the **LIVE** and must be connected to the terminal which is marked with the letter **L** or coloured **RED**.

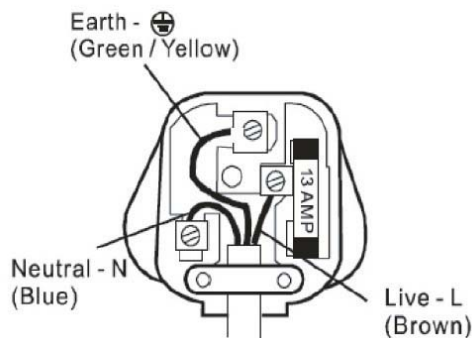
The **GREEN/YELLOW** is the **EARTH** and must be connected to the terminal which is marked with the letter **E** or  or coloured **GREEN OR GREEN/YELLOW**.

Always ensure that the cord grip is positioned and fastened correctly.

If a **13A (BS 1363)** fused plug is used it must be fitted with a **13A** fuse.  
If in doubt consult a qualified electrician.

### Wiring for a 13 Amp Plug (BS1363)

Please note. The Earth Terminal is marked with the letter **E** or  Earth Symbol.



# CONTENTS

## ***SAFETY PRECAUTIONS***

Warning .....	2
Caution .....	2

## ***INSTALLATION INSTRUCTIONS***

Selecting the location.....	3
Accessories .....	4
Indoor unit installation.....	5
Outdoor unit installation.....	7

## ***REFRIGERANT PIPE CONNECTION***

Refrigerant pipe connection .....	8
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## ***ELECTRICAL WORK***

Electrical work .....	9
-----------------------	---

## ***TEST RUNNING***

Test running .....	10
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## **Read This Manual**



Please read this installation manual completely before installing the air conditioner.

### **CAUTION**

- Contact an authorised service technician for repair or maintenance of this unit.
- Contact an authorised installer for installation of this unit.
- The air conditioner is not intended for use by minors or infirmed persons without supervision.
- Young children should be supervised to ensure that they do not play with the air conditioner.
- If the power cord is to be replaced, 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.

## SAFETY PRECAUTIONS




- Read these SAFETY PRECAUTIONS carefully to ensure correct installation.
- Precautions are classified as WARNING and CAUTION. Ensure all precautions are observed as they are important to ensure your safety.
- Failure to observe precautions may cause grave consequences.

 <b>WARNING</b>	Failure to follow any WARNING is likely to result in grave consequences such as death or serious injury.
 <b>CAUTION</b>	Failure to follow any CAUTION may result in grave consequences in some cases.

The following symbol used in this manual should be strictly observed:

	<b>NEVER ATTEMPT.</b>
---	-----------------------

### WARNING

- 1) Installation should be carried out by a technically competent person, the dealer or specialist professional. Improper installation may cause water leakage, electrical shock, or fire.
- 2) Installation should be according to instructions given in this manual. Incomplete installation may cause water leakage, electrical shock, or fire.
- 3) Only use the accessories, parts supplied and specified. Use of other parts may cause failure, water leakage, electrical shock, or fire.
- 4) Install the air conditioner on a solid and firm base that can withstand the weight of the unit. An inadequate base or incorrect installation may cause injury and damage if the unit falls off the base.
- 5) Electrical work must be carried out in accordance with the installation manual and the national electrical wiring standards, regulations and code of conduct. A dedicated circuit must be used and never share the power supply with another appliance. Insufficient capacity or incorrect electrical work may cause electrical shock, or fire.
- 6) Use the specified cables for electrical connections between indoor and outdoor units. Firmly clamp the cables so that no external stress is placed on the terminal. Incorrect connection or clamping may cause terminal heating, electric shock or fire.
- 7) After connecting the interconnecting cables, properly arrange the cables and the cable covers so that there is no undue pressure on the electrical covers or panels. Incorrect cover installation may cause terminal overheating, electrical shock or fire.
- 8) When carrying out piping connection, take care not to let air substances other than the specified refrigerant into refrigeration cycle. Any presence of air or other foreign substance in the refrigerant circuit causes abnormal pressure rise or rupture, resulting in injury. 
- 9) An earth and an earth leakage breaker must be installed. Do not earth the unit to a utility pipe, arrester or telephone earth. Incomplete earth may cause electrical shock or fire. A high surge current from lightning or other sources may cause damage to the air conditioner. 
- 10) After the installation is completed, check to make sure that no refrigerant is leaking out. The refrigerant is toxic gas if exposed to flames. 

### CAUTION

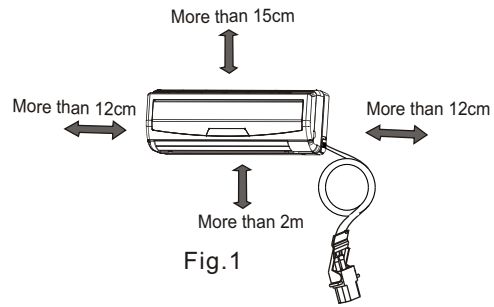
- 1) Do not install the unit in a place where there is any likely exposure to flammable gas leakage. If the gas leaks and builds up around the unit, it may catch fire.
- 2) Carry out drainage piping according to the instructions of this manual. Inadequate piping may cause flooding and leakage.
- 3) Ensure measures are taken so to prevent the outdoor unit from being used as a shelter by small animals. Small animals making contact with electrical parts can cause malfunction, smoke or fire.

## INSTALLATION INSTRUCTIONS

### Selecting the location

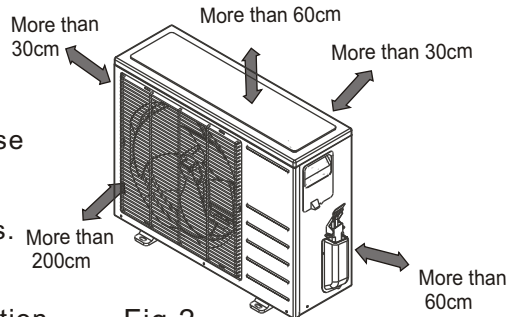
#### Indoor unit

- Do not expose the indoor unit to heat or steam.
- Select a place where there are no obstacles in front or around the unit.
- Make sure that condensation drainage water from Indoor unit can be conveniently routed away.
- Do not install near a doorway.
- Ensure that the space on the left and right of the unit is more than 12cm.
- Use a stud finder to locate studs to prevent unnecessary damage to the wall.
- The indoor unit should be installed on the wall at a height of 2 metres or more from the floor.
- The indoor unit should be installed allowing a minimum clearance of 15cm from the ceiling.
- Any variations in pipe length may require adjustment to refrigerant charge.
- There should not be any direct sunlight. Direct sunlight will fade the plastic cabinet and affect its appearance. If unavoidable, sunlight prevention should be taken into consideration.



#### Outdoor unit

- Select a location solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
  - Choose a location where the hot air discharge or noise will not cause annoyance to the neighbours.
  - Ensure that the clearance around the back of the unit is at least 30cm, left side is at least 30cm, the front of the unit is at least 200cm and the connection side (right side) is at least 60cm.
- There must be sufficient spaces for carrying the unit into and out of the site.
- The site must be free from the possibility of flammable gas leakage in a nearby place.
  - Avoid places near a bedroom and the like, so that the noise will not be an annoyance.
  - Ensure any local authority permission is sought where applicable.
  - Do not place animals and plants in the path of the air inlet or outlet.
- Install units, power cords and cables at least 3 meter away from television and radio sets. This is to prevent interference to images and sounds.
- In coastal areas or places with salty atmosphere of sulfate gas, corrosion may shorten
- the life of the air conditioner.
  - If the outdoor unit is installed on a roof structure, be sure to level the unit.
  - Ensure that the unit is installed in an accessible location to enable servicing and repair.
  - Since drain flows out of the outdoor unit, do not place anything under the unit which must be kept away from moisture.



### **CAUTION**

When operating the air conditioner in a low outdoor ambient temperature, be sure to follow the following instructions:-

- 1) Install the suction side of the unit facing the wall to prevent exposure to wind.
- 2) It is recommended to install a baffle plate on the air discharge side of the outdoor unit.
- 3) Select an installation site where the snow will not affect the unit such as at a high enough level to avoid snow burying the unit.

### Tools needed for installation:

Screwdriver  
Electric drill, Hole core drill ( $\phi$  90mm)  
Measuring tape

Gas-leak detector  
Thermometer

## INSTALLATION INSTRUCTIONS

### Accessories

Number	Name of Accessories	Q' ty
1	Installation Plate	1
2	Clip Anchor	8
3	Self-tapping Screw A - ST3.9X25	8
4	Seal(see page 8 for details)	1
5	Drain Plug(see page 8 for details)	1
6	Remote controller	1
7	Self-tapping Screw B - ST2.9X10	2
8	Remote controller holder	1

**Note:** The above parts are provided, certain other parts needed during installation are not provided.

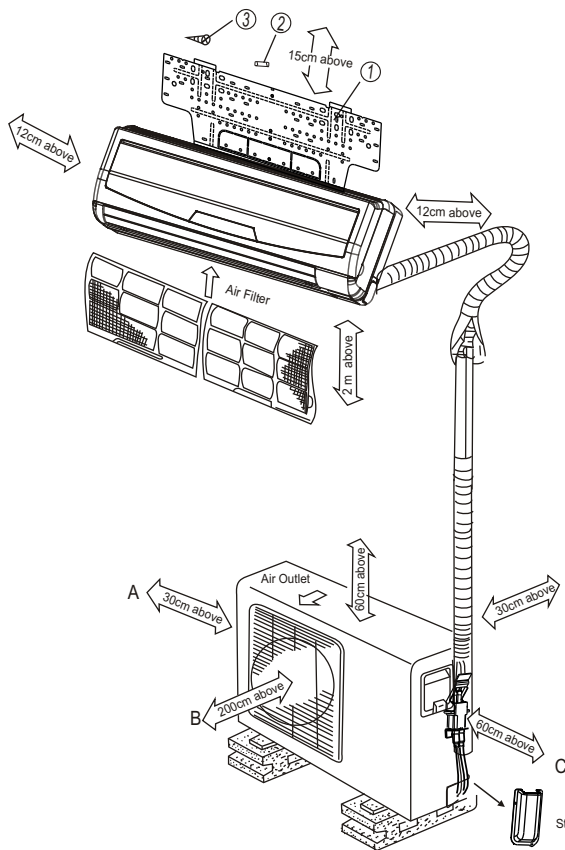
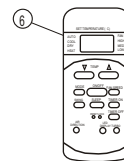


Fig.3

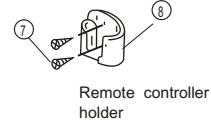
### CAUTION

- Ensure that the space around the left and right of the indoor unit is at least 12cm with a minimum clearance of 15cm from the ceiling.
- Use a stud finder to locate studs to prevent unnecessary damage to the wall.
- A minimum pipe run of 3 metres is required to minimise vibration & excessive noise.
- The indoor unit should be installed on the wall at a height of at least 2 metres from the floor.
- Two of the A, B and C directions should be free from obstructions.

Remote Controller



Self-tapping screw B  
ST2.9x10-C-H

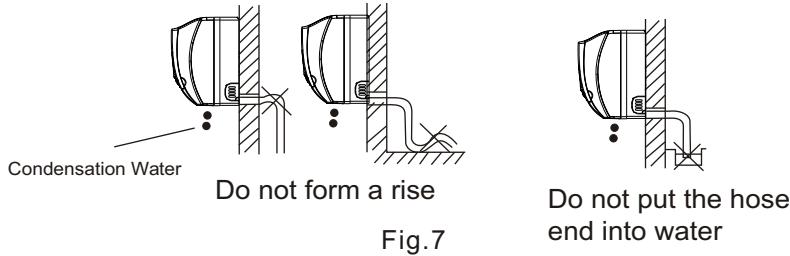




## INSTALLATION INSTRUCTIONS

### 3. Drainage Installation

1. Run the drain hose sloping downward to ensure condensation water is being drained externally, any rise in the drain hose will prevent condensation water to flow externally on gravity as illustrated below (Fig. 7).

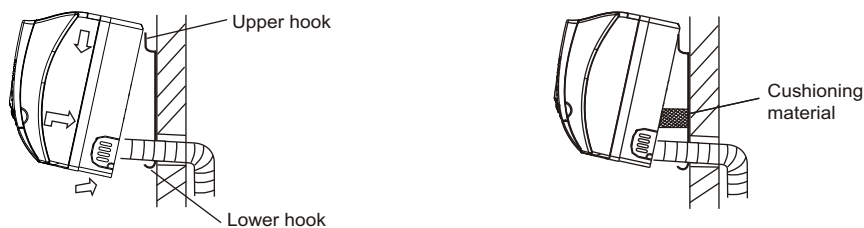


2. When connecting extension drain hose, insulate the connecting part of extension drain hose with a shield pipe, avoiding any slack on the drain hose.

### 4. Indoor unit installation

**Note:** Route the flexi hose with female half coupling through the hole in the wall from the rear of the indoor unit (right) or (left).

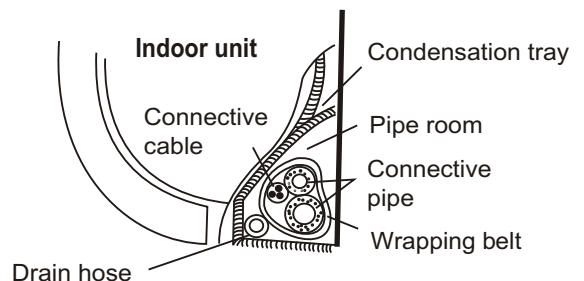
1. Pass the female half coupling through the hole in the wall.
2. Position the upper claw (at the back of the indoor unit) on the upper hook of the installation plate, gently rock the indoor unit from side to side to check that it is securely hooked.
3. Temporarily place a cushioning material between the indoor unit and the wall as illustrated below to make it easier to completely route the flexi hose through the wall. Remove the cushioning material.
4. Gently push the lower part of the indoor unit up against the wall, then gently rock the indoor unit from side to side, up and down to check that it is securely hooked.



### 5. Piping and wrapping

Bundle the tubing, connecting cable with tape securely and evenly as shown in Fig.9.

- Because the condensed water from the indoor unit is gathered in condensation tray and should be piped out externally.





## INSTALLATION INSTRUCTIONS

### CAUTION

- Do not allow the piping to let out from the back of the indoor unit.
- Be careful not to let the drain hose slack or bend sharply.
- The connective pipes must be heat insulated.
- Be sure that the drain hose is located at the lowest side of the bundle. Locding at the upper side can cause condensation tray to overflow inside the unit.
- Never intercross nor intertwist the power wire with any other wiring.
- Run the drain hose sloping downward to drain out the condensed water smoothly.

### Outdoor unit installation

#### Outdoor installation precaution

- Install the outdoor unit on a solid and level base to prevent excessive 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 operates properly by putting the unit lengthwise along the wall or using a dust or shield plates.
- In coastal or windy area, install the unit to prevent the exposure to strong winds.
- If mounting on wall brackets, the installation brackets must be suitable for the weight and size out the outdoor unit. 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 brackets, wall and the air conditioner must be firm, stable and reliable.
- Be sure there is no obstacle blocking radiating air.

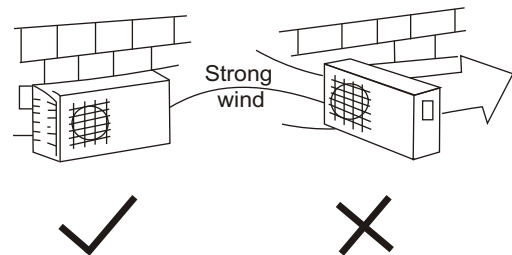


Fig.10

#### Settlement of outdoor unit

- Anchor the outdoor unit with a bolt and nut  $\phi 10$  or  $\phi 8$  tightly and horizontally on a concrete or solid mount.

Outdoor unit dimension mm(WxHxD)	Mounting dimensions	
	A(mm)	B(mm)
700x535x235	458	250
685x430x260	460	276
780x540x250	549	276
760x590x285	530	290
845x695x335	560	335

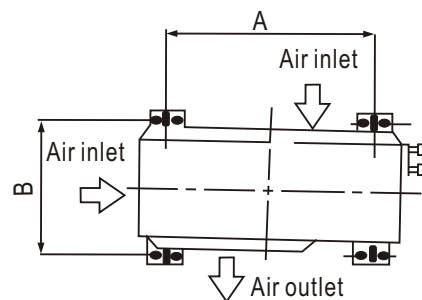


Fig.11

## REFRIGERANT PIPE CONNECTION

### Drain plug installation

Fit the seal into the drain elbow, then insert the drain plug into the base pan hole of outdoor unit, rotate 90° to securely assemble them. Connect the drain plug to an extension drain hose to drain water from the outdoor unit during heating mode.

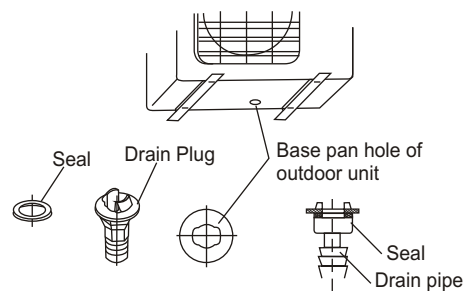


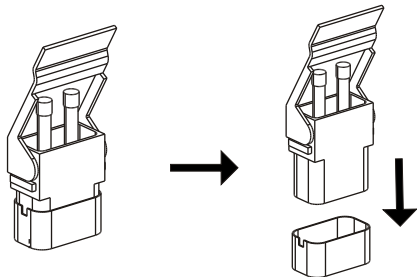
Fig.12

### Refrigerant pipe connection

**CAUTION:** For your safety, always wear safety eye wear and work gloves when connecting the pipes.

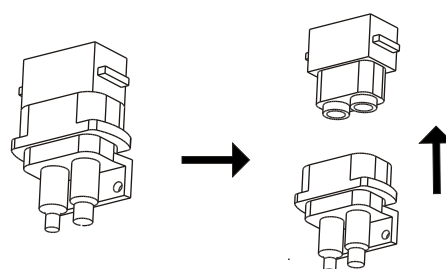
- Remove the valve cover before performing the connection.

Male half coupling of indoor unit



Remove the protective cap.

Female half coupling of outdoor unit



Retract the "Release Sleeve" and remove the protective plug.

Fig.13

- To connect the couplings:

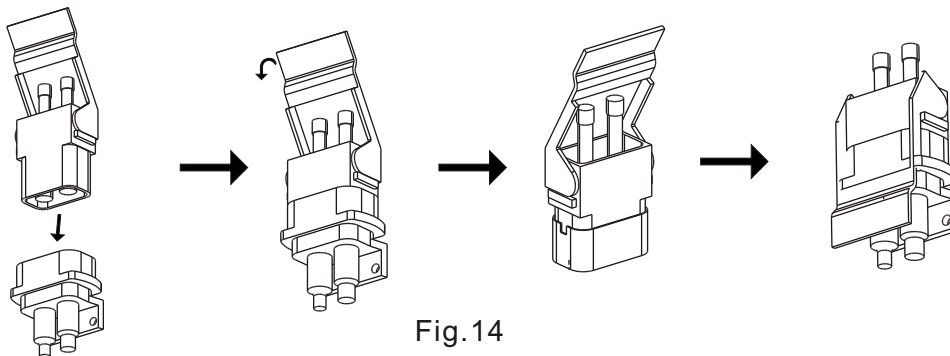


Fig.14

- Step 1: Ensure that the handle on the male coupling is in a reclined position away from the mating male coupling.
- Step 2: Retract the "Release Sleeve" on female coupling, insert the male coupling located on the indoor unit into the female coupling.
- Step 3: Release the "Release Sleeve" to lock the male coupling into place.
- Step 4: Fold the male coupling handle towards the female coupling half and push until the handle seals behind the "Release Sleeve" and flat against the entire coupling assembly.

## ELECTRICAL WORK

### • To disconnect the couplings:

- Step 1: Shut down the A/C unit and unplug the electrical power cord from the wall outlet.
- Step 2: Wait five minutes for the line pressure between the indoor unit and outdoor condensing unit to equalize.
- Step 3: Pull the male coupling handle up and toward the male coupling to the “full back” position.
- Step 4: Retract the “Release Sleeve” on the female coupling to release the male coupling half from the female half.
- Step 5: To seal and protect from dust, reinstall the protective cap and plug.

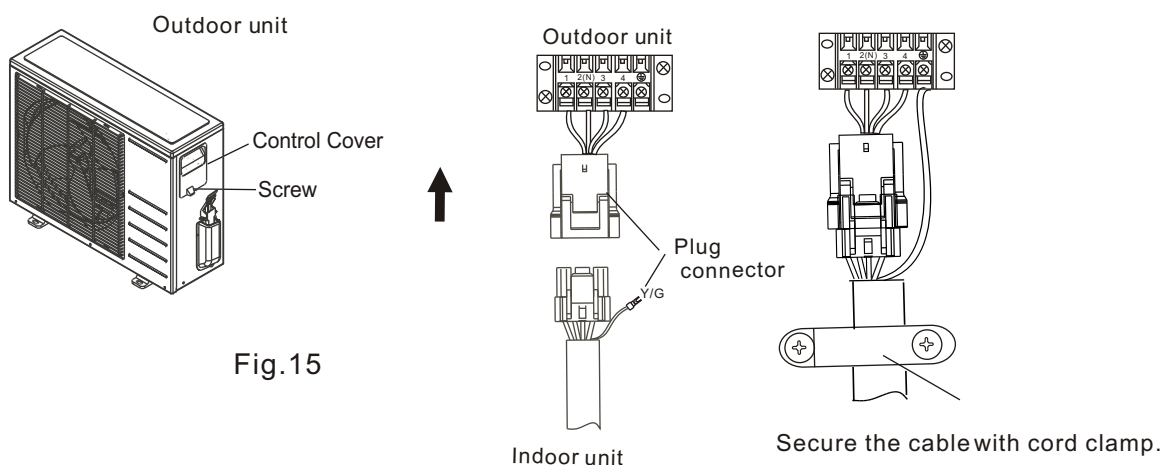
### Electrical work

#### Electric safety regulations for the initial Installation

1. Power voltage should be in the range of 90%~110% of rated voltage.
2. The creepage protector and main power switch with a 1.5 times capacity of Max. Current of the unit should be installed in power circuit.
3. Ensure the air conditioner is grounded well.
4. Follow the attached Electrical Connection Diagram located on the panel of the outdoor unit to connect the wire.

#### Electrical connection between indoor unit and outdoor unit

1. The connection cables of indoor and outdoor units have been connected to the terminals on the control board except the grounding wire(Y/G), only the white plug connectors are exposed. Check to make sure the connection to the connectors are secure.
2. Remove the control cover from the outdoor unit by loosening the screw.
3. Hold the indoor plug connector and connect to the mating plug connector located on the outdoor unit. Secure the cable onto the control board with the cord clamp.
4. Connect the grounding wire to the terminal on the control board.
5. The electrical connection is complete.



## ELECTRICAL WORK

Model	Power supply	Input Rated Amp (Switch/Fuse)
<12000Btu/h	220-240V~ 50Hz or	13A
≥12000Btu/h	220-230V~ 60Hz	20A

**NOTE:** The supply voltage can not be less than the rate voltage of the air conditioner.

### CAUTION

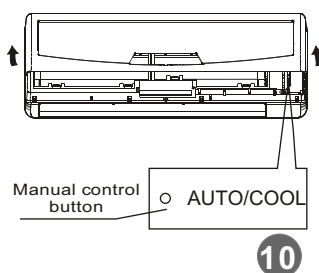
After the confirmation of the above conditions, prepare the wiring as follows:

- 1) Be sure to use a dedicated power circuit specifically for the air conditioner.
- 2) The screws fastening the wiring in the casing of electrical fittings may become loose from vibrations and transportation. Tighten all terminal screws securely. Check and make sure they are tightly
- 3) Check the specification of power source is correct.
- 4) Confirm that electrical capacity is sufficient.
- 5) Make sure the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- 6) Always install an earth leakage circuit breaker in a wet or moist area.
- 7) A vibration of a magnetic switch may damage the contact point, causing fuse break to fail or the normal function of an overload to fail.
- 8) Do not turn on the safety breaker until all work is completed.
- 9) Use an all-pole disconnection type breaker with at least 3mm between the contact point gaps.

### Test running

Perform test operation after completing gas leak check at the pipe connections and electrical safety check.

- Check that all tubing and wiring have been properly connected.
  - Check that the coupling connection on the outdoor unit is completely secure and aligned.
1. Connect the power, press the ON/OFF button on the remote controller to turn the unit on.
  2. Use the MODE button to select COOL, HEAT, AUTO and FAN to check if all the functions works well.
  3. When the ambient temperature is too low(lower than 17°C), the unit cannot be tested via the remote controller to run at cooling mode.
    - Carry out a manual testing via a manual control button located in the indoor unit (as illustrated below). The remote controller must be disabled first.
    - To locate the manual control button, open the indoor unit panel by holding the panel sides and lifting the panel up to an angle until it remains fixed with a clicking sound. Press the Manual control button to select AUTO or COOL, this will force the operation of AUTO or COOL(see User Manual for details).
  4. The test operation may last about 30 minutes.



# MEMO

Date of installation:

Purchased from (Dealer Name):

Date of purchase:

Model number:

Serial number:

**ONE (1) YEAR LIMITED WARRANTY**  
**Save This Warranty Information**

EcoAir guarantees this product free from defects in materials and workmanship for a period of one (1) year from the date of purchase, limited to parts only.

Faults arising from a faulty installation is specifically excluded.

This unit must be operated under conditions as recommended, at voltages indicated on the unit. Any attempts made to service or modify the unit by unqualified technician, will render this **WARRANTY VOID**. The actual product may differ slightly from the illustration. This warranty is in addition to, and does not affect, your statutory rights.

For further information, please contact 020 8459 2458.