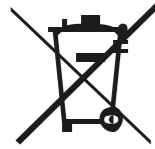


WALL MOUNTED AIR CONDITIONER INSTALLATION MANUAL



READ BEFORE INSTALLATION

This product has been determined to be in compliance with the Low Voltage Directive (2014/35/EU), and the Electromagnetic Compatibility Directive (2014/30/EU) of the European Union.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(When using this air conditioner in European countries, the following guidance must be followed)

- This marking shown on the product or its literature, indicates that waste electrical and electronic equipment (WEEE as in directive 2012/19/EC) should not be mixed with general household waste.

It is prohibited to dispose of this appliance in domestic household waste.

For disposal, there are several possibilities:

1. The municipality has established collection systems, where electronic waste can be disposed of at least free of charge to the user.
2. When buying a new product, the retailer will take back the old product at least free of charge.
3. The manufacture will take back the old appliance for disposal at least free of charge to the user.
4. As old products contain valuable resources, they can be sold to scrap metal dealers.

Wild disposal of waste in forests and landscapes endangers your health when hazardous substances leak into the ground-water and find their way into the food chain.

Indoor Unit	Dimension(IDU)	Outdoor Unit	Dimension(ODU)	Rated Voltage & Hz
42QHC009DS*	730x192x291	38QHC009DS*	700x275x550	208-230V~, 50/60Hz
42QHC009ES*	730x192x291	38QHC009ES*	770x300x555	
42QHC012DS*	812x192x300	38QHC012DS*	770x300x555	
42QHC012ES*	812x192x300	38QHC012ES*	800x333x554	
42QHC018DS*	973x218x319	38QHC018DS*	800x333x554	
42QHC018ES*		38QHC018ES*		
42QHC024DS*	1082x225x338	38QHC024DS*	845x363x702	
42QHC024ES*		38QHC024ES*		
42QHC030DS*	1082x225x338	38QHC030DS*	946x420x810	

This product contains fluorinated gases covered by the Kyoto Protocol

Chemical Name of Gas	R410A
Global Warming Potential (GWP) of Gas	2088
<p>! CAUTION</p> <ol style="list-style-type: none"> 1. Paste the enclosed refrigerant label adjacent to the charging and/or recovering location. 2. Clearly write the charged refrigerant quantity on the refrigerant label using indelible ink. 3. Prevent emission of the contained fluorinated gas. Ensure that the fluorinated gas is never vented to the atmosphere during installation, service or disposal. When any leakage of the contained fluorinated gas is detected, the leak shall be stopped and repaired as soon as possible. 4. Only qualified service personnel are allowed to access and service this product. 5. Any handling of the fluorinated gas in this product, such as when moving the product or recharging the gas, shall comply under (EC) Regulation No. 517/2014 on certain fluorinated greenhouse gases and any relevant local legislation. 6. If the system has a leak-detection system installed, it must be checked for leaks at least every 12 months 7. When the unit is checked for leaks, proper record-keeping of all checks is strongly recommended. 	

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1. PREPARING FOR INSTALLATION

1.1 SAFETY PRECAUTIONS

- Installing, starting up, and servicing air-conditioning equipment can be hazardous due to system pressures, electrical components, and equipment location (roofs, elevated structures, etc.).
- Only trained, qualified installers and service mechanics should install, start-up, and serve this equipment.
- When working on the equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment.
- Follow all safety codes. Wear safety glasses and work gloves. Keep quenching cloth and fire extinguisher nearby when brazing. Use care in handling, rigging, and setting bulky equipment.
- Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes and National Electrical Code for special requirement.

! WARNING

This symbol indicates the possibility of personnel injury or loss of life.

- **Refrigerant gas is heavier than air and replaces oxygen. A massive leak could lead to oxygen depletion, especially in basements, and an asphyxiation hazard could occur leading to serious injury or death.**
- **When the air conditioner is installed in a small room, provide appropriate measures to ensure that the concentration of refrigerant leakage occur in the room does not exceed the critical level.**
- **If the refrigerant gas leaks during installation, ventilate the area immediately.**
Refrigerant gas may produce a toxic gas if it comes in contact with fire such as from a fan heater, stove or cooking device. Exposure to this gas could cause severe injury or death.
- **Disconnect from power source before attempting any electrical work. Connect the connective cable correctly.**
Wrongly connecting may result in electric parts damaged.
- **Use the specified cables for electrical connections and attach the wires firmly to the terminal block connecting sections so that the external force is not exerted to the terminal.**
- **Be sure to provide grounding.**
Do not ground units to gas pipes, water pipes, lightning rods or telephone wires. Incomplete grounding could cause a severe shock hazard resulting in injury or death.
- **Safely dispose of the packing materials.**
Packing materials, such as nails and other metal or wooden parts, may cause stabs or other injuries. Tear apart and throw away plastic packaging bags so that children will not play with them. Children playing with plastic bags face the danger of suffocation.
- **Do not install unit near concentrations of combustible gas or gas vapors.**
- **Be sure to use the supplied or exact specified installation parts.**
Use of other parts may cause the unit to come to lose, water leakage, electrical shock, fire or equipment damage.
- **When installing or relocating the system, do not allow air or any substances other than the specified refrigerant (R410A) to enter the refrigeration cycle.**
- **Never modify this unit by removing any of the safety guards or bypassing any of the safety interlock switches.**
- **Electrical work should be carried out in accordance with the installation manual and the national, state and local electrical wiring codes.**
- **Be sure to use a dedicated power circuit. Never share the same power outlet with other appliance.**

1. PREPARING FOR INSTALLATION

! WARNING

- **In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.**
- **Use the prescribed cables for electrical connection with insulation protected by insulation sleeving having an appropriate temperature rating.**
Unconformable cables can cause electric leak, anomalous heat production or fire.

! CAUTION

This symbol indicates the possibility of property damage or serious consequences.

- **To avoid personal injury, be careful when handling parts with sharp edges.**
- **Do not install the indoor or outdoor units in a location with special environmental conditions.**
- **Do not install in a place that can amplify the noise level of the unit or where noise and discharged air might disturb neighbors.**
- **Perform the drainage/piping work securely according to the installation manual.**
Improper drain piping may result in water leakage and property damage.
- **Do not install the air conditioner in the following places.**
 - The place where there is mineral oil or arsenic acid.
 - The place where corrosive gas (such as sulfurous acid gas) or combustible gas (such as thinner) can accumulate or collect, or where volatile combustible substances are handled.
 - The place there is equipment that generates electromagnetic fields or high frequency harmonics.

1.2 ACCESSORIES

The following accessories are supplied with the unit. The type and quantity may differ depending on the specifications.

Name of Accessories	Q'ty(pc)	Shape	Name of Accessories	Q'ty(pc)	Shape
Manual	3		Remote controller	1	
Drain outlet	1		Battery	2	
Gasket	1		Remote controller holder	1	
Installation plate	1		Screw B	2	
Anchor	5		Small Filter	1	
Screw A	5				

1. PREPARING FOR INSTALLATION

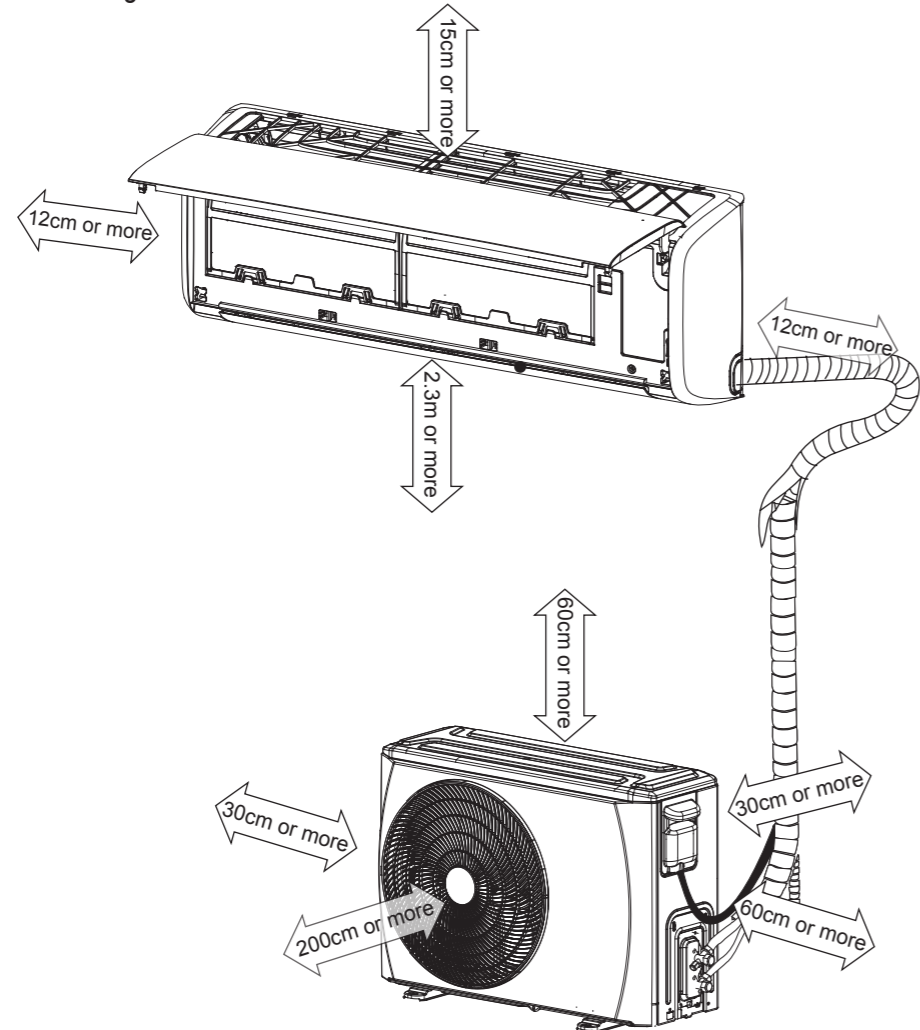
1.3 INSTALLATION SITE CHOOSING

Indoor Unit

- A location which can bear the weight of indoor unit.
- Do not install indoor units near a direct source of heat such as direct sunlight or a heating appliance.
- A location which provides appropriate clearances as below figure.
- Moving parts of appliance must be installed/located at the level not less than 2.3m from the floor.

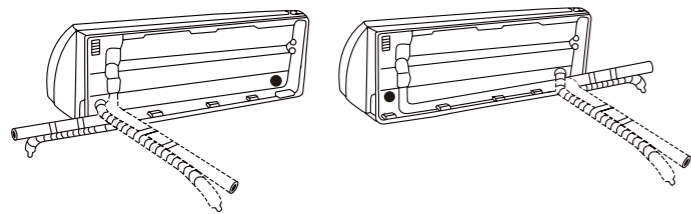
Outdoor Unit

- A location which is convenient to installation and not exposed to strong wind. If unit is exposed to strong winds it is recommended that a wind baffle be used.
 - A location which can bear the weight of outdoor unit and where the outdoor unit can be mounted in a level position.
 - A location which provides appropriate clearances as below figure.
- Do not install the indoor or outdoor units in a location with special environmental conditions. Confirm that there is enough room for installation and maintenance.



Note: Ensure the spaces indicated by arrows from the wall, ceiling, fence or other obstacles.

Piping is possible in the rear, left, left rear and right direction.



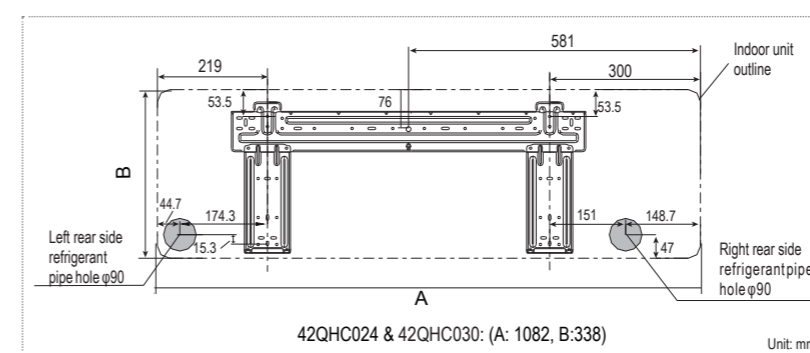
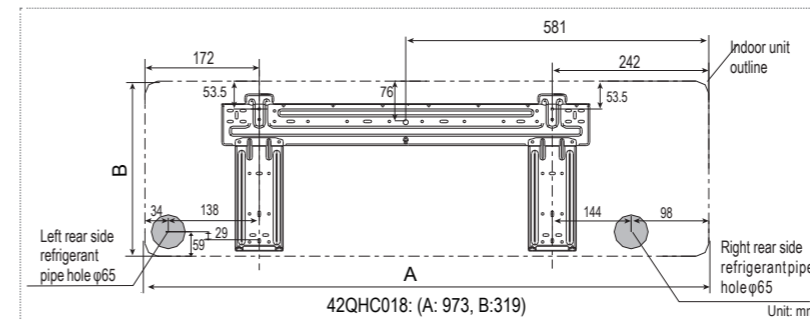
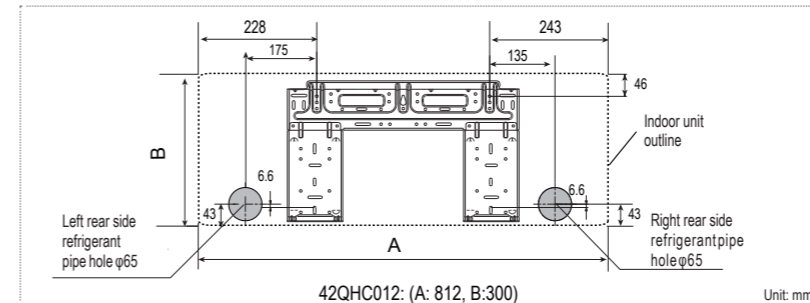
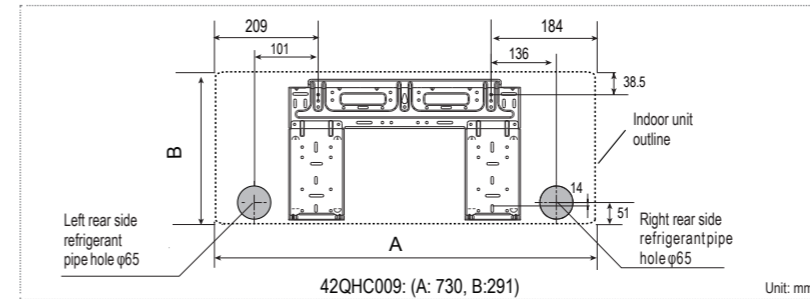
Plug the unused drain hole with the rubber plug provided.

Cut the knock-out panel according to the piping size.
knock-out panel

2. INDOOR UNIT INSTALLATION

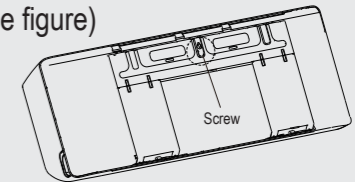


2.1 INDOOR UNIT MOUNTIN PLATE



Note:

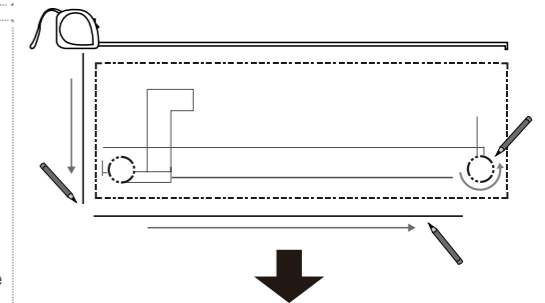
- The installation plate is fixed with a screw for the convenience of shipment, please remove the screw first before installation. (see figure)



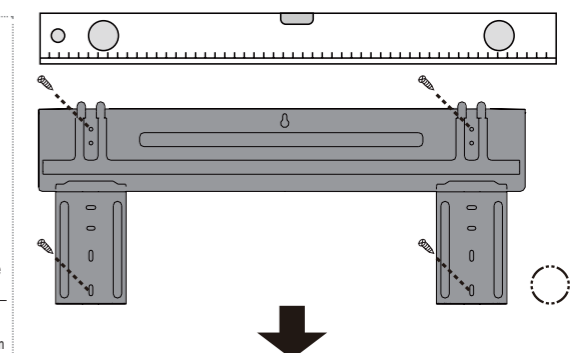
- The mounting plate will look like one of the figure depending on the unit size. The holes for fixing anchors should be 5mm.

2.2 INSTALLATION PROCESS

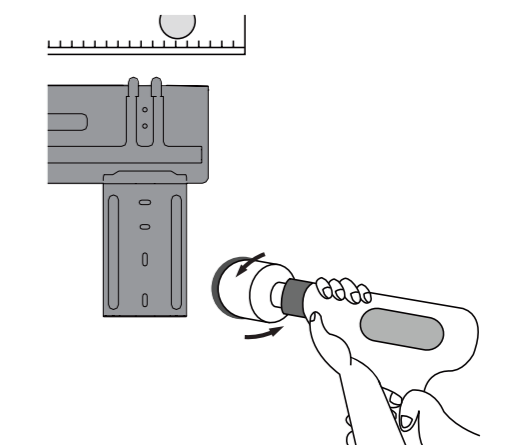
Step 1: Determine Wall Hole Position



Step 2: Attach Mounting Plate



Step 3: Drill Wall Hole



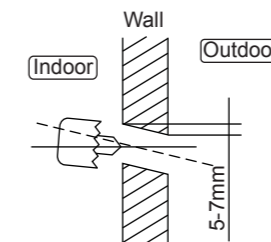
■ Install The Mounting Plate

Fix the mounting plate horizontally and level on the wall with five or more A-type screws



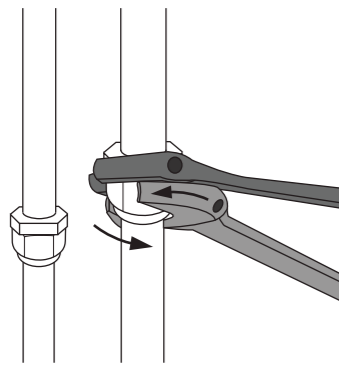
■ Drill Hole In The Wall

Drill a 65mm or 90mm (depending on models) hole on the wall which is slightly tilted towards the outside.

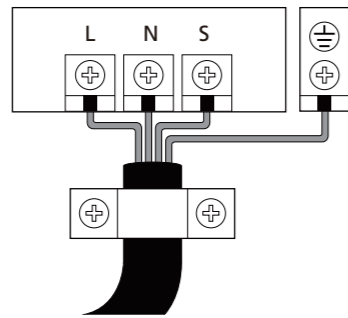


2. INDOOR UNIT INSTALLATION

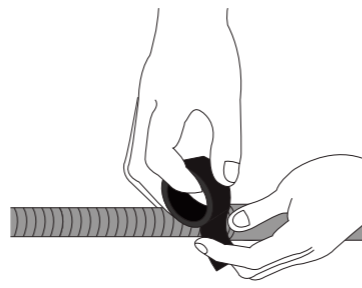
Step 4: Connect Pipe



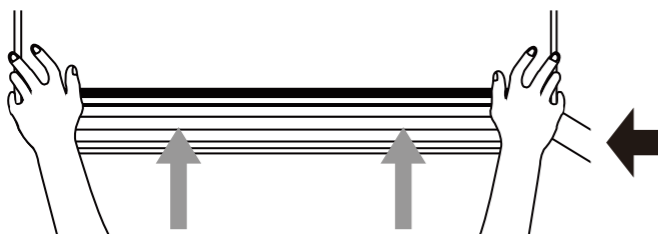
Step 5: Connect Wire



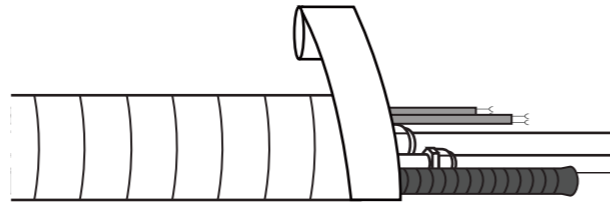
Step 6: Prepare Drain Hose



Step 8: Hang the Indoor Unit

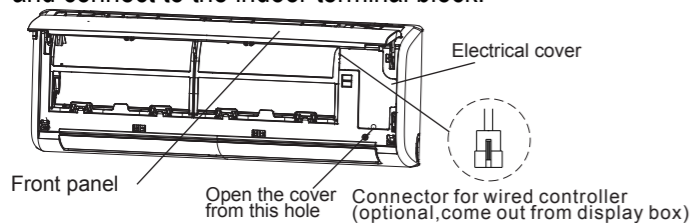


Step 7: Wrap Pipe and Cable



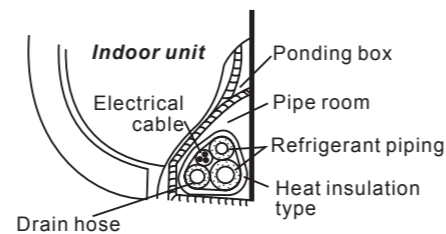
Indoor Wire Connection

- Lift the indoor unit front panel.
- Open the indoor unit electrical cover with a screwdriver through the hole, remove the terminal block cover by hand and remove the cable clamp by loosening the screws
- Pass the connecting wires from the back of indoor unit and connect to the indoor terminal block.



Wrap The Pipe

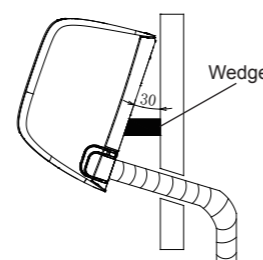
- For proper orientation of the refrigerant piping, electrical cable and drain lines, refer to below Fig:
- Place the drain hose below the refrigerant piping.
 - Make sure that the drain hose is not heaved or snaked.
 - Au lines must be separately insulated.



Hang The Indoor Unit

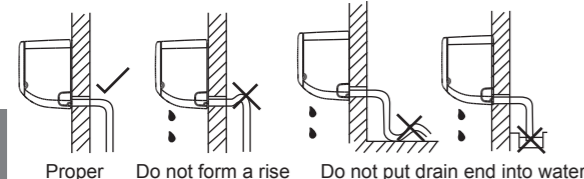
- Run refrigerant lines through hole in the wall.
- Hang indoor unit on upper hook of mounting plate, then push lower part of indoor unit up on wall to lower hook.
- Move indoor unit from side to side, up and down to check if it is hooked securely.

Use a wedge to prop up the unit if rear tubing is needed.



Drainage

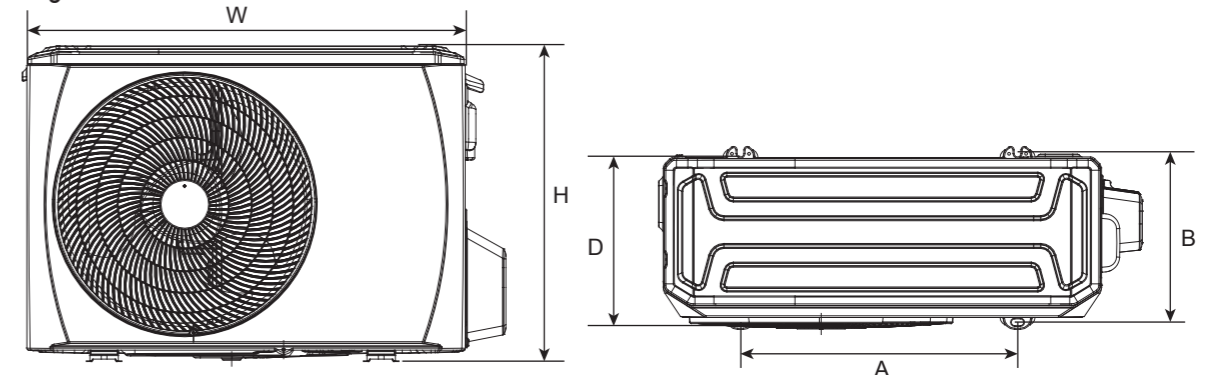
The drain line must not have a trap anywhere in its length, must pitch downwards, and must be insulated up to the outside wall.



3. OUTDOOR UNIT INSTALLATION

3.1 OUTDOOR UNIT MOUNTING DIMENSION

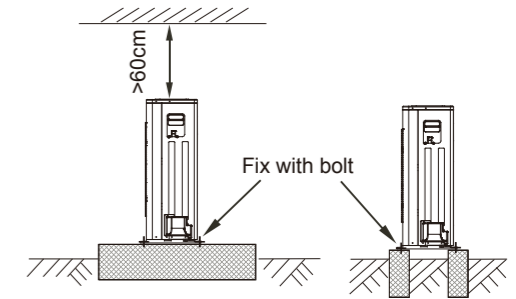
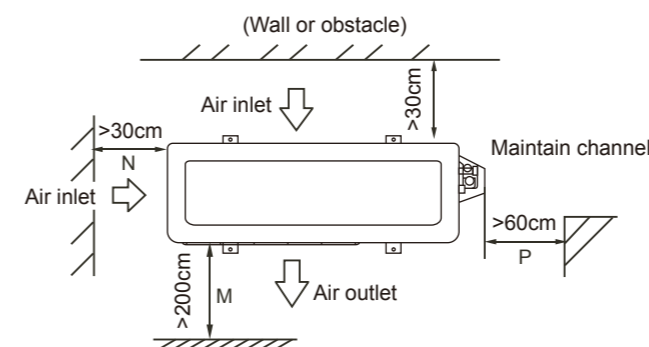
The mounting dimensions vary among different outdoor units. The fixing bolt head diameter should be more than 12mm.



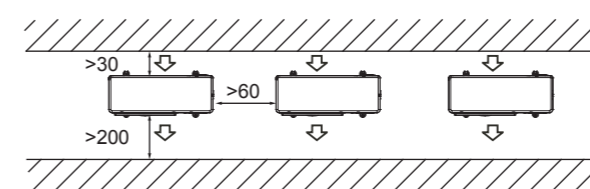
Outdoor Unit	Outdoor Unit Dimension (mm)			Mounting Dimension (mm)	
	W	H	D	A	B
38QHC009DS*	700	550	275	450	267
38QHC012DS*/38QHC009ES*	770	555	300	487	298
38QHC018DS*/38QHC012ES*/38QHC018ES*	800	554	333	515	340
38QHC024DS*/38QHC024ES*	845	702	363	540	376
38QHC030DS*	946	810	420	673	403

3.2 SPACE REQUIREMENT FOR OUTDOOR UNIT

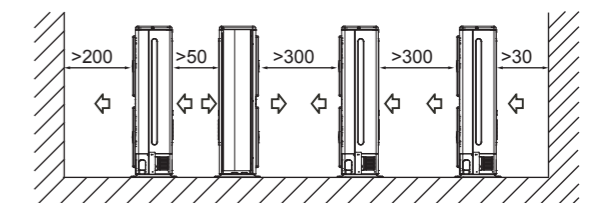
Single Unit Installation



Parallel connect the two units or above



Parallel connect the front with rear sides.



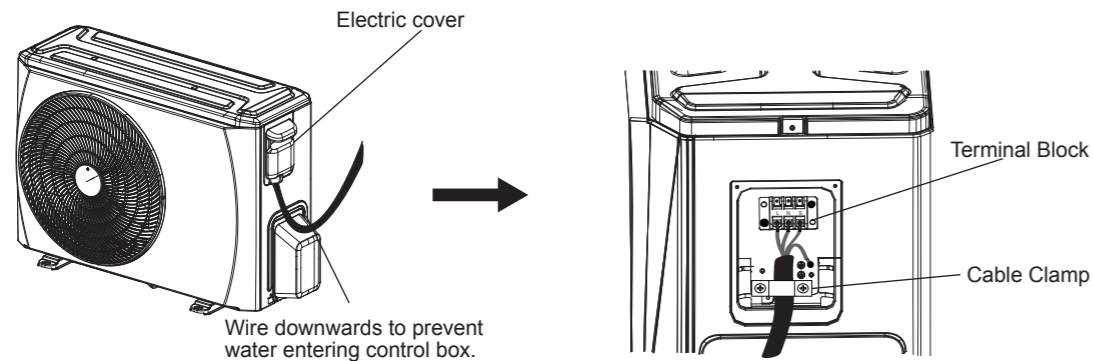
CAUTION

- In regions with snowfall and cold temperatures, avoid installing the outdoor unit in areas where it can be covered by snow. If heavy snow is expected, a field supplied ice or snow stand and/or field supplied-installed wind baffle should be installed to protect the unit from snow accumulation and/or blocked air intake.

3. OUTDOOR UNIT INSTALLATION

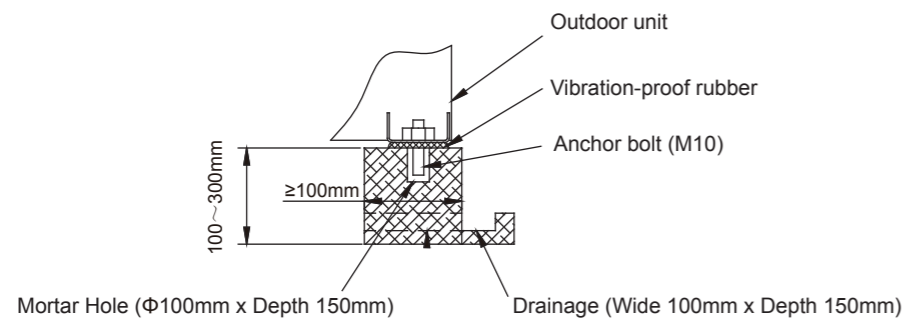
3.3 OUTDOOR WIRE CONNECTION

- Remove the electrical cover and cable clamp by loosening the screws.
- Connect wires to the outdoor terminal block by same sequence to indoor unit.



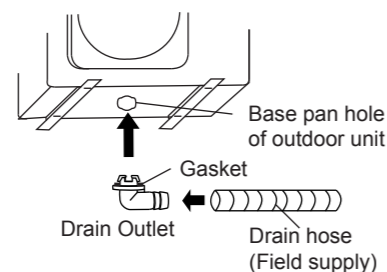
3.4 INSTALL THE OUTDOOR UNIT

- Before installation, check strength and horizontality of the base so that abnormal sound does not generate.
- Fix the base firmly with anchor bolts (M10) to prevent it from collapsing.
- Install the foundation and vibration-proof rubbers to directly support the bottom surface of the fixing leg that is in contact with the bottom plate of the outdoor unit.



3.5 INSTALL THE DRAIN PIPE FOR OUTDOOR UNIT

- Connect the drain outlet with an extension drain hose
- Fit the gasket onto drain outlet.
- Insert the drain outlet into the base pan hole of outdoor unit, and rotate 90 degree to securely assemble them.



4. REFRIGERANT PIPING WORK

CAUTION

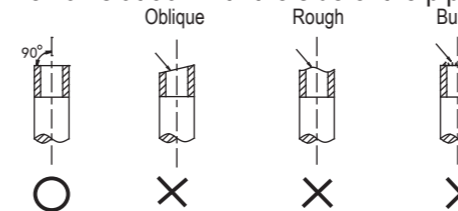
- Check if the height difference between indoor unit & outdoor unit and the total length of refrigerant pipe meet system requirement.
- Refrigerant piping work follows the indoor unit and outdoor unit installation, connect the pipe at the indoor side first, then the outdoor side.
- Always keep ends of tubing sealed by placing a cap or covering with tape during installation and do NOT remove them until you are ready to connect the piping.
- Be sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.
- When the outdoor unit is the top position and the difference of level is over 10m, it is recommended that set a oil return bend every 5~8m in the gas pipe. The radius of oil return bend should be over than 10cm.

4.1 FLARING

NOTE

- Tools required for flaring are pipe cutter, reamer, flaring tool and pipe holder.

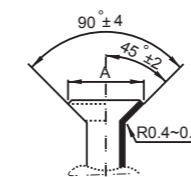
4.1.1 Using a pipe cutter to cut the pipe to the requested length. Ensure that the cut edge remains at 90° with the side of the pipe.



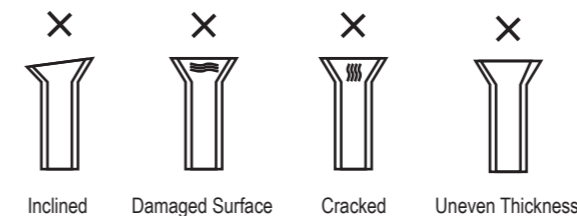
4.1.2 Use a reamer to remove burrs with the cut surface downward so that the chips do not enter the pipe.

4.1.3 Carry out flaring work using flaring tools as below.

Outside diameter	A(mm)	
	Max	Min
Φ6.35mm	8.7	8.3
Φ9.52mm	12.4	12.0
Φ12.7mm	15.8	15.4
Φ15.88mm	19.0	18.6
Φ19.05mm	23.3	22.9

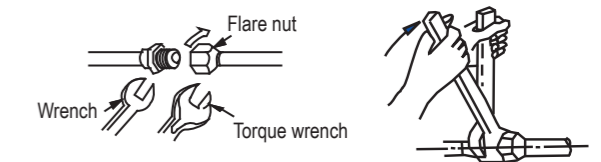


4.1.4 Check if the flaring is properly made. See incorrectly flared pipes sample below.



4.2 PIPING WORK

4.2.1 Align the center to tighten the flare nut and finish connection using two wrenches.



Tubing size	Torque
Φ6.35mm	18 ~ 20 N.m
Φ9.52mm	25 ~ 26 N.m
Φ12.7mm	35 ~ 36 N.m
Φ15.88mm	45 ~ 47 N.m
Φ19.05mm	65 ~ 67 N.m

4.2.2 Select the appropriate insulation material for refrigerant pipe. (Min. 10mm, thermal insulating foam C)

- Use separate thermal insulation pipes for gas & liquid pipes.
- The thickness above is a standard of the indoor temperature of 27°C and humidity of 80%. If installing in an unfavorable conditions such as near bathrooms, kitchens, and other similar locations, reinforce the insulation.
- Insulation's heat-resistance temperature should be more than 120°C.
- Use the adhesives on the connection part of insulation to prevent moisture from entering.
- Repair and cover any possible cracks in the insulation, specially check the bent part or hanger of pipe.

CAUTION

- In case of needing brazing, work with Nitrogen gas blowing. Improper torque will cause flare damage or gas leaks.

4. REFRIGERANT PIPING WORK

4.3 REFRIGERANT PIPE

	Minimum length to reduce abnormal vibration & noise	Chargeless length	Additional charge per meter	
			Liquid side:φ6.35mm	Liquid side:φ9.52mm
R410A*	3m	5m	15g	30g

* Please use tools for R410A system.
NOTE

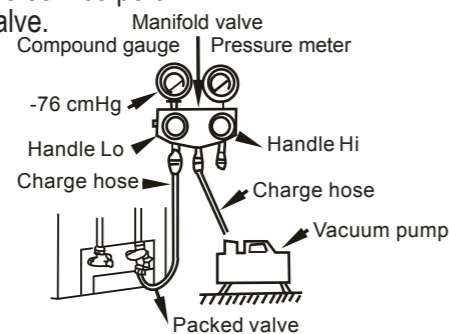
- Extended pipe length will affect the capacity and energy efficiency of the unit.
- The nominal efficiency is tested based on the pipe length of 5 meter.
- When the pipe length is over 5m, the additional refrigerant should be added according to the pipe length.
- The max. pipe length is recommended as below.

Models	R410A Inverter	
	Max. pipe length(m)	Max. height difference(m)
QHC009/QHC012	25	10
QHC018	30	20
QHC024/QHC030	40	20

* Please use tools for R410A system.

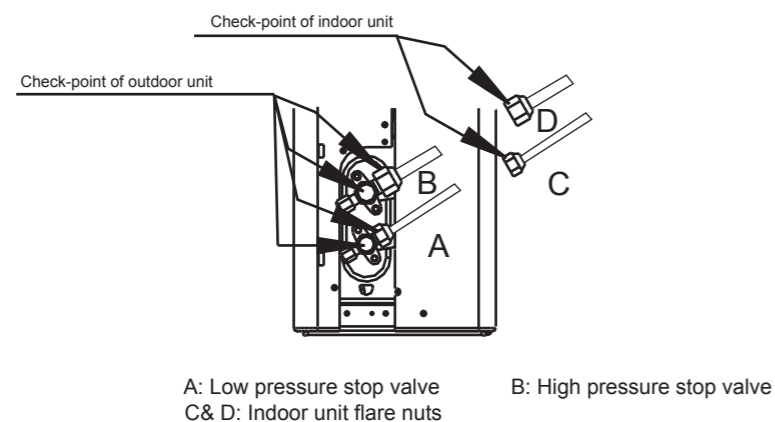
4.4 AIR EVACUATION

- Connect the charge hose from the manifold gauge to the service port of the gas side packed valve.
- Connect the charge hose to the port of the vacuum pump.
- Fully open the handle Lo of manifold gauge.
- Operate the vacuum pump to evacuate air from the system until -76cmHg.
- Close the handle Lo of manifold gauge.
- Fully open the valve stem of the packed valves.
- Remove the charging hose from the service port.
- Securely tighten caps of packed valve.



4.5 LEAKAGE TEST

After the piping work is finished, make sure to check the connection part of each refrigerant pipe and confirm that there is no gas leak by applying soapy water to them or by using a leak detector specific for HFC refrigerants. Refer below picture for illustration.



5. WIRING

CAUTION

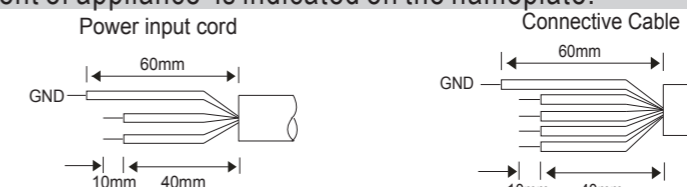
- All the electrical connections must be carried out by qualified installers and all the wirings must be connected according to the wiring diagram.
- Make ground connection prior to any other electrical connections.
- All power sources must be turned off before wiring work and do not turn on the power until you have made sure all the wirings have been safety checked.
- A main switch and circuit breaker or fuse must be installed, the capacity should be above 1.5 times of maximum current in circuit.
- An individual branch circuit and single socket used only for this appliance must be available.
- Wire cross section is depending on the rated current and national, state and local electrical wiring code. Consult local building codes and National electrical code for special requirement.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- The unit must be connected to the main power supply by means of a circuit breaker or a switch with a contact separation of at least 3mm in all poles. Installation of a residual current device (RCD) having a rated residual operating current not exceeding 30mA is advisable.
- This appliance incorporates an earth connection for functional purposes only.

Rated Current of Each Models

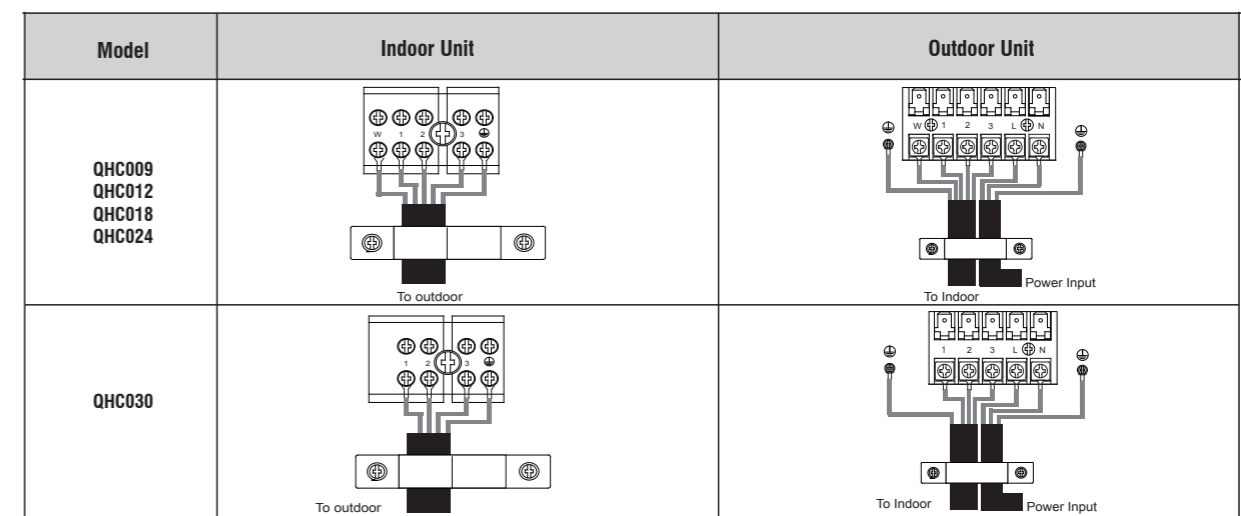
Model	Rated Current(A)	Fuse Rating(A)	Power input cord (with Min. Crosse section)	Connective Cable (with Min. Crosse section)
38QHC009/38QHC012	10.0	16	3*1.5mm ²	5*1.5mm ²
38QHC018	12.5	20	3*1.5mm ²	5*1.5mm ²
38QHC024/38QHC030	18.0	30	3*2.5mm ²	5*2.5mm ²

NOTICE:

- All power wires must be sized in according with national, state and local electrical wiring code. Consult local building codes and National Electrical Code for special requirements.
- The outdoor power cord and interconnecting cable type should be H07RN-F.
- The rated current of appliance is indicated on the nameplate.



Connection Diagram

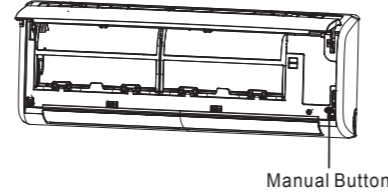


6. FINAL CHECK AND TRAIL OPERATION

6.1 FINAL CHECK LIST

To complete the installation, perform the following checks before the trial operation.

- Strength of the installation site for both indoor and outdoor sides, confirm no obstruction of the unit air outlet or return.
- Tightness of Refrigerant piping connection and confirm no leakage
- Electric wiring connections are correctly completed and unit has been grounding connected
- Check the total length of the piping and record the volume of the additional charged refrigerant
- The power supply should comply with the rated voltage of the air conditioner
- Insulation of the pipe
- Drainage



6.2 MANUAL OPERATION

Manual operation can be accessed by pressing manual button

Press the manual button repeatedly to change modes as follows:

- Once = AUTO mode [heat, cool or fan, 24°C and auto fan speed.
- Twice = COOLING mode [switch to AUTO mode after 30 minutes (mainly used for trial operation)]
- Three times = OFF

6.3 TRAIL OPERATION

Set the air conditioning under the COOLING mode with the remote controller (or manual button) and check the running status of both indoor unit and outdoor unit. In case of any malfunction, resolve it according to chapter "Trouble shooting" in the "Service Manual".

Indoor unit

- Whether the buttons (such as ON/OFF, MODE, TEMPERATURE, FAN SPEED etc.) on the remote controller work well.
- Whether the louver moves normally.
- Whether the room temperature is adjusted well.
- Whether the indicator lights on the display panel are normal.
- Whether the "manual" button works well.
- Whether the drainage is normal.
- Whether there is a vibration or abnormal noise during the operation.
- Whether the indoor unit works well in COOLING or HEATING mode.

Outdoor unit

- Whether there is a vibration or abnormal noise during the operation.
- Whether the air flow, noise or condensate water generated by the air conditioner have disturb your neighborhood.
- Whether there is any refrigerant leakage.

CAUTION

- When restart the unit, there will be approximately 3 minutes delay for the compressor to run for protection.