[Carrier]

INSTALLATION MANUAL FOR **ROOM AIR CONDITIONER**

(Split Wall-Mounted Type)

INSTALLATION PRECAUTIONS

- Please read this installation manual carefully before operating the unit to ensure correct installation.
- If the power cord is damaged, replacement work shall be performed by authorised personnel only. 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 persons responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance. All the pictures in the instructions are for explanation purposes only. The actual shape should
- prevail The design and specifications are subject to change without prior notice for product improvement.
- Consult with the sales agency or manufacturer for details.

SAFETY PRECAUTIONS

Incorrect installation due to ignoring instruction can cause serious damage or injury. The seriousness o potential damage or injuries is classified as either a WARNING or CAUTION.

WARNING This symbol indicated that ignoring instructions may cause death or serious injury A This symbol indicated that ignoring instructions may cause moderate injury to your person, CAUTION or damage to your appliances or other property.

• Do not modify the length of the power supply cord or use an extension cord to power the unit

• Do not share the electrical outlet with other appliances. Improper or insufficient power

supply can cause fire or electrical shock.

When connecting refrigerant piping do not let substances or gases other than the specified refrigerant enter the unit. The presence of other gases or substances will lower the unit's

capacity and can cause abnormally high pressure in the refrigeration cycle. This can cause explosion and injury.

• Do not allow children to play with the air conditioner. Children must be supervised around the unit at all times

1. Installation must be performed by an authorized dealer or specialist. Defective installation can cause water leakage, electrical shock, or fire I or according to the installation instructions.

2. Contact an authorized service technician for repair or maintenance of this unit

3.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.

4. 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 drop and cause serious injury and damage

5. 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) B. Do not pierce or burn.

6.Appliance shall be stored in a well -ventilated area where the room size corresponds to the room area as specifiec for operation.

7.Be aware that refrigerants may not contain an odour.

NOTE: Clause 5 to 7 are required for the units adopt R321R290 Refrigerant.

8.For all electrical work, follow all local and national wiring standards, regulations, and the Installation Manual. You must use an independent circuit and single outlet to supply power. Do not connect other appliances to the same outlet. Insufficient electrical capacity or defects in electrical work can cause electrical shock or fire.

9.For all electrical work, use the specified cables. 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.

10.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.

11. 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.

SELECT THE BEST LOCATION

Indoor Unit

- There should not be any heat source or stream near the unit. There should not be any obstacles blocking the air circulation. ۰
- 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 spaces indicated by arrows from the wall,ceiling,fence or other obstacles
- 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 sunsight 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
- Keep the spaces indicated by arrow from wall ceiling, fence or other obstacles.
- Do not place any obstacles which may cause a short circuit of the discharged air.



NOTE:

- 1. The mounting wall is strong and solid
- enough to prevent it from the vibration. 2. Note:Standard mounting plate is model A, model B or model C,please refer to the actual unit.
- 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 or eight 5mm diameter holes in the wall.Insert Clip anchor for appropriate mounting screws.
- 3. Fit the installation plate on the wall with five or eight type "A " screws.

NOTE:

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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) Correct orientation





150mm or more to ceiling

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Indoor

Wall

Outdoor

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 above.
- 2. Dirll the piping plate hole with 65mm 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. 4. Always take steps to protect the pipe when drilling metal grid, metal plate or the like.

3 CONNECT THE CABLE TO THE INDOOR UNIT

Electrical work

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- 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. Power voltage should be in the range of 90%~110% of rated voltage.
- 3. The surge protector and main power switch 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
- 4. 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.
- 5. 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.
- 6. MCB shall be used as per current rating.
- 7. According to the attached Electrical Connection Diagram located on the panel of the indoor & outdoor unit to connect the wire.
- 8. All wiring must comply with local and national electrical codes and be installed by qualified and skilled electricians.
- 9. An individual branch circuit and single receptacle used only for this air conditioner must be available. See the following table for suggested wire sizes and fuse specifications:

L	Minimum cross-sectional area of conductors:					
L	Rated current	Nominal cross-sectional				
	of appliance	area				
	(A)	(mm2)				
	>0 and <3	0.50				
L	>3 and <6	0.75				
L	>6 and <10	1				
	>10 and <16	1.5				
L	>16 and <25	2.5				

NOTE:

- The wire size of power supply cord and interconnected wire and the current of the fuse or switch 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

Settlement of outdoor unit

• Anchor the outdoor unit with a bolt and nut 10 or 8 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:

Outdoor unit dimension	Mounting dimensions		
mm(WxHxD)	A(mm)	B(mm)	
780x540x250	549	276	
760x590x285	530	290	
845x700x320	560	335	
780x560x264	513	260	
907x691x358	600	365	





ACCESSORIES

Number	Name of A	ccessories	Qty		
1	Installation Plate			1	
2	Clip Anchor			5-8(depending on models)	
3	Self-tapping Screw A ST3.9x25			5-8(depending on models)	
4	Seal(For cooling & heating models only)				1
5	Drain Joint(For cooling & heating models onlyL			1	
	Connecting pipe Assembly	Liquid side	6.3 9.5	-	Parts you must purchase. The pipe size differ from appliance to appliance.
6		Gas side	9.52 12.7		Size uner from appliance to appliance. Consult the technician for the proper size.
			16		
7	Remote controller			1	
8	Self-tapping Screw B ST2.9x10 optional		2		
9	Remote controller holder parts		1		
10	Air freshening filter(used to install on Air filter)		1 (Optional)		
	xcept the abo urchase.	ve parts provide	ed,the	e other parts nee	ded during installation you must





5. After the evacuation is complete, fully close the handle Lo of the manifold valve and stop the

Indoor unit

check point

Cover

Outdoor unit

check point

Manual control

button

llc

DII

В

AUTO/COOL

• Make evacuation for 15 minutes and more and check

6. Turn the stem of the packed valve B about 45 $^{\circ}$ 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

- 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.

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.

- Use the leak detector to check for leakage.
- C and D are ends of indoor unit connection

Perform test operation after completing gas leak check at the flare nut connections and electrical

- Check that all tubing and wiring have been properly connected.
- Check that the gas and liquid side service valves are fully open.
- 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
- 3. When the ambient temperature is too low(lower than 17 $^{\circ}$ C), the unit cannot be controlled by the remote controller to run at cooling mode, manual operation can be taken. Manual operation is used only when the remote controller is disable or maintenance necessary.
- Hold the panel sides and lift the panel up to an angle until it remains fixed with a clicking sound. • Press the Manual control button to select the AUTO or COOL, the unit will operate under Forced
- AUTO or COOL mode(see User Manual for details).
- The test operation should last about 30 minutes

INFORMATION SERVICING (Required for the units adopt R32/R290 Refrigerant only)

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

2.Work procedure Works shall be undertaken under a controlled procedure so as to minimise the risk of a flammable gas or vapour being

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

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant 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 flammable 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.

5.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 manufacturers 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 charge size is in accordance with the room size within which the refrigerant containing parts are installed

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.

- 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;
- 7.1 During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon

prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.

7.2 Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
 Ensure that apparatus is mounted securely.

- Ensure that seals or sealing materials have not degraded such that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturel- s specifications. **NOTE:** The use of silicon sealant may inhibit the effectiveness of some types of leak detection equipment. Instrinsically safe

Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use. Intrinscially safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating. Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in

The following leak detection methods are deemed acceptable for systems containing flammable refrigerants. Electronic leak detectors shall be used to detect flammable refrigerants, but the sensitivity may not be adequate, or may need re-calibration. (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. 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 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.

When breaking into the refrigerant circuit to make repairs of for any other purpose conventional procedures shall be used, However, it is important that best practice is followed since flammability is a consideration. The following procedure shall be

• Rremove refrigerant; • purge the circuit with inert gas; • • evacuate; • • • purge again with inert gas; • • open the circuit

The refrigerant charge shall be recovered into the correct recovery cylinders. The system shall be flushed with OFN to render the unit safe. This process may need to be repeated several times. Compressed air or oxygen shall not be used for this task. Flushing shall be achieved by breaking the vacuum in the system with OFN and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated

 Addition to conventional charging procedures, the following requirements shall be followed:
 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.
Prior to recharging the system it shall be pressure tested with 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.

c) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system. f) Make sure that cylinder is situated on the scales before recovery takes place.

q) Start the recovery machine and operate in accordance with manufacturer s instructions

 b) Do not overfill cylinders. (No more than 80% volume liquid charge).
 i) 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.

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. Ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

When removing refrigerant from a system, either for service or decommissioning, it is recommended good practice

 When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed.
 Ensure that the correct numbers of cylinders for holding the total system charge are available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant(i.e special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure relief valve and associated shut-off valves in good working order.

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 evacuation process shall be carried out prior to retruning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely 15. Transportation, marking and storage for units

Transport of equipment containing flammable refrigerants, Compliance with the transport regulations
 Marking of equipment using signs, Compliance with local regulations
 Disposal of equipment using flammable refrigerants, Compliance with national regulations

4.Storage of equipment/appliances, The storage of equipment should be in accordance with the manufacturer's

5.Storage of packed (unsold) equipment, Storage package protection should be constructed such 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