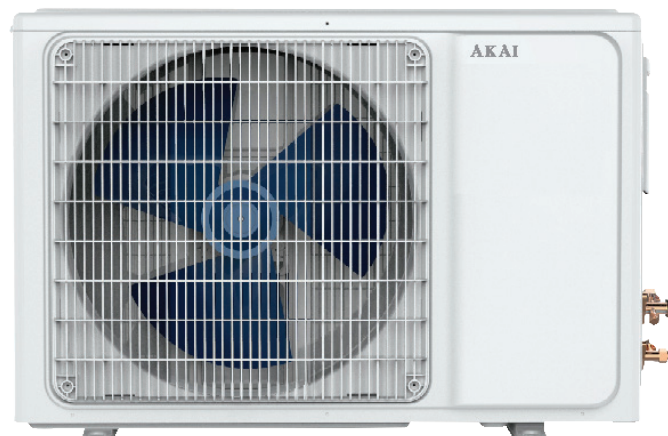


AKAI

PROTECT YOUR WARRANTY

**This unit must be installed by a registered,
licensed installer as required by
Government regulations.**



Wi-Fi Reverse Cycle Split System Air Conditioner

INSTALLATION MANUAL

Model Number AK-9000WIFI

Model Number AK-12000WIFI

Model Number AK-18000WIFI



N13275

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Important Safety Instructions

PROTECT YOUR WARRANTY

These installation instructions are for use by an appropriately qualified installer. Do not try to install the air conditioner on your own; doing so will expose you to danger and void the warranty. Contact a licensed installer.

FOR THE INSTALLER

Read this guide before installation. The appliance must be installed by a professional installer according to the instructions in this manual and in accordance with all applicable regulations.

Electrical connections

- All wiring work must be done by a qualified electrician. The voltage must be within the range of 90–110% of its rated voltage. The switch or power plug must be kept clean.
- Before accessing the terminals, all the power circuits must be disconnected from the power supply.
- The air conditioner must be grounded. Incomplete grounding may result in electric shocks. Do not connect the earth wire to the gas pipeline, water pipeline, lightning rod or telephone earth wire.
- If the air conditioner is not fitted with a supply cord and a plug, an all-pole switch must be installed in the fixed wiring and the distance between contacts should be no less than 3mm.
- If the air conditioner is permanently connected to the fixed wiring and has a leakage current that may exceed 10 mA, a leakage protector must be installed in the fixed wiring.
- An earth leakage breaker with a rated capacity of more than 1.5 times the maximum current must be installed to avoid possible electric shocks.
- If the power supply cord is damaged, it must be replaced by the manufacture or its service agent or a similar qualified person in order to avoid a hazard.
- For the method of connection of the appliance to the electrical supply and interconnection of separate components, please see the electric connection elements chart attached to the outdoor unit.
- Make sure that after installation the power plug can easily be reached.

Important Safety Instructions (Cont.)

Installation

- The air conditioner's outdoor unit must be installed on suitably strong supports.
- During installation of the indoor and outdoor units, do not allow children access to the working area.
- Make sure that the base of the outdoor unit is firmly fixed, otherwise it will produce abnormal noise and vibration during use.
- **Do NOT install the outdoor unit:**
 - X** In an area where the running noise could disturb neighbours
 - X** In environments where the air could contain gas, oil or sulphur
 - X** Near sources of heat, including in areas where it is directly exposed to sunshine
 - X** At a distance of less than 1m from flammable substances (e.g. alcohol or other flammable liquids or gases) and 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 fire danger.
- 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. Make sure that air cannot enter the refrigerant system and check for refrigerant leaks when moving the air conditioner.

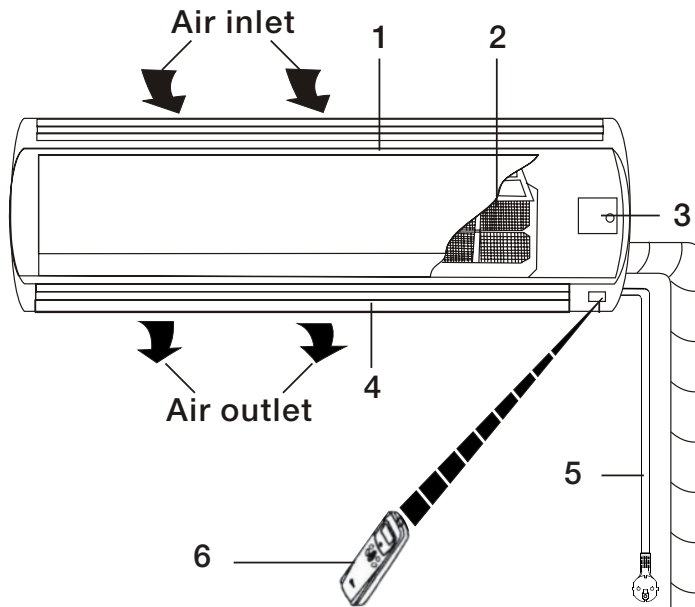
Important Notice: Refrigerant Gas R-410A

This air conditioner uses the refrigerant R-410A in a closed cooling circuit. While this coolant has zero ozone depletion potential, it is a so-called greenhouse gas under the Kyoto Protocol and may thus contribute to global warming, if it is released into the atmosphere. Therefore only trained technicians with an appropriate refrigerant certificate may service the appliance for filling or emptying.

Product Overview

Indoor Unit

Fig. 1



Scope of Delivery

Indoor unit (Fig. 1)

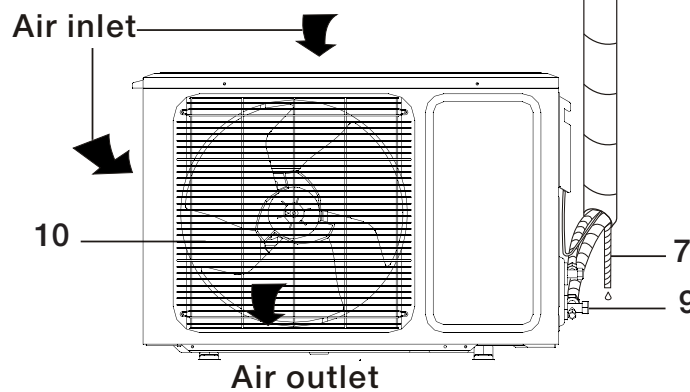
- 1 Front panel
- 2 Air filter
- 3 LC display and signal receptor
- 4 Louvres
- 5 Supply cord
- 6 Remote controller

Outdoor unit (Fig. 2)

- 7 Drain hose
- 8 Refrigerant gas/liquid pipe
- 9 Cut-off valve
- 10 Air outlet cover

Outdoor Unit

Fig. 2



Installation hardware

(not pictured):
Connection pipe
Plastic strap
Pipe protection ring
Rubber feet
Luting (putty)

Documentation

(not pictured):
User manual,
Installation manual,
Certificates

Note:

- If the power is supplied from the outdoor unit, the power supply cord is fitted in the outdoor unit.
- Figures and descriptions throughout this user manual are for explanatory and illustrative purposes only and may differ slightly from the appearance of the product purchased.

Selecting the Installation Place

Indoor Unit

The AKAI Wi-Fi Reverse Cycle Split System Air Conditioner systems are suitable for cooling or heating rooms/areas of the following size:

AK-9000WIFI:	up to 20m ²
AK-12000WIFI:	13–27m ²
AK-18000WIFI:	20–40m ²

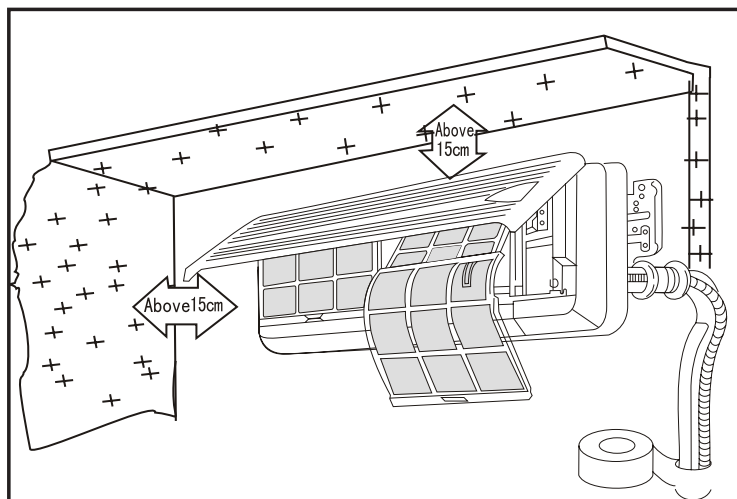
Before starting installation, decide on the position of the indoor and outdoor units, taking into account the minimum space required around the units.

Install the indoor unit:

- ✓ Level, on a strong wall that is not subject to vibrations
- ✓ Near an electrical socket or private circuit
- ✓ So that the inlet and outlet ports are not be obstructed, the air should be able to blow all over the room
- ✓ Where the minimum clearances can be maintained (as illustrated) and at least 2m above floor height
- ✓ Where connection between the indoor and outdoor units is as easy as possible
- ✓ Where the filter is easily accessible
- ✓ Where it is easy to drain any condensation water.

Do NOT install the indoor unit:

- × Near a source of heat, steam or flammable gas
- × Near a doorway
- × Where it will be exposed to direct sunlight



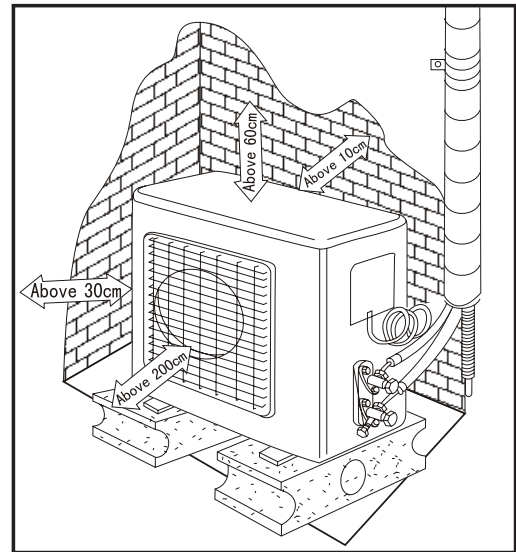
Selecting the Installation Place (Cont.)

Outdoor Unit

If you put up a canopy to protect the outdoor unit from rain and sun rays, make sure you do not create any obstacles for proper heat dispersion from the condenser.

Install the outdoor unit:

- ✓ In a safe place and solid place
- ✓ Level, on a strong and secure installation base and supporting frame
- ✓ In the room to be air conditioned — avoid installation in corridors or communal areas
- ✓ Where the air discharge and operating sound level will not disturb neighbours
- ✓ Where the minimum clearances can be maintained (as illustrated) for free air circulation.



Do NOT install the indoor unit:

- × Near sources of heat, steam or flammable gas
- × Where it is exposed to high winds or excessive dust
- × Where people often pass
- × Where it will be exposed to direct sunlight — if such position cannot be avoided, use a protection that will not interfere with the airflow
- × Where animals are kept or plants are grown, as exposure to cold and hot air will affect them
- × Where it will be subject to vibration — if such position cannot be avoided, place rubber gaskets on the feet of the unit.

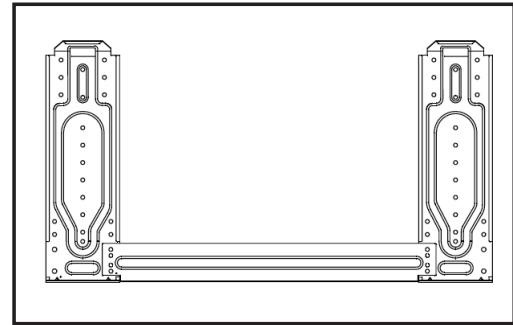
The distance between the indoor and outdoor units should be 5 metres, and the pipe length can go up to a maximum of 15 metres with additional refrigerant charge.

Max. Allowable Tubing Length at Shipment	Limit of Tubing Length	Limit of Elevation Difference H	Required Amount of Additional Refrigerant (g/m)	
			CC ≤12000BTU	CC ≥18000BTU
5m	15m	5m	20	30

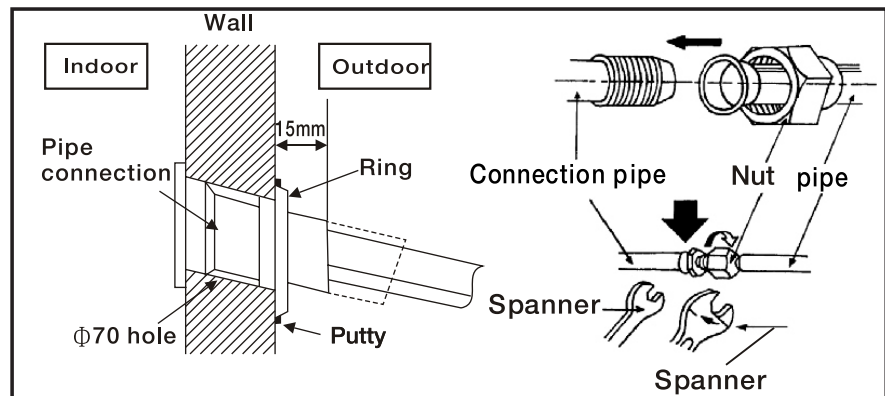
Installation

Installing the Indoor Unit

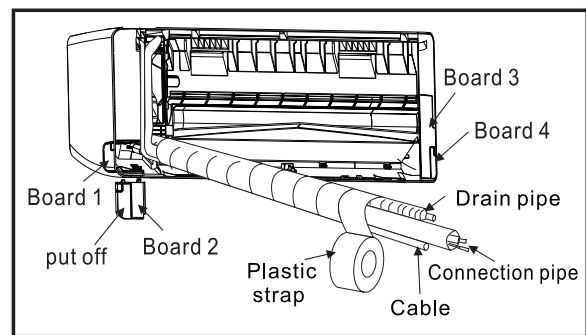
- First ensure the wall is strong and solid enough to hold the unit safely.
- Attach the installation board to the wall using 4 (+) type screws. Use a spirit level to ensure it is in a perfectly level position vertically and horizontally, otherwise it might cause water drops when the unit is cooling.
- Pull out the indoor unit pipes after detaching the fixed parts on them. Connect the interconnected pipes to the indoor unit: point to the centre of the pipe and fasten the connection screw, at first by hand and then by wrench, until you hear a click sound. Fastening direction is shown in the picture below.



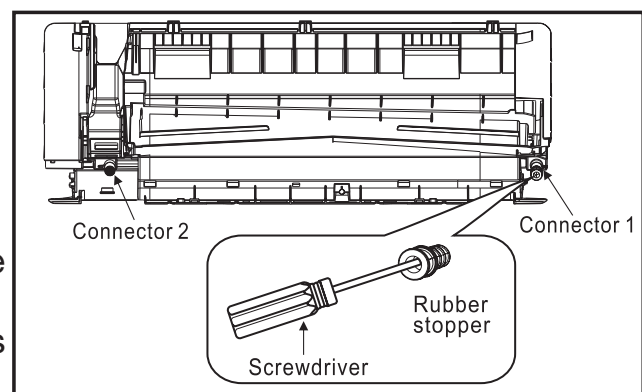
- Drill a 70mm diameter pipe hole (slanting slightly outward) at the left or right down side of the installation board.
- Before installation, confirm the direction of the connection



- Remove Board 1 and Board 2 on the correct connecting side. Press the connection pipes to the board gap, then install Board 2 to the original location. If the connection pipes are on the other side, install them as pictured.



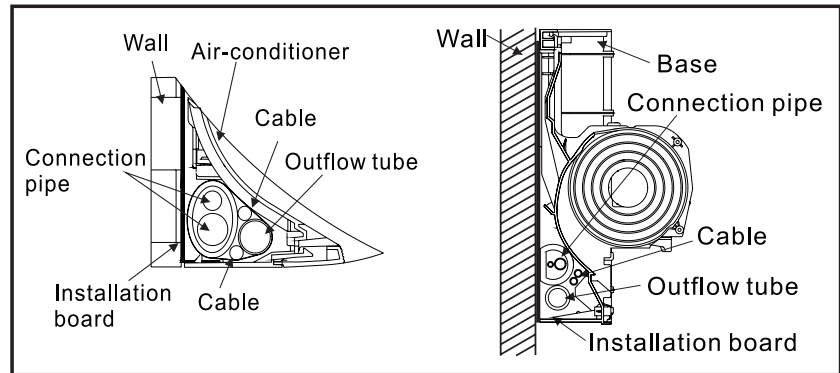
- The drainage pipe can be connected to Connector 1 and Connector 2. If it is necessary to adjust the drainage pipe to the other connector, remove the rubber stopper from this side and fix the drainage pipe to it, then fix the rubber stopper to the other connector to block it up.



- **Note:** To block up the connector, use a tool like a screwdriver to plug the rubber stopper into the connector, as pictured.

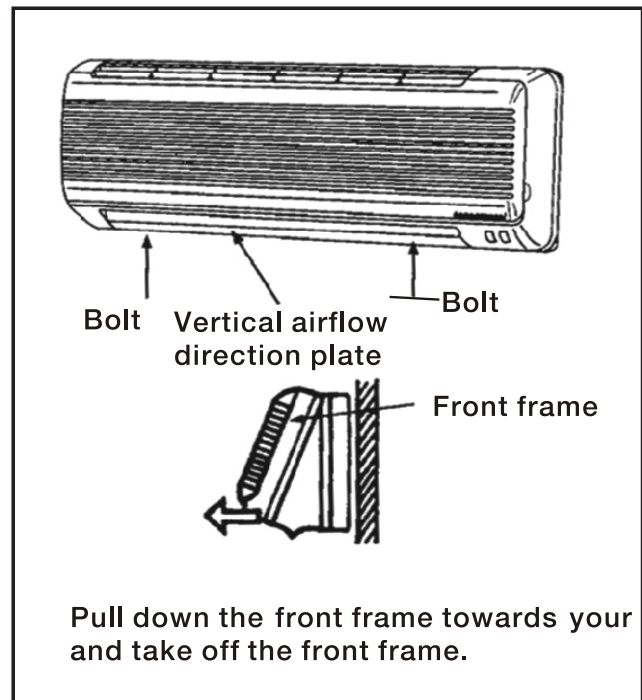
Installation (Cont.)

Note: The installed air conditioner will not be tightly affixed to the wall unless it is installed as pictured. The outflow tube must be at the bottom and its highest point not higher than the water basin.



Checking the Water Discharge

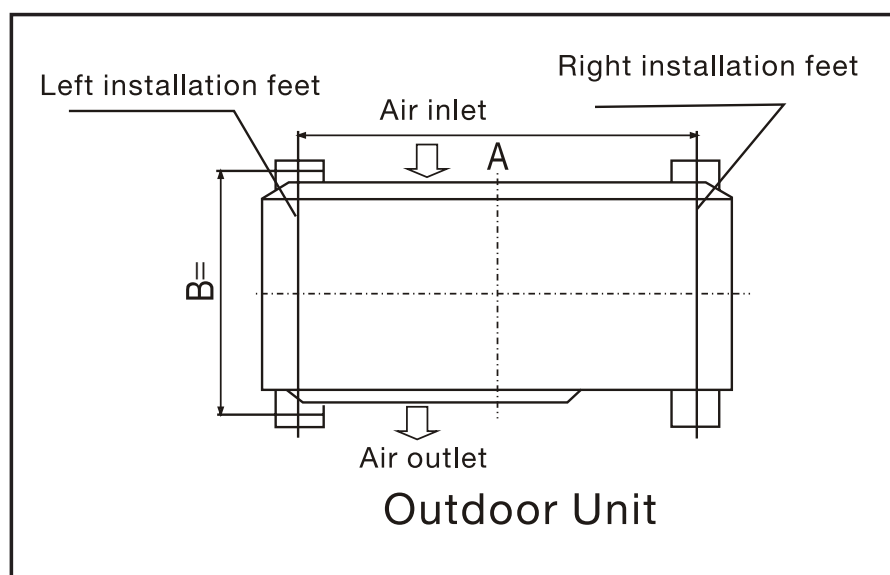
- For maintenance, take off the front frame according to the following steps:
- Turn the perpendicular airflow direction handle from [I] to horizontal direction.
- As shown in the picture on the right, take off the two covers from the front frame and then unfasten the two fixture screws.
- Pull the front frame towards yourself and take it off.
- To put the front frame back, turn the perpendicular airflow direction handle from [I] to horizontal, then proceed according to the fourth and third steps above.
- You should check whether the front frame is firmly inside the fixture groove on the top.
- To check the water discharge, put a cup of water into the groove and check whether the water flows through the water discharge hole.



Installation (Cont.)

Installing the Outdoor Unit

- The outdoor unit must be firmly fixed so it does not fall over in strong wind.
- Install the unit on a cement base, as illustrated below.
- If the unit is to be installed in areas with strong wind, such as in coastal areas or at places high above sea level, the outdoor unit should be installed against a wall to ensure normal fan operation, and the blocking plate should be used.
- Make sure the mounting surface is made of solid materials and is strong enough to support the unit in operation. Otherwise, measures such as reinforcement, support or vibration damping should be adopted.



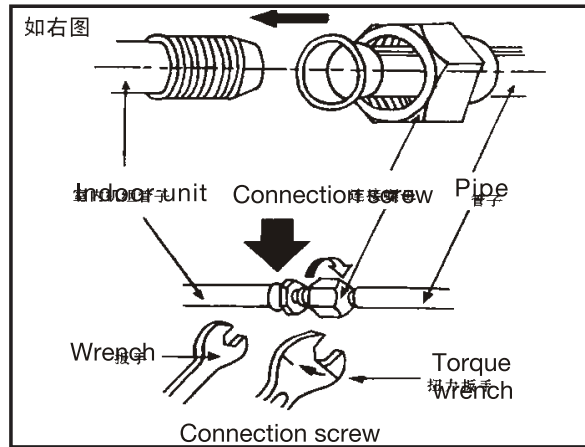
Outdoor Unit Size of Shape (mm)	A (mm)	B (mm)
720x260x540	540	271
802x298x535	546	316

Installation (Cont.)

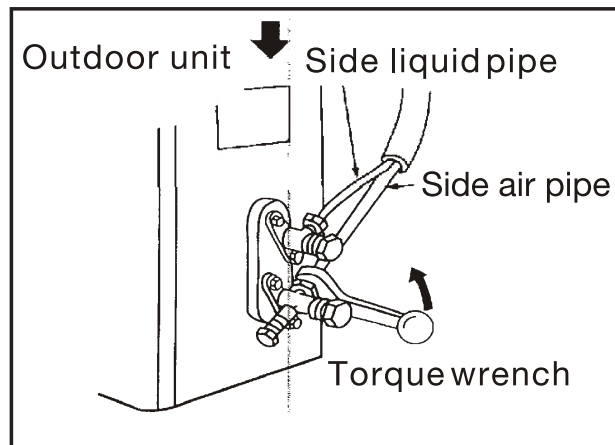
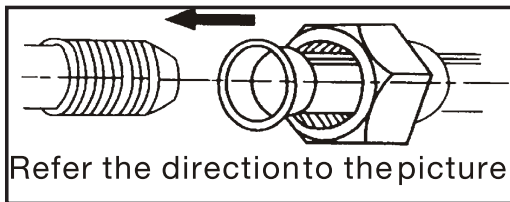
Pipe Connection

- Connect the pipe to the unit as illustrated below.
- Pointing to the centre of the pipe, fasten by wrench in the direction indicated in the illustration below, until it is tightly fastened.

The size of pipe	Torque
$\Phi 6.35\text{mm}(\frac{1}{4}'')$	18N.m
$\Phi 9.52\text{mm}(\frac{3}{8}'')$	42N.m
$\Phi 12.7\text{mm}(\frac{1}{2}'')$	55N.m
$\Phi 15.88\text{mm}(\frac{5}{8}'')$	75N.m



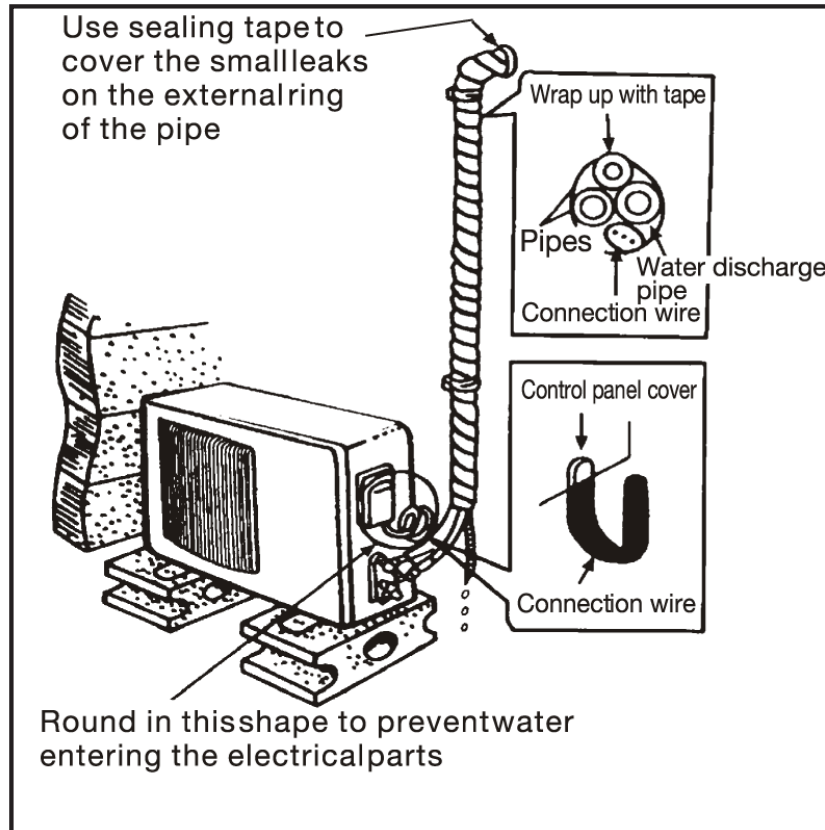
- Pointing towards the centre of the pipe, fasten the screw with strength.
- Wrench the screw in the end until it clicks securely into place.



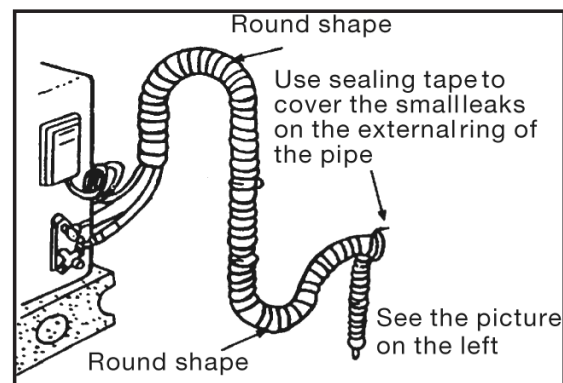
Installation (Cont.)

Shape and form of the pipe

- Wrap up all pipe, water discharge and connection wire from top to below.
- Cover the connections and fix them with two plastic rings.
- Wrap up the pipes with tape alongside the wall and fix them to the wall with clips. These steps are usually adopted when the outdoor unit is installed below the indoor unit.



- In case that you want to have an additional water discharge pipe, the end of the pipe should be within a certain distance towards the surface (don't let it drop under water, fix it onto the wall so it won't be swayed by wind).
- Wrap the pipes and connection wire well from bottom to top.
- To prevent water entering the room, wrap up the pipes that are rounded up by the wall corners, as illustrated.
- Use clips or other fixture to fasten the pipes to the walls.



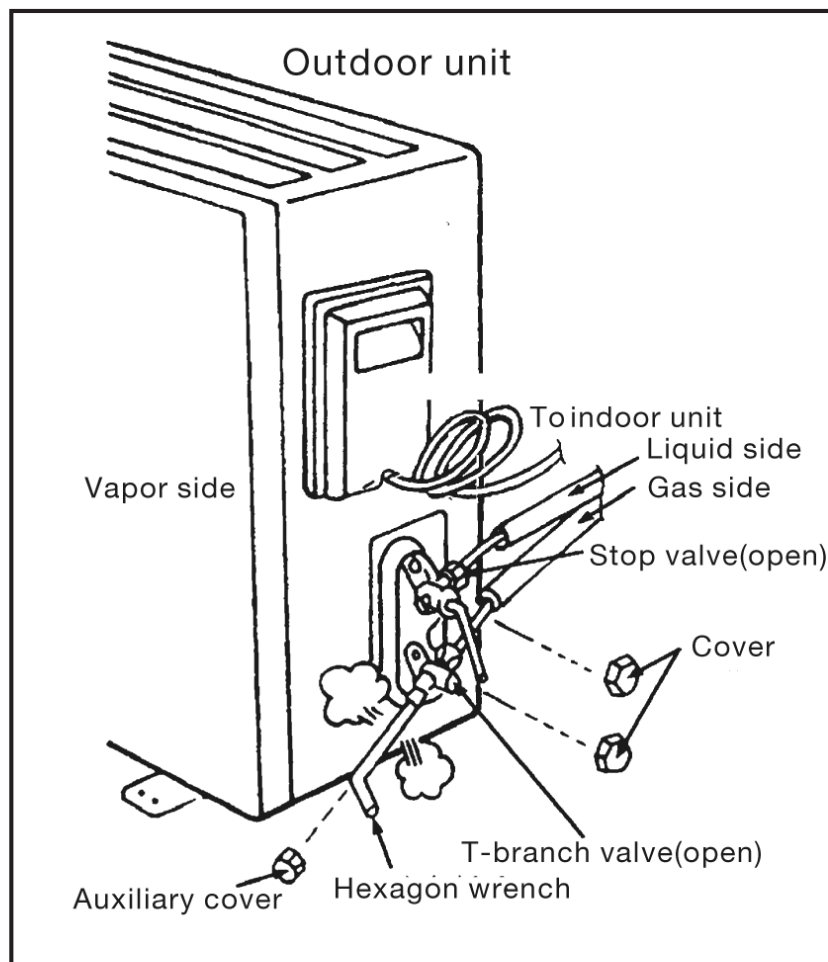
Installation (Cont.)

Expelling Air from Pipes

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 following the below steps.

1. Take off the cover from the stop valve and T-branch valve.
2. Take off the auxiliary cover from the T-branch valve.
3. Turn the stop valve rod anticlockwise to an angle of 90 degrees, keep it open for 8 seconds and then close the valve.
4. Check whether there is air leakage at all connection parts of the pipes.
5. Push the top rod of the T-branch valve with a hexagon wrench to expel air.
6. Repeat the third and fifth steps.
7. Open the stop and T-branch valve with a hexagon wrench to start operation of the unit.

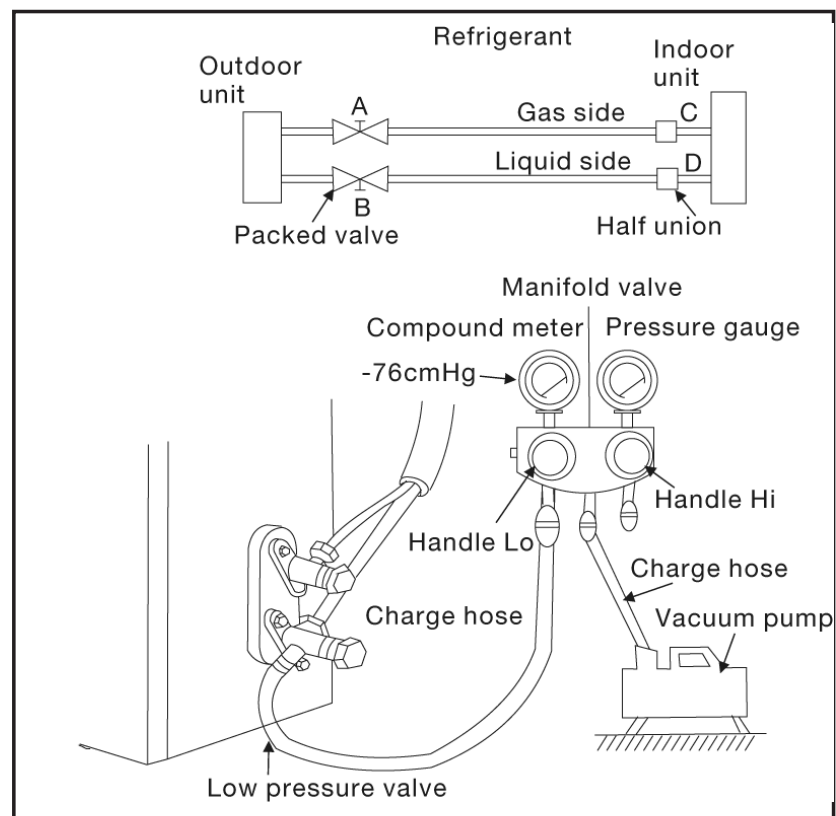
IMPORTANT: Check all piping and connections and ensure there is no leakage. Test the unit with soapy water for leakage.



Installation (Cont.)

As the air conditioner is filled with the refrigerant R-410A, any air and moisture remaining in the refrigerant system must be discharged with a vacuum pump. (For method of using a manifold valve, refer to its operation manual.)

1. Completely tighten the flare nuts A, B, C, D (as illustrated below) and connect the manifold valve charge hose to a charge port of the low-pressure valve on the gas pipe side.
2. Connect the charge hose connection to the vacuum pump.
3. Fully open the handle Lo of the manifold valve.
4. Operate the vacuum pump to evacuate. After starting evacuation, slightly loose the flare nut of the Lo valve on the gas pipe side and check that the air is entering. (Operation noise of the vacuum pump changes and a compound meter indicates 0 instead of minus.)
5. After the evacuation is complete, fully close the handle Lo of the manifold valve and stop the operation of the vacuum pump. Make evacuation for 15 minutes or more and check that the compound meter indicates -76cmHg ($-1 \times 10^5 \text{ Pa}$).
6. Turn the stem of the packed valve B about 45° counterclockwise for 6~7 seconds after the gas starts coming out, then tighten the flare nut again. Make sure the pressure display in the pressure indicator is a little higher than the atmosphere pressure.
7. Remove the charge hose from the Low pressure charge hose.
8. Fully open the packed valve stems B and A.
9. Securely tighten the cap of the packed valve.



Installation (Cont.)

Electrical Connection

Use the following cables depending on the model (capacity) of your air conditioner. Connect the cables to their terminals according to their number.

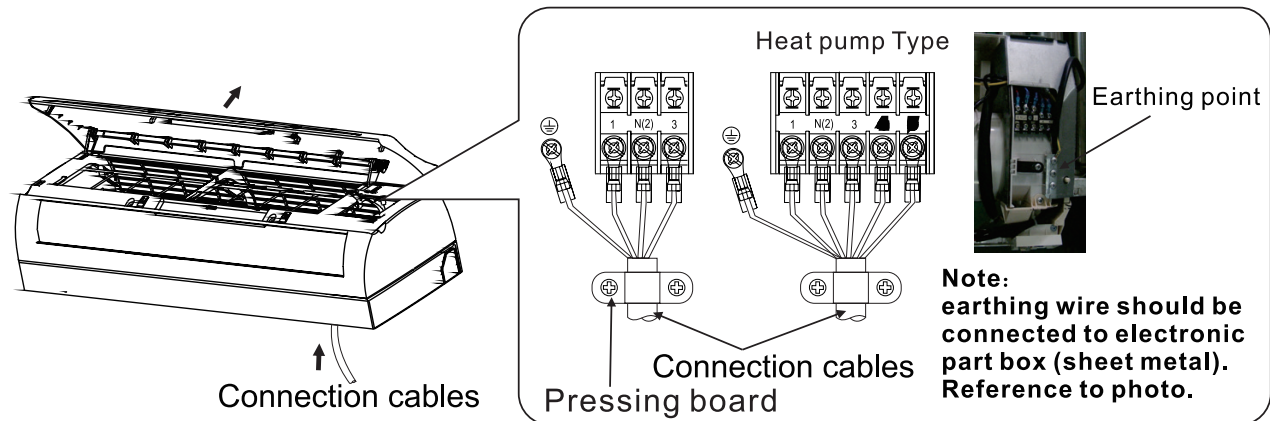
Model	≤9000BTU (≤2500W)	≤12000BTU (≤3500W)	≤18000BTU (≤5100W)
Specification of interconnection cables (mm ²)	1.0	1.0	1.0
Specification of input power cables (mm ²)	1.0	1.5	1.5

Indoor connection

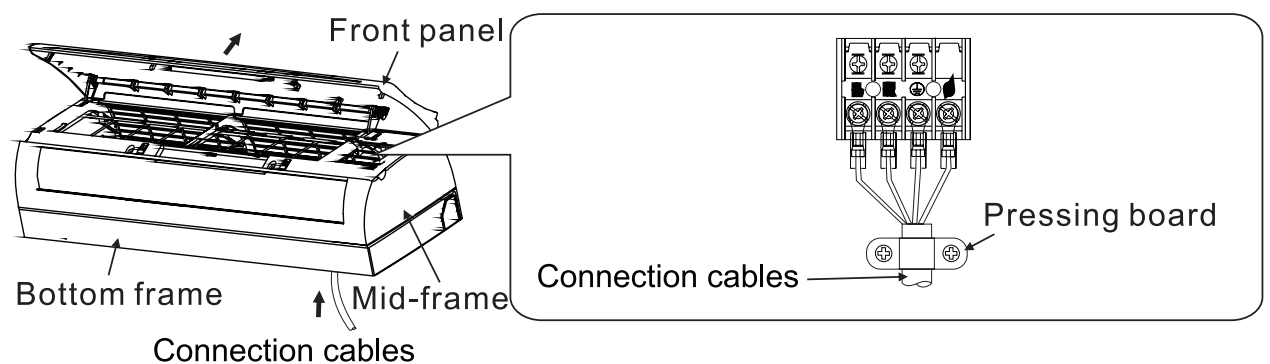
Open the front panel, inset the connection cables from the base of the air conditioner, connecting to the terminal board as illustrated, using the pressing board to fasten the connection cables.

Open the front panel, if the indoor unit is fitted with the signal wire, detach the mid-frame and insert the signal wire through the bottom frame, then connect the signal wire quick plug of the indoor to the outdoor unit.

Wiring diagram of constant speed



Wiring diagram of variable speed



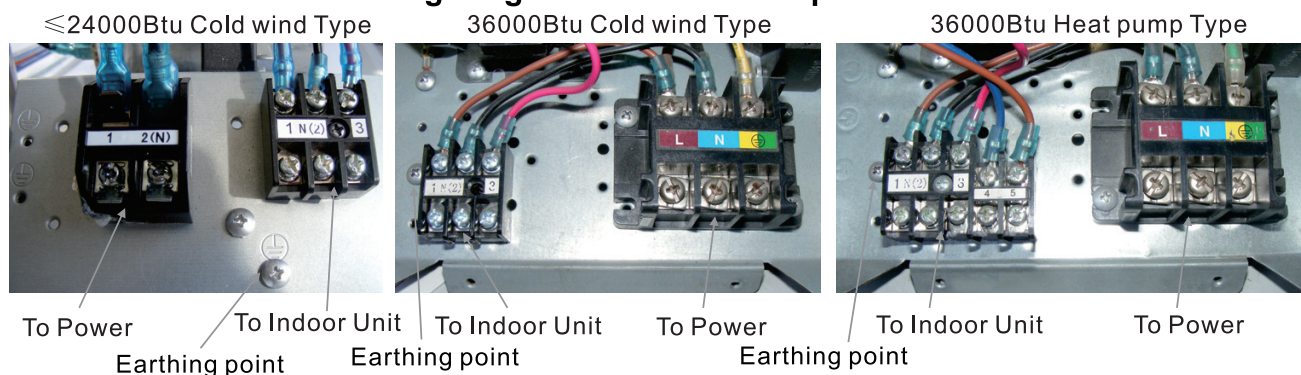
Installation (Cont.)

Outdoor connection

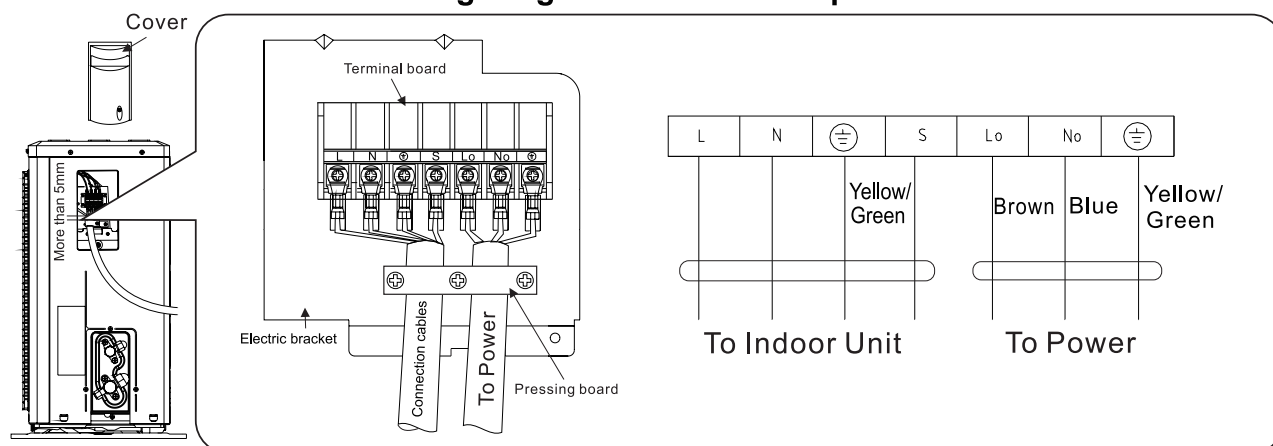
Unscrew the screw and take the control panel cover off the unit. Connect the cable to their terminals according to their number.

To connect the grounded wire, loosen the grounded screw of the electrical bracket and connect the grounded wire with the grounded screw, then set the screw in the ⊕ mark. Fix the cable to the terminal board with the fastening piece, then reinstall the cover with the screw.

Wiring diagram of constant speed



Wiring diagram of variable speed

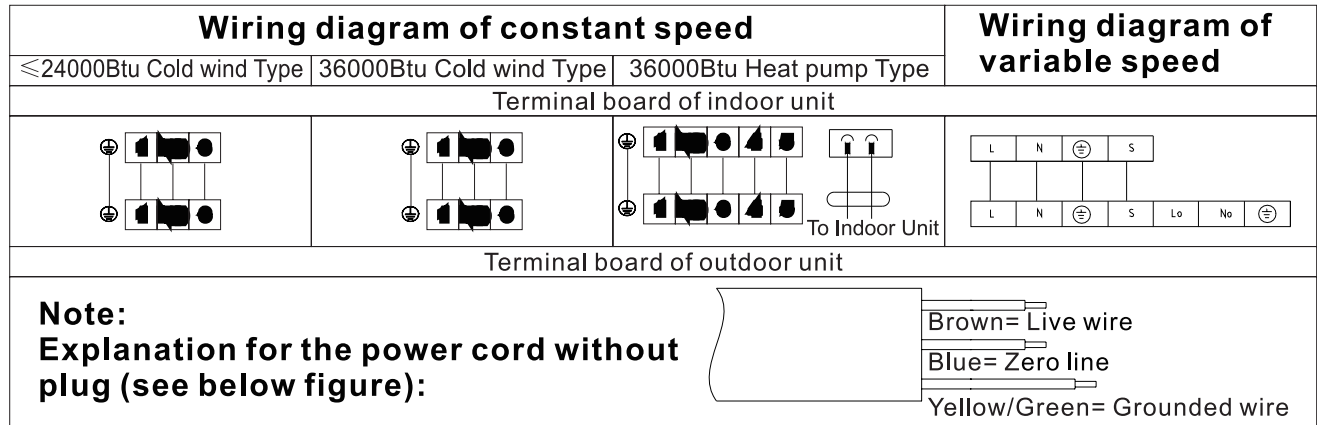


Important notes

- Don't reverse the power polarity.
- Wrong connection of the grounded wire will lead to malfunction of some electrical parts.
- Fix the screw nail firmly to the wire, then drag the wire lightly to confirm that it is fixed firmly. If the wire is loose, fix it firmly. Self-tapping screws cannot be used for electrical connections.
- If there is a connector, connect it directly.

Installation (Cont.)

- The connection of the connection cables of the indoor unit and outdoor units must correspond to the graph below. Wrong connection may cause electric shock or fire.



Note: This manual includes all wiring modes for different air conditioner models. Please refer to the corresponding guide and instruction when wiring. We cannot exclude the possibility that the product has been improved, which could have caused a change of wiring, therefore please refer to the wiring diagram attached to the unit purchased.

Test Run

- Make sure that pipes and wires are properly connected.
- Make sure that both the liquid side valve and air side valve are completely open.

Power source connection

- Connect the wire to an independent power source socket.
- Prepare the remote control.
- Run the air conditioner in cooling operation mode for 30 minutes or longer.

Performance evaluation

- Test the temperature going into and coming out of the air conditioner. Make sure that the air conditioner can achieve a temperature difference between the outside air and the air at the indoor outlet of at least 10°C.

Technical Specifications

Technical specification		AK-9000WIFI	AK-12000WIFI	AK-18000WIFI
General data				
Cooling capacity (W)		2500 (1500-3400)	3400 (1700-4100)	5300 (1000-5600)
Heating capacity (W)		2800 (1400-3700)	3800 (1700-4300)	5300 (900-6500)
AEER/ACOP (W/W)		3.82 / 4.14	3.81 / 4.01	≥3.25 / ≥3.25
Energy stars	Cooling	3	3	2
	Heating	3.5	3.5	2
Moisture removal (L/h)		0.8	1.1	1.6
Max. discharge pressure (MPa)		4.15	4.15	4.15
Max. suction pressure (MPa)		1.15	1.15	1.15
Indoor noise level (L/M/H/Turbo) (dbA)		29/ 34 / 38.5 / 40	34 / 38 / 39.5 / 41	35 / 40 / 45 / 47
Outdoor noise level (dbA)		51	52	54
Electrical data				
Power supply		220-240VAC ~ 50Hz		
Rated current (A)	Cooling	4.2 (2.0-6.8)	4.5 (2.1-6.5)	8.2 (2.3-9.2)
	Heating	3.4 (1.7-4.8)	4.3 (1.9-5.6)	8.2 (2-11)
Rated input power (W)	Cooling	720 (330-1550)	980 (360-1600)	1520 (450-2100)
	Heating	650 (310-1080)	950 (330-1300)	1500 (450-2500)
Max. current input (A)		7.5	8.5	12.8
Max. power input (W)		1700	1900	2900
Refrigeration system				
Refrigerant (g)	R410A	830	1050	1230
Compressor type		Rotary		
Fan system				
Indoor air circulation (m³/h)	High/ Cooling	650	700	1050
Fan type	Indoor	Cross flow		
	Outdoor	Axial		
Fan speed (rpm)	Indoor (T/H/M/L)	1280/1130/1000/800 (DC Motor)	1300/1150/1000/800 (DC Motor)	1230/1080/970/850 (DC Motor)
	Outdoor	800±30 (DC Motor)		

Technical Specifications (Cont.)

Technical specification		AK-9000WIFI	AK-12000WIFI	AK-18000WIFI
Connections				
Connecting pipe (inch)	Liquid	1/4”Dg4		
	Gas	3/8”Dg8	3/8”Dg8	1/2”Dg10
Other specifications				
Condensate drainage pipe (OD*L) (mm)		Ø16.5x2000		
Dimensions (mm)	Indoor	800*198*300	850*198*300	970*235*315
	Outdoor	720*260*540	802*298*535	802*298*535
Weight (kg)	Indoor	9.5	10	14
	Outdoor	27.5	30	41

After Sales Support

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