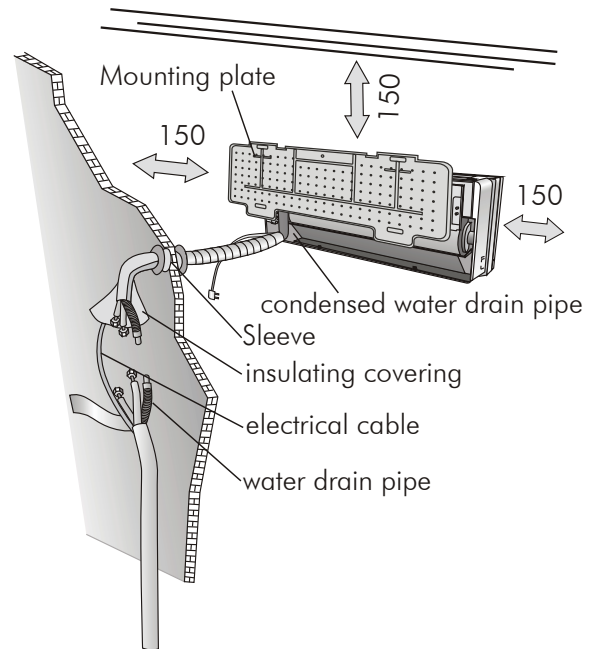


SELECTING THE INSTALLATION PLACE

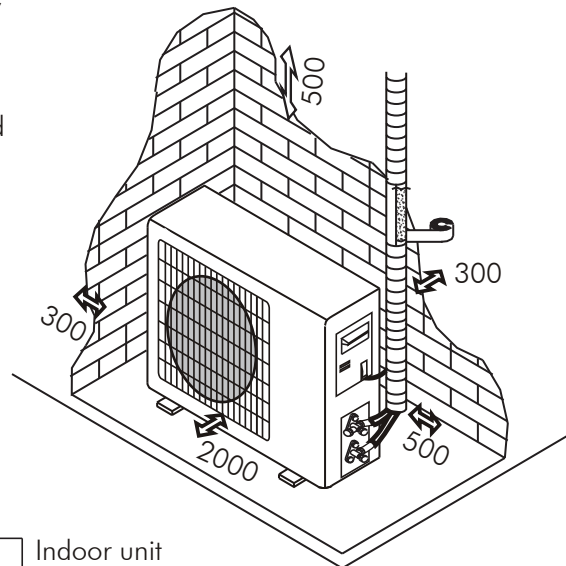
INDOOR UNIT

- Install the indoor unit level on a strong wall that is not subject to vibrations.
- The inlet 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.
- Install the unit near an electric socket or private circuit.
- Do not install the unit where it will be exposed to direct sunlight.
- Install the unit where connection between indoor and outdoor unit is as easy as possible.
- Install the unit where it is easy to drain the condensed water.
- Check the machine operation regularly and leave the necessary spaces as shown in the picture.
- Install the indoor unit where the filter can be easily accessible.

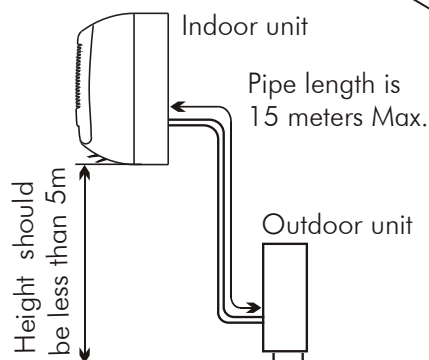
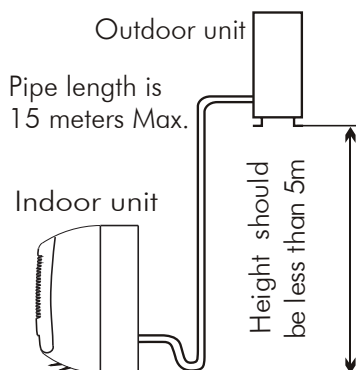


minimum space to be left (mm) showing in the picture

- 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 level 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).
- Leave 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.



INSTALLATION DIAGRAM



Only persons and/or companies qualified and experienced in the installation, service and repair of refrigerant products should be permitted to do so. The purchaser must ensure that the person and/or company who is to install, service or repair this air conditioner has qualifications and experience in refrigerant products.

INSTALLATION OF THE INDOOR UNIT

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

⚠ Install the indoor unit in the room to be air conditioning, avoiding to install in corridors or communal areas.

⚠ Install the indoor unit at a height of at least 2.5 m from the ground.

To install, proceed as follows:

Installation of the mounting plate

1. By using a level, put the mounting plate in a perfect square position vertically and horizontally.
2. Drill 32 mm deep holes in the wall to fix the plate;
3. Insert the plastic anchors into the hole;
4. Fix the mounting plate by using the provided tapping screws
5. Check that the mounting plate is correctly fixed;

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. Decide where to drill the hole in the wall for the piping (if necessary) according to the position of the mounting plate;
2. Install a flexible flange through the hole in the wall to keep the latter intact and clean.

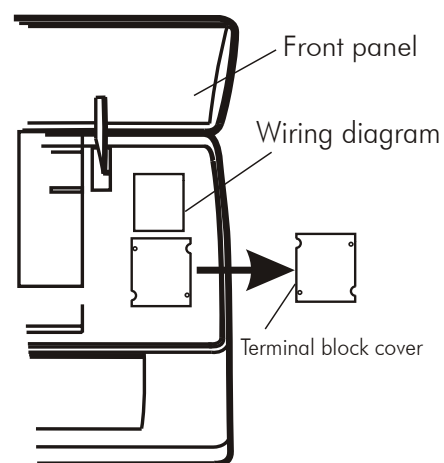
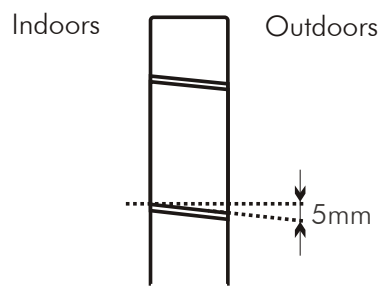
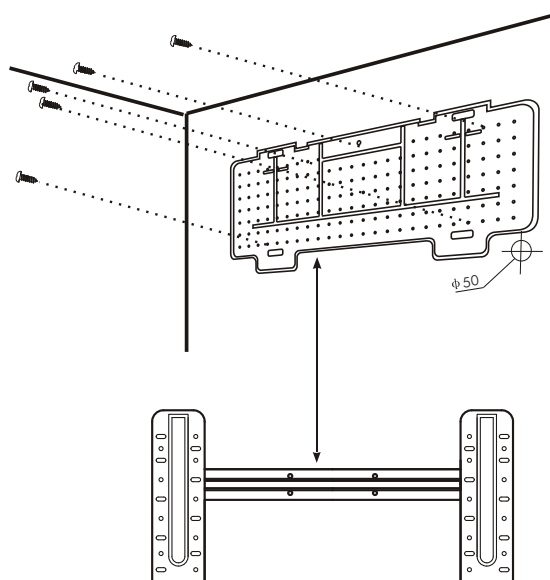
⚠ The hole must slope downwards towards the exterior

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

Electrical connections---Indoor unit

1. Lift the front panel.
2. Take off the cover as indicated in the picture (by removing a screw or by 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.
5. The cable connecting the outdoor and indoor units must be suitable for outdoor use.
6. The plug must be accessible also after the appliance has been installed so that it can be pulled out if necessary.
7. An efficient earth connection must be ensured.
8. If the power cable is damaged, it must be replaced by an authorised Service Centre.

Note: The cable wires have been connected to the main PCB of indoor unit by manufacturer according to the model without terminal block

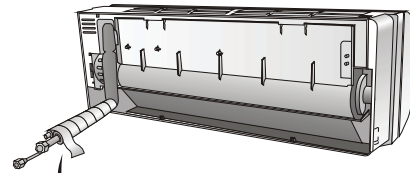
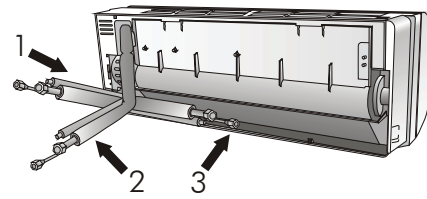


INSTALLATION OF THE INDOOR UNIT - Continued

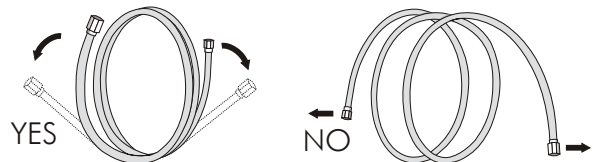
Refrigerant piping connection

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.



Shape the connection pipe



Extending the rolled pipe



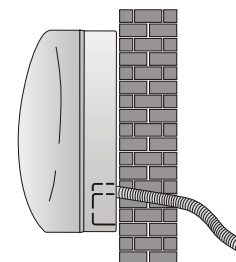
Connections to the indoor unit

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

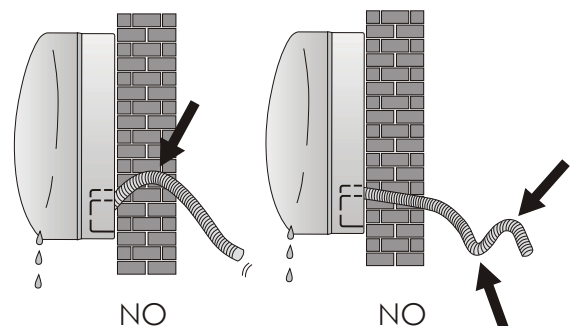
Indoor unit condensed water drainage

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.



YES



NO

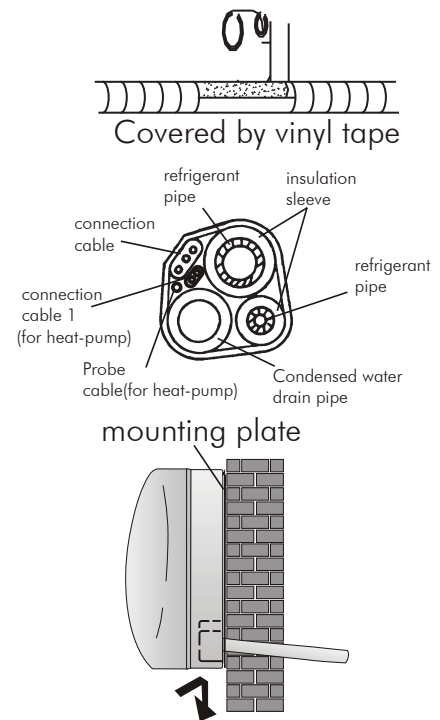
NO

INSTALLATION OF THE INDOOR UNIT - Continued

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



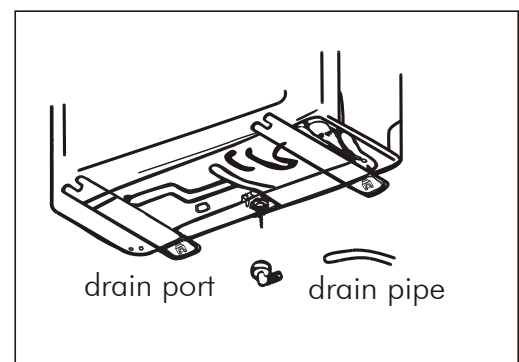
INSTALLATION OF THE OUTDOOR UNIT

- 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

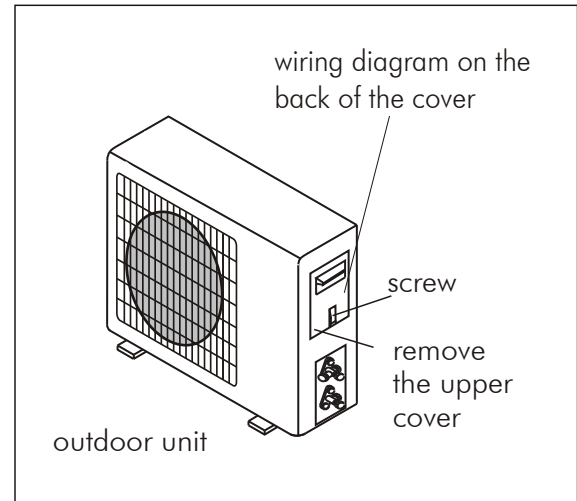
1. Fasten the drain port in the 25mm hole placed in the part of the unit as shown in the picture.
2. Connect the drain port and the drain pipe.
Pay attention that water is drained in a suitable place.



INSTALLATION OF THE INDOOR UNIT - Continued

ELECTRICAL CONNECTIONS

1. Take the cover away.
2. Connect the cable wires to the terminal board using the same numbering as in the indoor unit.
3. For the electrical connections, see the wiring diagram on the back of the cover
4. Fasten the cables with a cable-clamp.
5. An efficient earth connection must be ensured.
6. Replace the covers .

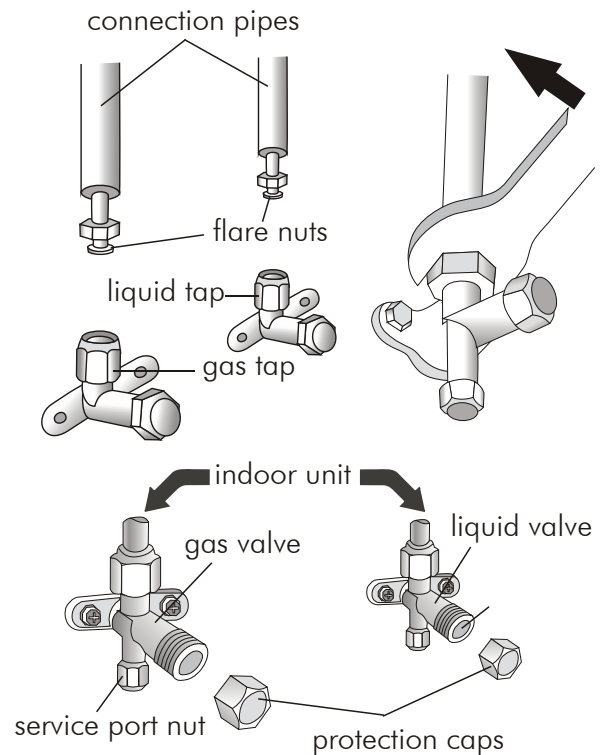


CONNECTING THE PIPES

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

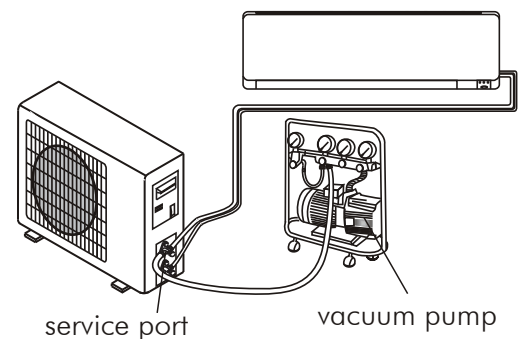
To avoid leakage, pay attention to the following points:

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: in this case use the table on page 21.



BLEEDING

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

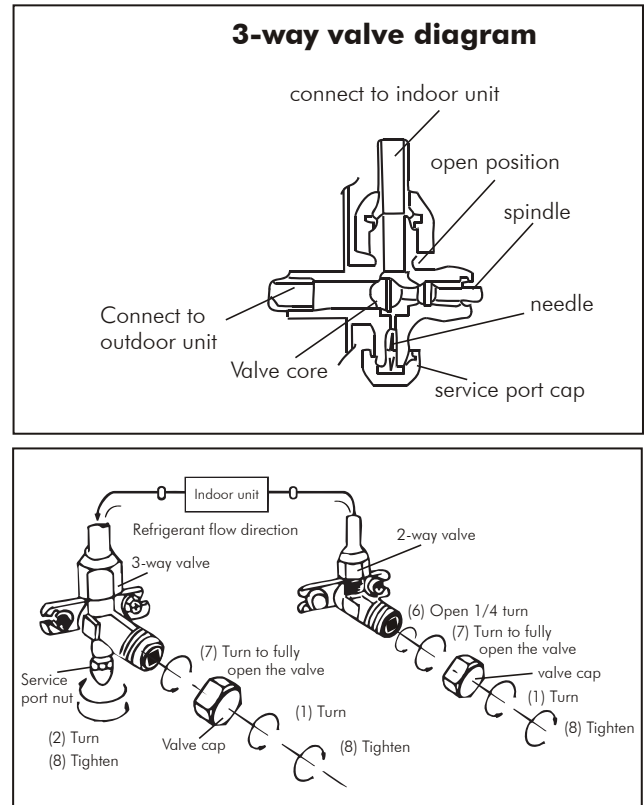


INSTALLATION OF THE OUTDOOR UNIT - Continued

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.



FINAL STAGES

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.

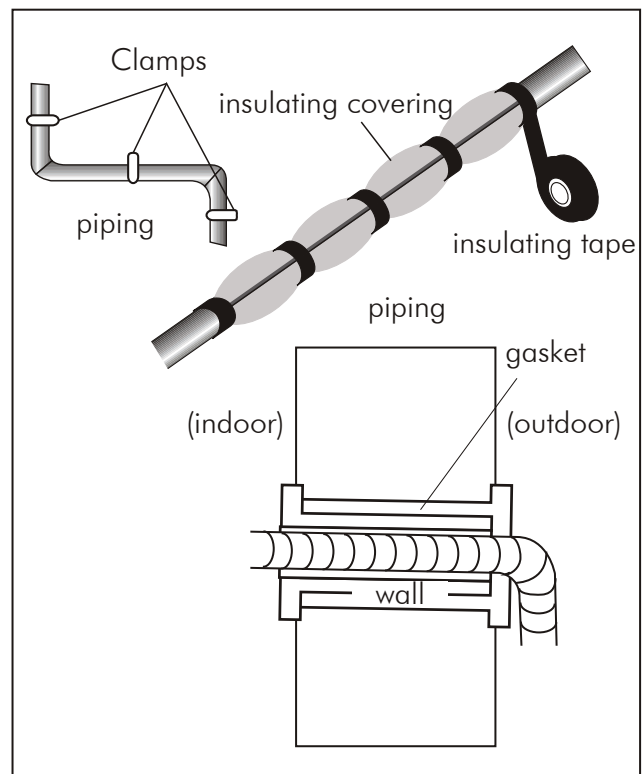
Indoor unit test

- 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.



INFORMATION FOR THE INSTALLER

FIXED-SPEED TYPE MODEL capacity (Btu/h)	7k	9k	12k	15/18k	22/24k	28/30k
Liquid pipe diameter	1/4" (ϕ6)	1/4" (ϕ6)	1/4" (ϕ6)	1/4" (ϕ6)	3/8 " (ϕ9.52)	3/8 " (ϕ9.52)
Gas pipe diameter	3/8 " (ϕ9.52)	3/8 " (ϕ9.52)	3/8 " (ϕ9.52)	1/2 " (ϕ12)	5/8 " (ϕ15.88)	5/8 " (ϕ15.88)
Lenght of pipe with standard charge	3m	3m	3m	4m	4m	4m
Maximum distance between indoor and outdoor unit	15m	15m	15m	15m	15m	15m
Additional gas charge	20g/m	20g/m	20g/m	30g/m	30g/m	30g/m
Max. diff. in level between indoor and outdoor unit	5m	5m	5m	5m	5m	5m
Type of refrigerant(1)	R410A	R410A	R410A	R410A	R410A	R410A

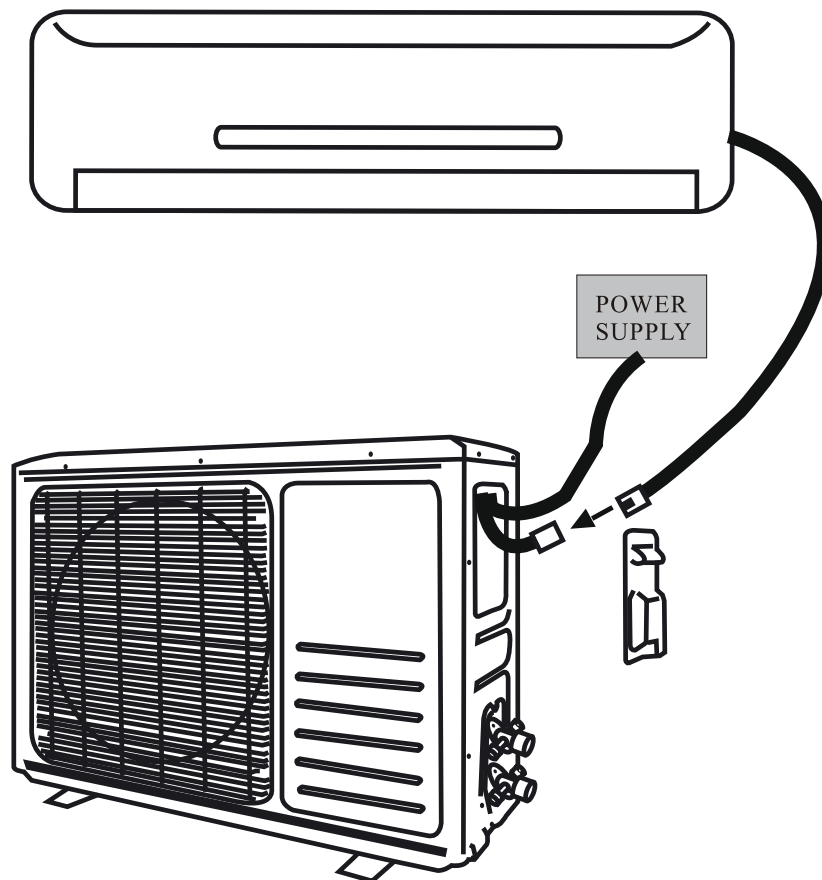
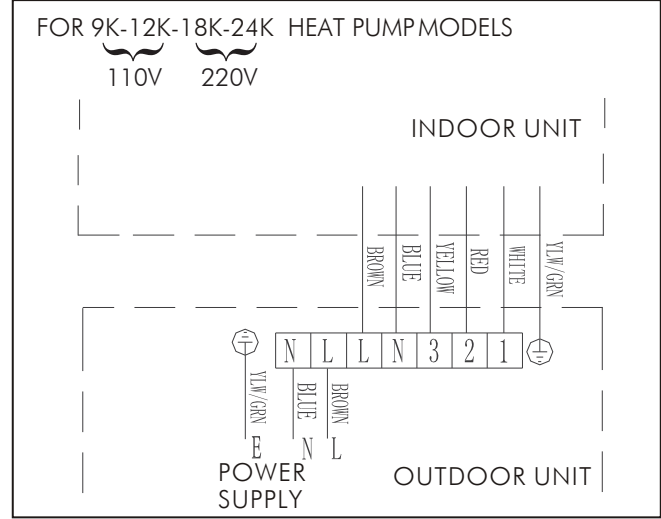
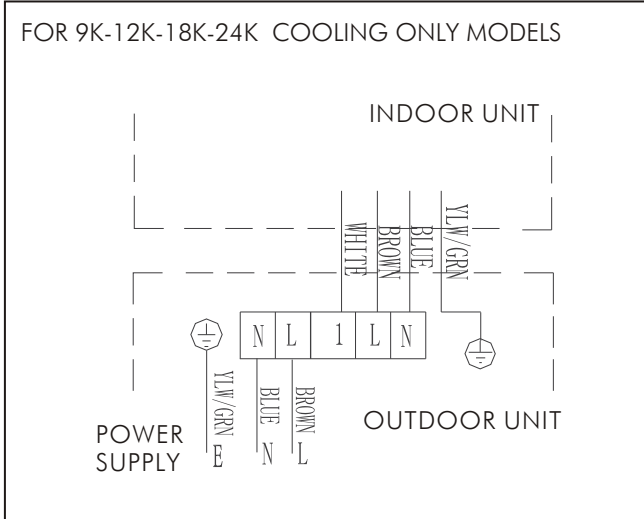
(1) Refer to the data rating label sticked on the outdoor unit.

TIGHTENING TORQUE FOR PROTECTION CAPS AND FLANGE CONNECTION

PIPE	TIGHTENING TORQUE [N x m]	CORRESPONDING STRESS (using a 20 cm wrench)		TIGHTENING TORQUE [N x m]
1/4" (ϕ6)	15 - 20	wrist strength	Service port nut	7 - 9
3/8" (ϕ9.52)	31 - 35	arm strength	Protection caps	25 - 30
1/2" (ϕ12)	35 - 45	arm strength		
5/8" (ϕ15.88)	75 - 80	arm strength		

INFORMATION FOR THE INSTALLER - CONTINUED

WIRING DIAGRAM




Please see the pasted diagram instruction on the unit first

Note: The cable wires has been connected to the main PCB of indoor unit by manufacturer according to the model without terminal block, see the wiring diagram on the right part of the unit under the front panel and the back of the outdoor cover

INFORMATION FOR THE INSTALLER - CONTINUED

CABLE WIRES SPECIFICATION

MODEL capacity (Btu/h)		5k	7k	9k	12k	15/18k	22/24k	28/30k
		sectional area						
Power supply cable	N	1.0mm ² AWG18	1.0mm ² AWG18	1.6mm ² AWG14	1.6mm ² AWG14	2.0mm ² AWG12	2.0mm ² AWG12	2.6mm ² AWG10
	L	1.0mm ² AWG18	1.0mm ² AWG18	1.6mm ² AWG14	1.6mm ² AWG14	2.0mm ² AWG12	2.0mm ² AWG12	2.6mm ² AWG10
	E	1.0mm ² AWG18	1.0mm ² AWG18	1.6mm ² AWG14	1.6mm ² AWG14	2.0mm ² AWG12	2.0mm ² AWG12	2.6mm ² AWG10
Connection supply cable	N	1.0mm ²	1.0mm ²	1.0mm ²	1.0mm ² (1.5mm 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)	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)	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

Type for 220V of fuse used on indoor unit controller for 7K , 9K , 12K 15K , 16K , 18K , 22K , 24K , 30K is 50T with rating 3.15 A , 250V Type for 110V of fuse used on indoor unit controller for 7K , 9K 12k is 50T with rating 3.15 A , 125V ; Type of fuse used on inverter outdoor unit controller for 7K , 9K , 12K is 61T with rating 15 A , 250V , for 18K , 22K , 24K is 65TS with rating 25A , 250V.

MAINTENANCE

Periodic maintenance is essential for keeping your air conditioner efficient.

Before carrying out any maintenance, disconnect the power supply by putting the installation on/ off switch to “off”.

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 once 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 battery of 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:

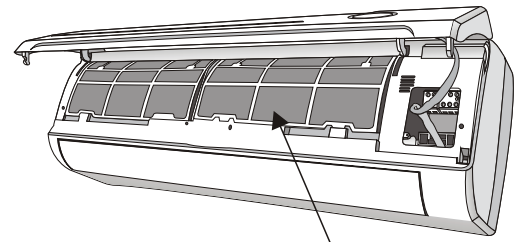
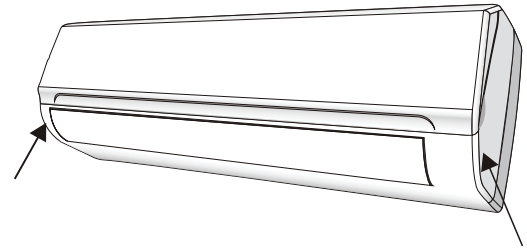
- There is no confirmation beep from the indoor unit.
- The LCD doesn't activate.

How:

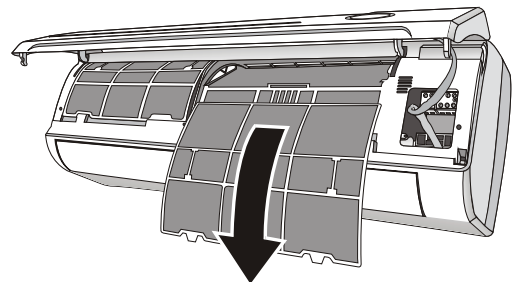
- Take off the cover at back.
- Place the new batteries respecting the symbols + and -.

N.B: Use only new batteries. Remove the batteries from the remote control 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.



antiodust filter



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 odour	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 near enough to indoor unit.
	The batteries of remote control nearly has no power.
	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:

	RUN lamp	Description of the trouble
E1	flashes once	The fault of indoor temperature sensor
E2	flashes twice	The fault of indoor pipe temperature sensor
E6	flashes 6 times	Malfunction of indoor fan motor.