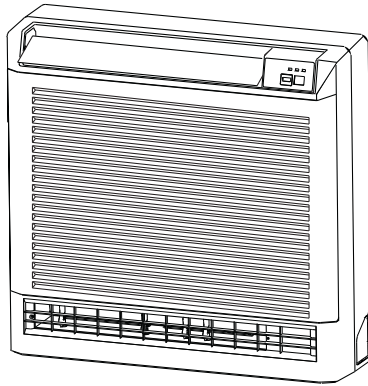


Room Air-conditioner indoor units

Console Type

OPERATION AND INSTALLATION MANUAL



AF072XCEAA

AF092XCEAA

AF122XCEAA

AF142XCEAA

No.0010577698

- Please read this operation manual before using the air conditioner.
- Please keep this manual carefully and safely.

Table of Contents

Cautions	1-4
Parts and Functions	5
Operation hints	6
Maintenance	7
Trouble shooting	8
Installation Manual of Room Air Conditioner	9-14

Cautions

Disposal of the old air conditioner

Before disposing an old air conditioner that goes out of use, please make sure it's inoperative and safe. Unplug the air conditioner in order to avoid the risk of child entrapment.

It must be noticed that air conditioner system contains refrigerants, which require specialized waste disposal. The valuable materials contained in an air conditioner can be recycled. Contact your local waste disposal center for proper disposal of an old air conditioner and contact your local authority or your dealer if you have any question. Please ensure that the pipework of your air conditioner does not get damaged prior to being picked up by the relevant waste disposal center, and contribute to environmental awareness by insisting on an appropriate, anti-pollution method of disposal.

Disposal of the packaging of your new air conditioner

All the packaging materials employed in the package of your new air conditioner may be disposed without any danger to the environment.

The cardboard box may be broken or cut into smaller pieces and given to a waste paper disposal service. The wrapping bag made of polyethylene and the polyethylene foam pads

All these valuable materials may be taken to a waste collecting center and used again after adequate recycling.

Consult your local authorities for the name and address of the waste materials collecting centers and waste paper disposal services nearest to your house.

Safety Instructions and Warnings

Before starting the air conditioner, read the information given in the User's Guide carefully. The User's Guide contains very important observations relating to the assembly, operation and maintenance of the air conditioner.

The manufacturer does not accept responsibility for any damages that may arise due to non-observation of the following instruction.

- Damaged air conditioners are not to be put into operation. In case of doubt, consult your supplier.
- Use of the air conditioner is to be carried out in strict compliance with the relative instructions set forth in the User's Guide.
- Installation shall be done by professional people, don't install unit by yourself.
- For the purpose of the safety, the air conditioner must be properly grounded in accordance with specifications.
- Always remember to unplug the air conditioner before opening inlet grill. Never unplug your air conditioner by pulling on the power cord. Always grip plug firmly and pull straight out from the outlet.
- All electrical repairs must be carried out by qualified electricians. Inadequate repairs may result in a major source of danger for the user of the air conditioner.
- Do not damage any parts of the air conditioner that carry refrigerant by piercing or perforating the air conditioner's tubes with sharp or pointed items, crushing or twisting any tubes, or scraping the coatings off the surfaces. If the refrigerant spurts out and gets into eyes, it may result in serious eye injuries.

Cautions

- Do not obstruct or cover the ventilation grille of the air conditioner. Do not put fingers or any other things into the inlet/outlet and swing louver.
- Do not allow children to play with the air conditioner. In no case should children be allowed to sit on the outdoor unit.

Specifications

- The refrigerating circuit is leak-proof.

The machine is adaptive in following situation

1. Applicable ambient temperature range:

			Rated	Maximum	Minimum
Cooling	Indoor	DB °C	27	32	18
		WB °C	19	23	14
	outdoor	DB °C	35	43	10
		WB °C	24	26	6
Heating	Indoor	DB °C	20	27	15
		WB °C	14.5	--	--
	outdoor	DB °C	7	24	-7
		WB °C	6	18	--

2. If the power supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person.
3. If the fuse of indoor unit on PC board is broken, please change it with the type of T3.15A/250VAC.
4. The wiring method should be in line with the local wiring standard.
5. The waste battery should be disposed properly.

6. The appliance is not intended for use by young children or infirm persons without supervision.
7. Young children should be supervised to ensure that they do not play with the appliance.
8. A breaker should be used in the circuits, which should be all-pole cutoff and the distance between its two contacts should be not at least 3mm .
9. The power plug and connecting cable must have acquired the local attestation.

Cautions

Safety Instruction

- Please read the following Safety Instructions carefully prior to use.
- The instructions are classified into two levels, WARNING and CAUTION according to the seriousness of possible risks and damages as follows. Compliance to the instructions are strictly required for safety use.

Installation

⚠ WARNING

Please call Sales/Service Shop for the Installation.

Do not attempt to install the air conditioner by yourself because improper works may cause electric shock, fire, water leakage.

Installation in an inadequate place may cause accidents. Do not install in the following place.

⚠ CAUTION

Connect the earth cable.



STRICT ENFORCEMENT

Do not install in the place where there is any possibility of inflammable gas leakage around the unit.



PROHIBITION

Do not get the unit exposed to vapor or oil steam.



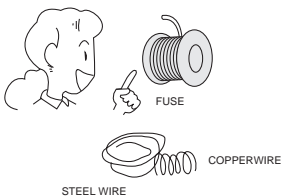
PROHIBITION

Check proper installation of the drainage securely



STRICT ENFORCEMENT



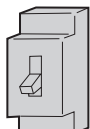

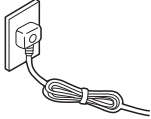
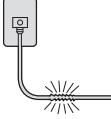




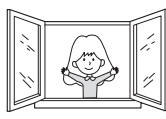

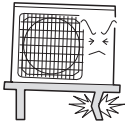

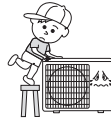
Use fuse with specified capacity. Replacement with steel or copper wires are absolutely prohibited.



Grounding wire should not be connected to that of gas pipeline, water pipeline, lighting arrester or telephone.

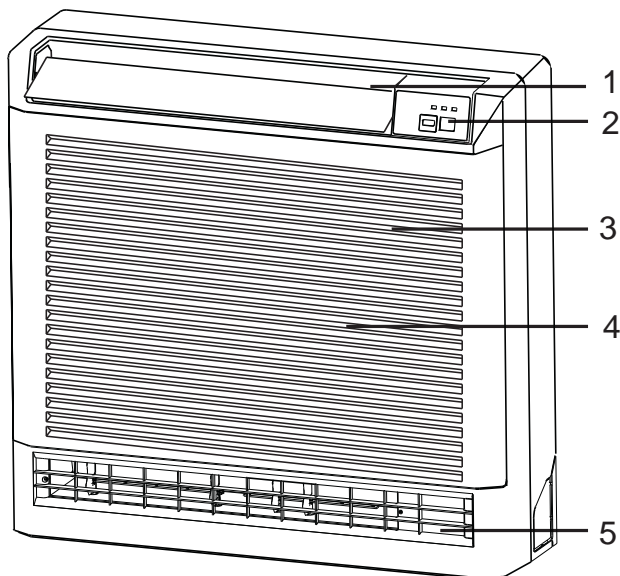
Cautions

Use of Air Conditioner

⚠ WARNING		
<p>When abnormality such as burnt-smell found, immediately stop the operation button and contact sales shop.</p> <p> OFF </p> <p style="text-align: center;">! STRICT ENFORCEMENT</p>	<p>Use an exclusive power source with a circuit breaker.</p> <p></p>	
<p>Connect power supply cord to the outlet completely.</p> <p> ! STRICT ENFORCEMENT</p>	<p>After installed, the unit shall be tested for electric leakage.</p> <p style="text-align: center;">! STRICT ENFORCEMENT</p>	<p>Do not use power supply cord extended or connected in halfway.</p> <p style="text-align: center;">⊘ PROHIBITION</p>
<p>Do not use power supply cord in a bundle.</p> <p> ⊘ PROHIBITION</p>	<p>Take care not to damage the power supply cord.</p> <p> ⊘ PROHIBITION</p>	<p>Do not insert objects into the air inlet or outlet.</p> <p> ⊘ PROHIBITION</p>
<p>Do not start or stop the operation by disconnecting the power supply cord and so on.</p> <p> ⊘ PROHIBITION</p>	<p>Do not channel the air flow directly at people, especially at infants or the aged.</p> <p style="text-align: center;">⊘ PROHIBITION</p>	<p>Do not try to repair or reconstruct by yourself.</p> <p></p>
⚠ CAUTION		
<p>Do not use for the purpose of storage of food, art work, precise equipment, breeding, or cultivation.</p> <p> ⊘ PROHIBITION</p>	<p>Take fresh air occasionally especially when gas appliance is running at the same time.</p> <p> ! STRICT ENFORCEMENT</p>	<p>Do not operate the switch with wet hand.</p> <p> ⊘ PROHIBITION</p>
<p>Do not install the unit near a fireplace or other heating apparatus.</p> <p style="text-align: center;">⊘ PROHIBITION</p>	<p>Check good condition of the installation stand.</p> <p> ⊘ PROHIBITION</p>	<p>Do not pour water onto the unit for cleaning.</p> <p> ⊘ PROHIBITION</p>
<p>Do not place animals or plants in the direct path of the air flow.</p> <p style="text-align: center;">⊘ PROHIBITION</p>	<p>Do not place any objects on or climb on the unit.</p> <p> ⊘ PROHIBITION</p>	<p>Do not place flower vase or water containers on the top of the unit.</p> <p style="text-align: center;">⊘ PROHIBITION</p>

Parts and Functions

Indoor unit



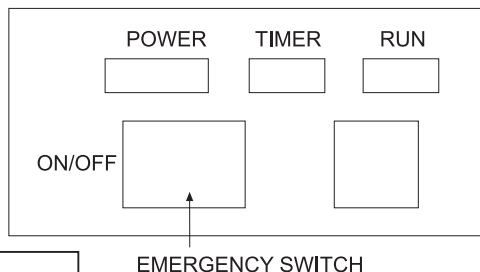
- 1.OUTLET
- 2.CONTROL PANEL
- 3.INLET
- 4.FILTER (inside)
- 5.OUTLET

Operation hints

EMERGENCY OPERATION AND TEST OPERATION

EMERGENCY OPERATION

- Carry out this operation only when the remote controller is defective or lost.
- **Unit start**
When the emergency operation switch is pressed, a sound you can hear, which means the start of this operation.
- Follow the requirements below.



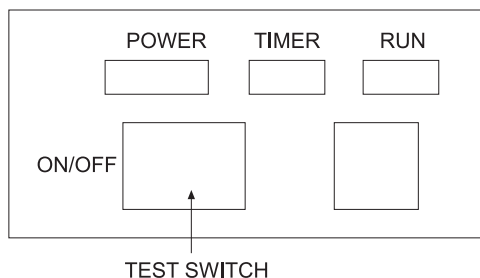
Room temperature	Designated temperature	Timer mode	Air flow speed	Operation mode	Anion
> 23°C	26°C	None	AUTO	COOL	None
≤ 23°C	23°C	None	AUTO	HEAT	None

- **Unit stop**(to cancel emergency operation)
Press the emergency switch and hear a sound ,the unit stops.

TEST OPERATION

- Use this switch in the test operation when the room temperature is less than 16°C , do not used it in the normal operation.

- **Unit start**
Continue to press the test operation switch for more than 5 seconds. After you hear the " BI " sound twice,release your finger from the switch, the test operation starts and the air conditioner starts with the air flow speed setting "Hi".



- **Unit stop**(to cancel test operation)
Push the test run switch or operate with remote controller to cancel the test run.
If you use the remote controller to cancel the test run, the conditioner will then run as per the working mode displayed on the remote controller.

Power failure resume (please set and apply as necessary)

With setting of power failure resume, if sudden power failure occurs, the unit will resume original operation when power is supplied again.

Setting method:

with ON of remote controller (except TIMER and FAN),repeatedly press SLEEP button 10 times in 5 seconds,after 4 Beep from the buzzer,the unit comes into power failure resume mode.

To cancel:




press SLEEP button continuously 10times in 5 seconds,the buzzer sounds Beep twice and power failure resume function is canceled.

Note:

When sudden power failure happens during unit operation in power failure resume mode, if the air conditioner is not desired for use in a long period, please shut off the power supply in case that the unit automatically resume operation when power is re-supplied, or press ON/OFFto turn off the unit when power resumes.

Maintenance

Cleaning of the unit

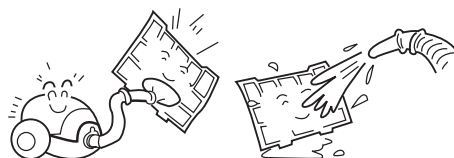
Turn off the power switch	Do not touch with wet hand	Do not clean with hot water or solvent
		

Take off the air inlet grill

First switch off the power supply, take off the screw cap, loosen the screw with cross screwdriver .

Clean the filter

Use water or vacuum cleaner to remove dust. If it is too dirt, clean with detergent or neutral soap water. Rinsing with fresh water, dry the filter and re-assemble.



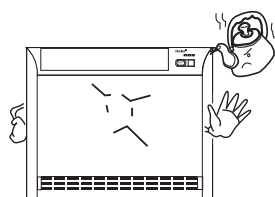
Caution:

Do not wash filter in hot water above 40 C, which will damage the filter. Do carefully wipe the filter.



Clean the indoor(outdoor) unit

Clean with warm cloth or neutral detergent, then wipe away moisture with dry cloth. Do not use too hot water(above 40 C), which will cause discoloration or deformation. Do not use pesticide or other chemical detergents.

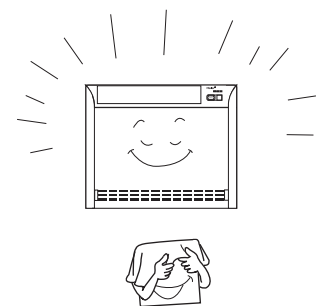


Maintenance at the end of application season

On a fine day, unit shall be started and operate in FAN mode for about half a day until the inside of the unit becomes thoroughly dry.

Turn off the unit operation switch and power on/off. Otherwise, there will be some electricity consumption even the unit is in stop status.

Clean the filter and indoor, cover the units well.






Maintenance before beginning of application season

Check there are no obstacles in the air inlet and outlet to avoid impairing of working efficiency.

Please do attach the air filter to ensure the electrostatic filters not soiled. Otherwise, dirt will come into and damage the unit or bring failures.

Trouble shooting

Before asking for service, check the following first.

	Phenomenon	Cause or check points
Normal Performance inspection	<p>The system does not restart immediately.</p> 	<ul style="list-style-type: none"> • When unit is stopped, it won't restart immediately until 3 minutes have elapsed to protect the system. • When the electric plug is pulled out and reinserted, the protection circuit will work for 3 minutes to protect the air conditioner.
	<p>Noise is heard:</p> 	<ul style="list-style-type: none"> • During unit operation or at stop, a swishing or gurgling noise may be heard. At first 2-3 minutes after unit start, this noise is more noticeable. (This noise is generated by refrigerant flowing in the system.) • During unit operation, a cracking noise may be heard. This noise is generated by the casing expanding or shrinking because of temperature changes. • Should there be a big noise from air flow in unit operation, air filter may be too dirty.
	<p>Smells are generated.</p>	<ul style="list-style-type: none"> • This is because the system circulates smells from the interior air such as the smell of furniture, cigarettes.
	<p>Mist or steam are blown out.</p>	<ul style="list-style-type: none"> • During COOL or DRY operation, indoor unit may blow out mist. This is due to the sudden cooling of indoor air.
Multiple check	<p>Does not work at all.</p>	<ul style="list-style-type: none"> • Is power plug inserted? • Is there a power failure? • Is fuse blown out?
	<p>Poor cooling</p> 	<ul style="list-style-type: none"> • Is the air filter dirty? Normally it should be cleaned every 15 days. • Are there any obstacles before inlet and outlet? • Is temperature set correctly? • Are there some doors or windows left open? • Is there any direct sunlight through the window during the cooling operation?(Use curtain) • Are there too much heat sources or too many people in the room during cooling operation?

Installation Manual of Room Air Conditioner

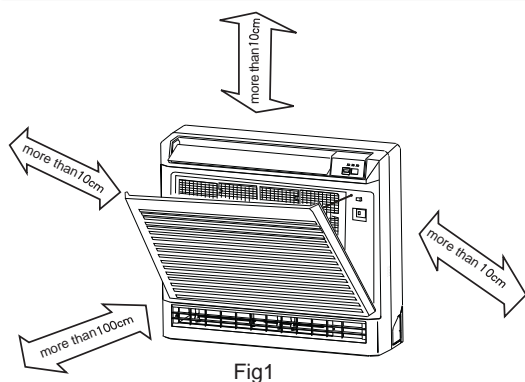


Fig1

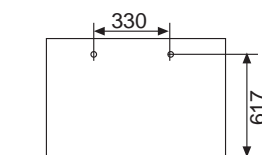


Fig2

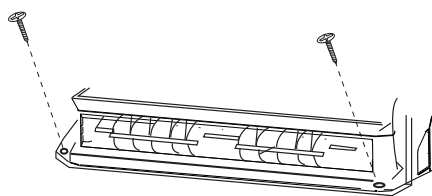


Fig3

Tool necessary

1. Screw driver
2. Hacksaw
3. 70mm dia.hole core drill
4. Spanner(dia. 17,27mm)
5. Spanner(14,17,27mm)
6. Pipe cutter
7. Flaring tool
8. Knife
9. Nipper
10. Gas leakage detector or soap water
11. Measuring tape
12. Reamer
13. Refrigerant oil

Installation of indoor unit

selection of installation place

- Place where it is easy to route drainage pipe and outdoor piping.
- Place ,away from heat source and with less direct sunlight.
- Place where cool and warm air could be delivered evenly to every corner of the room.
- Place near power supply socket.Leave enough space around the unit.
- Place ,robust not causing vibration,where the body can be supported sufficiently.
- To prevent interference, place it at least 1m away from other electric machines, such as TV set, radio.

Installing

- According to the dimension of the figure 2 shown, nail two cement steel nails on the wall,Keep 2~3 mm out.then hang the back of the unit on them.
- There must be no gap between the indoor unit and wall.
- Remove the front panel,then use two expansible screws to fix the unit on the floor.As figure 3 shown.
- Once refrigerant piping and drain piping connections are complete,fill the gap of the throught hole with putty.
- Attach the front panel and front grille in their original positions once all connections are complete.

Installation Manual of Room Air Conditioner

Fixing of the unit

1. Position of the wall hole

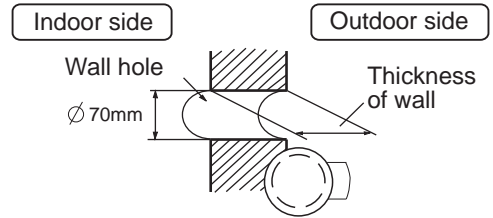
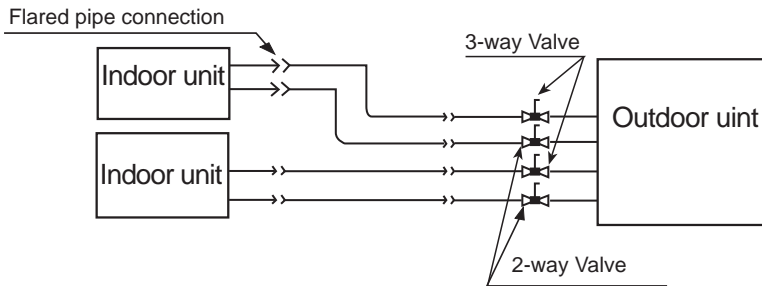
Wall hole should be decided according to installation place and piping direction.(refer to installation drawings).

2. Making a wall hole

Drill a hole of 120X70mm dia. with a little slope towards outside.

3. Piping connection

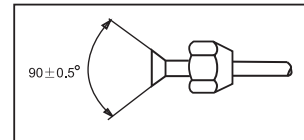
(1) Schematic diagram for unit connection



(Cross section of wall hole)

(2) Connection pipe dimensions:

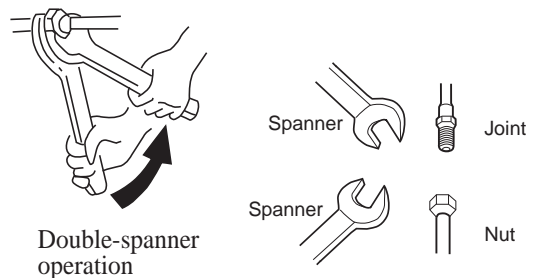
Pipe Value	Torque
Liquid 6.35mm	18 N·m
Gas 9.52mm	50 N·m



- Apply and tighten the nut.

(3) Cautions for pipe connection

- Pipes free from twists, deformation, water, dust. Dedicated tools for each R407C and R410A should be used and stored separately.
- Optimized radii of bends
- Insulation to be applied on all gaseous pipes
- Flared section free from cracks



Threads on the pipes may be damaged when tightening if the pipes are not well aligned.

(4) Pipe connection process

Apply refrigeration oil on the end of the pipe to be connected and on the flared section. Align the pipes to be connected and tighten the nut. (See the figure)
Ensure that no foreign articles enter into the pipes.

Installation Manual of Room Air Conditioner

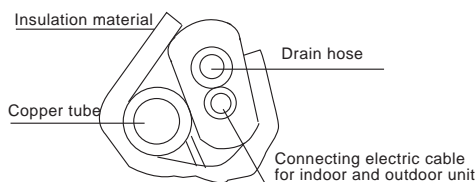
Piping connection of the indoor unit

1. Arrangement of piping and drainage pipe

After opening inlet grill, you will see a control box.

Remove the cover before working.

Cut away, with a hammer or a saw, the lid for piping according to piping direction.



According to the piping method, connect the piping on indoor unit with union of connection pipe. Arrange the piping as per the wall hole and bind drain hose connecting electric cable and piping together with polyethylene tape.

Insert the bound piping connecting electric cable and drain hoses through wall hole to connect with outdoor unit.

2. Arrangement drain hose

Drain hose shall be placed in under place.

There should be a slope when arrange drain hose. Avoid up and down waves in drain hose.

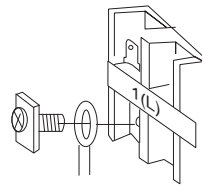
If humidity is high, drain pipe (especially in room and indoor unit) must be covered with installation material.

Installation Manual of Room Air Conditioner

Electric wiring :

Process of wire connections

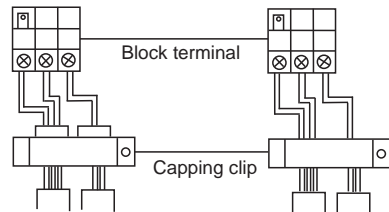
1. Loop terminal
After removing the screw, fix the wire ring on the screw, reinsert the screw into the block terminal and then tighten the screw.
2. Straight terminal
After loosening the screw, inset the wire end into the block terminal and then tighten the screw. Slightly pull the wire to see if it is tightly fixed.
3. Wire capping
After completion of connection, capping clips must be applied on the external sleeve of the wires.



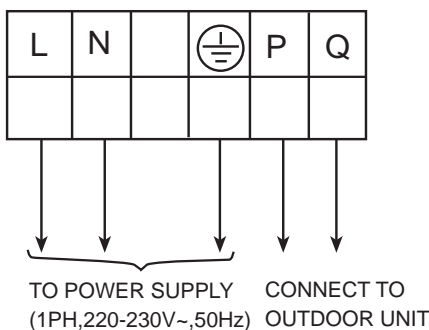
Wiring of indoor unit

- Remove air intake screen and take out the front wires.
- Connect the wires as specified in the above methods and diagrams for indoor unit and wire connections.
- Properly apply capping clips on the wires.
- Replace the air intake screen.
- Do not link the connecting and signal wire with the same cable, a snug space must be maintained between connecting and signal wires.
- Shield of the signal wire should be spot grounded.

Wiring diagram of loop terminals



Wiring connection:



Note:

- When connecting indoor and outdoor wire, check the number on indoor and outdoor terminal blocks. Terminals of same number and same color shall be connected by the same wire.
- Incorrect wiring may damage air conditioner's control or cause operation failure.

Installation Manual of Room Air Conditioner

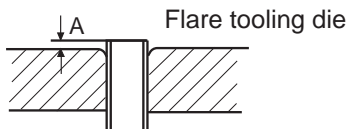
Others

1. Power supply requirements:

- Voltage: single-phase 1PH, 220-230V*, 50Hz
- Dedicated electrical cable should be installed by a qualified technician in accordance with the state regulation for electrical engineering.
- The power source must be grounded.
- A circuit breaker must be installed
- Electrical cables should be connected by the crimping method. Damaged or worn electrical cable must be replaced by authorized after sales agents.
- The power plug should be connected as follows: L for live line, N for neutral line and ⊕ for grounding.
- Connection parameters: H05RN-F 3G(1.0-1.5)mm²
- Signal parameters: H05RN-F 2x(0.75-1.5)mm² (Shielded wire)
The signal wire must be shielded wire.
- Cables for power supply, connection and signals are prepared by the owner.

2. Piping cutting and flaring

Be sure to carry out deburring after cutting with a pipe cutter.
Insert flaring tool to make a flare.



	Pipe diameter φ	Size A (mm)
Liquid pipe	6.35mm(1/4")	0.8 ~1.5
Gas pipe	9.52mm(3/8")	1.0 ~1.5

Correct	Incorrect				
	Lean	Damage of flare	Crack	Partial	Too outside

Installation inspection and test run:

Please operate unit according to this Manual.

Items to be checked during test run. Please make a "✓" in "□"

- Are there any gas leakage?
- How is insulation at piping connection carried out?
- Are electric wires of indoor and outdoor unit firmly inserted into terminal block?
- Is electric wiring of indoor and outdoor securely fixed?
- Is drainage securely carried out?
- Is earth line(grounding) securely connected?
- Is power supply voltage abided by the code?
- Is there any noise?
- Is control display normal?
- Is cooling operation normal?
- Is room temp. regulator normal?

Installation Manual of Room Air Conditioner

Error display

Resumable failures are marked with "⊙", the others are not resumable failures. Resumable failure will disappear when the failure is eliminated and its failure code will disappear automatically within 30 seconds. But the other failure code will disappear only after the unit starts up once again.

When failure occurs, the unit only can receive "OFF" signal from the controller. And when the unit is shut off, the failure code will disappear.

Failure description	Flash times of indoor receiver board
Room temp. sensor abnormal ⊙	Power LED flashes 1 time
Indoor coil temp. sensor abnormal (liquid pipe) ⊙	Power LED flashes 2 times
Refrigerant system abnormal ⊙	Power LED flashes 3 times
High pressure abnormal (outdoor) ⊙	Power LED flashes 5 times
Drainage abnormal	Power LED flashes 6 times
Communication between indoor and wired controller ⊙	Power LED flashes 7 times
Indoor fan motor abnormalup	Power LED flashes 8 times
Indoor fan motor abnormaldown	Power LED flashes 9 times
3 phase abnormal	Running LED flashes once
Low pressure abnormal (outdoor)	Running LED flashes twice
Communication between indoor and outdoor abnormal ⊙	Running LED flashes 3 times
Compressor overheat	Running LED flashes 4 times
CT current abnormal	Running LED flashes 5 times
Outdoor ambient temp. sensor abnormal ⊙	Running LED flashes 6 times
Outdoor coil pipe temp. Sensor A abnormal ⊙	Running LED flashes 7 times
Outdoor discharging temp. sensor B abnormal ⊙	Running LED flashes 8 times
Outdoor coil pipe temp. sensor B abnormal ⊙	Running LED flashes 10 times
Abnormal modes running ⊙	Running LED flashes 11 times
Outdoor discharging temp. sensor A abnormal ⊙	Running LED flashes 12 times
Indoor EEPROM abnormal	Running LED flashes 14 times

HAIER GROUP

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Qingdao ,Shandong 266500, P.R.C

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