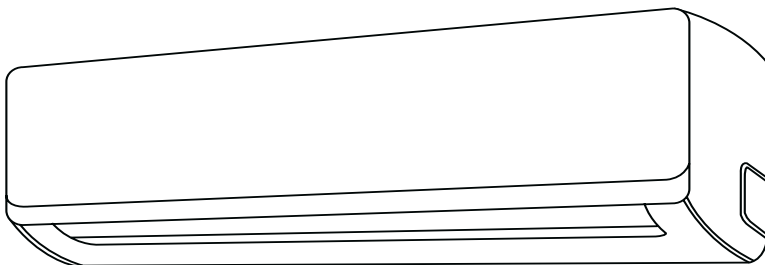


KIWQ/KOIQ

SERIES

SPLIT-TYPE ROOM AIR CONDITIONER

Installation Manual



KLIMAIRE®

Mark of Superior Quality

IMPORTANT NOTE:

Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

For more information please visit www.klimaite.com



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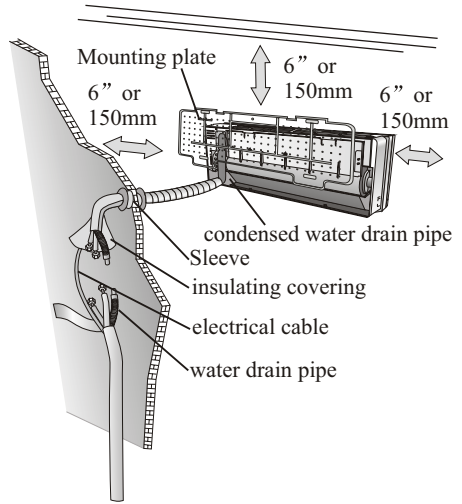
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INSTALLATION MANUAL---Selecting the Installation Place

INDOOR UNIT

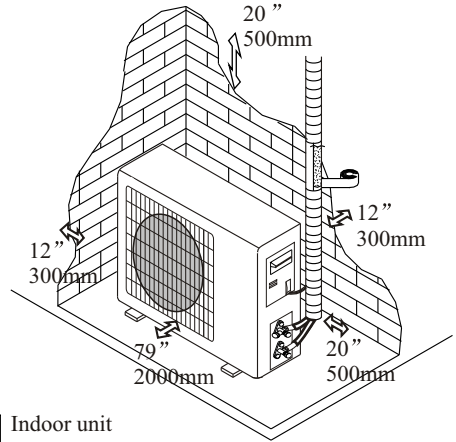
- Install the indoor unit level on a strong wall that is not subject to vibrations.
- The inlet and outlet ports should not be obstructed: the air should be able to blow all over the room.
- Do not install the unit near a source of heat, steam, or flammable gas.
- Install the unit near an electric socket 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, preferably inside of an exterior wall.
- Check the machine operation regularly and leave the necessary space (as shown in the picture).
- Install the indoor unit where the filter can be easily accessible.
- Leave a 6" space on the top of the unit.



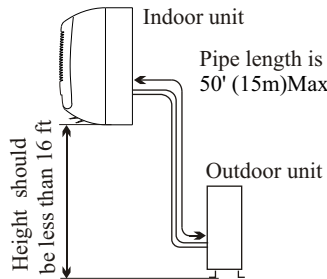
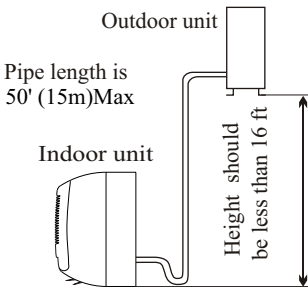
Minimum space to be left showing in the picture

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 level will not disturb neighbours.
- Avoid installing the unit where it will be exposed to direct sunlight (other wise use a protection, if necessary, that should not interfere with the air flow).
- Leave space 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



Note
Quick connect
piping kit 25 ft long

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 air conditioning.

INSTALLATION MANUAL---Installation of the Indoor unit

Check the top of indoor unit carton box, there is a quick-installation paper board, it is a guideline to find the screw and hole drilling position quickly.

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 conditioned avoiding in corridors or communal areas.

⚠ Install the indoor unit at a height of at least 8 ft from the ground.

- 1) Place the paper board on the wall where the unit will be installed.
- 2) Use a level to align the paper board.
- 3) Mark the screw holes and center of drilling hole on the wall with a screw or screwdriver

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 1 1/4 inch deep holes in the wall to fix the plate, following the screw remark;
3. Insert the plastic anchors into the hole;
4. Fix the mounting plate by the provided 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. Drill the hole in the wall for the copper pipe crossing, following the quick-installation paper board marked suggested diameter is 2-3/4 in.
2. Set a flexible flange through the hole in the wall to keep the latter intact and clean.

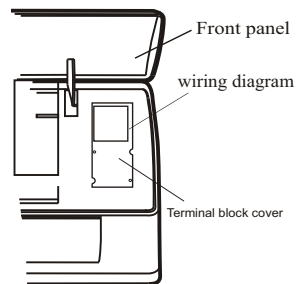
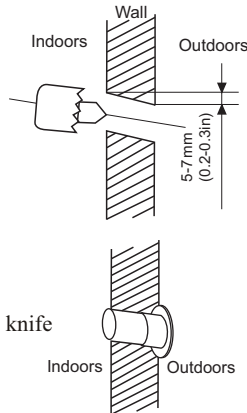
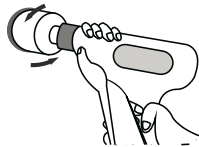
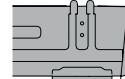
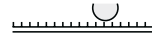
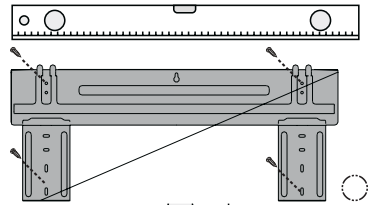
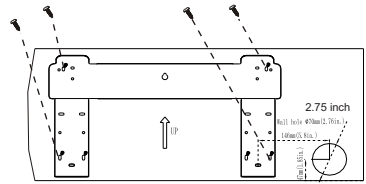
⚠ The hole must slope downwards towards the exterior.

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

1. Insert the round plastic wall sleeve into the hole
2. If the sleeve sticks out cut the plastic sleeve with utility knife to be flush with wall.
3. Insert the sleeve cap on the exterior part fo the wall

Electrical connections---Indoor unit

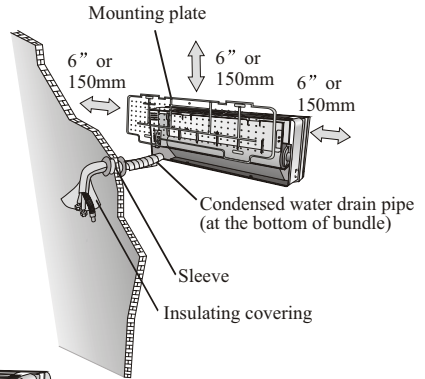
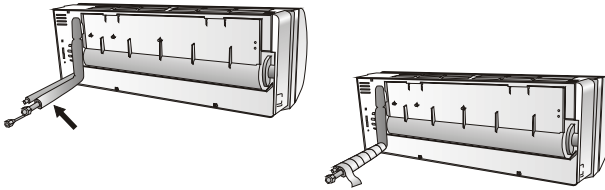
1. The cable wires are connected to the main PCB of indoor unit by manufacturer according to the model without terminal block.
2. Lift the front panel. Take of the cover as indicated.
3. Hold the indoor plug connector and insert the mating plug connector located on the indoor unit until it makes a clicking sound. The Y/G wire should be connected individually. Secure the cable onto the control board with the cord clamp.
4. The plug must be installed and fasten reliably.
5. An efficient earth connection must be ensured.
6. If the power cable is damaged, it must be replaced by a certified service technician



INSTALLATION MANUAL - Indoor Unit installation

Refrigerant piping setting position

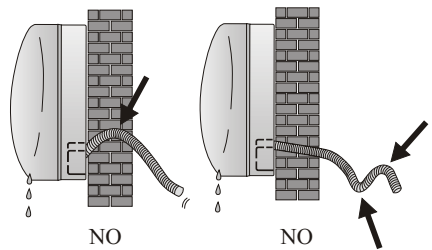
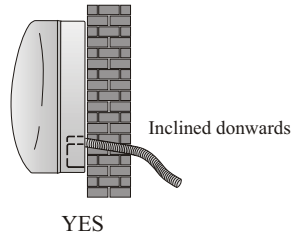
1. The copper pipe should be set through the wall to outside when installing the indoor unit, for quick-connecting product.
2. Run the piping in the direction of the wall hole, and put the drain pipe at the bottom, then bind the copper pipes and the drain pipe and the power cables together with the tape, so that water can flow away freely.



Indoor unit condensate water drainage

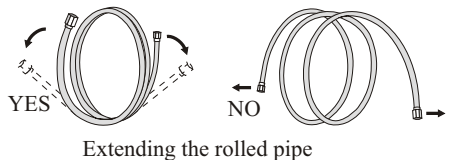
The indoor unit condensed water drainage is fundamental for the success of the installation.

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.
 - A) Insert the pipe connection into the relative slot.
 - B) Press to join the pipe connection to the base.



Unrolling the pipes

- 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.



INSTALLATION MANUAL - Indoor Unit installation

Connections to the indoor unit

1. Remove the indoor unit pipe cap (check that there is no debris inside).



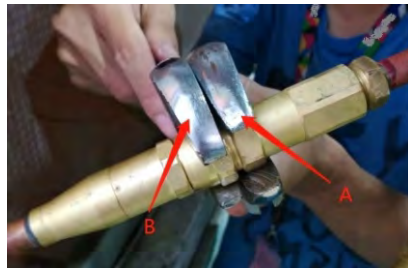
2. Smoothly align the female quick connector to the male one which is fixed with indoor unit by hand at first, and fasten smoothly. Hold the short position (picture A) of male quick connector by open-end spanner and do not turn, use torque wrench to take the short position (picture B) of the female quick connector which fixed with long copper pipe, and quickly turn to tight en them. Follow the proper torque chart.

IMPORTANT: Since the coupling works with trapping rings, it may leak if you undo and reconnect the pipes. This will also void the warranty.

After completing the connection, check all the connections are sealed correctly using leak detection spray or soap suds. If any bubbles form, the system has a leak on the screw connector must be re-tightened using an open-ended spanner.



Picture A



Picture B

After you start and test run the system make sure there are no gas leaks, then proceed to item 3

3. In order to protect the quick-connector, and prevent condensation on the union, please cover the quick-connector with the deadening pads, when finish fastening the copper pipe to the quick-connector.



4. Use the insulation to cover the quick-connector, and use the tape to fasten them tightly together. Be sure to put the drain pipe at the bottom, after start up, test run and performed gas leak test.

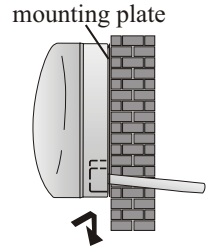
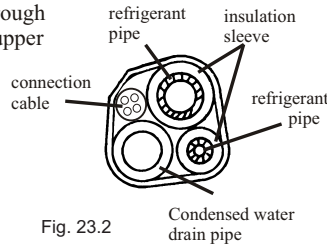


INSTALLATION MANUAL - Indoor Unit installation

INSTALLATION OF THE INDOOR UNIT

After having connected the pipe according to the instructions, install the connection cable plugs firmly. Now install the plastic drain extension pipe. After connection, wrap the pipes, cable and drain pipe with the insulating tape.

1. Arrange the pipes, cables and drain hose well.
2. Wrap 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.

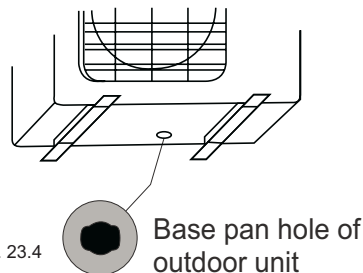


INSTALLATION MANUAL - Outdoor Unit installation

- The outdoor unit should be installed on a solid wall and fastened securely or in some cases on a leveled slab
- 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 national regulations.

Installation of Drain Joint

Heat pump units require a drain joint. Before bolting the outdoor unit in place, you must install the drain joint at the bottom of the unit. Note that there are two different types of drain joints depending on the type of outdoor unit.



If the drain joint comes with a rubber seal (see Fig. 24.1), do the following:

1. Fit the rubber seal on the end of the drain joint that will connect to the outdoor unit.
2. Insert the drain joint into the hole in the base pan of the unit.
3. Rotate the drain joint 90° until it clicks in place facing the front of the unit.
4. Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

If the drain joint doesn't come with a rubber seal (see Fig. 24.2), do the following:

1. Insert the drain joint into the hole in the base pan of the unit. The drain joint will click in place.
2. Connect a drain hose extension (not included) to the drain joint to redirect water from the unit during heating mode.

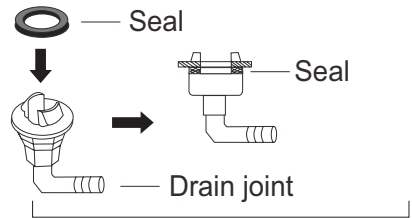


Fig. 24.1

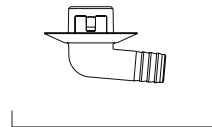


Fig. 24.2

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

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

1. Fasten the drain port in the 1 inch hole placed in the part of the unit as shown in the picture.
2. Connect the drain port and the drain pipe. Make sure that water is drained in a suitable place.

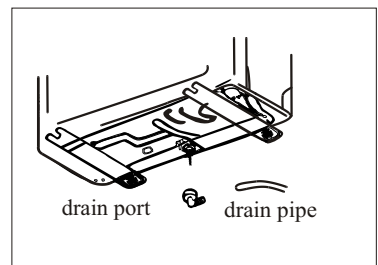


Fig. 24.3

! IN COLD CLIMATES

In cold climates, make sure that the drain hose is as vertical as possible to ensure swift water drainage. If water drains too slowly, it can freeze in the hose and flood the unit.

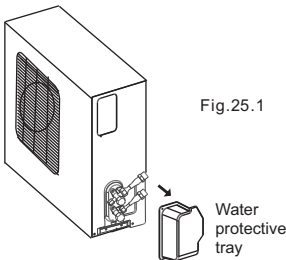
INSTALLATION MANUAL---Refrigerant Piping Connection

Connecting the refrigerant pipe to outdoor unit

Ensure the pipe connectors are the same to the indoor's and outdoor's respectively during connection.

Large size connector must be connected with the large size outdoor unit quick connector that has an additional port to check pressure or charge refrigerant

1. First remove the water tray on the outdoor unit as shown in Fig.25.1.



2. Do not remove the plastic seals from the outdoor unit and the appropriate refrigerant pipes until immediately before you connect them, Fig.25.2

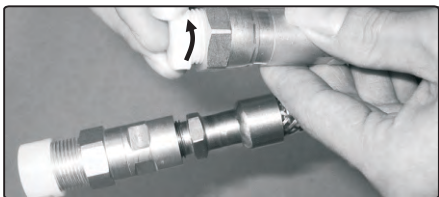


Fig.25.2

CONNECTING THE PIPES

3. Remove the plastic seals from the outdoor unit valve and male quick connectors until when you immediately install them.



4. Smoothly align the female quick connector correctly to the male one which is fixed with outdoor unit valve by hand at first, and fasten simply.

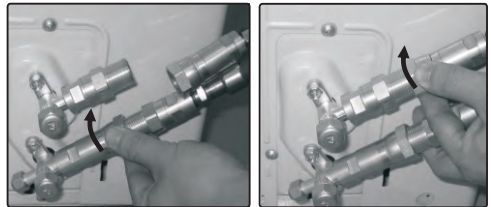


Fig.25.3

5. Hold the short position (remark A) of male quick connector by open-end spanner and do not turn, use torque wrench to take the short position (remark B) of the female quick connector which is fixed with long copper pipe, and quickly turn to tighten them.

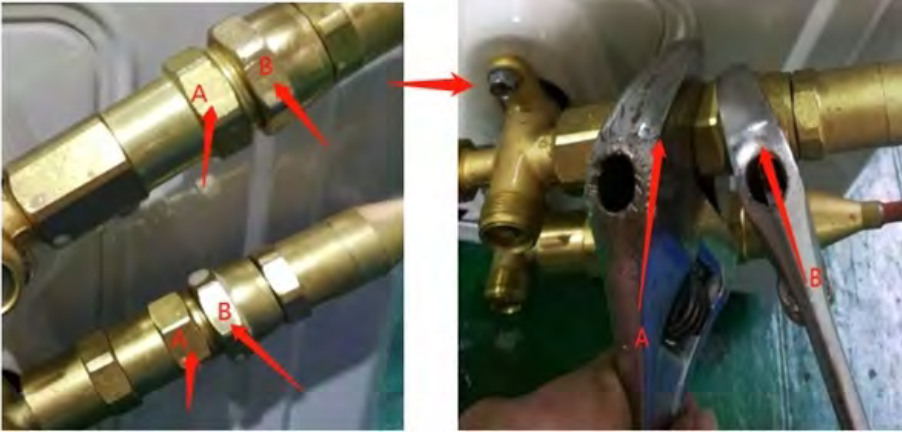
Follow the proper torque chart on page 26.

The refrigerant pipes must be connected to the valves on the outdoor unit with as little stress as possible.

Ensure that the screw connectors do not skew as you tighten them and work quick to prevent refrigerant leakage.

INSTALLATION MANUAL - Outdoor Unit installation

Two open end spanners must be used in order not to twist and kink the copper pipe.



Important! Since the couplings work with tapping rings, it may leak if you undo and reconnect the couplings. **This will also void the warranty**

Important! The conical ring on the valve has an important sealing function together with the sealing seat in the caps. Ensure that you do not damage the cone and that you keep the cap free of dirt and dust.

INSTALLATION MANUAL - Outdoor Unit installation

Proper torque chart

Coupling dimension	Pound-force(1 bf-ft)	Newton meter(N-m)	Kg-force meter(kgf-m)
(Φ6.35)9.5mm dash size	11.8	16	1.7
(Φ9.52)12.7mm dash size	11.8	16	1.7
(Φ12.7)19mm dash size	13.3	18	1.9
(Φ16)25.4mm dash size	14.8	20	2.1

Fig.26.1

Note: Leakage check. After completing the installation, check all the connecting are sealed correctly using leak detection spray or soap suds. If any bubbles form, the system has a leak and the screw connectors must be re-tightened using an open-ended spanner.

3. Remove the cover of outdoor valves both 2-way vale (liquid valve) and 3-way vale (suction valve), use the inner-hexagon (allen wrench) spanner to open the outdoor valve core, by turning it counter-clockwise.

If the valve core is not opened fully, the system may malfunction or suffer damage.

Then re-screw the valve cover back.



Fig.26.2

4. Connecting the wire by plugging the quick connecting cable for both indoor and outdoor.

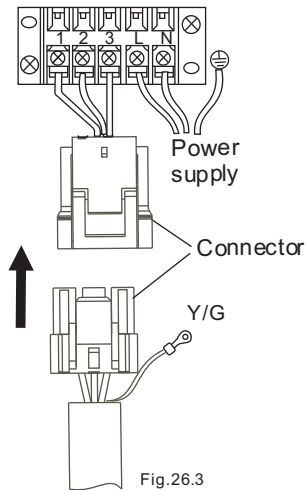


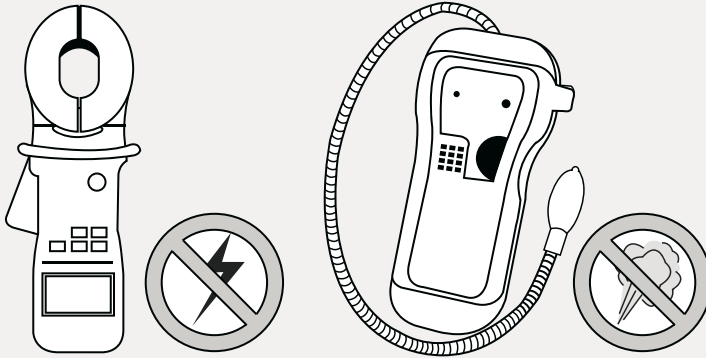
Fig.26.3



NOTE ABOUT WIRING

THE WIRING CONNECTION PROCESS MAY DIFFER SLIGHTLY AMONG UNITS

INSTALLATION MANUAL - Electrical and Gas Leak Checks



Electrical Safety Checks

After installation, confirm that all electrical wiring is installed in accordance with local and national regulations, and according to the Installation Manual.

BEFORE TEST RUN

Check Grounding Work

Measure grounding resistance by visual detection and with grounding resistance tester. Grounding resistance must be less than 0.1Ω .

Note: This may not be required for some locations in the US.

DURING TEST RUN

Check for Electrical Leakage

During the Test Run, use an electroprobe and multimeter to perform a comprehensive electrical leakage test.

If electrical leakage is detected, turn off the unit immediately and call a licensed electrician to find and resolve the cause of the leakage.

Note: This may not be required for some locations in the US.

WARNING - RISK OF ELECTRIC SHOCK

ALL WIRING MUST COMPLY WITH LOCAL AND NATIONAL ELECTRICAL CODES, AND MUST BE INSTALLED BY A LICENSED ELECTRICIAN.

Gas Leak Checks

There are two different methods to check for gas leaks.

Soap and Water Method

Using a soft brush, apply soapy water or liquid detergent to all pipe connection points on the indoor unit and outdoor unit. The presence of bubbles indicates a leak.

Leak Detector Method

If using leak detector, refer to the device's operation manual for proper usage instructions.

AFTER PERFORMING GAS LEAK CHECKS

After confirming that the all pipe connection points DO NOT leak, replace the valve cover on the outside unit.

DOUBLE-CHECK PIPE CONNECTIONS

During operation, the pressure of the refrigerant circuit will increase. This may reveal leaks that were not present during your initial leak check. Take time during the Test Run to double-check that all refrigerant pipe connection points do not have leaks. Refer to **Gas Leak Check** section for instructions.

After the Test Run is successfully complete, and you confirm that all checks points in List of Checks to Perform have PASSED, do the following:

- Using remote control, return unit to normal operating temperature.
- Using insulation tape, wrap the indoor refrigerant pipe connections that you left uncovered during the indoor unit installation process.



Attention: Before starting up or operating the air conditioner for the first time, confirm the service valves are open.

Before Test Run

Only perform test run after you have completed the following steps:

- **Electrical Safety Checks** - Confirm that the unit's electrical system is safe and operating properly.
- **Gas Leak Checks** - Check all flare nut connections and confirm that the system is not leaking.
- Confirm that gas and liquid (high and low pressure) valves are fully open.

Test Run Instructions

You should perform the Test Run for at least 30 minutes.

1. Connect power to the unit.
2. Press the **ON/OFF** button on the remote controller to turn it on.
3. Press the **MODE** button to scroll through the following functions, one at a time:
 - **COOL** - Select lowest possible temperature
 - **HEAT** - Select highest possible temperature
4. Let each function run for 5 minutes, and perform the following checks:

Outdoor unit test

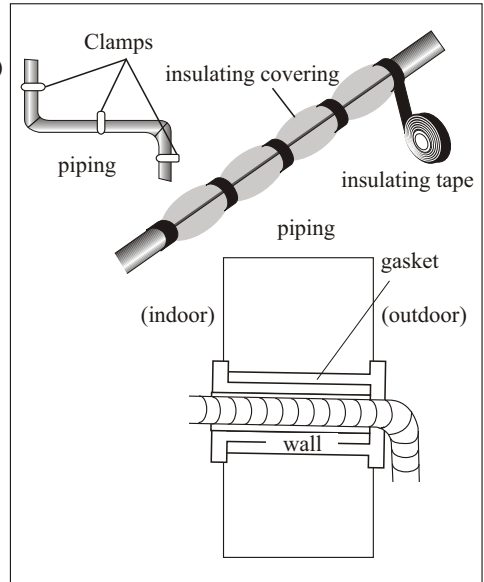
- Is there any abnormal noise or vibration during operation?
- Could the noise, the air flow or the condensed water drainage disturb the neighbours?

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

List of Checks to Perform	PASS/FAIL	
No electrical leakage		
Unit is properly grounded		
All electrical terminals properly covered		
Indoor and outdoor units are solidly installed		
All pipe connection points do not leak	Outdoor (2):	Indoor (2):
Water drains properly from drain hose		
All piping is properly insulated		
Unit performs COOL function properly		
Unit performs HEAT function properly		
Indoor unit louvers rotate properly		
Indoor unit responds to remote controller		
Set point functions		
Is there any abnormal noise or vibration on outdoor unit		

INSTALLATION MANUAL - Final stages

1. Wind insulating covering around the connectors of the indoor unit and fix it with insulating tape. (page 22 (3,4))
2. Fix the exceeding part of the signal cable to the piping or to the outdoor unit.
3. Attach 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.



INSTALLATION MANUAL - Information for the installer

INVERTER TYPE MODEL capacity (Btu/h)	9K	12K	18K	24K	36K
Liquid pipe diameter	1/4 " (φ6)	1/4 " (φ6)	1/4 " (φ6)	1/4 " (φ6)	1/4 " (φ6)
Gas pipe diameter	3/8 " (φ9.52)	3/8 " (φ9.52)	3/8 " (φ9.52)	1/2 " (φ12.7)	5/8 " (φ15.88)
Length of pipe with standard charge	24.5ft	24.5ft	24.5ft	24.5ft	24.5ft
Maximum distance between indoor and outdoor unit	49ft	49ft	49ft	49ft	49ft
Additional refrigerant charge	6g/ft	6g/ft	6g/ft	6g/ft	9g/ft
Max. diff. in level between indoor and outdoor unit	16ft	16ft	16ft	16ft	16ft
Type of refrigerant(1)	R410A	R410A	R410A	R410A	R410A

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

TIGHTENING TORQUE FOR PROTECTION CAPS AND FLANGE CONNECTION

PIPE	TIGHTENING TORQUE [lb x ft]	CORRESPONDING STRESS (using a 0.7 ft wrench)		TIGHTENING TORQUE [lb x ft]
1/4 " (φ6)	11 - 15	wrist strength	Service port nut	5 - 6.5
3/8 " (φ9.52)	23 - 26	arm strength	Protection caps	18 - 22
1/2 " (φ12)	26 - 33	arm strength		
5/8 " (φ15.88)	55 - 59	arm strength		

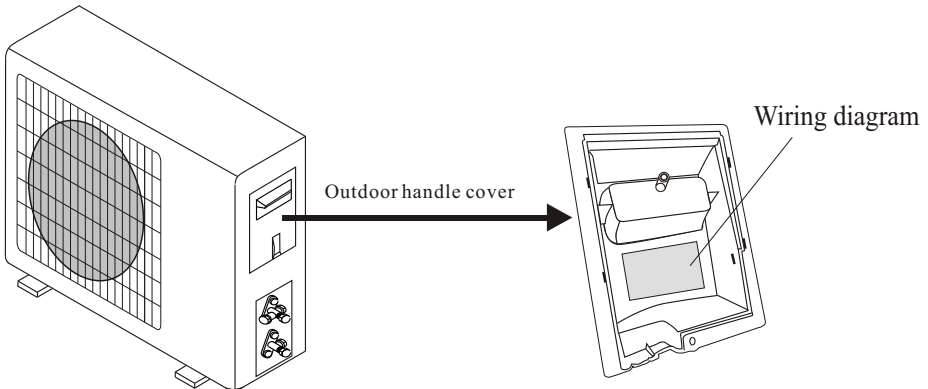
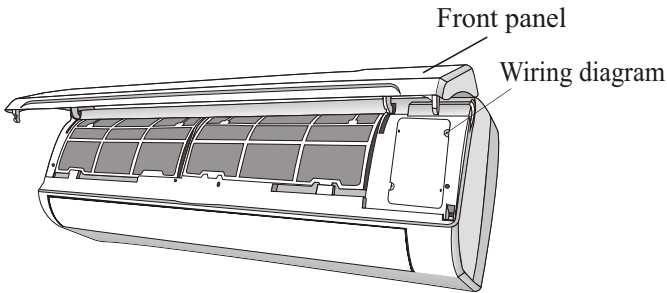
INSTALLATION MANUAL - Information for the installer

WIRING DIAGRAM

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

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



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



Note: For some models will have wires connected to the main PCB of the indoor unit without terminal block.

INSTALLATION MANUAL - Information for the installer

CABLE WIRES SPECIFICATION

INVERTER TYPE MODEL capacity (Btu/h)		9K- 115V	12K- 115V	9K- 230V	12K- 230V	18K	24K	36K
		sectional area						
Power supply cable	N(L2)	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12
	L(L1)	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12
		3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12	3.0mm ² AWG12
Connection supply cable	3(L)	AWG 16	AWG 16	AWG 16	AWG 16	AWG 16	AWG 16	AWG 16
	2(N)							
	1(S)							
								

INSTALLATION MANUAL - MAINTENANCE

Periodic maintenance is essential for keeping your air conditioner efficient.

Before carrying out any maintenance, turn the power supply “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 113°F (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 front panel.

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

CLEANING THE HEAT EXCHANGER

1. Open the front panel of the unit and remove by lifting up and unhooking it from the hinges to make the cleaning easier.
2. Clean the indoor unit using a cloth with water not higher than 104°F (40°C) and neutral soap. Never use aggressive solvents or detergents.
3. If the battery of the outdoor unit is clogged, remove any leaves or waste by hand and remove the dust with an 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 air conditioner work on ventilation for several hours, so that the inside of the unit can dry completely.

REPLACING THE BATTERIES

When: • There is no confirmation beep from the indoor unit.

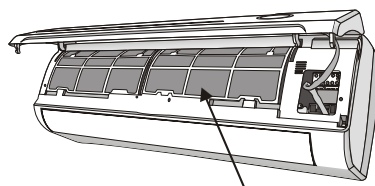
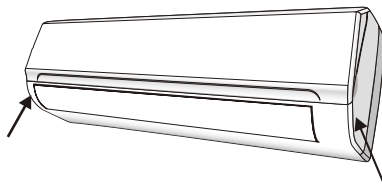
• The LCD doesn't activate.

How: • Remove back cover plate.

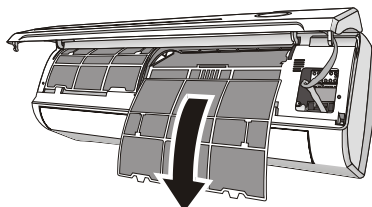
• Place the new batteries respecting the symbols + and - .

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

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



Anti-dust filter



INSTALLATION MANUAL - 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.
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.
The appliance does not respond to commands	No refrigerant.
	Remote control is not close enough to indoor unit.
	The batteries of remote control need to be replaced.
The display is off	Obstacles between remote control and signal receiver in indoor unit.
	Active LIGHT function.
Switch off the air conditioner immediately and cut off the power supply in the event of:	Power failure.
	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
E5	Malfunction of indoor fan motor	EF	Outdoor fan motor fault
E7	Outdoor air temperature sensor fault	EH	Outdoor suction temperature sensor fault

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Mark of Superior Quality

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