

技术要求

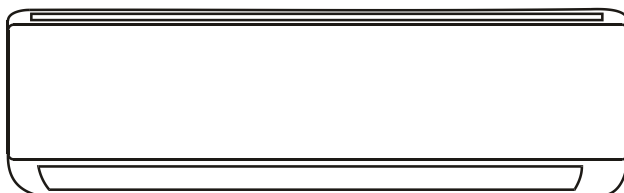
1. 纸张边角应裁剪整齐；印刷字迹清晰整洁、内容正确，没有明显的拖墨和重影等缺陷；
2. 成品为A5版面,纸质为70g/m²,未注公差按GB/T1804-c级；
3. 装订要求:封面、内容、封底；
4. 颜色要求：黑色为BLACK；
5. 在封底左下角印上采购下单的物料编码和（版本号）,字体为Arial,字高为2.3mm(9号字);物料编码前增加供应商拼音缩写,例:锦美表示JM-XXXXXXXXXX.第一次更改JM-XXXXXXXXXX(A),第二次更改JM-XXXXXXXXXX(B)...依次往后推.

				印刷专用件		81101-018532			
						R32 (68E) 英文分体说明书	物料编码	质 量	比 例
标 记	更改文件号			签 字	日 期	书 写 纸			
设 计	梁丽芳	2023.10.09	工 艺				TCL空调器（中山）有限公司		
校 对	李钰华		标准化						
审 核	钟浩城		批 准	曾霞					
				共 1 张	第 1 张				



SPLIT TYPE AIR CONDITIONER

INSTRUCTION MANUAL



This instruction manual contains important information and recommendations that we would ask you to comply with to obtain best results from air conditioner.

Thank you once again.

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SAFETY RULES AND RECOMMENDATIONS FOR THE INSTALLER

⚠ Read this guide before installing and using the appliance.

⚠ During the installation of the indoor and outdoor units the access to the working area should be forbidden to children. Unforeseeable accidents could happen.

⚠ Make sure that the base of the outdoor unit is firmly fixed.

⚠ Check that air cannot enter the refrigerant system and check for refrigerant leaks when moving the air conditioner.

⚠ Carry out a test cycle after installing the air conditioner and record the operating data.

⚠ The ratings of the fuse installed in the built in control unit are 4A / 250V .

⚠ Protect the indoor unit with a fuse of suitable capacity for the maximum input current or with another overload protection device.

⚠ Ensure that the mains voltage corresponds to that stamped on the rating plate. Keep the switch or power plug clean. Insert the power plug correctly and firmly into the socket, thereby avoiding the risk of electric shock or fire due to insufficient contact.

⚠ Check that the socket is suitable for the plug , otherwise have the socket changed.

⚠ The appliance must be fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under "over voltage category III conditions", and these means must be incorporated in the fixed wiring in accordance with the wiring rules.

⚠ The air conditioner must be installed by professional or qualified persons.

⚠ Do not install the appliance at a distance of less than 50 cm from inflammable substances (alcohol, etc.) or from pressurised containers (e.g. spray cans).

⚠ If the appliance is used in areas without the possibility of ventilation, precautions must be taken to prevent any leaks of refrigerant gas from remaining in the environment and creating a danger of fire

⚠ The packaging materials are recyclable and should be disposed of in the separate waste bins .Take the air conditioner at the end of its useful life to a special waste collection centre for disposal.

⚠ Only use the air conditioner as instructed in this booklet. These instructions are not intended to cover every possible condition and situation . As with any electrical household appliance , common sense and caution are therefore always recommended for installation, operation and maintenance.

⚠ The appliance must be installed in accordance with applicable national regulations.

⚠ Before accessing the terminals , all the power circuits must be disconnected from the power supply.

⚠ The appliance shall be installed in accordance with national wiring regulations.

⚠ This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

SAFETY RULES AND RECOMMENDATIONS FOR THE USER

- ⚠ Do not try to install the conditioner alone; always contact specialized technical personnel.
- ⚠ Cleaning and maintenance must be carried out by specialized technical personnel. In any case disconnect the appliance from the mains electricity supply before carrying out any cleaning or maintenance.
- ⚠ Ensure that the mains voltage corresponds to that stamped on the rating plate. Keep the switch or power plug clean. Insert the power plug correctly and firmly into the socket, thereby avoiding the risk of electric shock or fire due to insufficient contact.
- ⚠ Do not pull out the plug to switch off the appliance when it is in operation, since this could create a spark and cause a fire, etc.
- ⚠ This appliance has been made for air conditioning domestic environments and must not be used for any other purpose, such as for drying clothes, cooling food, etc.
- ⚠ The packaging materials are recyclable and should be disposed of in the separate waste bins. Take the air conditioner at the end of its useful life to a special waste collection center for disposal.
- ⚠ Always use the appliance with the air filter mounted. The use of the conditioner without air filter could cause an excessive accumulation of dust or waste on the inner parts of the device with possible subsequent failures.
- ⚠ The user is responsible for having the appliance installed by a qualified technician, who must check that earthing/grounding is done in accordance with current legislation and insert a thermomagnetic circuit breaker.
- ⚠ The batteries in remote controller must be recycled or disposed of properly. Disposal of Scrap Batteries --- Please discard the batteries as sorted municipal waste at the accessible collection point.
- ⚠ Never remain directly exposed to the flow of cold air for a long time. The direct and prolonged exposition to cold air could be dangerous for your health. Particular care should be taken in the rooms where there are children, old or sick people.
- ⚠ If the appliance gives off smoke or there is a smell of burning, immediately cut off the power supply and contact the Service Centre.
- ⚠ The prolonged use of the device in such conditions could cause fire or electrocution.
- ⚠ Have repairs carried out only by an authorised Service Center of the manufacturer. Incorrect repair could expose the user to the risk of electric shock, etc.
- ⚠ Unhook the automatic switch if you foresee not to use the device for a long time. The airflow direction must be properly adjusted.
- ⚠ The flaps must be directed downwards in the heating mode and upwards in the cooling mode.
- ⚠ Only use the air conditioner as instructed in this booklet. These instructions are not intended to cover every possible condition and situation. As with any electrical household appliance, common sense and caution are therefore always recommended for installation, operation and maintenance.
- ⚠ Ensure that the appliance is disconnected from the power supply when it will remain inoperative for a long period and before carrying out any cleaning or maintenance.
- ⚠ Selecting the most suitable temperature can prevent damage to the appliance.

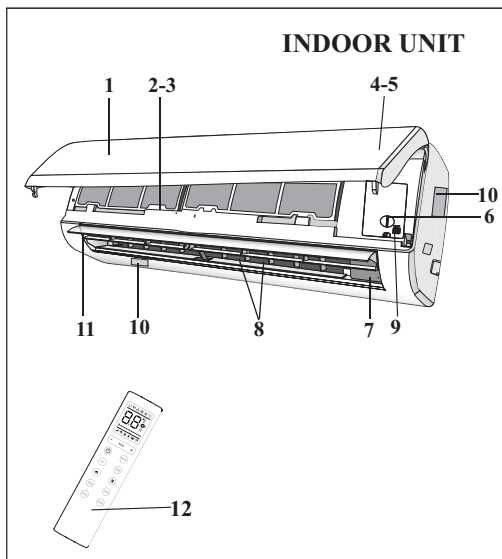
SAFETY RULES AND PROHIBITIONS

- ⊖ Do not bend , tug or compress the power cord since this could damage it. Electrical shocks or fire are probably due to a damaged power cord. Specialized technical personnel only must replace a damaged power cord.
 - ⊖ Do not use extensions or gang modules.
 - ⊖ Do not touch the appliance when barefoot or parts of the body are wet or damp.
 - ⊖ Do not obstruct the air inlet or outlet of the indoor or the outdoor unit.
The obstruction of these openings causes a reduction in the operative efficiency of the conditioner with possible consequent failures or damages.
 - ⊖ In no way alter the characteristics of the appliance.
 - ⊖ Do not install the appliance in environments where the air could contain gas , oil or sulphur or near sources of heat.
 - ⊖ 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.
- ⊖ Do not climb onto or place any heavy or hot objects on top of the appliance.
 - ⊖ Do not leave windows or doors open for long when the air conditioner is operating.
 - ⊖ Do not direct the airflow onto plants or animals.
 - ⊖ A long direct exposition to the flow of cold air of the conditioner could have negative effects on plants and animals.
 - ⊖ Do not put the conditioner in contact with water.
The electrical insulation could be damaged and thus causing electrocution.
 - ⊖ Do not climb onto or place any objects on the outdoor unit
 - ⊖ Never insert a stick or similar object into the appliance. It could cause injury.
 - ⊖ Children should be supervised to ensure that they do not play with the appliance. 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.

NAMES OF PARTS

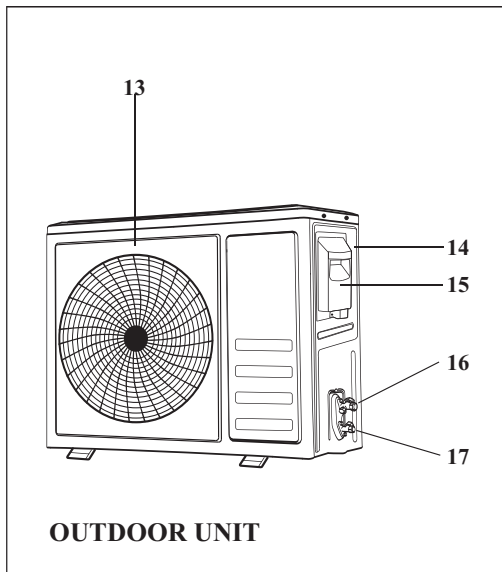
INDOOR UNIT

No.	Description
1	Front panel
2	Air filter
3	Optional filter (if installed)
4	LED Display
5	Signal receiver
6	Terminal block cover
7	Ionizer generator(if installed)
8	Deflectors
9	Emergency button
10	Indoor unit rating label (Stick position optional)
11	Airflow direction louver
12	Remote controller



OUTDOOR UNIT

No.	Description
13	Air outlet grille
14	Outdoor unit rating label
15	Terminal block cover
16	Gas valve
17	Liquid valve



Note: The above figures are only intended to be a simple diagram of the appliance and may not correspond to the appearance of the units that have been purchased.

INDOOR UNIT DISPLAY



No.	Led		Function
1	SLEEP		SLEEP mode
2	Temperature display (if present) /Error code		(1) Lights up during Timer operation when the air conditioner is operational (2)Displays the malfunction code when fault occurs.
3	TIMER		Lights up during Timer operation.

 The shape and position of switches and indicators may be different according to the model, but their function is the same.

EMERGENCY FUNCTION & AUTO-RESTART FUNCTION

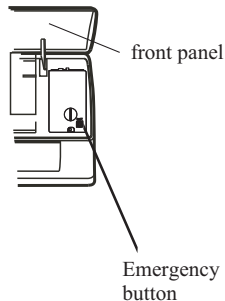
EMERGENCY FUNCTION

If the remote controller fails to work or maintenance necessary, proceed as following:

Open and lift the front panel up to an angle to reach the emergency button.

For heating model, press the emergency button at first time, the unit will operate in COOL mode. Press at second time within 3 seconds, the unit will operate in HEAT mode. Press at third time after 5 seconds, the unit will turn off.

For cooling only model, press the emergency button at first time, the unit will operate in COOL mode. Press again, the unit will turn off.



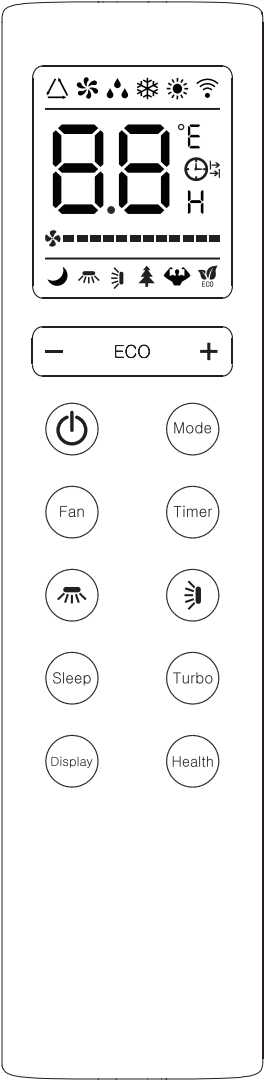
The emergency button is located on E-box cover of the unit under the front panel.

AUTO-RESTART FUNCTION

The appliance is preset with an auto-restart function. In case of a sudden power failure, the module will memorizes the setting conditions before the power failure. When the power restores, the unit will restart automatically with the previous settings preserved by the memory function.

 *The shape and position of the emergency button may be different according to the model, but their function is the same.*

REMOTE CONTROLLER



REMOTE CONTROLLER

No.	Button	Function
1		To turn on/off the air conditioner .
2	+	To decrease temperature, or Timer setting hours.
3	-	To increase temperature, or Timer setting hours.
4	MODE	To select the mode of operation (AUTO, COOL, DRY, FAN, HEAT).
5	ECO	To activate/deactivate the ECO function.
6	TURBO	To activate/deactivate the TURBO function.
7	FAN	To select the fan speed of auto/low/mid/high.
8	TIMER	To set the time for timer on/off.
9	SLEEP	To switch-on/off the function SLEEP.
10	DISPLAY	To switch-on/off the LED display.
11	SWING 	To stop or start vertical deflectors louver movement or set the desired left/rightair flow direction.
12	SWING 	To stop or start horizontal louver movement or set the desired up/down air flow direction.
13	HEALTH	To activate/deactivate the HEALTH function (depending on models).

⚠ The display and some functions of the remote control may vary according to the model.

⚠ The shape and position of buttons and indicators may vary according to the model, but their function is the same.

⚠ The unit confirms the correct reception of each button with the beep.

REMOTE CONTROLLER

Remote control DISPLAY

No.	Symbols	Meaning
1		Battery indicator
2		Auto Mode
3		Cooling Mode
4		Dry Mode
5		Fan only Mode
6		Heating Mode
7		ECO Mode
8		Timer
9		Temperature indicator
10		Fan speed: Auto/low/mid/high
11		Mute function
12		TURBO function
13		Up-down auto swing
14		Left-right auto swing
15		SLEEP function
16		Health function
17		Signal indicator

REMOTE CONTROLLER

Replacement of Batteries

Remove the battery cover plate from the rear of the remote control, by sliding it in direction as the arrow.

Install the batteries according the direction (+ and -)shown on the Remote Control.

Reinstall the battery cover by sliding it into place.

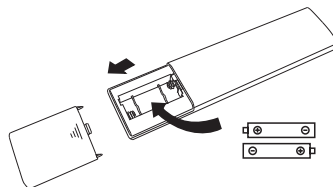
⚠ Use 2 pieces LRO3 AAA (1.5V) batteries.

Do not use rechargeable batteries.

Replace the old batteries with new ones of the same type when the display is no longer legible.

Do not dispose batteries as unsorted municipal waste.

Collection of such waste separately for special treatment is necessary.



⚠ For some model, each time when insert the batteries in the remote controller for the first time, you can set the Cooling only or Heating pump control type. As soon as you insert the batteries, the symbols (❄) and (🔥) start flashing, operate as below,

1. When the (❄) is displayed, push any button, to set the Cooling only type remote controller.
2. When the (🔥) is displayed, push any button, to set the Heat pump type remote controller.

Note: If you set the remote control in cooling mode, it will not be possible to activate the heating function in units with a heating pump. If you need to reset, take out the batteries and install again.

Note:

1. Direct the remote control toward the Air conditioner.
2. Check that there are no objects between the remote control and the Signal receptor in the indoor unit.
3. Never leave the remote control exposed to the rays of the sun.
4. Keep the remote control at a distance of at least 1m from the television or other electrical appliances.

REMOTE CONTROLLER

COOLING MODE

COOL 

The cooling function allows the air conditioner to cool the room and reduce Air humidity at the same time.

To activate the cooling function (COOL), press the **MODE** button until the symbol  appears on the display.

With the button + or - set a temperature lower than that of the room.

FAN MODE (Not FAN button)

FAN 

Fan mode, air ventilation only.

To set the FAN mode, press **MODE** until  appears on the display.

DRY MODE

DRY 

This function reduces the humidity of the air to make the room more comfortable.

To set the DRY mode, Press **MODE** until  appears in the display. An automatic function of pre-setting is activated.

AUTO MODE

AUTO 

Automatic mode.

To set the AUTO mode, press **MODE** until  appears on the display.

In AUTO mode the run mode will be set automatically according to the room temperature.

HEATING MODE

HEAT 

The heating function allows the air conditioner to heat the room.

To activate the heating function (HEAT), press the **MODE** button until the symbol  appears on the display.

With the button + or - set a temperature higher than that of the room.

 In HEATING operation, the appliance can automatically activate a defrost cycle, which is essential to clean the frost on the condenser so as to recover its heat exchange function. This procedure usually lasts for 2-10 minutes. During defrosting, indoor unit fan stop operation. After defrosting, it resumes to HEATING mode automatically.

 **(For North American market)**

If necessary, you can press ECO button 10 times within 8 seconds under heating mode to start the forced defrosting. It will defrost the outdoor ice much more fast.

FAN SPEED function (FAN button)

FAN 

Change the operating fan speed.

Press **FAN** button to set the running fan speed, it can be set to AUTO / LOW / MID / HIGH speed circularly.

REMOTE CONTROLLER

TIMER function ---- TIMER ON



To automatically switch on the appliance.

When the unit is switch-off, you can set the TIMER ON.

To set the time of automatic switch-on as below:

1. Confirm the appliance is OFF. And press the **TIMER** button at first time to set the needed mode and fan speed, the will appear on the remote display.
Press again to stop the swing movement at the current angle.
2. Set the needed mode (Cool/ Heat/ Auto/ Fan/ Dry), by press the **MODE** button. And set the needed fan speed, by press **FAN** button. And press + or - to set the needed operation temperature.
3. Press **TIMER** button at the second time to set the switch-on.
Press + or - to set the needed timer.
4. Press **TIMER** button at the third time to confirm.

CANCEL it by press **TIMER** button.

TIMER function ---- TIMER OFF



To automatically switch off the appliance.

When the unit is switch-on, you can set the TIMER OFF.

To set the time of automatic switch-off, as below:

1. Confirm the appliance is ON.
2. Press the **TIMER** button at first time to set the switch-off.
Press + or - to set the needed timer.
3. Press **TIMER** button at the second time to confirm.

CANCEL it by press **TIMER** button.

Note: All programming should be operated within 5 seconds, otherwise the setting will be cancelled.

SWING function



1. Press the button **SWING** to activate the louver,
 - 1.1 Press to activate the horizontal flaps to swing from up to down, the will appear on the remote display.
Press again to stop the swing movement at the current angle.
 - 1.2 Press to active the vertical deflectors to swing from left to right, the will appear on the remote display.
Press again to stop the swing movement at the current angle.
2. If the vertical deflectors are positioned manually which placed under the flaps, they allow to move the air flow direct to rightward or leftward.
3. For some inverter heating models, press horizontal **SWING** and vertical **SWING** together button at the same time, it will activate the Self-Clean function.



This adjustment must be done while the appliance is switched off.



Never position “Flaps” manually, the delicate mechanism might seriously damaged!



Never put fingers, sticks or other objects into the air inlet or outlet vents. Such accidental contact with live parts might cause unforeseeable damage or injury.

TURBO function



To activate turbo function, press the **TURBO** button, and will appear on the display.
Press again to cancel this function.

In COOL/ HEAT mode, when you select TURBO feature, the appliance will turn to quick COOL or quick HEAT mode, and operate the highest fan speed to blow strong airflow.

REMOTE CONTROLLER

SLEEP function



Pre-setting automatic operating program.

Press **SLEEP** button to activate the SLEEP function, and  appears on the display. Press again to cancel this function.

After 10 hours running in sleep mode, the air conditioner will change to the previously set mode.

ECO function



In this mode the appliance automatically sets the operation to save energy.

Press the **ECO** button, the  appears on the display, and the appliance will run in ECO mode. Press again to cancel it.

Note: The ECO function is available in both COOLING and HEATING modes.

Health function (Optional)

1. Turn on the indoor unit at first, and long press **SLEEP** and **DISPLAY** button together 3 seconds to activate this function.  will appear on the display. Do it again to deactivate it.
2. When the HEALTH function is initiated, the Ionizer/ Plasma/ Bipolar Ionizer/ UVC Lights (depending on models) will be energized and running.

DISPLAY function (Indoor display)



Switch ON/OFF the LED display on panel.

Press **DISPLAY** button to switch off the LED display on the panel. Press again to switch on the LED display.

OPERATING INSTRUCTIONS

Operating Temperature

The air conditioner is programmed for comfortable and suitable living conditions as below if used outside the conditions, certain safety protection features might come into effect.,

Fix air conditioner:

MODE Temperature	Cooling operating	Heating operating	Drying operating
Room temperature	17°C~32°C	0°C~27°C	17°C~32°C
Outdoor temperature	15°C~43°C For T1 Climate	-7°C~24°C	15°C~43°C For T1 Climate
	15°C~52°C For T3 Climate		15°C~52°C For T3 Climate

Inverter air conditioner:

MODE Temperature	Cooling operating	Heating operating	Drying operating
Room temperature	17°C~32°C	0°C~30°C	17°C~32°C
Outdoor temperature	15°C~53°C	-20°C~30°C	15°C~53°C
	-15°C~53°C For models with low temperature cooling system		-15°C~53°C For models with low temperature cooling system

 The unit does not operate immediately if it is turned on after being turned off or after changing the mode during operation. This is a normal self-protection action, you need waiting for about 3 minutes.

 The capacity and efficiency are according to the test conducted at full-load operation (The highest speed of indoor fan motor and the maximum open angle of the flaps and deflectors are requested.)

■ Important Considerations

- The air conditioner you buy must be installed by professional personnel and the “Installation manual” is used only for the professional installation personnel! The installation specifications should be subject to our after-sale service regulations.
- When filling the combustible refrigerant, any of your rude operations may cause serious injury or injuries to human body or bodies and object or objects.
- A leak test must be done after the installation is completed.
- It is a must to do the safety inspection before maintaining or repairing an air conditioner using combustible refrigerant in order to ensure that the fire risk is reduced to minimum.
- It is necessary to operate the machine under a controlled procedure in order to ensure that any risk arising from the combustible gas or vapor during the operation is reduced to minimum.
- Requirements for the total weight of filled refrigerant and the area of a room to be equipped with an air conditioner (are shown as in the following Tables GG.1 and GG.2)



INSTALLATION MANUAL---Important considerations for R32/R290

■ The maximum charge and the required minimum floor area

$$m_1 = (4 \text{ m}^3) \times LFL, m_2 = (26 \text{ m}^3) \times LFL, m_3 = (130 \text{ m}^3) \times LFL$$

Where LFL is the lower flammable limit in kg/m^3 , R290 LFL is 0.038 kg/m^3 , R32 LFL is 0.306 kg/m^3 .

For the appliances with a charge amount $m_1 < M = m_2$:

The maximum charge in a room shall be in accordance with the following: $m_{\max} = 2.5 \times (LFL)^{(5/4)} \times h_0 \times A^{1/2}$

The required minimum floor area $A_{\min}$ to install an appliance with refrigerant charge M (kg) shall be in accordance with following: $A_{\min} = (M / (2.5 \times (LFL)^{(5/4)} \times h_0))^2$

Where:

$m_{\max}$ is the allowable maximum charge in a room, in kg;

M is the refrigerant charge amount in appliance, in kg;

$A_{\min}$ is the required minimum room area, in m^2 ;

A is the room area, in m^2 ;

LFL is the lower flammable limit, in kg/m^3 ;

h_0 is the installation height of the appliance, in meters for calculating $m_{\max}$ or $A_{\min}$, 1.8 m for wall mounted;

Table GG.1 - Maximum charge (kg)

Category	LFL (kg/m^3)	h_0 (m)	Floor area (m^2)						
			4	7	10	15	20	30	50
R290	0.038	0.6	0.05	0.07	0.08	0.1	0.11	0.14	0.18
		1	0.08	0.11	0.13	0.16	0.19	0.2	0.3
		1.8	0.15	0.2	0.24	0.29	0.34	0.41	0.53
		2.2	0.18	0.24	0.29	0.36	0.41	0.51	0.65
R32	0.306	0.6	0.68	0.9	1.08	0.32	1.53	1.87	2.41
		1	1.14	1.51	1.8	2.2	2.54	3.12	4.02
		1.8	2.05	2.71	3.24	3.97	4.58	5.61	7.254
		2.2	2.5	3.31	3.96	4.85	5.6	6.86	8.85

Table GG.2 - Minimum room area (m^2)

Category	LFL (kg/m^3)	h_0 (m)	Charge amount (M) (kg)						
			Minimum room area (m^2)						
R290	0.038		0.152kg	0.228kg	0.304kg	0.456kg	0.608kg	0.76kg	0.988kg
		0.6		82	146	328	584	912	1514
		1		30	53	118	210	328	555
		1.8		9	16	36	65	101	171
		2.2		6	11	24	43	68	115
R32	0.306		1.224kg	1.836kg	2.448kg	3.672kg	4.896kg	6.12kg	7.956kg
		0.6		29	51	116	206	321	543
		1		10	19	42	74	116	196
		1.8		3	6	13	23	36	60
		2.2		2	4	9	15	24	40

INSTALLATION MANUAL---Important considerations for R32/R290

■ Installation Safety Principles

1. Site Safety



Open Flames Prohibited



Ventilation Necessary

2. Operation Safety



Open Flames Prohibited



Mind Static Electricity Must wear protective clothing and anti-static gloves Don't use mobile phone

3. Installation Safety

- Refrigerant Leak Detector
- Appropriate Installation Location



The left picture is the schematic diagram of a refrigerant leak detector.

Please note that:

1. The installation site should be in a well-ventilated condition.
2. The sites for installing and maintaining an air conditioner using Refrigerant R290 should be free from open fire or welding, smoking, drying oven or any other heat source higher than 370°C which easily produces open fire; the sites for installing and maintaining an air conditioner using Refrigerant R32 should be free from open fire or welding, smoking, drying oven or any other heat source higher than 548°C which easily produces open fire.
3. When installing an air conditioner, it is necessary to take appropriate anti-static measures such as wear anti-static clothing and/or gloves.
4. It is necessary to choose the site convenient for installation or maintenance wherein the air inlets and outlets of the indoor and outdoor units should be not surrounded by obstacles or close to any heat source or combustible and/or explosive environment.
5. If the indoor unit suffers refrigerant leak during the installation, it is necessary to immediately turn off the valve of the outdoor unit and all the personnel should go out till the refrigerant leaks completely for 15 minutes. If the product is damaged, it is a must to carry such damaged product back to the maintenance station and it is prohibited to weld the refrigerant pipe or conduct other operations on the user's site.
6. It is necessary to choose the place where the inlet and outlet air of the indoor unit is even.
7. It is necessary to avoid the places where there are other electrical products, power switch plugs and sockets, kitchen cabinet, bed, sofa and other valuables right under the lines on two sides of the indoor unit.

INSTALLATION MANUAL---Important considerations for R32/R290

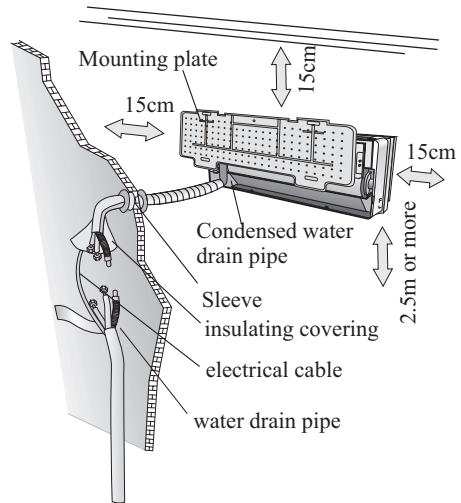
■ Special Tools

Tool Name	Requirement(s) for Use
Mini Vacuum Pump	It should be an explosion-proof vacuum pump; can ensure certain precision and its vacuum degree should be lower than 10Pa.
Filling Device	It should be a special explosion-proof filling device; have certain precision and its filling deviation should be less than 5g.
Leak Detector	It should be calibrated regularly; and its annual leak rate should not exceed 10g.
Concentration Detector	A) The maintenance site should be equipped with a fixed-type combustible refrigerant concentration detector and connected to a safeguard alarm system; its error must be not more than 5%. B) The installation site should be equipped with a portable combustible refrigerant concentration detector which can realize two-level audible and visual alarm; its error must be not more than 10%. C) The concentration detectors should be calibrated regularly. D) It is necessary to check and confirm the functions before using the concentration detectors.
Pressure Gauge	A) The pressure gauges should be calibrated regularly. B) The pressure gauge used for Refrigerant 22 can be used for Refrigerants R290 and R161; the pressure gauge used for R410A can be used for Refrigerant 32.
Fire Extinguisher	It is necessary to carry fire extinguisher(s) when installing and maintaining an air conditioner. On the maintenance site, there should be two or more kinds of dry powder, carbon dioxide and foam fire extinguishers and that such fire extinguishers should be placed at stipulated positions, with eye-catching labels and in handy places.

INSTALLATION MANUAL---Selecting the Installation Place

INDOOR UNIT

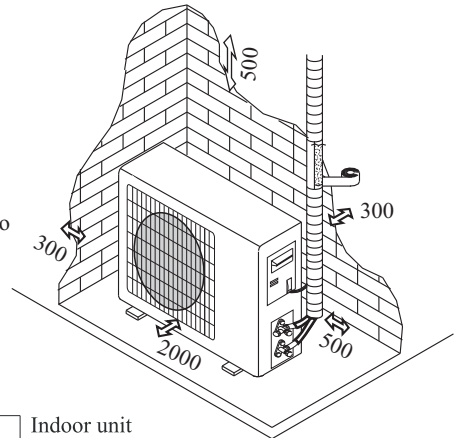
- Install the indoor unit on a strong wall that is not subject to vibrations.
- The in let and outlet ports should not be obstructed: the air should be able to blow all over the room.
- Do not install the unit near a source of heat, steam, or flammable gas.
- Do not install the unit where it will be exposed to direct sunlight.
- Select a site where the condensed water can be easily drained out, and where it is easily connected to outdoor unit.
- Check the machine operation regularly and reserve the necessary spaces as shown in the picture.
- Select a place where the filter can be easily taken out.



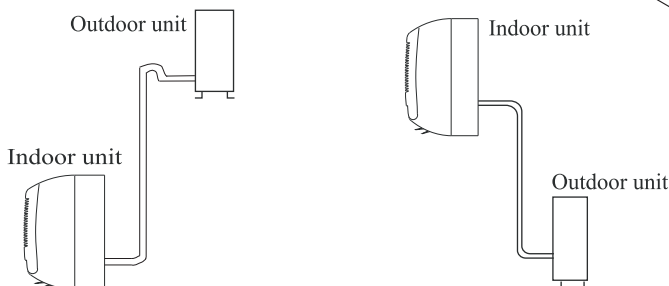
OUTDOOR UNIT

- Do not install the outdoor unit near sources of heat, steam or flammable gas.
- Do not install the unit in too windy or dusty places.
- Do not install the unit where people often pass. Select a place where the air discharge and operating sound will not disturb the neighbours.
- Avoid installing the unit where it will be exposed to direct sunlight (otherwise use a protection, if necessary, that should not interfere with the air flow).
- Reserve the spaces as shown in the picture for the air to circulate freely.
- Install the outdoor unit in a safe and solid place.
- If the outdoor unit is subject to vibration, place rubber gaskets onto the feet of the unit.

minimum space to be reserved (mm) showing in the picture



Installation Diagram



The purchaser must ensure that the person and/or company who is to install, maintain or repair this air conditioner has qualifications and experience in refrigerant products.

INSTALLATION MANUAL---Installation of the Indoor unit

Before starting installation, decide on the position of the indoor and outdoor units, taking into account the minimum space reserved around the units

- ⚠ Do not install your air conditioner in a wet room such as a bathroom or laundry etc
- ⚠ The installation site should be 250cm or more above the floor.

To install, proceed as follows:

Installation of the mounting plate

1. Always mount the rear panel horizontally and vertically
2. Drill 32 mm deep holes in the wall to fix the plate;
3. Insert the plastic anchors into the hole;
4. Fix the rear panel on the wall with provided tapping screws
5. Be sure that the rear panel has been fixed firmly enough to withstand the weight.

Note : The shape of the mounting plate may be different from the one above, but installation method is similar .

Drilling a hole in the wall for the piping

1. Make the piping hole ($\Phi 65$) in the wall at a slight downward slant 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.

- ⚠ The hole must slope downwards towards the exterior

Note : Keep the drain pipe down towards the direction of the wall hole, otherwise leakage may occur.

Electrical connections---Indoor unit

1. Open the front panel.
2. Take off the cover as indicated in the picture (by removing a screw or breaking the hooks).
3. For the electrical connections, see the circuit diagram on the right part of the unit under the front panel.
4. Connect the cable wires to the screw terminals by following the numbering ,Use wire size suitable to the electric power input (see name plate on the unit) and according to all current national safety code requirements.

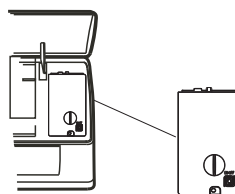
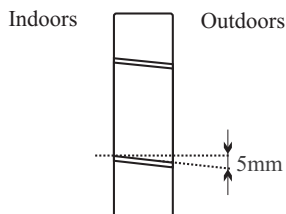
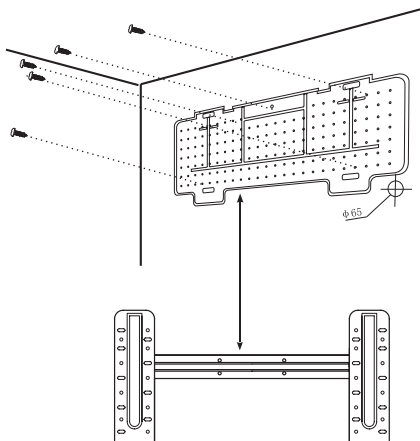
- ⚠ The cable connecting the outdoor and indoor units must be suitable for outdoor use.

- ⚠ The plug must be accessible also after the appliance has been installed so that it can be pulled out if necessary.

- ⚠ An efficient earth connection must be ensured.

- ⚠ If the power cable is damaged, it must be replaced by an authorised Service Centre.

Note: Optional the wires can be connected to the main PCB of indoor unit by manufacturer according to the model without terminal block.



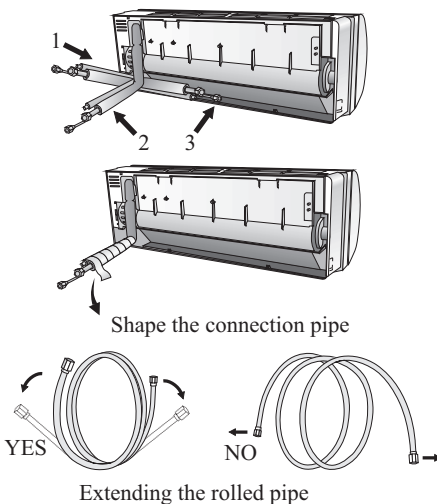
INSTALLATION MANUAL---Installation of the Indoor unit

Refrigerant piping connection

The piping can be run in the 3 directions indicated by numbers in the picture. When the piping is run in direction 1 or 3, cut a notch along the groove on the side of the indoor unit with a cutter.

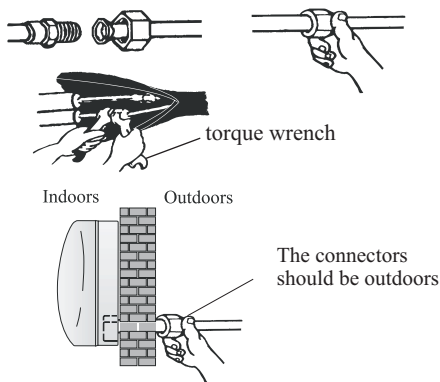
Run the piping in the direction of the wall hole and bind the copper pipes, the drain pipe and the power cables together with the tape with the drain pipe at the bottom, so that water can flow freely.

- Do not remove the cap from the pipe until connecting it, to avoid dampness or dirt from entering.
- If the pipe is bent or pulled too often, it will become stiff. Do not bend the pipe more than three times at one point.
- When extending the rolled pipe, straighten the pipe by unwinding it gently as shown in the picture.



Connections to the indoor unit

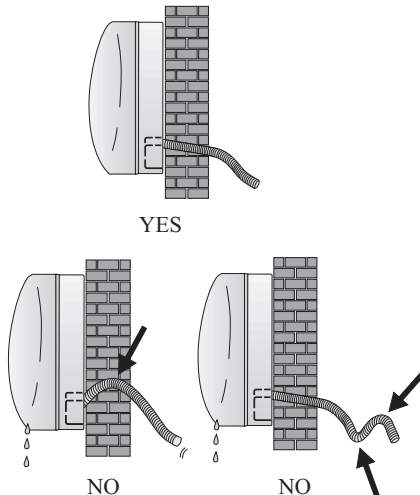
1. Remove the indoor unit pipe cap (check that there is no debris inside).
2. Insert the flare nut and create a flange at the extreme end of the connection pipe.
3. Tighten the connections by using two wrenches working in opposite directions.
4. For R32/R290 refrigerants, mechanical connectors should be outdoors.



Indoor unit condensed water drainage

The indoor unit condensed water drainage is fundamental for the success of the installation.

1. Place the drain hose below the piping, taking care not to create siphons.
2. The drain hose must slant downwards to aid drainage.
3. Do not bend the drain hose or leave it protruding or twisted and do not put the end of it in water. If an extension is connected to the drain hose, ensure that it is lagged when it passes into the indoor unit.
4. If the piping is installed to the right, the pipes, power cable and drain hose must be lagged and secured onto the rear of the unit with a pipe connection.
 - 1) Insert the pipe connection into the relative slot.
 - 2) Press to join the pipe connection to the base.

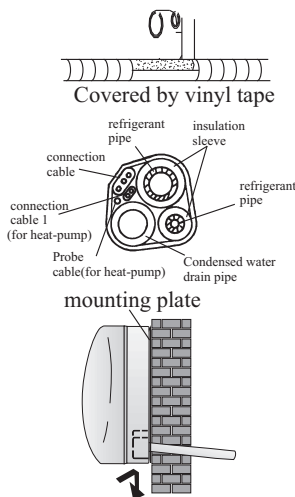


INSTALLATION MANUAL---Installation of the Indoor unit

INSTALLATION OF THE INDOOR UNIT

After having connected the pipe according to the instructions, install the connection cables. Now install the drain pipe. After connection, lag the pipe, cables and drain pipe with the insulating material.

1. Arrange the pipes ,cables and drain hose well.
2. Lag the pipe joints with insulating material , securing it with vinyl tape.
3. Run the bound pipe , Cables and drain pipe through the wall hole and mount the indoor unit onto the upper part of the mounting plate securely.
4. Press and push the lower part of the indoor unit tightly against the mounting plate



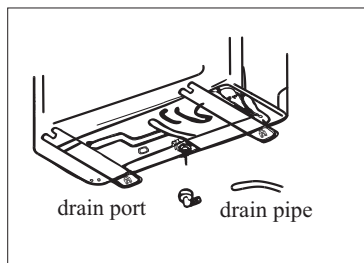
INSTALLATION MANUAL---Installation of the outdoor unit

- The outdoor unit should be installed on a solid wall and fastened securely.
- The following procedure must be observed before connecting the pipes and connecting cables : decide which is the best position on the wall and leave enough space to be able to carry out maintenance easily.
- Fasten the support to the wall using screw anchors which are particularly suited to the type of wall;
- Use a larger quantity of screw anchors than normally required for the weight they have to bear to avoid vibration during operation and remain fastened in the same position for years without the screws becoming loose.
- The unit must be installed following the national regulations.

Outdoor unit condensed water drainage (only for heat pump models)

The condensed water and the ice formed in the outdoor unit during heating operation can be drained away through the drain pipe

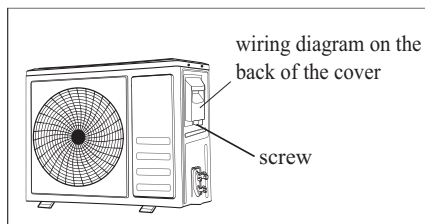
1. Fasten the drain port in the 25mm hole placed in the part of the unit as shown in the picture.
 2. Connect the drain port and the drain pipe.
- Pay attention that water is drained in a suitable place.



INSTALLATION MANUAL---Installation of the outdoor unit

ELECTRICAL CONNECTIONS

1. Remove the handle on the right side plate of outdoor unit.
2. Connect the power connection cord to the terminal board.
Wiring should fit that of indoor unit.
3. Fix the power connection cord with wire clamp.
4. Confirm if the wire has been fixed properly.
5. An efficient earth connection must be ensured.
6. Recover the handle.



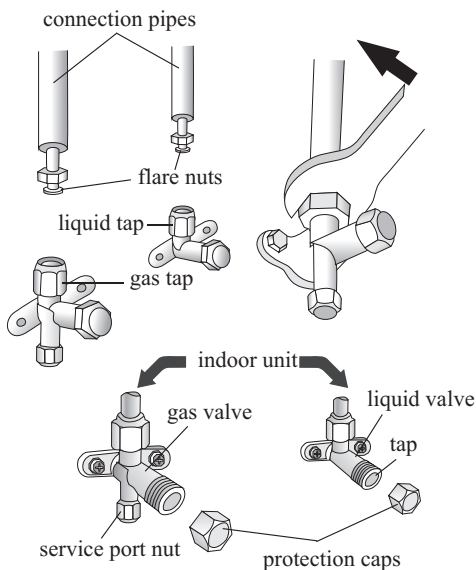
CONNECTING THE PIPES

Screw the flare nuts to the outdoor unit coupling with the same tightening procedures described for the indoor unit.

To avoid leakage, pay attention to the following points:

1. Tighten the flare nuts using two wrenches. Pay attention not to damage the pipes.
2. If the tightening torque is not sufficient, there will probably be some leakage. With excessive tightening torque there will also be some leakage, as the flange could be damaged.
3. The surest system consists in tightening the connection by using a fix wrench and a torque wrench as below:

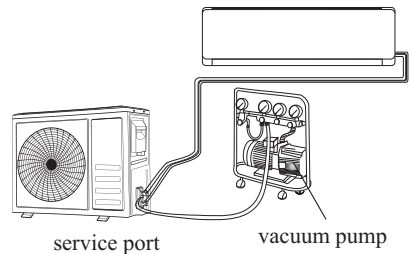
PIPE Size	Newton meter [N x m]	Pound-force foot (1bf-ft)	Kilogram-force meter (kgf-m)
1/4 " (φ 6.35)	15 - 20	11.1 - 14.8	1.5 - 2.0
3/8 " (φ 9.52)	31 - 35	22.9 - 25.8	3.2 - 3.6
1/2 " (φ 12)	45 - 50	33.2 - 36.9	4.6 - 5.1
5/8 " (φ 15.88)	60 - 65	44.3 - 48.0	6.1 - 6.6



INSTALLATION MANUAL---Installation of the outdoor unit

Air Vacuumizing

1. Use a spanner to take down the protective caps from the service port, low pressure valve and high pressure valve of the outdoor unit.
2. Connect the pressure hose of manifold gauge to the service port on the outdoor unit low pressure valve.
3. Connect the charge hose from the manifold gauge to the vacuum pump.
4. Open the low pressure valve of the manifold gauge and close the high pressure valve.
5. Turn on the vacuum pump to vacuumize the system.
6. The vacuuming time should not be less than 15 minutes, or make sure the compound gauge indicates -0.1 MPa (-76 cmHg).
7. Close the low pressure valve of the manifold gauge and turn off the vacuum.
8. Hold the pressure for 5 minutes, make sure that the rebound of compound gauge pointer does not exceed 0.005 Mpa .
9. Turn the low pressure valve counterclockwise for $1/4$ turn with hexagonal wrench to let a little refrigerant fill in the system, and close the low pressure valve after 5 seconds and quickly remove the pressure hose.
10. Check all indoor and outdoor joints for leakage with soapy water or leak detector.
11. Fully open the low pressure valve and high pressure valve of the outdoor unit with hexagonal wrench.
12. Replace the protective caps of the service port, low pressure valve and high pressure valve of the outdoor unit.
13. Replace the valve cover.

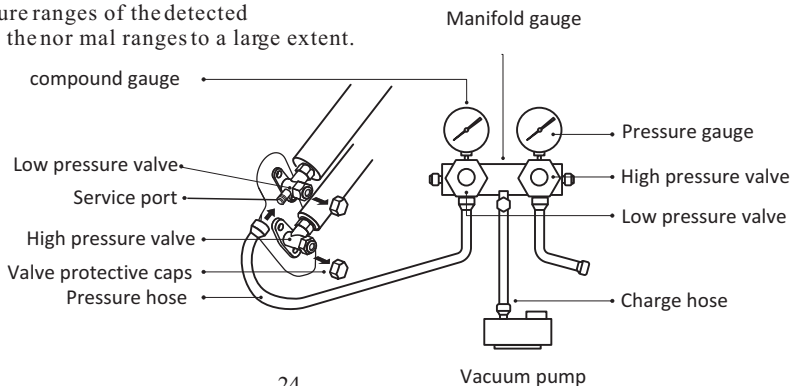


Refrigerant Pressure Inspection

Air-returning Low-pressure Range of Refrigerant R290: $0.4\text{-}0.6 \text{ Mpa}$; Air-exhausting High-pressure Range: $1.5\text{-}2.0 \text{ Mpa}$;

Air-returning Low-pressure Range of Refrigerant R32: $0.8\text{-}1.2 \text{ Mpa}$; Air-exhausting High-pressure Range: $3.2\text{-}3.7 \text{ Mpa}$;

It means that the refrigerating system or refrigerant of an air conditioner is abnormal if the air-exhausting and air-returning pressure ranges of the detected compressor exceed the normal ranges to a large extent.



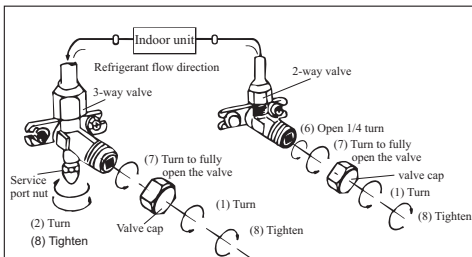
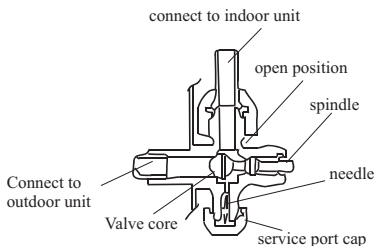
INSTALLATION MANUAL---Installation of the outdoor unit

BLEEDING

The air and humidity left inside the refrigerant circulation can cause compressor malfunction. After having connected the indoor and outdoor units, bleed the air and humidity from the refrigerant circulation using a vacuum pump.

- (1) Unscrew and remove the caps from the 2 - way and 3-way valves.
- (2) Unscrew and remove the cap from the service port.
- (3) Connect the vacuum pump hose to the service port.
- (4) Operate the vacuum pump for 10 - 15 minutes until an absolute vacuum of 10 mm Hg has been reached.
- (5) With the vacuum pump still in operation, close the low - pressure knob on the vacuum pump coupling. Stop the vacuum pump.
- (6) Open the 2 - way valve by 1/4 turn and then close it after 10 seconds. Check all the joints for leaks using liquid soap or an electronic leak device.
- (7) Turn the body of the 2-way and 3-way valves. Disconnect the vacuum pump hose.
- (8) Replace and tighten all the caps on the valves.

3-way valve diagram



INSTALLATION MANUAL--- operation test

1. Wind insulating covering around the joints of the indoor unit and fix it with insulating tape.
2. Fix the exceeding part of the signal cable to the piping or to the outdoor unit.
3. Fix the piping to the wall (after having coated it with insulating tape) using clamps or insert them into plastic slots.
4. Seal the hole in the wall through which the piping is passed so that no air or water can fill.

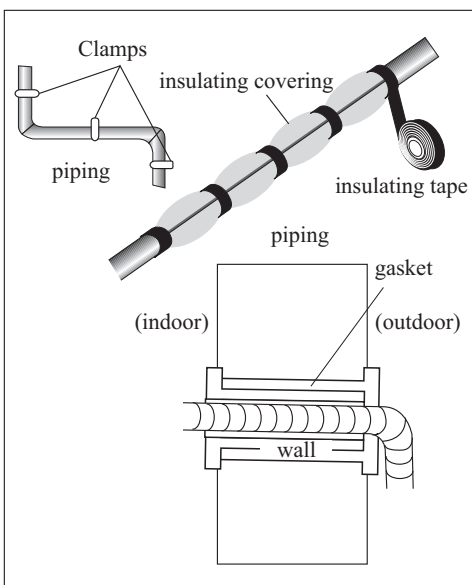
Indoor unit test

- Do the ON/OFF and FAN operate normally?
- Does the MODE operate normally?
- Do the set point and TIMER function properly?
- Does each lamp light normally?
- Do the flap for air flow direction operate normally?
- Is the condensed water drained regularly?

Outdoor unit test

- Is there any abnormal noise or vibration during operation?
- Could the noise, the air flow or the condensed water drainage disturb the neighbours?
- Is there any coolant leakage?

Note: the electronic controller allows the compressor to start only three minutes after voltage has reached the system.



INSTALLATION MANUAL---Information for the installer

Pipe length and Additional refrigerant

Inverter Models capacity (Btu/h)	9k-12k		18k-36K	
Lenght of pipe with standard charge	3m (North American:5m)	3m (North American:5m)	5m (North American:7.5m)	5m (North American:7.5m)
Maximum distance between indoor and outdoor unit	15m	15m	25m	25m
Additional refrigerant charge	20g/m	15g/m	30g/m	25g/m
Max. diff. in level between indoor and outdoor unit	10m	10m	15m	15m
Type of refrigerant	R22/R410A	R32	R22/R410A	R32

ON-OFF Models capacity (Btu/h)	9k-12k		18k-36K	
Lenght of pipe with standard charge	3m (North American:5m)	3m (North American:5m)	5m (North American:7.5m)	5m (North American:7.5m)
Maximum distance between indoor and outdoor unit	15m	15m	15m	15m
Additional refrigerant charge	20g/m	15g/m	30g/m	25g/m
Max. diff. in level between indoor and outdoor unit	5m	5m	5m	5m
Type of refrigerant	R22/R410A	R32	R22/R410A	R32

Dedicated Distribution Device and Wire for Air Conditioner

Dedicated Distribution Device and Wire for Air Conditioner			
Maximum Operating Current of Air Conditioner (A)	Minimum Wire Cross-sectional Area(mm ²)	Nominal Specification of Socket or Switch (A)	Reference Fuse Specification (A)
≤8	0.75	15	15
> 8 and ≤10	1.0	15	15
> 10 and ≤15	1.5	20	25
> 15 and ≤24	2.5	25	40
> 24 and ≤28	4.0	35	45
> 28 and ≤32	6.0	40	55

Note:

This table is only for reference, the installation shall meet the requirements of local laws and regulations.

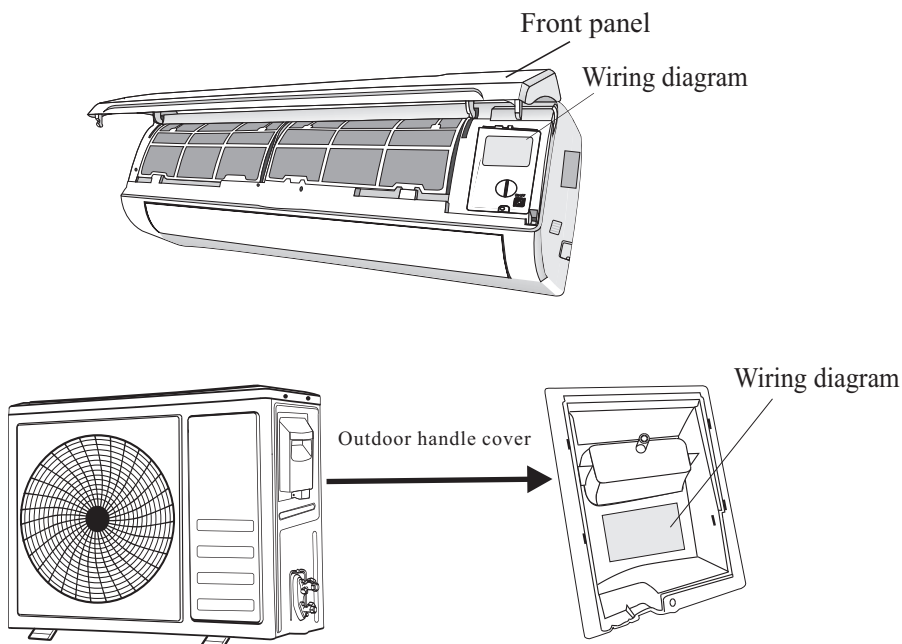
INSTALLATION MANUAL---Information for the installer

WIRING DIAGRAM

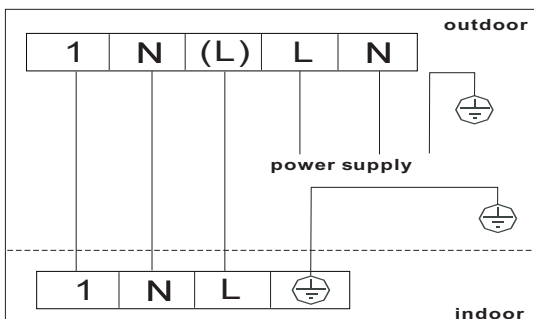
For different models, the wiring diagram may be different. Please refer to the wiring diagrams pasted on the indoor unit and outdoor unit respectively.

On indoor unit, the wiring diagram is pasted under the front panel;

On outdoor unit, the wiring diagram is pasted on the backside of the outdoor handle cover.



Wiring example:



Note: For some models the wires has been connected to the main PCB of indoor unit by manufacturer without terminal block.

INSTALLATION MANUAL---Information for the installer

CABLE WIRES SPECIFICATION

INVERTER TYPE MODEL capacity (Btu/h)				9k	12k	18k	24k	
		sectional area						
Power supply cable	N			1.5mm ²	1.5mm ²	1.5mm ²	2.5mm ²	
	L			1.5mm ²	1.5mm ²	1.5mm ²	2.5mm ²	
				1.5mm ²	1.5mm ²	1.5mm ²	2.5mm ²	
Connection supply cable	N			0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	
	(L)			0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	
	1			0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	
				0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	

ON/OFF TYPE MODEL capacity (Btu/h)		5k	7k	9k	12k	15k/18k	22k/24k	28~36k
		sectional area						
Power supply cable	N	1.0mm ²	1.0mm ²	1.0mm ²	1.0mm ²	1.5mm ²	2.5mm ²	4.0mm ²
	L	1.0mm ²	1.0mm ²	1.0mm ²	1.0mm ²	1.5mm ²	2.5mm ²	4.0mm ²
		1.0mm ²	1.0mm ²	1.0mm ²	1.0mm ²	1.5mm ²	2.5mm ²	4.0mm ²
Connection supply cable	N	1.0mm ²	1.0mm ²	1.0mm ²	1.0mm ²	1.5mm ²	0.75mm ²	0.75mm ²
	(L)	1.0mm ²	1.0mm ²	1.0mm ²	1.0mm ²	1.5mm ²	0.75mm ²	0.75mm ²
	1	1.0mm ²	1.0mm ²	1.0mm ²	1.0mm ²	1.5mm ²	0.75mm ²	0.75mm ²
	2	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²
	3	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²
		0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²	0.75mm ²

220V Air conditioner (7k~30k) indoor unit fuse : 50T, 3.15A
110V Air conditioner (7k~12k) indoor unit fuse : 50T, 3.15A
125V Air conditioner (7k~12k) indoor unit fuse : 61T, 15A
250V Air conditioner (18k~24k) indoor unit fuse : 65TS, 25A

MAINTENANCE

Periodic maintenance is essential for keeping your air conditioner efficient.

Before carrying out any maintenance , disconnect the power supply by taking the plug out from the socket.

INDOOR UNIT

ANTIDUST FILTERS

1. Open the front panel following the direction of the arrow
2. Keeping the front panel raised with one hand, take out the air filter with the other hand
3. Clean the filter with water ; if the filter is soiled with oil, it can be washed with warm water (not exceeding 45°C).
Leave to dry in a cool and dry place.
4. Keeping the front panel raised with one hand , insert the air filter with the other hand
5. Close

The electrostatic and the deodorant filter (if installed) cannot be washed or regenerated and must be replaced with new filters after every 6 months.

CLEANING THE HEAT EXCHANGER

1. Open the front panel of the unit and lift it till its greatest stroke and then unhooking it from the hinges to make the cleaning easier.
2. Clean the indoor unit using a cloth with the water (not higher than 40°C) and neutral soap . Never use aggressive solvents or detergents.
3. If the outdoor unit is clogged , remove the leaves and the waste and remove the dust with air jet or a bit of water.

END OF SEASON MAINTENANCE

1. Disconnect the automatic switch or the plug.
2. Clean and replace the filters
3. On a sunny day let the conditioner work in ventilation for some hours , so that the inside of the unit can dry completely..

REPLACING THE BATTERIES

When:

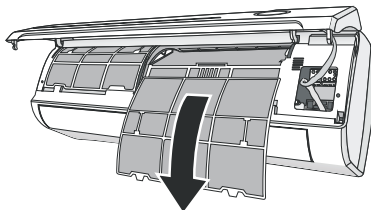
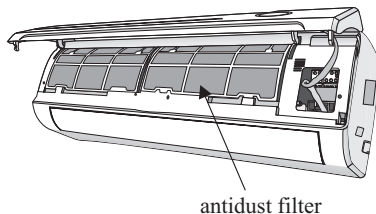
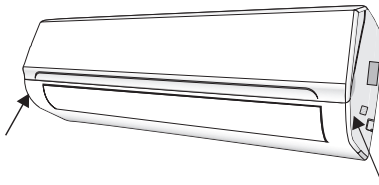
- There is no confirmation beep heard from the indoor unit.
- The LCD doesn't act.

How:

- Take off the cover at back.
- Place the new batteries respecting the symbols + and - .

N.B: Use only new batteries. Remove the batteries from the remote controller when the conditioner is not in operation

WARNING ! Do not throw batteries into common rubbish , they should be disposed of in the special containers situated in the collection points.



TROUBLESHOOTING

MALFUNCTION	POSSIBLE CAUSES		
The appliance does not operate	Power failure/plug pulled out.		
	Damaged indoor/outdoor unit fan motor.		
	Faulty compressor thermomagnetic circuit breaker.		
	Faulty protective device or fuses.		
	Loose connections or plug pulled out.		
	It sometimes stops operating to protect the appliance.		
	Voltage higher or lower than the voltage range.		
	Active TIMER-ON function.		
	Damaged electronic control board.		
Strange odor	Dirty air filter.		
Noise of running water	Back flow of liquid in the refrigerant circulation.		
A fine mist comes from the air outlet	This occurs when the air in the room becomes very cold, for example in the “COOLING” or “DEHUMIDIFYING/DRY” modes.		
A strange noise can be heard	This noise is made by the expansion or contraction of the front panel due to variations in temperature and does not indicate a problem.		
Insufficient airflow, either hot or cold	Unsuitable temperature setting.		
	Obstructed air conditioner intakes and outlets.		
	Dirty air filter.		
	Fan speed set at minimum.		
	Other sources of heat in the room.		
	No refrigerant.		
The appliance does not respond to commands	Remote control is not close enough to indoor unit.		
	The batteries of remote control need to be replaced.		
	Obstacles between remote control and signal receiver in indoor unit.		
The display is off	Active LIGHT function.		
	Power failure.		
Switch off the air conditioner immediately and cut off the power supply in the event of:	Strange noises during operation.		
	Faulty electronic control board.		
	Faulty fuses or switches.		
	Spraying water or objects inside the appliance.		
	Overheated cables or plugs.		
	Very strong smells coming from the appliance.		
ERROR SIGNALS ON THE DISPLAY			
In case of error, the display on the indoor unit shown the following error codes:			
Display	Description of the trouble	Display	Description of the trouble
E1	Indoor temperature sensor fault	E8	Outdoor discharge temperature sensor fault
E2	Indoor pipe temperature sensor fault	E9	Outdoor IPM module fault
E3	Outdoor pipe temperature sensor fault	EA	Outdoor current detect fault
E4	Refrigerant system leakage or fault	EE	Outdoor PCB EEPROM fault
E6	Malfunction of indoor fan motor	EF	Outdoor fan motor fault
E7	Outdoor air temperature sensor fault	EH	Outdoor suction temperature sensor fault