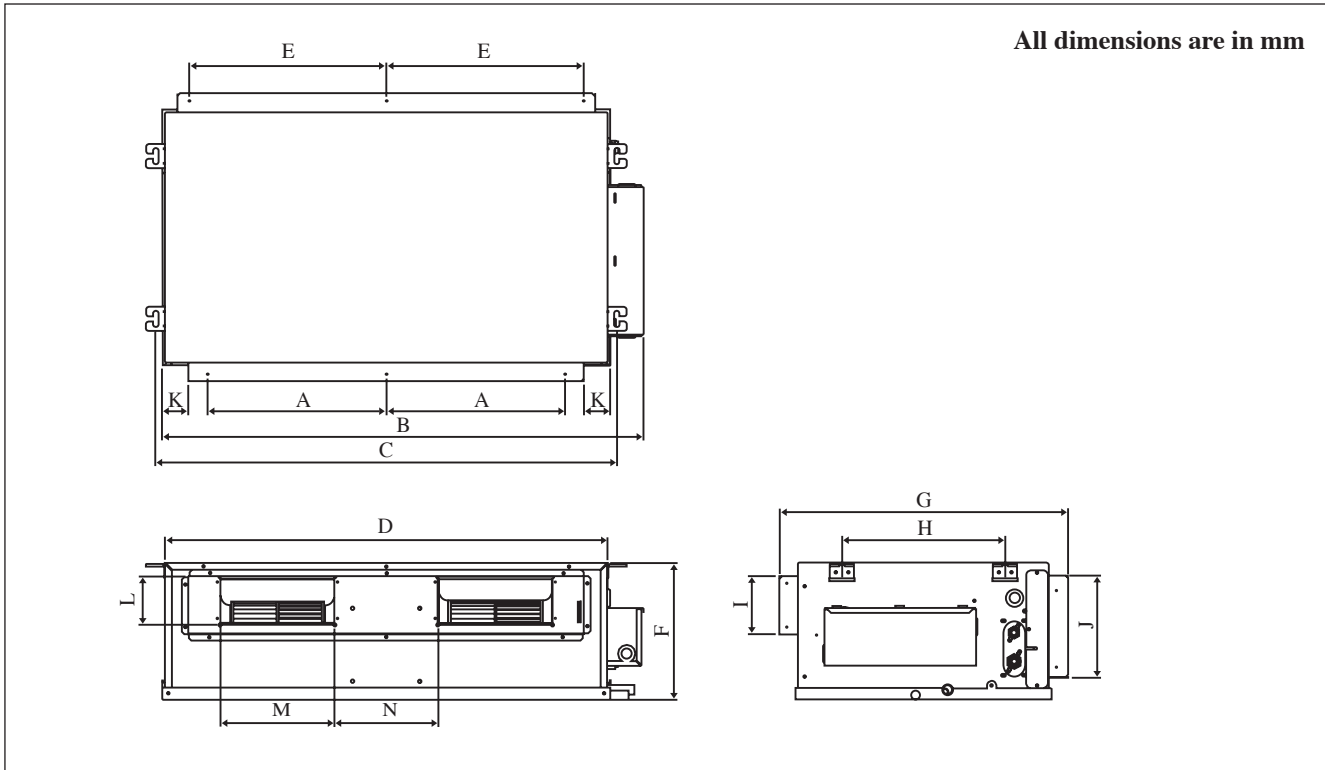


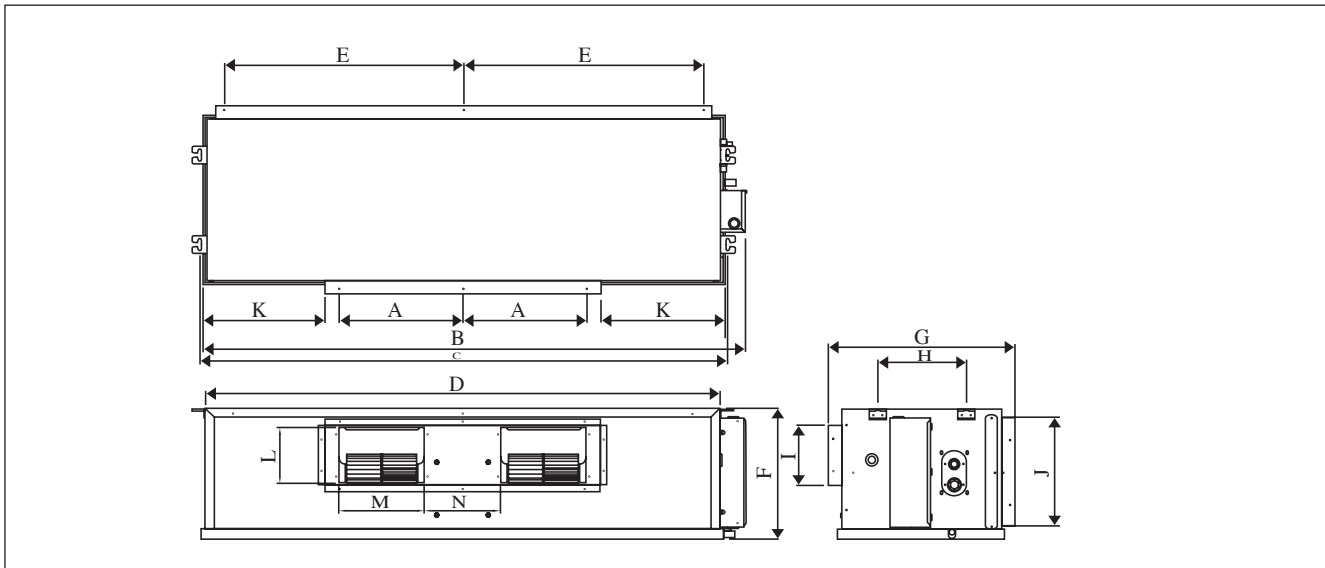
OUTLINE AND DIMENSIONS

Indoor Unit ABQ 71 CV1



Dimension / Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N
ABQ 71 CV1	372	1001	959	920	410	285	600	339	121	213	54	100	245	216

Indoor Unit ABQ 100 / 125 / 140 CVI



Dimension / Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N
ABQ 100 CV1	359	1115	1072	1030	467	378	541	256	180	306	119	170	234	234
ABQ 125 CV1	359	1369	1326	1287	594	378	541	256	180	306	256	170	234	234
ABQ 140 CV1	359	1569	1526	1487	694	378	541	256	180	306	356	170	234	234

Note is valid for Turkey only: The lifetime of our products is ten (10) years

INSTALLATION MANUAL

This manual provides the procedures of installation to ensure a safe and good standard of operation for the air conditioner unit.

Special adjustment may be necessary to suit local requirement.

Before using your air conditioner, please read this instruction manual carefully and keep it for future reference.

This appliance is intended to be used by expert or trained users in shops, in light industry and on farms, or for commercial use by lay persons.

This appliance is not intended for use by persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.





SAFETY PRECAUTIONS

WARNING

- Installation and maintenance should be performed by qualified persons who are familiar with local code and regulation, and experienced with this type of appliance.
- All field wiring must be installed in accordance with the national wiring regulation.
- Ensure that the rated voltage of the unit corresponds to that of the name plate before commencing wiring work according to the wiring diagram.
- The unit must be GROUNDED to prevent possible hazard due to insulation failure.
- All electrical wiring must not touch the refrigerant piping, or any moving parts of the fan motors.
- Confirm that the unit has been switched OFF before installing or servicing the unit.
- Disconnect from the main power supply before servicing the air conditioner unit.
- DO NOT pull out the power cord when the power is ON. This may cause serious electrical shocks which may result in fire hazards.
- Keep the indoor and outdoor units, power cable and transmission wiring, at least 1m from TVs and radios, to prevent distorted pictures and static. {Depending on the type and source of the electrical waves, static may be heard even when more than 1m away}.

CAUTION

Please take note of the following important points when installing.

- **Do not install the unit where leakage of flammable gas may occur.**
 -  If gas leaks and accumulates around the unit, it may cause fire ignition.
- **Ensure that drainage piping is connected properly.**
 -  If the drainage piping is not connected properly, it may cause water leakage which will dampen the furniture.
- **Do not overcharge the unit.**
 -  This unit is factory pre-charged. Overcharge will cause over-current or damage to the compressor.
- **Ensure that the unit's panel is closed after service or installation.**
 -  Unsecured panels will cause the unit to operate noisily.
- **Sharp edges and coil surfaces are potential locations which may cause injury hazards.**
 - Avoid from being in contact with these places.**
- **Before turning off the power supply, set the remote controller's ON/OFF switch to the "OFF" position to prevent the nuisance tripping of the unit.** If this is not done, the unit's fans will start turning automatically when power resumes, posing a hazard to service personnel or the user.
- **Do not operate any heating apparatus too close to the air conditioner unit.** This may cause the plastic panel to melt or deform as a result of the excessive heat.
- **Do not install the units at or near doorway.**
- **Do not operate any heating apparatus too close to the air conditioner unit or use in room where mineral oil, oil vapour or oil steam exist, this may cause plastic part to melt or deform as a result of excessive heat or chemical reaction.**
- **When the unit is used in kitchen, keep flour away from going into suction of the unit.**
- **This unit is not suitable for factory used where cutting oil mist or iron powder exist or voltage fluctuates greatly.**
- **Do not install the units at area like hot spring or oil refinery plant where sulphide gas exists.**
- **Ensure the color of wires of the outdoor unit and the terminal markings are same to the indoors respectively.**
- **IMPORTANT: DO NOT INSTALL OR USE THE AIR CONDITIONER UNIT IN A LAUNDRY ROOM.**
- **Don't use joined and twisted wires for incoming power supply.**
- **Avoid direct contact of any coil treatment cleaners on plastic part.** This may cause plastic part to deform as a result of chemical reaction.
- **For any enquiries on spare parts please contact your authorized dealer.**
- **The equipment is not intended for use in a potentially explosive atmosphere.**

NOTICE

Disposal requirements

Your air conditioning product is marked with this symbol. This means that electrical and electronic products shall not be mixed with unsorted household waste.

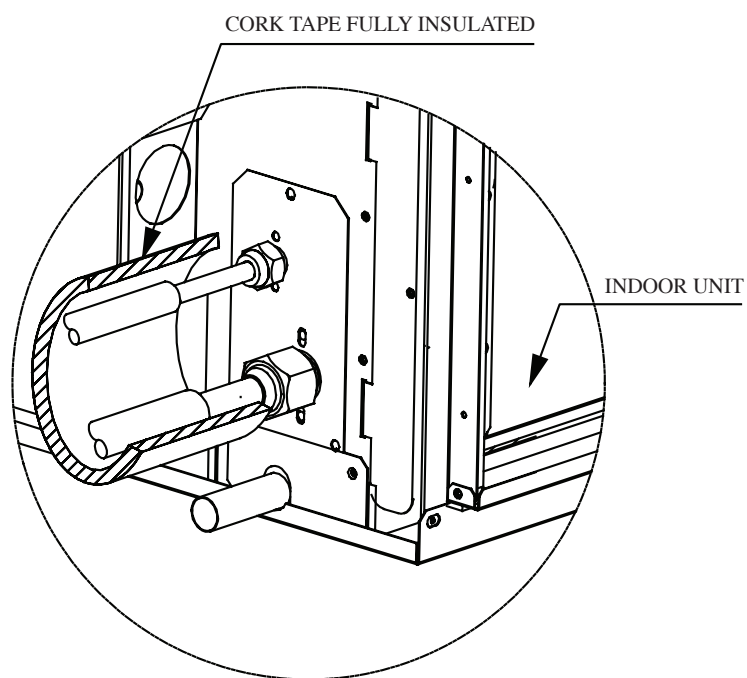
Do not try to dismantle the system yourself: the dismantling of the air conditioning system, treatment of the refrigerant, of oil and of other parts must be done by a qualified installer in accordance with relevant local and national legislation.

Air conditioners must be treated at a specialized treatment facility for re-use, recycling and recovery. By ensuring this product is disposed of correctly, you will help to prevent potential negative consequences for the environment and human health. Please contact the installer or local authority for more information.

Batteries must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.



INSTALLATION DIAGRAM



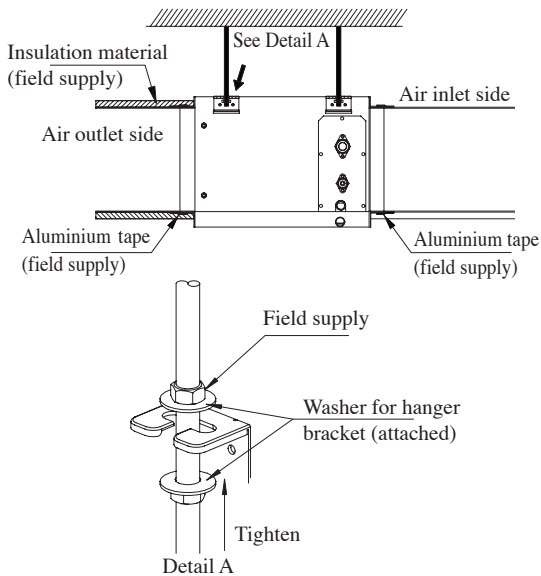
INSULATION FOR INDOOR CONNECTING PIPE

INSTALLATION OF THE INDOOR UNIT

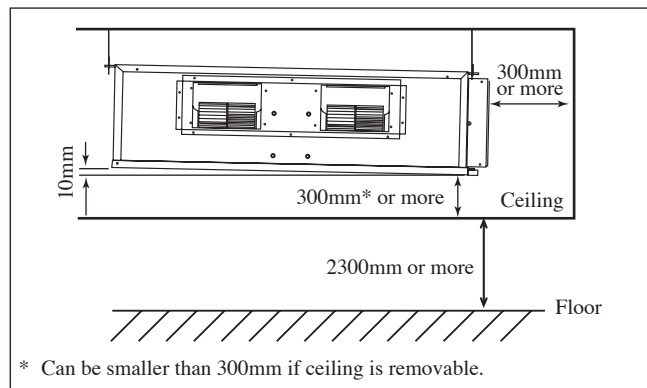
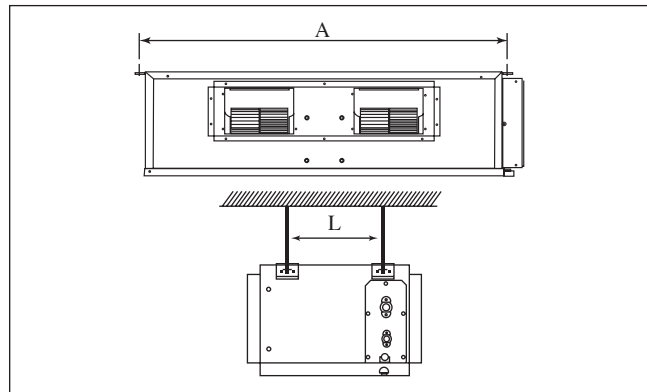
The indoor unit must be installed such that there is no short circuit of the cool discharge. Respect the installation clearance. Do not put the indoor unit where there is direct sunlight on unit. The location is suitable for piping and drainage and it must have a large distance between a door and unit.

Ceiling Concealed Mounting

- Use the hanger supplied with the unit.
- Make sure that the ceiling is sufficiently strong to withstand the weight.



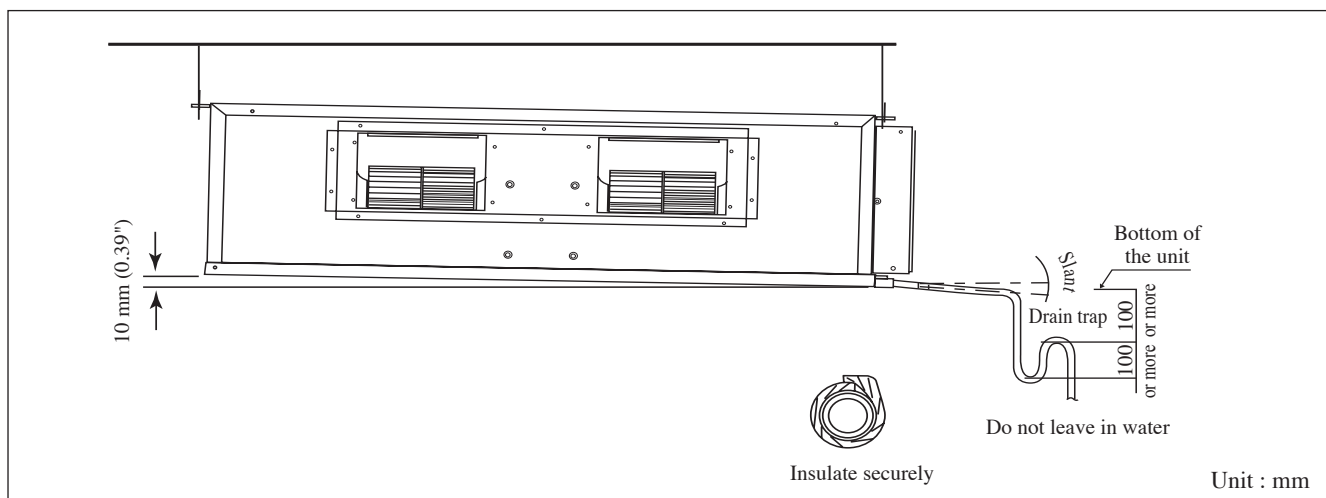
Center distance of axle (see drawing below)



ABQ	A mm (inch)	L mm (inch)
71 CV 1	959 (37.8)	339 (13.3)
100 CV 1	1264 (49.8)	401 (15.8)
125 CV 1	1326 (52.2)	266 (10.5)
140 CV 1	1526 (60.1)	266 (10.5)

Ceiling Concealed Drain Piping Work

Provide clearance for servicing ease and optimal air flow as shown in the diagram.

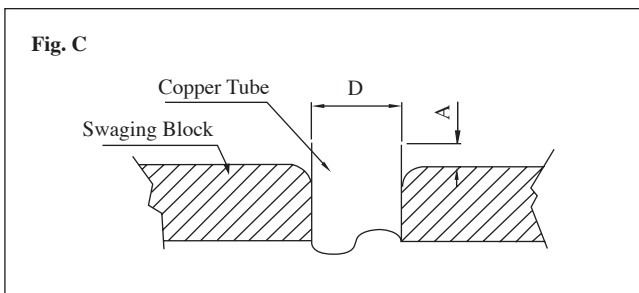
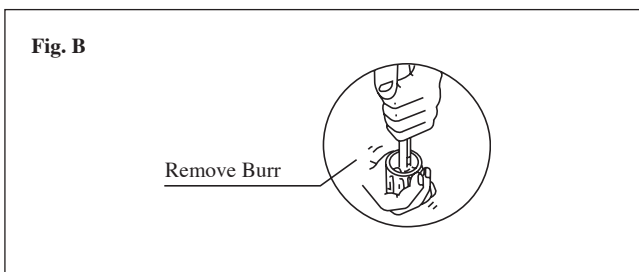
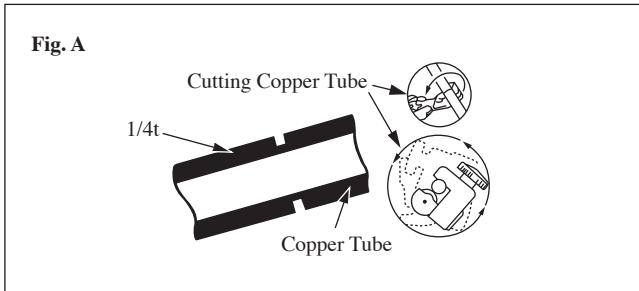


- The drain pipe must be installed as shown in the diagram (see diagram above) to avoid damage caused by leaks and condensation.
- For the best result, keep the piping as short as possible. Slant the piping at an angle to improve the flow.
- Ensure the drain pipe is securely insulated.
- It is necessary to provide a drain trap in the drain outlet to relieve pressure that exists within the unit compared to the outside atmospheric pressure when the unit is operating. The drain trap is to avoid possibility of splashes or an odor.
- Keep pipes as straight as possible for easy cleaning and to prevent the accumulation of dirt and debris.
- Conduct a water drainage test after the installation is completed. Make sure that the drainage flow is smooth.
- In humid environments, use an extra drain pan to cover the entire area of the indoor unit.

REFRIGERANT PIPING

Piping Works And Flaring Technique

- Do not use contaminated or damaged copper tubing. If any piping, evaporator or condenser had been exposed or had been opened for 15 seconds or more, the system must be vacuumed. Generally, do not remove plastic, rubber plugs and brass nuts from the valves, fittings, tubings and coils until it is ready for connection.
- If any brazing work is required, ensure that the nitrogen gas is passed through piping and joints while the brazing work is being done. This will eliminate soot formation on the inside walls of the copper tubings.
- Cut the pipe stage by stage, advancing the blade of pipe cutter slowly. Extra force and deep cut will cause more distortion of pipe and therefore extra burr. See Fig. A
- Remove burrs from cut edges of pipes with a remover as shown in Fig. B. This will avoid unevenness on the flare faces which will cause gas leak. Hold the pipe on top position and burr remover at lower position to prevent metal chips from entering the pipe.



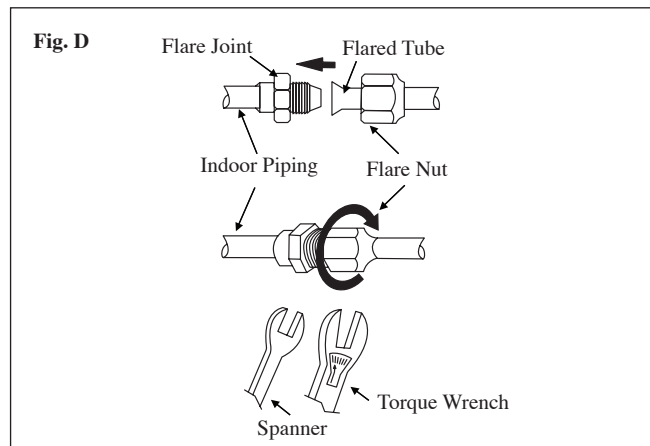
- Insert the flare nuts mounted on the connection parts of both indoor and outdoor unit, into the copper pipes.
- The exact length of pipe protruding from the face of the swaging block is determined by the flaring tool. See Fig. C
- Fix the pipe firmly on the swaging block. Match the centers of both the flare die and the flaring punch, and tighten flaring punch fully.

Piping Connection To The Units

- Align the center of the piping and sufficiently tighten the flare nut with fingers. See Fig. D
- Finally, tighten the flare nut with torque wrench until the wrench clicks.
- When tightening the flare nut with the torque wrench, ensure that the direction for tightening follows the arrow on the wrench.
- The refrigerant pipe connection are insulated by closed cell polyurethane.

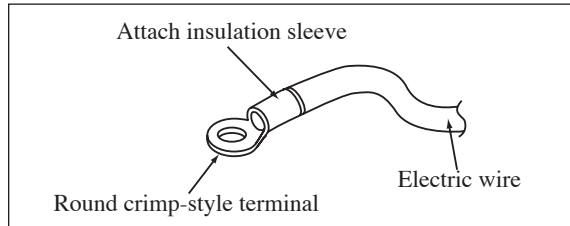
Ø Tube, D		A (mm)	
Inch	mm	Imperial (Wing-nut Type)	Rigid (Clutch Type)
1/4"	6.35	1.3	0.7
3/8"	9.52	1.6	1.0
1/2"	12.70	1.9	1.3
5/8"	15.88	2.2	1.7
3/4"	19.05	2.5	2.0

Pipe Size, mm (in)	Torque, Nm / (ft-lb)
6.35 (1/4")	18 (13.3)
9.52 (3/8")	42 (31.0)
12.70 (1/2")	55 (40.6)
15.88 (5/8")	65 (48.0)
19.05 (3/4")	78 (57.6)

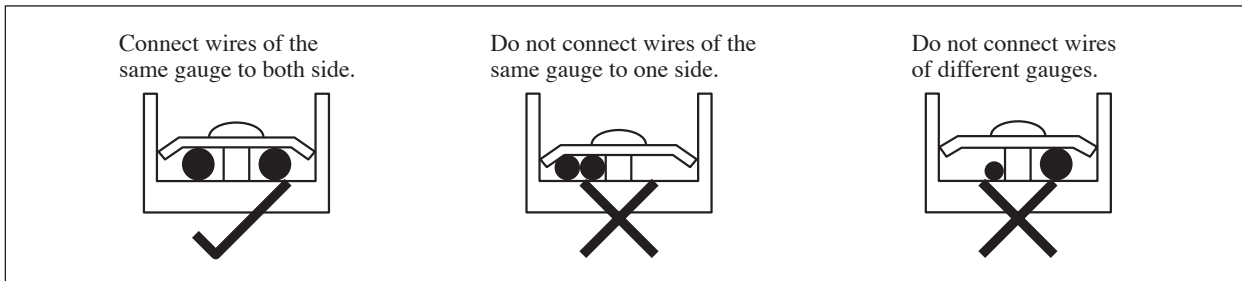


ELECTRICAL WIRING CONNECTION

- All wires must be firmly connected.
- Make sure all the wire do not touch the refrigerant pipings, compressor or any moving parts.
- The connecting wire between the indoor unit and the outdoor unit must be clamped by using provided cord anchorage.
- The power supply cord must be equivalent to H07RN-F which is the minimum requirement.
- Make sure no external pressure is applied to the terminal connectors and wires.
- Make sure all the covers are properly fixed to avoid any gap.
- Use round crimp-style terminal for connecting wires to the power supply terminal block. Connect the wires by matching to the indication on terminal block. (Refer to the wiring diagram attached on the unit).



- Used the correct screwdriver for terminal screws tightening. Unsuitable screwdrivers can damage the screw head.
- Over tightening can damage the terminal screws.
- Do not connect wire of different gauge to same terminal.
- Keep wiring in an orderly manner. Prevent the wiring from obstructing other parts and the terminal box cover.



SPECIAL PRECAUTIONS WHEN DEALING WITH R410A UNIT

R410A is a new HFC refrigerant which does not damage the ozone layer. The working pressure of this new refrigerant is 1.6 times higher than conventional refrigerant (R22), thus proper installation / servicing is essential.

- Never use refrigerant other than R410A in an air conditioner which is designed to operate with R410A.
- POE or PVE oil is used as lubricant for R410A compressor, which is different from the mineral oil used for R22 compressor. During installation or servicing, extra precaution must be taken not to expose the R410A system too long to moist air. Residual POE or PVE oil in the piping and components can absorb moisture from the air.
- To prevent mischarging, the diameter of the service port on the flare valve is different from that of R22.
- Use tools and materials exclusively for refrigerant R410A. Tools exclusively for R410A are manifold valve, charging hose, pressure gauge, gas leak detector, flare tools, torque wrench, vacuum pump and refrigerant cylinder.
- As an R410A air conditioner incurs higher pressure than R22 units, it is essential to choose the copper pipes correctly. Never use copper pipes thinner than 0.8mm even though they are available in the market.
- If the refrigerant gas leakage occurs during installation / servicing, be sure to ventilate fully. If the refrigerant gas comes into contact with fire, a poisonous gas may occur.
- When installing or removing an air conditioner, do not allow air or moisture to remain in the refrigerant cycle.

VACUUMING AND CHARGING

Vacuuming is necessary to eliminate all moisture and air from the system.

Vacuuming The Piping And The Indoor Unit

The indoor unit and the refrigerant connection pipes must be air-purged because the air containing moisture that remains in the refrigerant cycle may cause malfunction of the compressor.

- Remove the caps from the valve and the service port.
- Connect the center of the charging gauge to the vacuum pump.
- Connect the charging gauge to the service port of the 3-way valve.

- Start the vacuum pump. Evacuate for approximately 30 minutes. The evacuation time varies with different vacuum pump capacity. Confirm that the charging gauge needle has moved towards -760mmHg.

Caution

- If the gauge needle does not move to -760mmHg, be sure to check for gas leaks (using the refrigerant detector) at flare type connection of the indoor and outdoor unit and repair the leak before proceeding to the next step.
- Close the valve of the changing gauge and stop the vacuum pump.