



EMIDUCTLESS.COM

Installation of Split Units

Technical Support Department

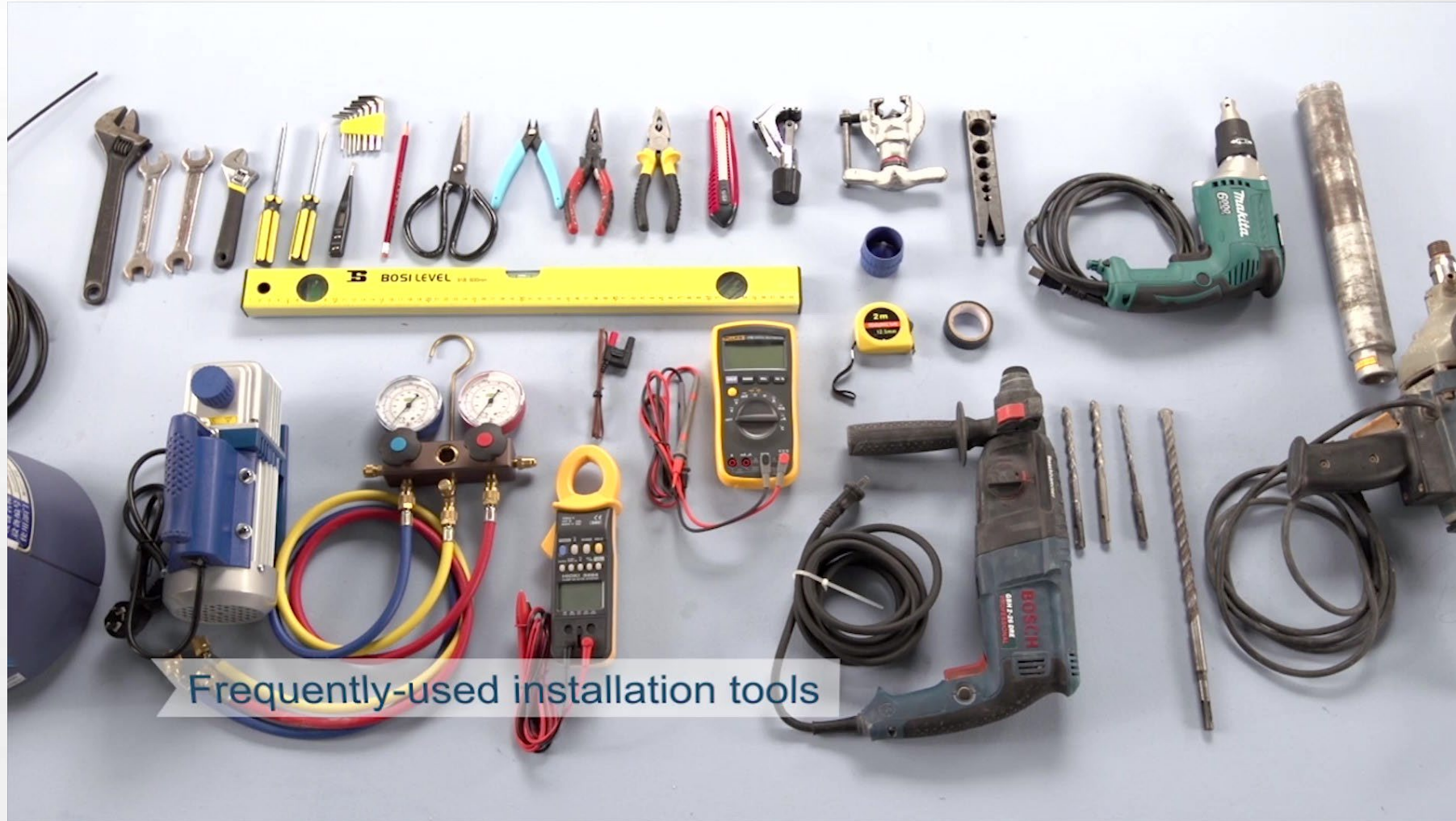
July 23







Contents

>> Installation of Indoor Unit and Outdoor Unit	-----	01
>> Checking and Test Running	-----	02
>> Failure Cases	-----	03








Necessary Tools



<i>Outlook</i>	<i>Name</i>	<i>Outlook</i>	<i>Name</i>
	<i>Copper pipe cutter</i>		<i>Expander</i>
	<i>Copper pipe bender</i>		<i>Pressure gauge</i>
	<i>Flaring tool</i>		<i>Vacuum pump</i>

Frequently used Tools

<i>Outlook</i>	<i>Name</i>	<i>Outlook</i>	<i>Name</i>
	<i>Anemometer</i>		<i>Clamp meter</i>
	<i>Acoustimeter</i>		<i>Electric drill</i>
	<i>Infrared thermometer</i>		

Frequently used Tools

- Yellow Jacket Mini Split Tool Kit Part # 60994
- Yellow Jacket P51 Titan Digital Manifold Part# 40877
- Yellow Jacket Titan 4-Valve Test & Charging Manifold Part# 49968
- Yellow Jacket Titan 2-Valve Test & Charging Manifold Part# 49868
- Yellow Jacket Series 41 Manifold Part # 42715
- Yellow Jacket Recover XLT Refrigerant Recovery Machine Part# 95760
- Yellow Jacket Refrigerant Recovery Cylinder R-410A Part# 95002
- Yellow Jacket Bullet X Vacuum Pump Part# 93600
- Yellow Jacket Full Range Micron Vacuum Gauge Part# 69075
- Yellow Jacket Vacuum Sensor Cleaning Kit Part# 69030
- Yellow Jacket Refrigerant Charging Scale Part# 68862
- Yellow Jacket Leak Detector Part# 69320
- Yellow Jacket Anemometer Kit Part# 68915
- UEI Multimeter DM525 Part# UEIM525
- UEI HVAC Clamp Meter AC 600 Amp Part# UEIDL479
- R410A Disposable Refrigerant Cylinder





Accessories



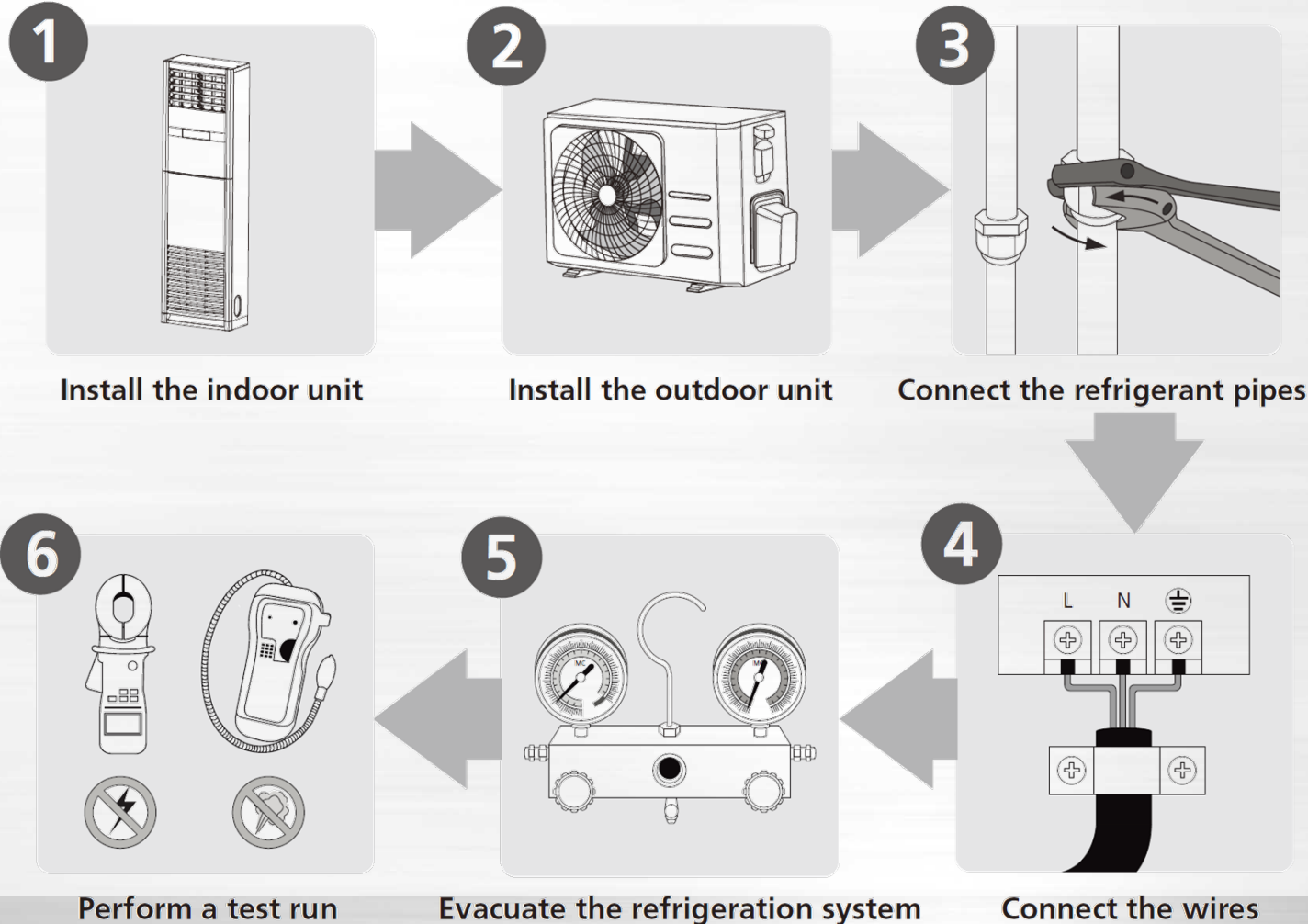
Accessories – Provided with System

No.	Name of Accessories	Q'ty
1	Installation Plate	1
2	Clip Anchor (expansible hook)	8
3	Self-tapping Screw ST3.9x25 (Type "A")	8
4	Seal	1
5	Drain Joint	1
6	Remote controller	1
7	Connecting pipe Assembly (Line Set)	Parts you must purchase (a minimum pipe wall-thickness of 9/32" is required.)
8	Wrapping Tape	Parts Purchased separately
9	Connecting Cable	
10	Additional Drain Pipe (Outer Diameter .61")	
11	Insulation Materials	
12	Cable Tie (5~10 pcs)	

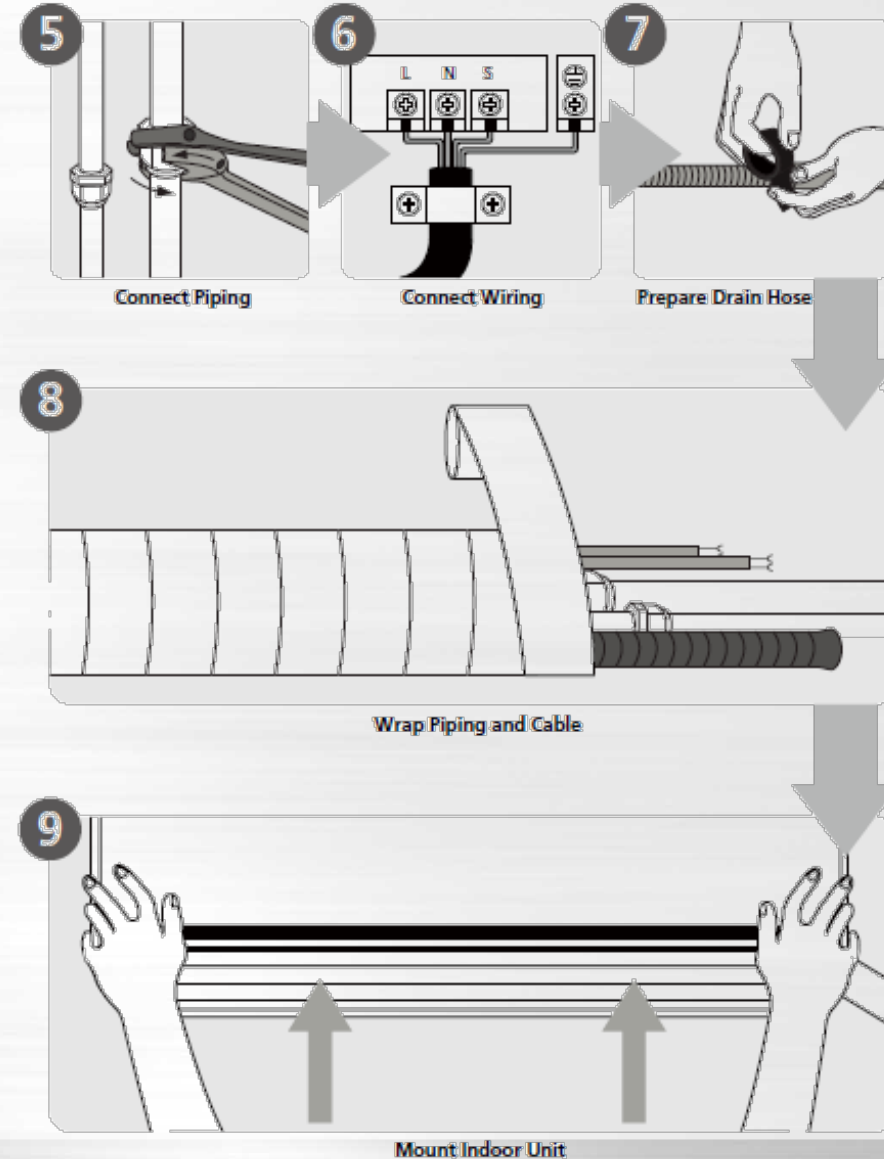
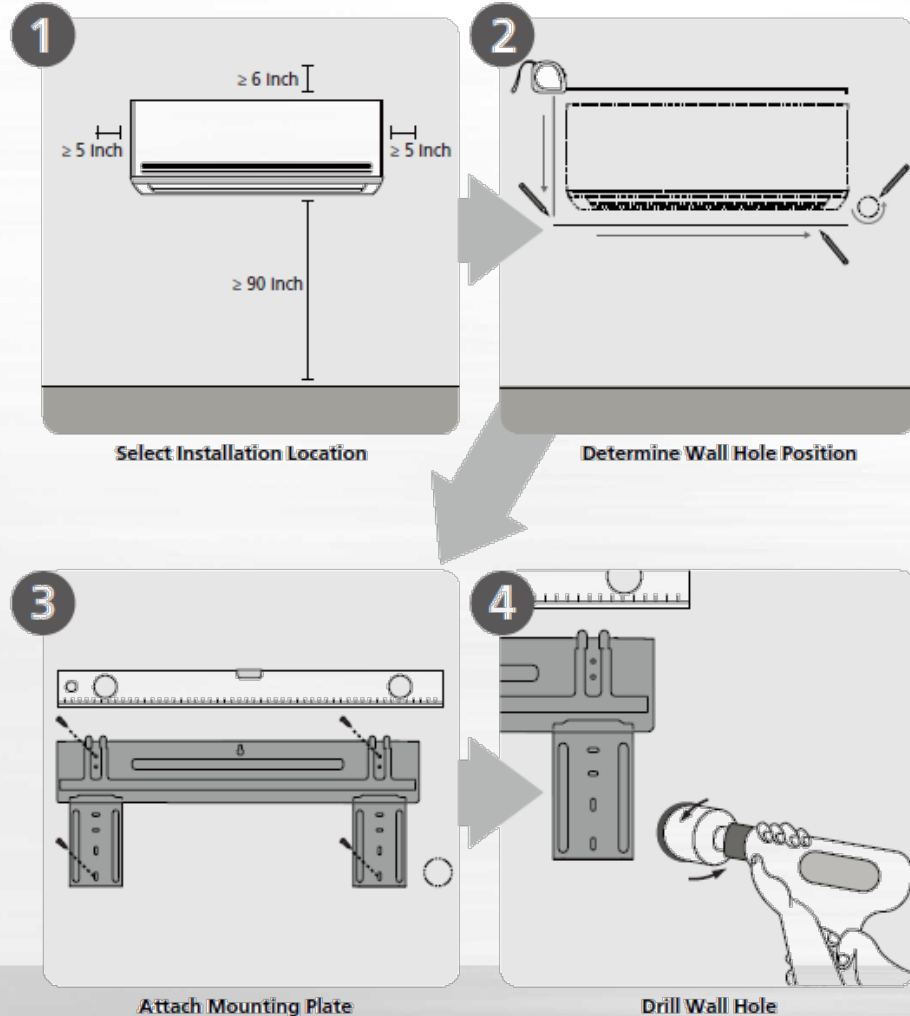


Indoor Unit Installation

General Installation Procedure



General Installation Procedure





Caution

- ① Connect the indoor unit first, then the outdoor unit.
- ② Be careful not to let the drain hose loosen or become kinked from indoor unit.
- ③ The condensate drain is pre-insulated from the factory, any extensions should also be insulated if exposed to freezing temperatures.
- ④ Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause condensate water in drain pan to overflow into living space.
- ⑤ Never intercross nor intertwist the power wire with other wires.
- ⑥ Make sure the drain hose slopes downward to allow condensate water to drain.

Select Location



No Heat/Steam Source



No Fumes / Smoke



No Combustables



Minimum 40" away from TV's, Stereo, Household Appliances



To close to ceiling preventing proper airflow

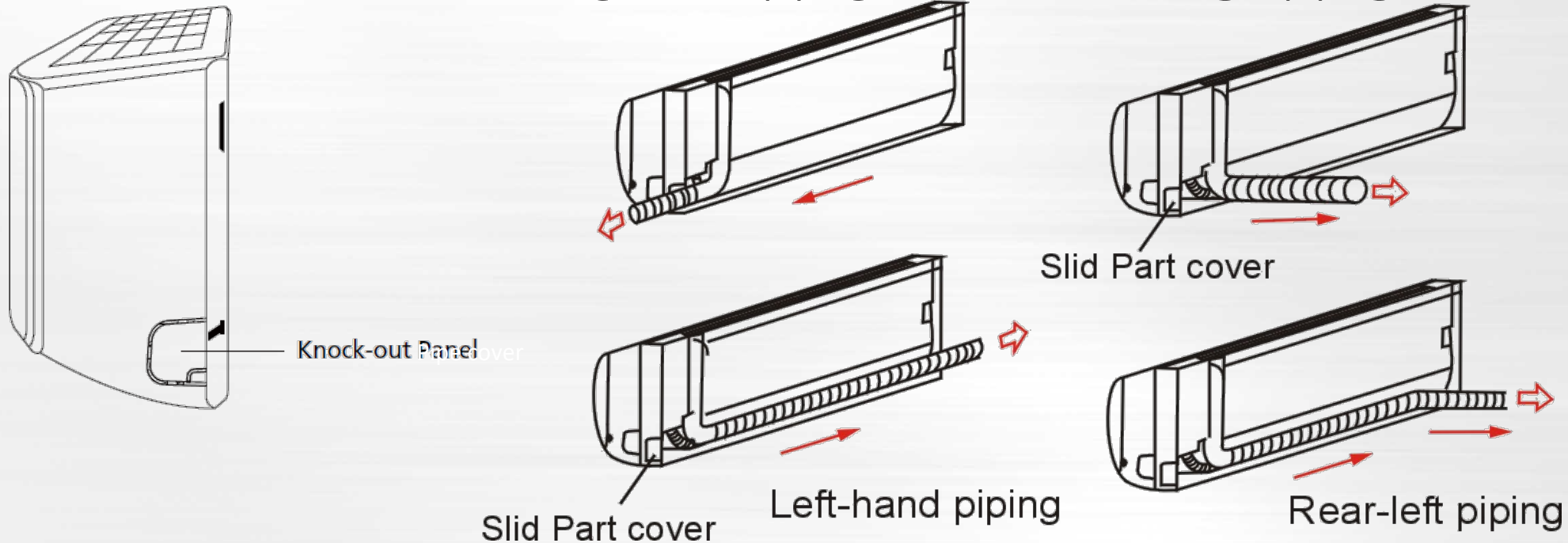


Obstacles prevent proper airflow



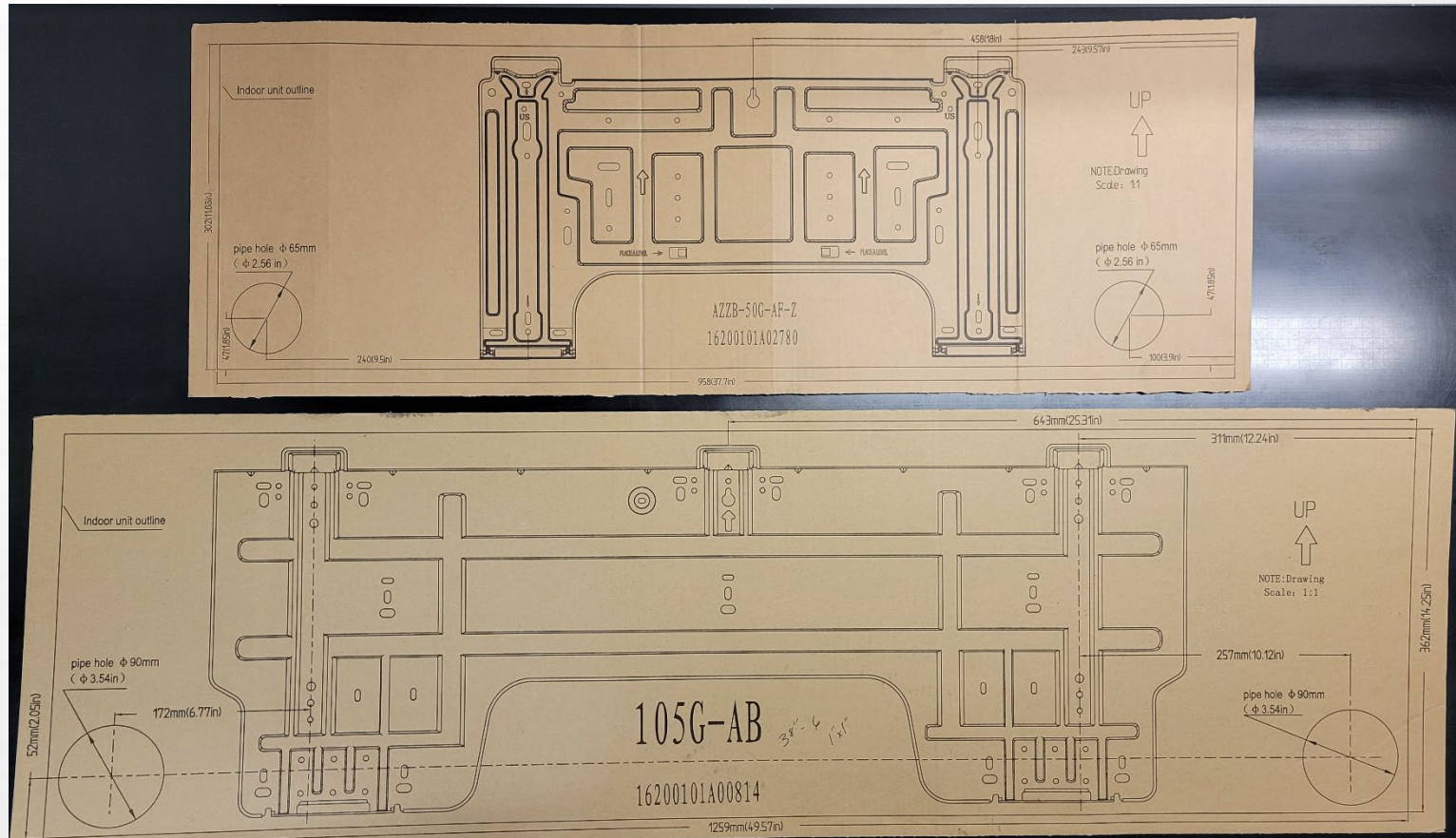
Connective Pipe Installation

- ① For the left-hand and right-hand piping, remove the pipe cover knock out from the side panel.
- ② For the rear-right-hand and rear-left-hand piping, install the piping as shown below.





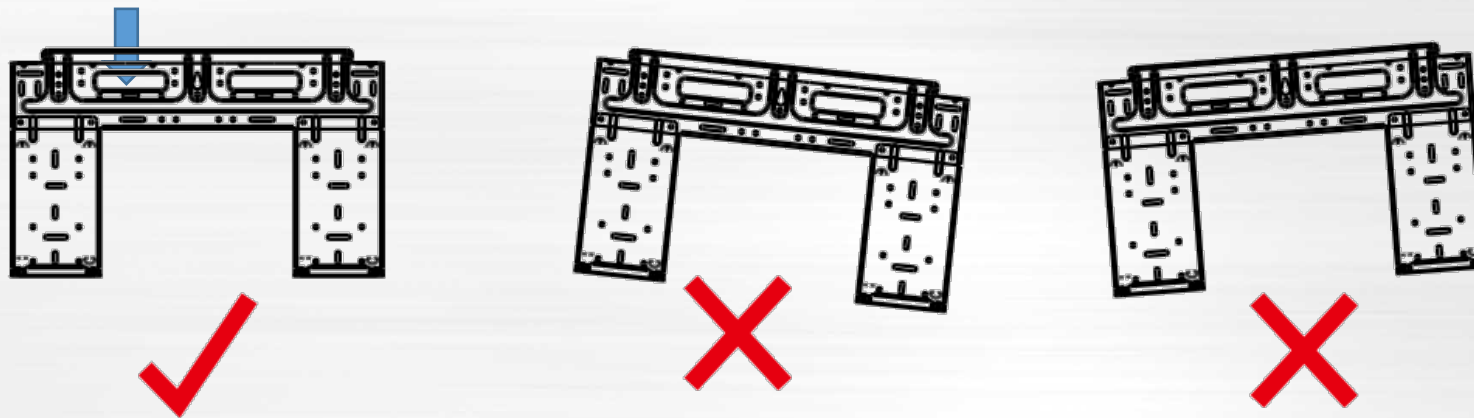
Wall templates are provided. MH Series **Wall Bracket** has a built in level on the wall plate.



Fit the Installation Plate

- ① Fit the installation plate horizontally on the wall.
- ② If the wall is made of brick, concrete or the like, drill eight (8) $\frac{1}{4}$ " diameter holes in the wall. Insert clip anchor for appropriate mounting screws.
- ③ Fit the installation plate on the wall with eight (8) type "A" screws.

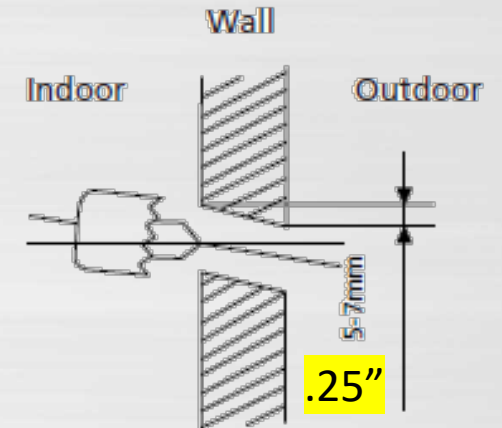
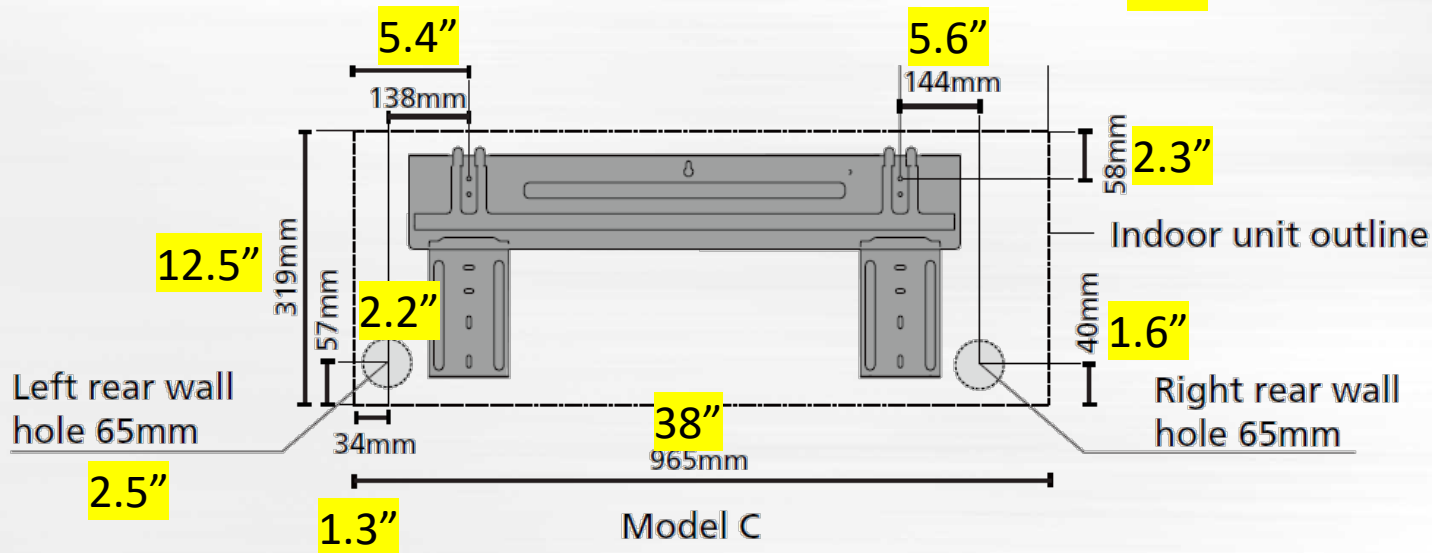
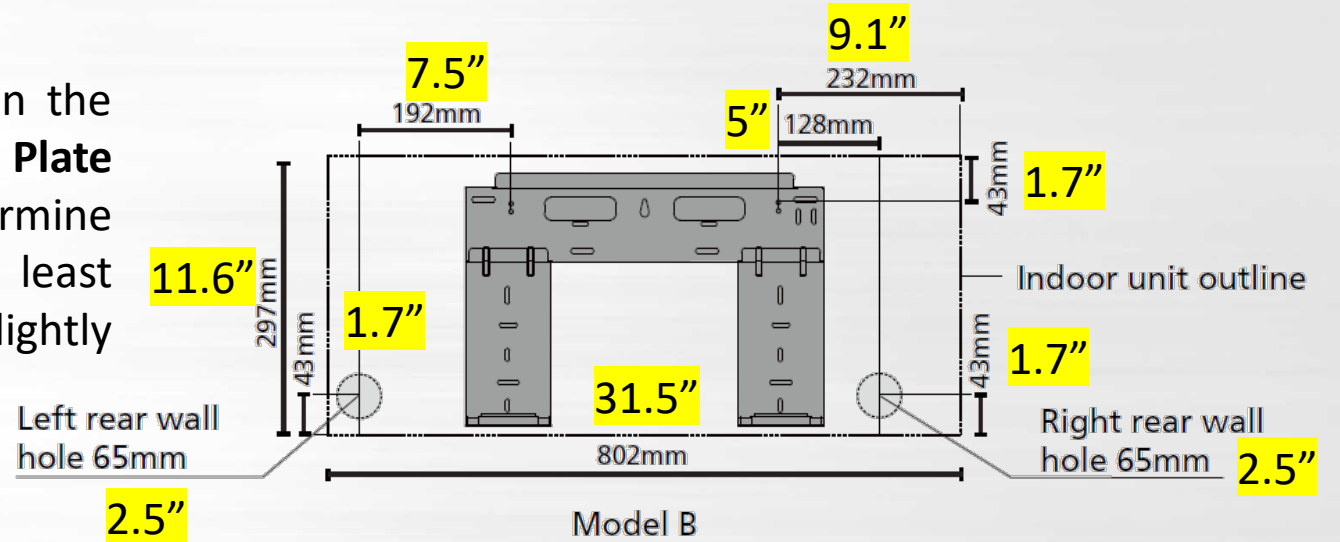
Correct orientation of Installation Plate (should be level to prevent indoor unit from leaks)





Drill a hole in the wall

Determine the location of the wall hole based on the position of the mounting plate. Refer to **Mounting Plate Dimensions in the instructions** to help you determine the optimal position. The wall hole should be at least 65cm (25.5") from the side of the unit, and at a slightly lower angle to facilitate drainage.





Installation Space of Indoor Unit

More than **6 inches** for Advantage Series, **2 inches** for Maximum Heat Series

More than **5 inches**



More than **5 inches**

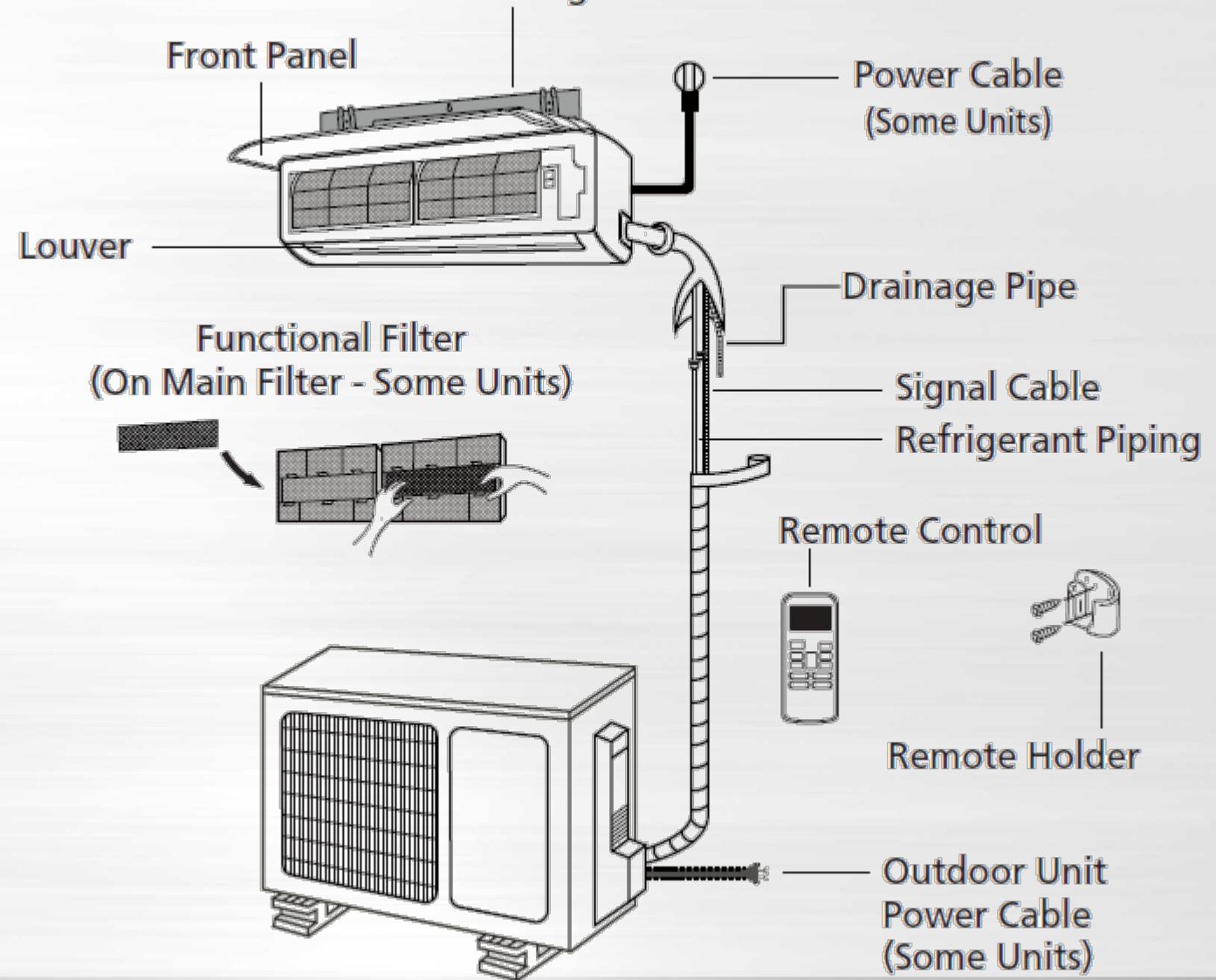


More than **90 inches**



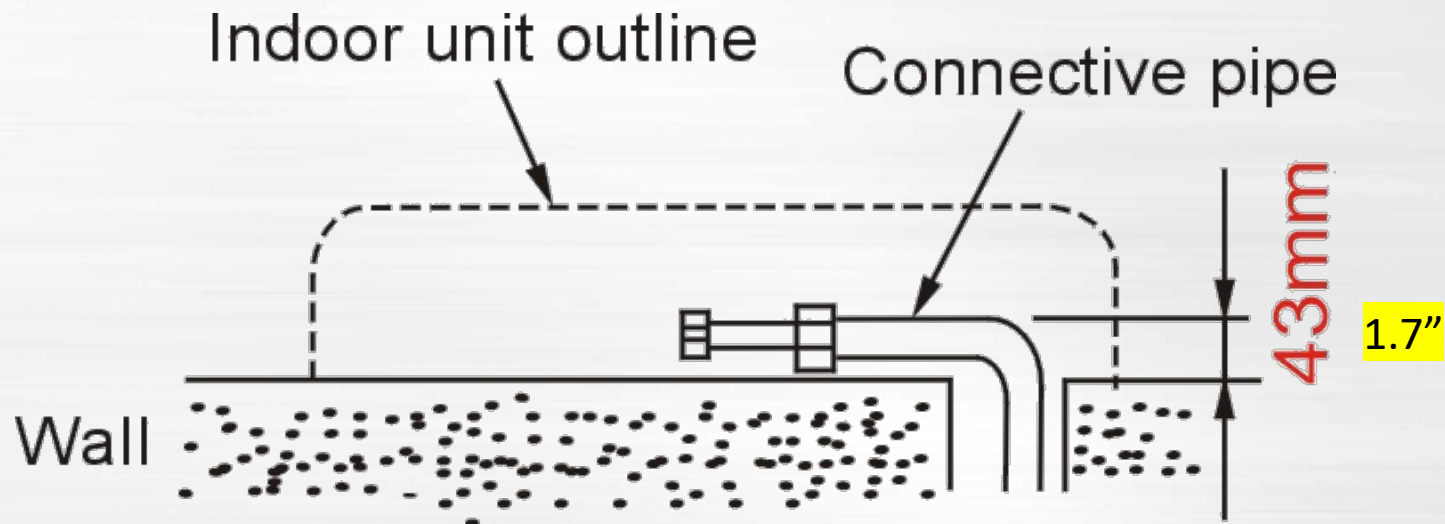
Typical installation

- Use a stud finder to locate studs to prevent unnecessary damage to the wall.
- A minimum pipe run of 10 feet is required to minimize vibration & excessive noise.
- Copper lines must be insulated independently



Connective Pipe Installation

- ① Bend the matching system Insulated tube set that is being installed at 1.7" height or less from the wall.
- ② Fix the end of the tube set. (Refer to Tightening Connection in REFRIGERANT PIPING CONNECTION SECTION of Installation Manual).





Connective Pipe Installation





Connective Pipe Installation



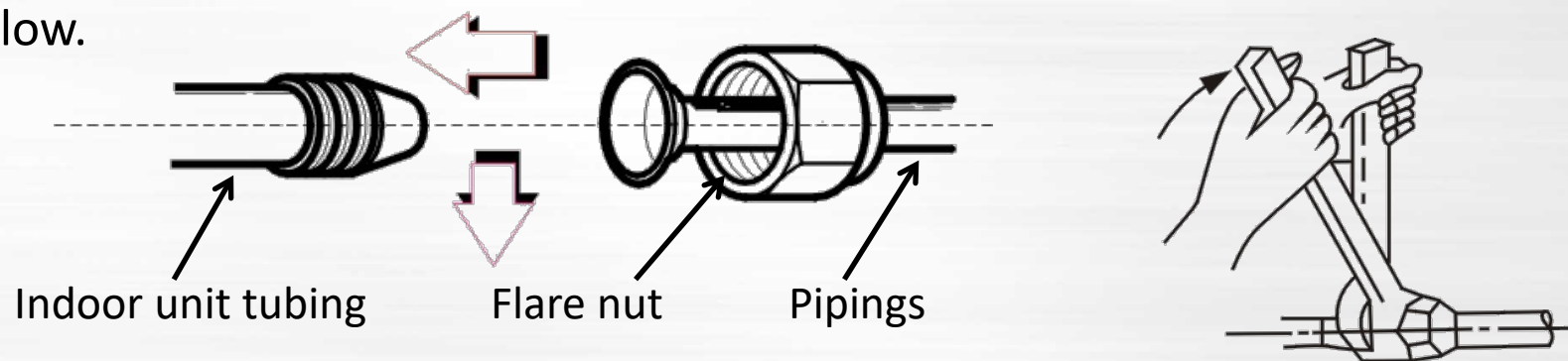
Connective Pipe Installation





Connect refrigerant pipe to indoor unit

- ① Align the center of the pipes.
- ② Sufficiently tighten the flare nut with hands, and then tighten it with a spanner and torque wrench as shown below.



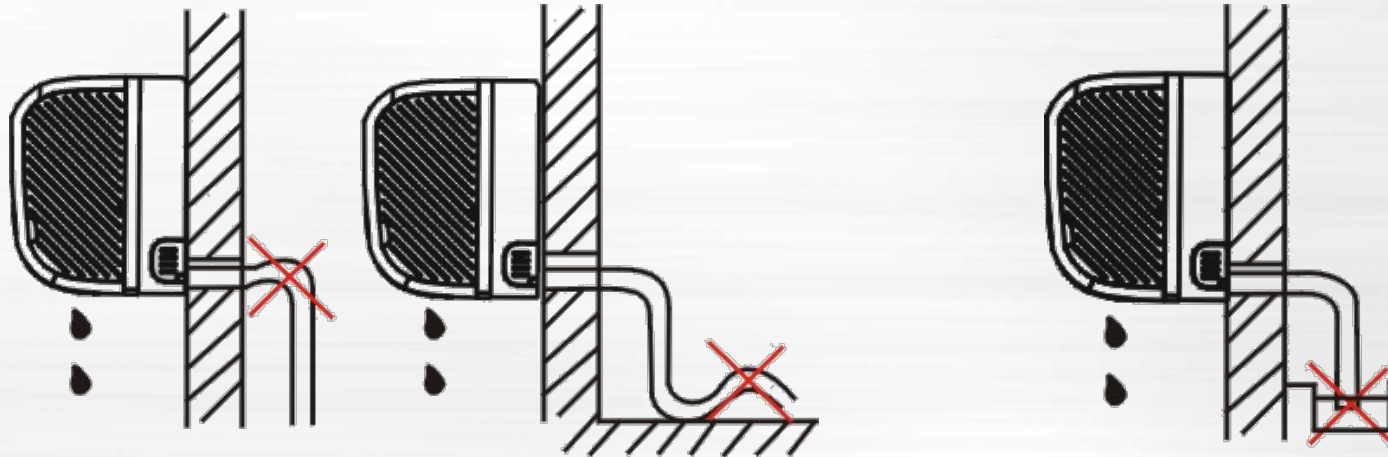
Caution:

Excessive torque can break nut depending on installation conditions.

	Outer Diam.	Tightening torque(N.cm)	Additional tightening torque(N.cm)	
.25"	Φ6.35	1570 (160kgf.cm)	1960 (200kgf.cm)	9.2 pound/inch
.375"	Φ9.52	2940 (300kgf.cm)	3430 (350kgf.cm)	8.6 pound/inch
.5"	Φ12.7	4900 (500kgf.cm)	5390 (550kgf.cm)	7.8 pound/inch

Drainage Installation

- ① Run the drain hose downward slightly. Do not install the drain hose as illustrated below.
- ② When connecting extension drain hose, insulate the connecting part of extension drain hose with a shield pipe.



Do not block water flow by a rise.

Do not put the end of drain hose into water.



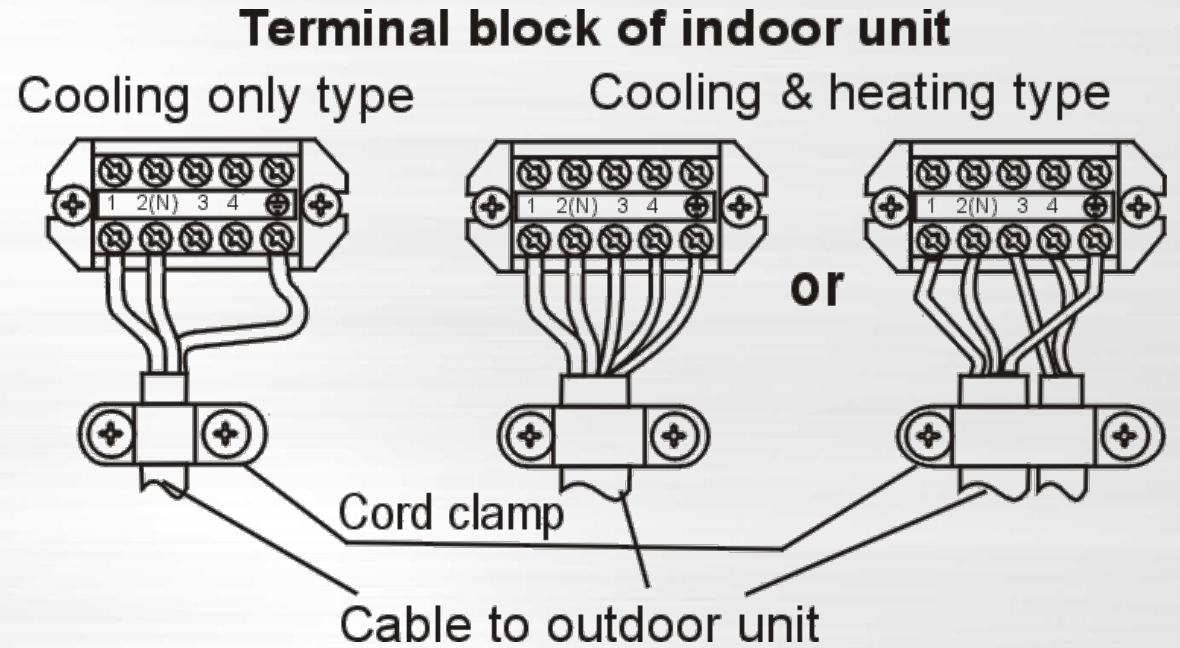
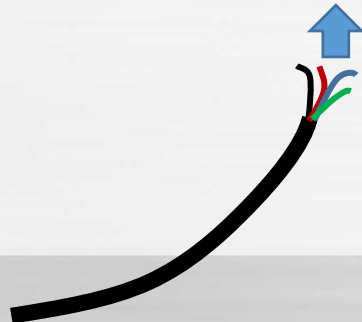
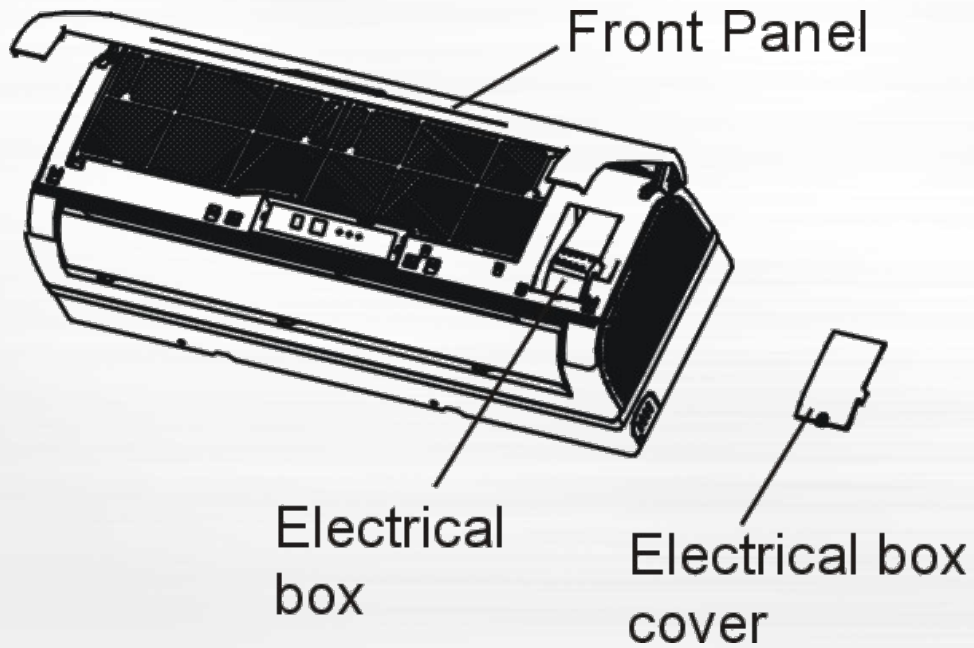
Connect the cable to the indoor unit

NOTE: Before performing any electrical work, turn off the main power to the system.

- ① The inside and outside connecting cable can be connected without removing the front grille.
- ② Connecting cable between indoor unit and outdoor unit shall be approved polychloroprene sheathed flexible cord, type designation H07RN-F or heavier cord.
- ③ Lift the indoor unit panel up, remove the electrical box cover by loosening the screw.
- ④ Ensure the color of wires of outdoor unit and the terminal Nos. are the same to the indoor's respectively.
- ⑤ Wrap those cables with Electrical Tape, so that they will not touch any electrical components. Secure the cable onto the control board with the wire clamp.

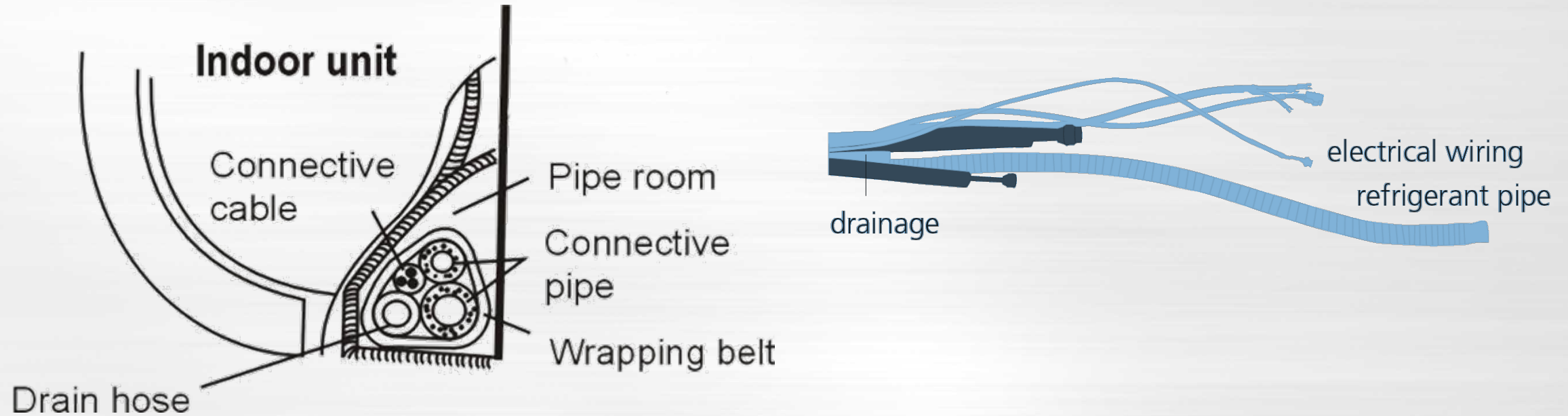


Connect the cable to the indoor unit



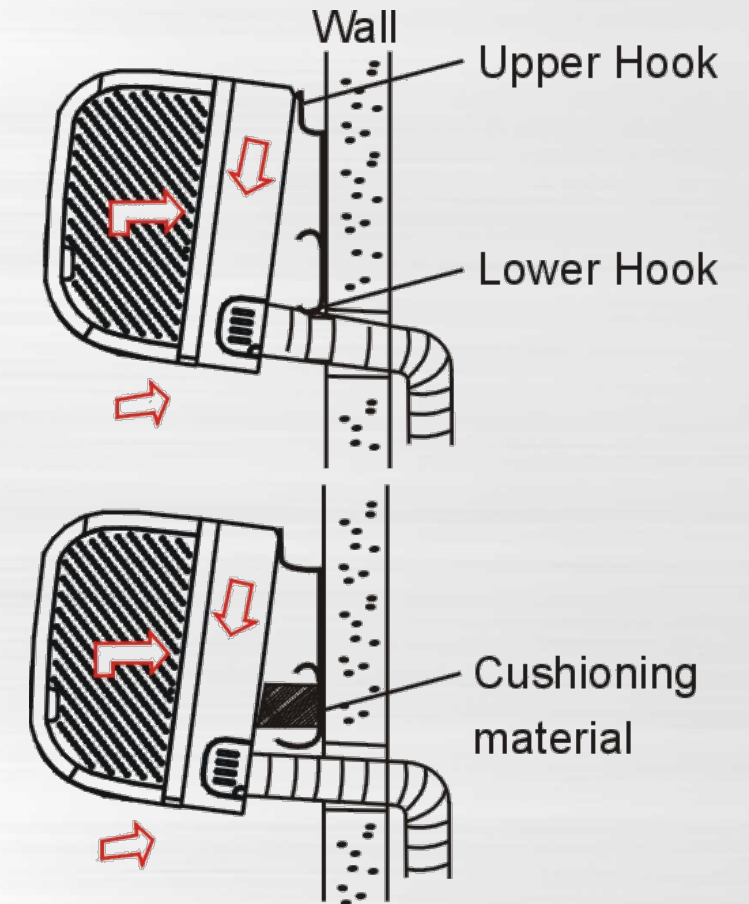
Wrapping

- ① Bundle the tubing, connecting cable, and drain hose with tape securely (provided with line set), evenly as shown below.



Mount Indoor unit

- ① Pass the piping through the hole in the wall.
- ② Put the upper claw at the back of the indoor unit on the upper hook of the mounting plate, move the indoor unit from side to side to see that it is securely hooked.
- ③ Piping, drain, electrical can easily be installed by lifting the indoor unit with a cushioning material between the indoor unit and the wall.
- ④ Push the lower part of the indoor unit up on the wall, Then move the indoor unit from side to side, up and down to check if it is hooked securely.

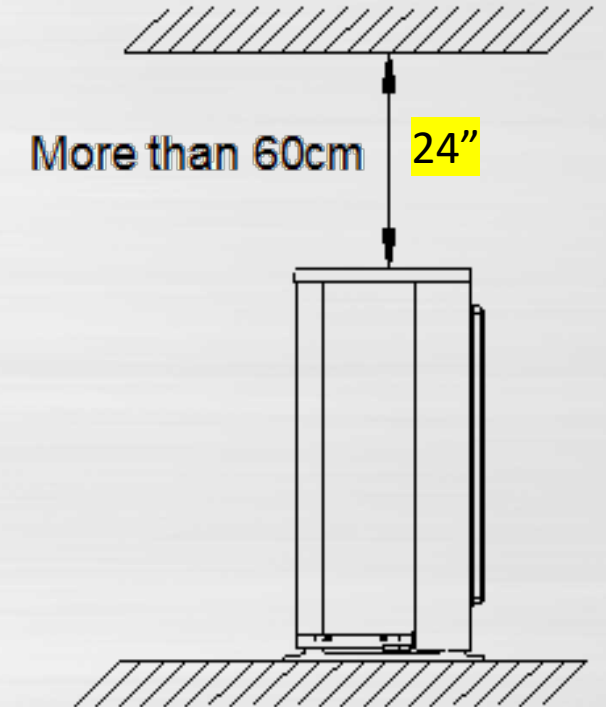
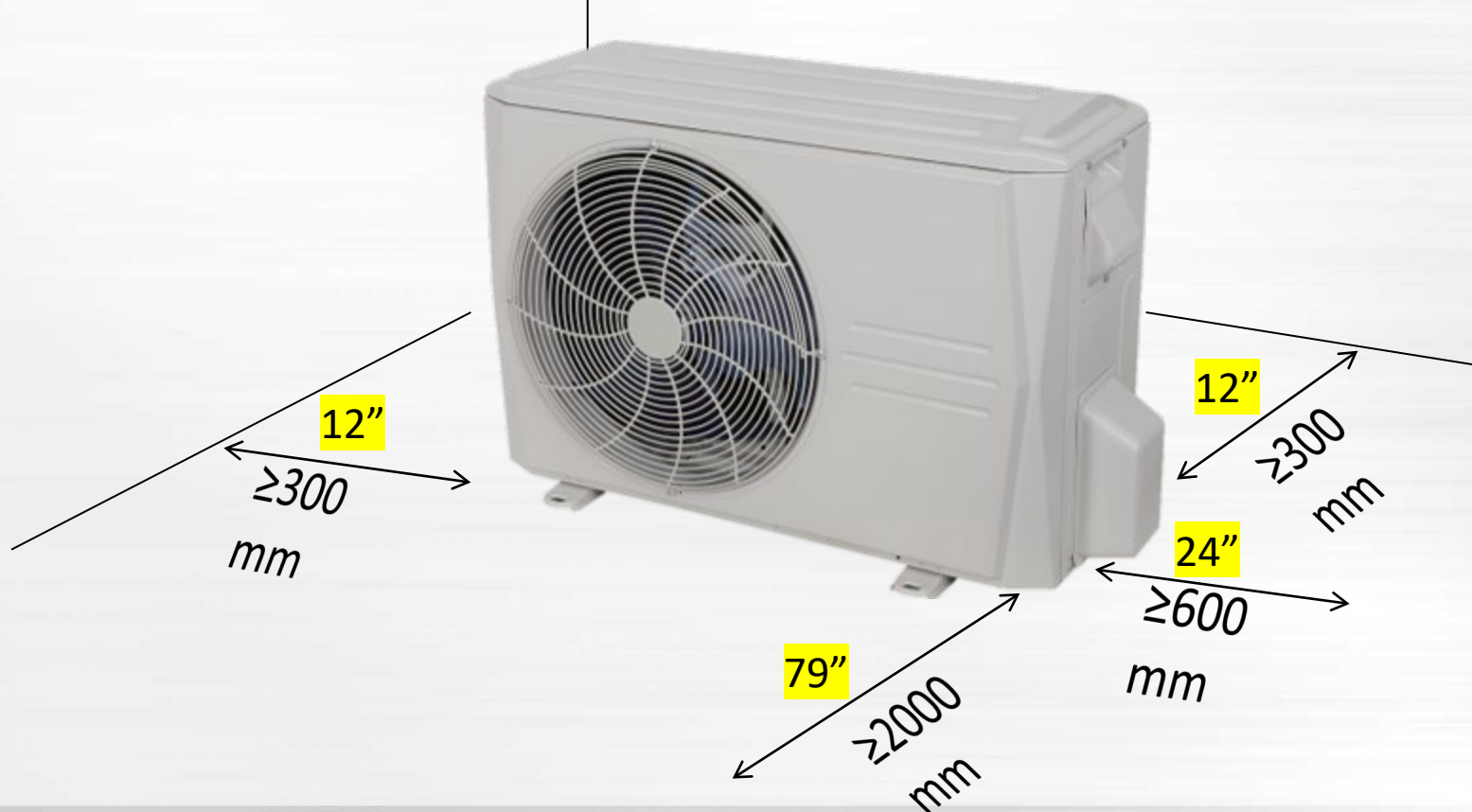




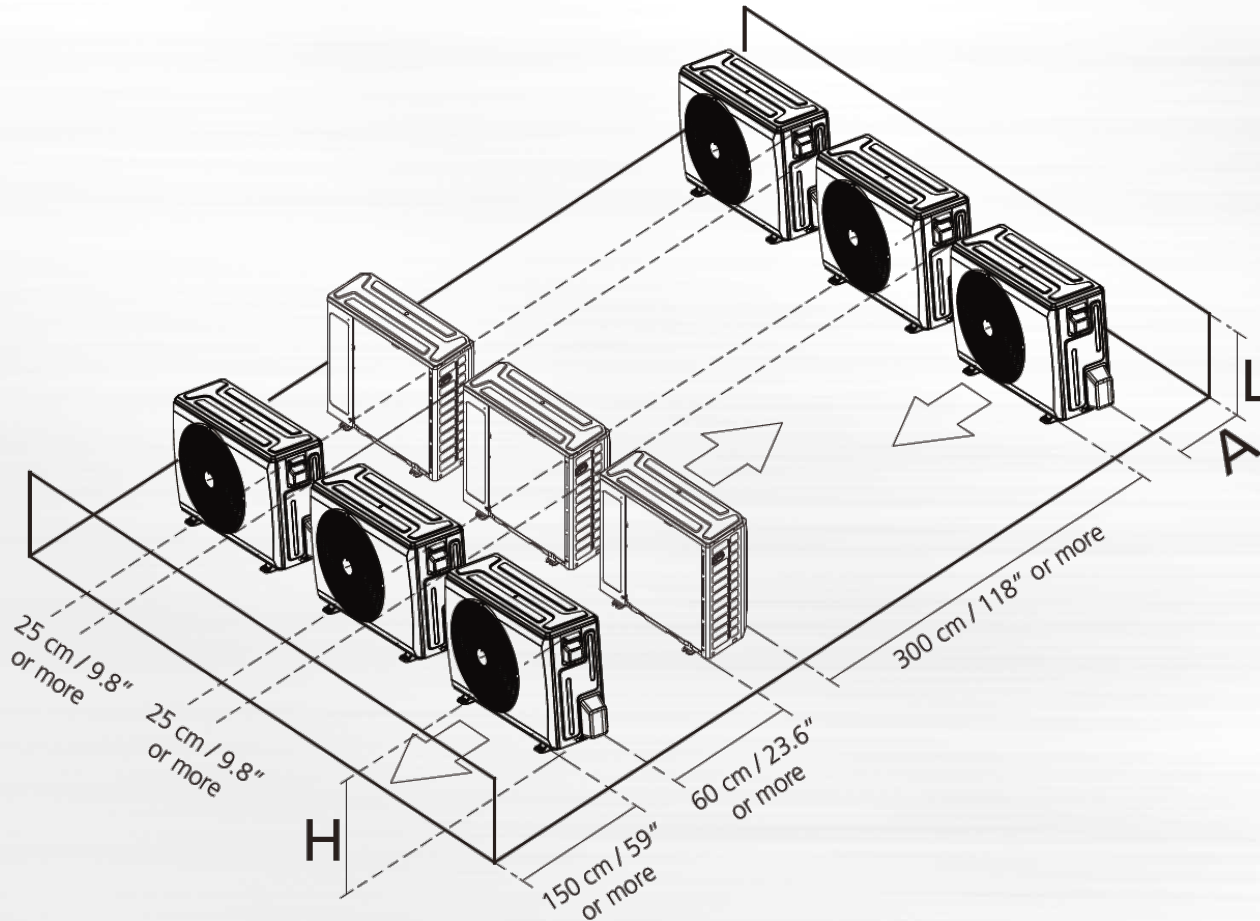
Outdoor Unit Installation



Installation Space of Outdoor Unit



Installation Space of Outdoor Unit



Rows of series installation

The relations between H, A and L are as following table:

	L	A
$L \leq H$	$L \leq 1/2H$	25 cm / 9.8" or more
	$1/2H < L \leq H$	30 cm / 11.8" or more
$L > H$	Can not be installed	

Not suitable locations

Contaminant's



Fields with Electro Mechanical Interference



Dirt, Dust



Coastal Saltwater Areas



Sulfide gas (e.g. Natural hot spring)



22K



127

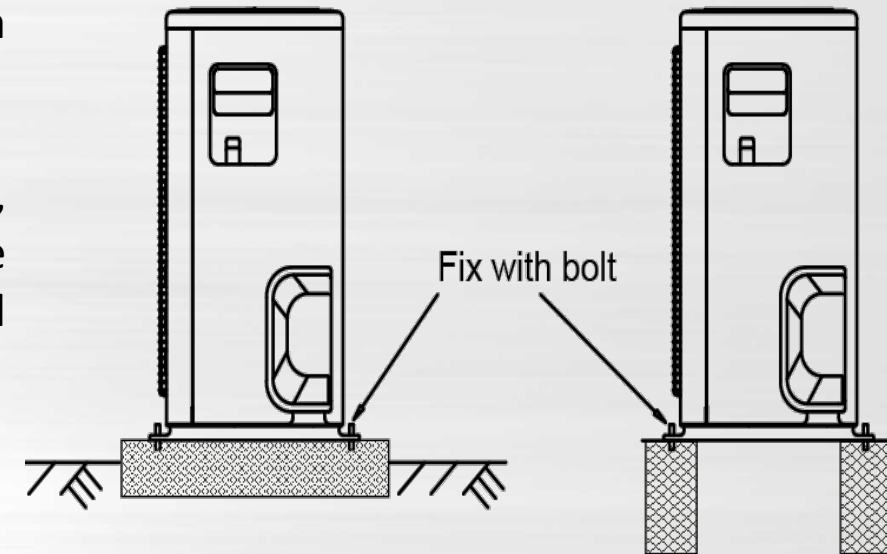


Rooftop installation

- If the outdoor unit is installed on a roof structure, be sure to level the unit.
- Ensure the roof structure and anchoring method are adequate for the unit location.
- Consult local codes regarding rooftop mounting.
- If the outdoor unit is installed on roof structures or external walls, this may result in excessive noise and vibration, and may also be classed as a non serviceable installation.

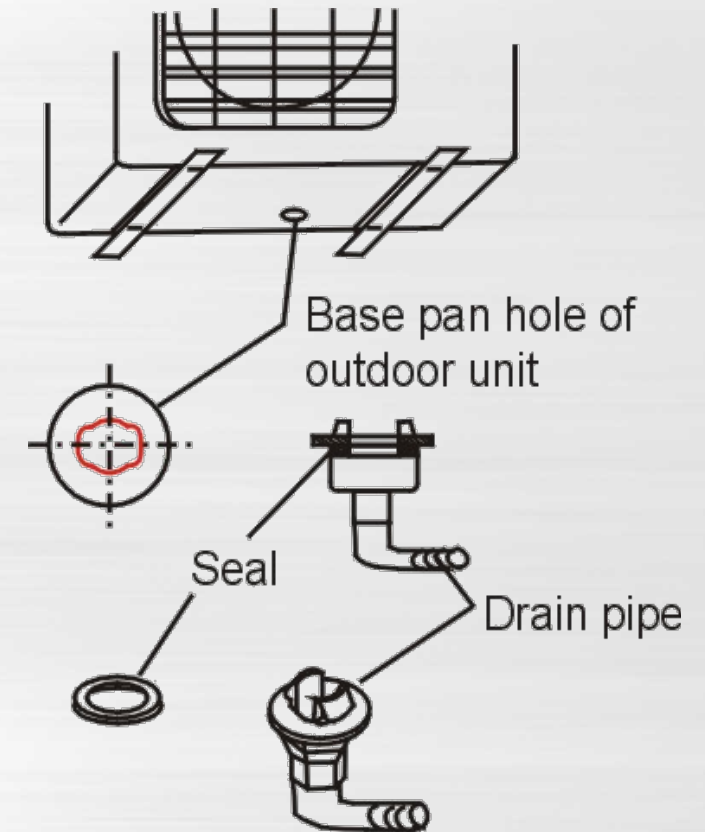
Outdoor installation

- Install the outdoor unit on a rigid base – condenser pad or stand to prevent increasing noise level and vibration.
- Be sure there are no obstacles which can block air flow.
- Determine the air outlet direction where the discharge air is not blocked.
- In the case that the installation place is exposed to strong wind such as a seaside/coastal area.
- In windy areas, install the unit to prevent the admission of wind.
- If suspending installation, the installation wall should be solid brick, concrete, or reinforcements, damping supports should be installed. The connection between bracket and wall, bracket and the air conditioner should be firm and stable.



Drain joint installation

- If a drain elbow (only used on cooling only AC) is used, the unit should be placed on a bracket which is taller than 1.2". Condenser stands are recommended to raise the condenser off of the ground, follow local building codes for proper height above snow level, service, air flow in/out of the condenser.
- If the unit (cooling and heating AC) is used in an area where temperature falls below 32°F for 2 or 3 days in succession, it is recommended not to use a drain elbow, the drain water will freeze and possibly cause equipment damage.
- Fit the seal into the drain hole, then insert the drain joint into the base pan hole of outdoor unit, rotate 90° to securely assemble them. Connecting the drain joint with an extension drain hose (field supplied).



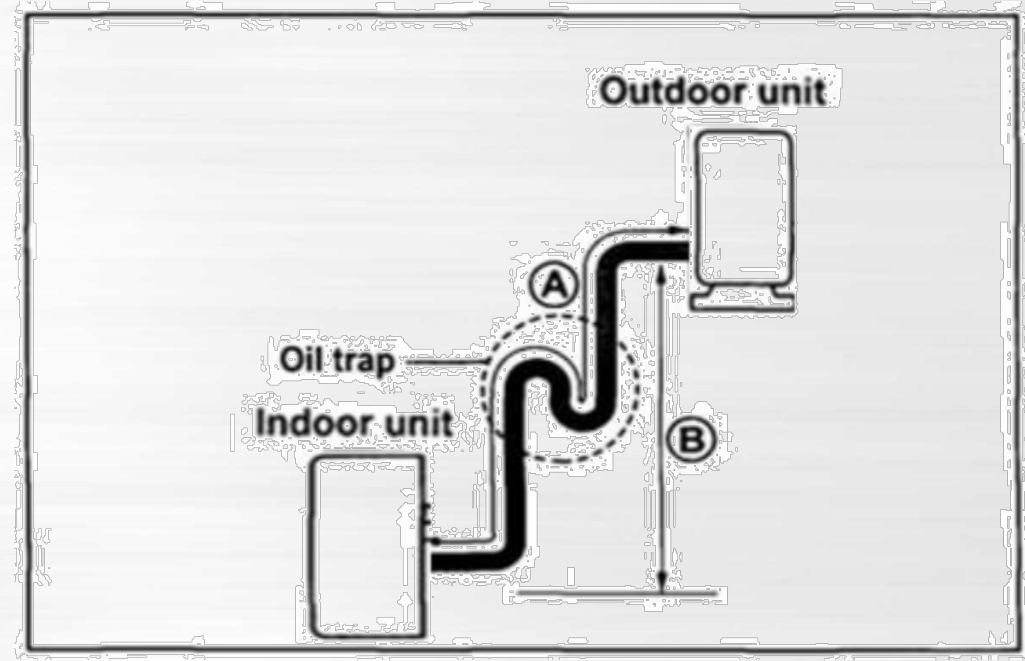
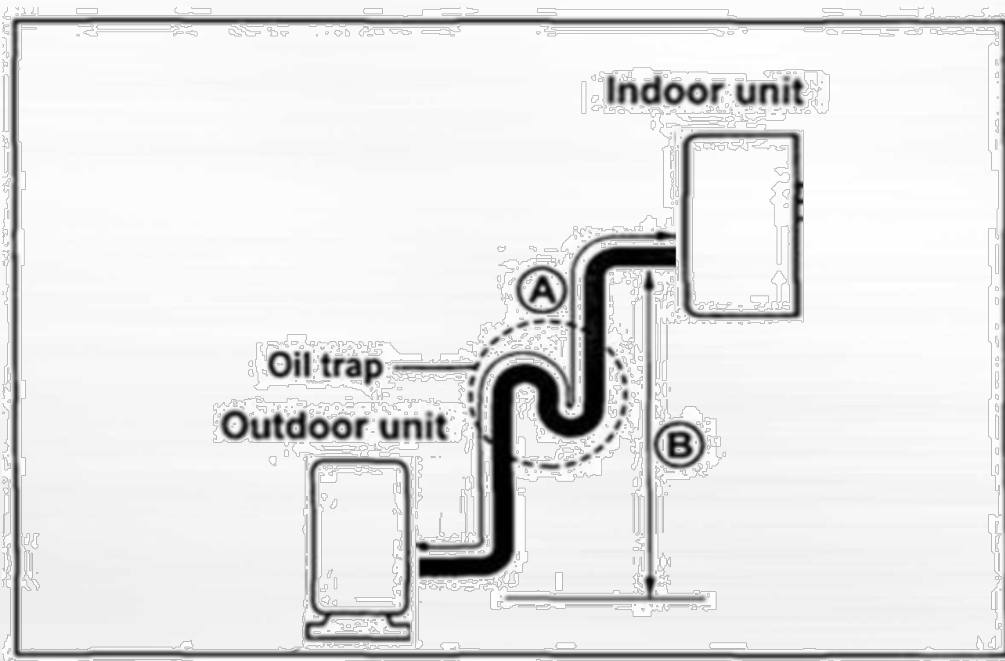
Pipe length and the elevation

R410a Inverter Units (EU, NA and AU)

Capacity	Pipe size		Standard Length (m)	Max. Length A (m)	Max. difference in height B (m)	Additional refrigerant (g/m)
	Gas Side	Liquid Side				R410A
<15K		φ6.35 .25"	5 16' 5"	25 82' 0"	10 32' 10"	15 .16 (oz/ft)
15 ≤ C <24K		φ9.52 .37"	5 16' 5"	30 98' 5"	20 65' 7"	30 .32 (oz/ft)
24 ≤ C <36K		φ9.52 .37"	5 16' 5"	50 164' 0"	25 82' 0"	30 .32 (oz/ft)
36 ≤ C <60K		φ9.52 .37"	5 16' 5"	65 213' 3"	30 98' 5"	30 .32 (oz/ft)

Caution: Capacity is base on standard length and maximum allowance length is base of reliability;

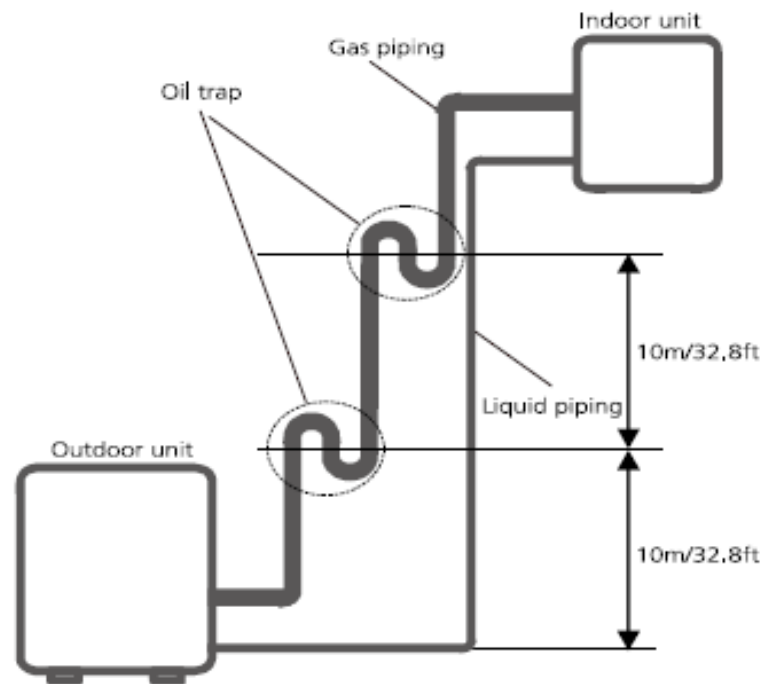
Oil Trap



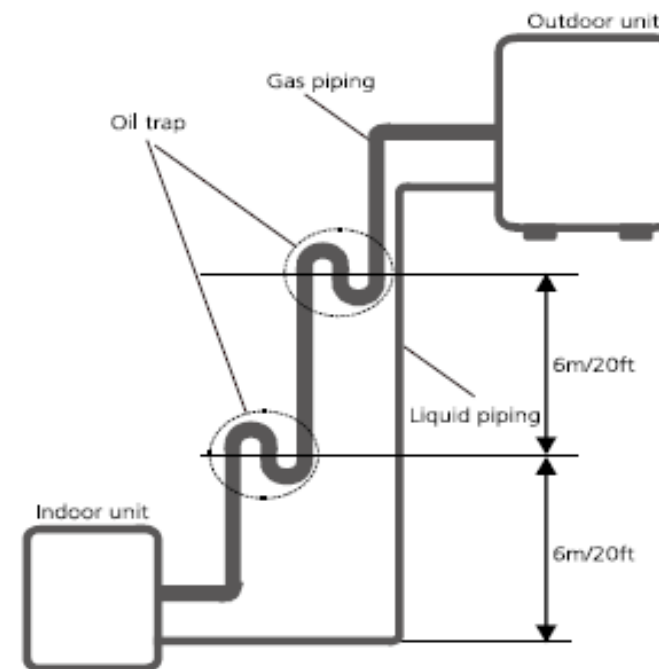
Note: The oil trap should be installed per 26' – 32'. **Lift (b) or total run (A)?**

Oil Trap

If oil flows back into the outdoor unit's compressor, this might cause liquid compression or deterioration of oil return. Oil traps in the rising gas pipe can prevent this.



1. Indoor unit is installed higher than outdoor unit



2. Outdoor unit is installed higher than indoor unit

If indoor unit is installed higher than outdoor unit, oil trap should be set every 10m(32.8ft) of vertical distance.

If the outdoor unit is installed higher than the indoor unit, proper oil should return to the compressor along with the suction of refrigerant to keep lubrication of compressor. If the suction flow velocity drops below 7.62m/s(1500fpm (feet per minute)), oil won't return to the compressor. An oil trap should be installed every 6m(20ft) of vertical distance.

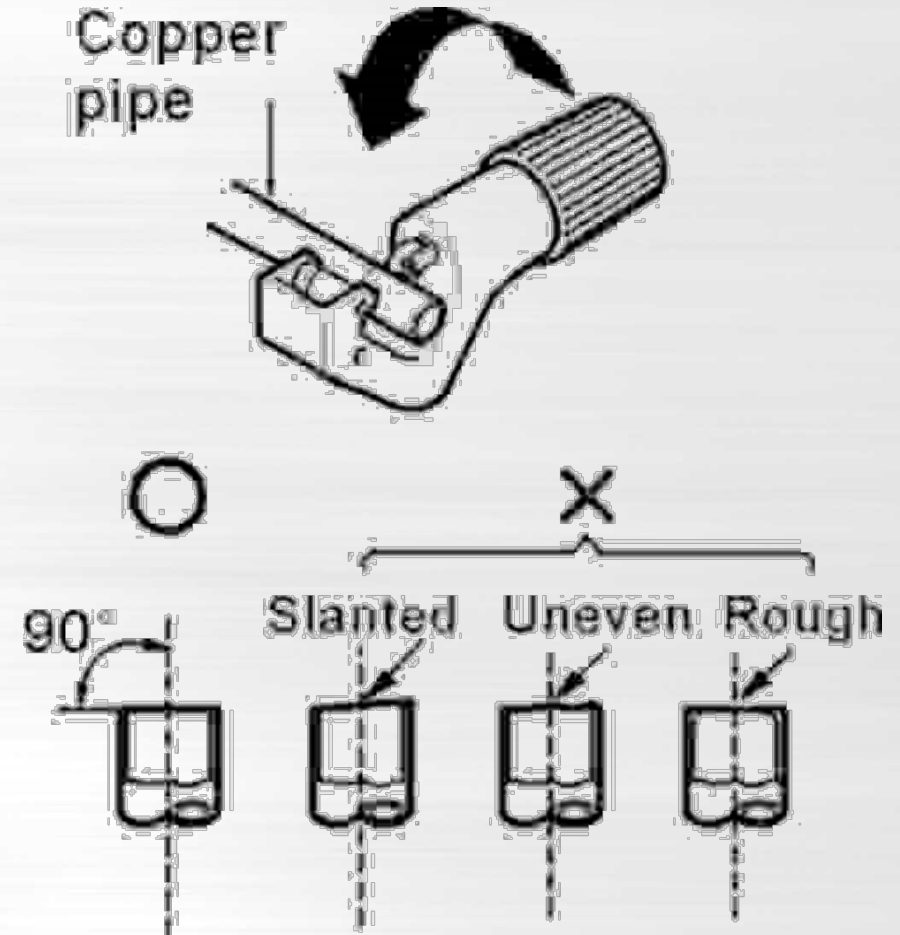
Flaring work

The main causes for refrigerant leakage is due to defects in the flaring work.

Perform flaring work using the following procedures:

A Cut the pipes and the cable.

- ① Use the piping kit accessory or field supplied.
- ② Measure the distance between the indoor and the outdoor unit.
- ③ Cut the pipes a little longer than the measured distance.
- ④ Cut the cable 4'-11" longer than the pipe length.



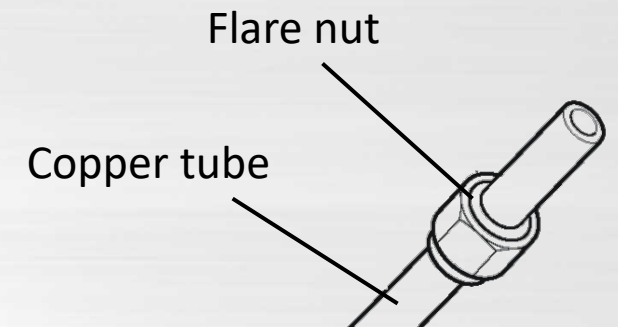
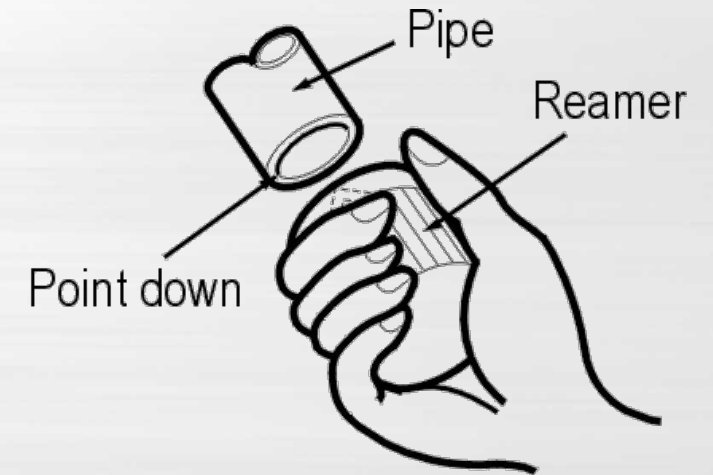
Flaring work

B Burr removal.

- ① Completely remove all burrs from the cut cross section of pipe/tube.
- ② Put the end of the copper tube/pipe in a downward direction as you remove burrs in order to avoid dropping burrs into the tubing.

C Putting flare nut on.

- Remove flare nuts installed on indoor and outdoor unit, then put them on pipe/tube having completed burr removal. (not possible to put them on after flaring work)

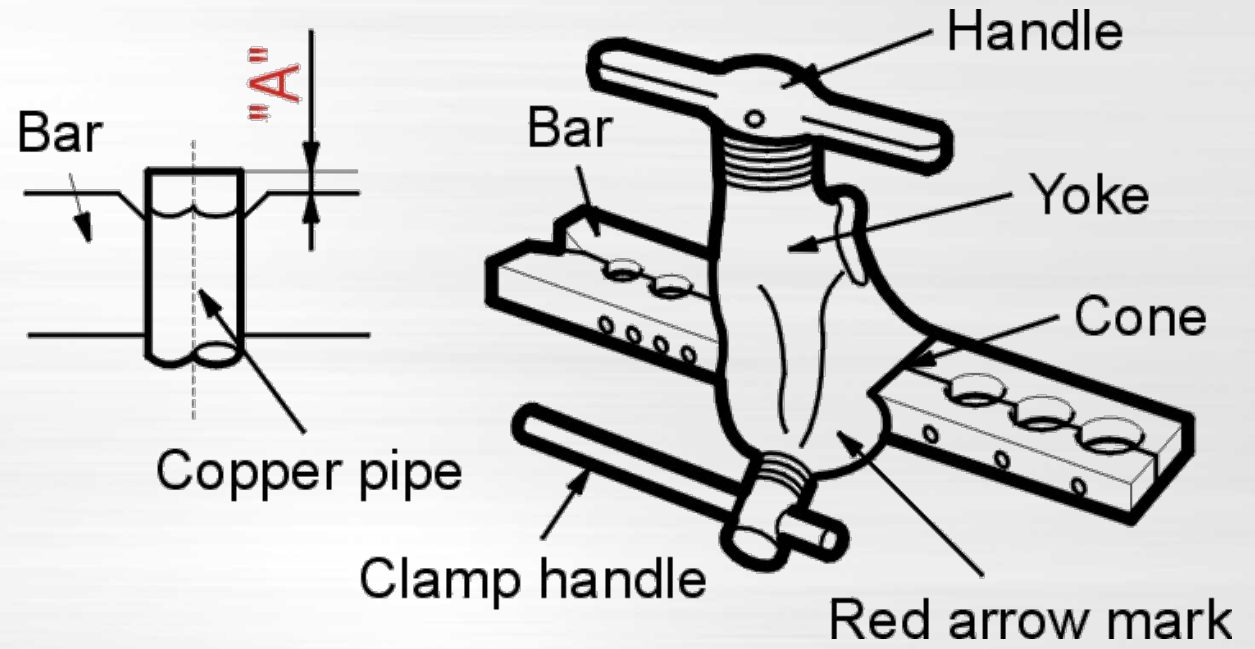


Flaring work

D Flaring

Firmly hold copper pipe in a die in the dimension shown in the table below.

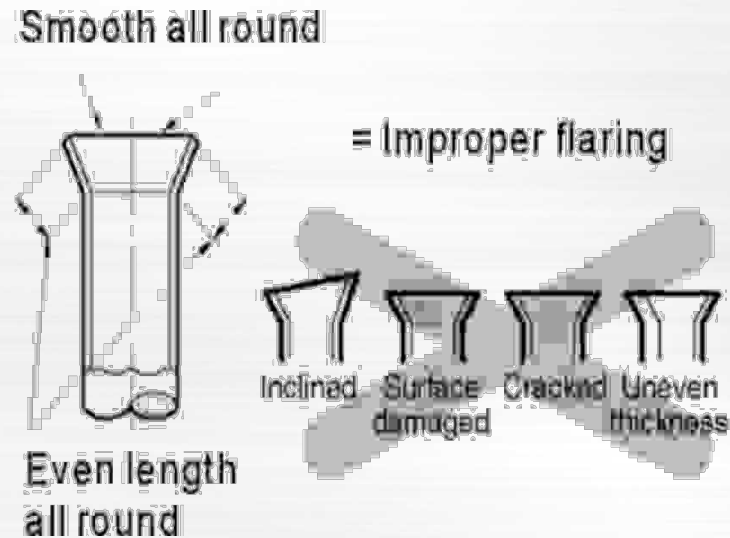
Outer diam. (mm)	A(mm)	
	Max.	Min.
Φ6.35 .25"	1.3 .05"	0.7 .03"
Φ9.52 .37"	1.6 .06"	1.0 .04"
Φ12.7 .50"	1.8 .07"	1.0 .04"



Flaring work

E Check.

- Compare the flared work with the below diagram.
- If flare is found to be defective, cut off the flared section and do flaring work again.



Flaring work





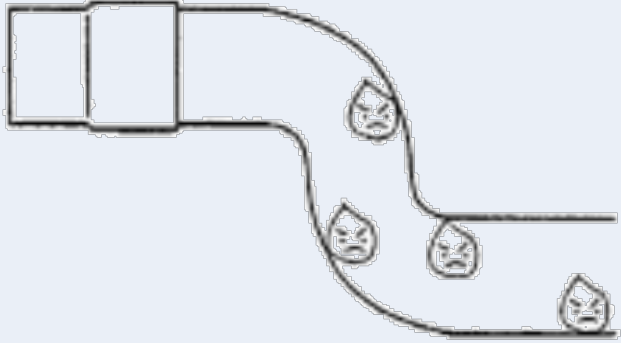
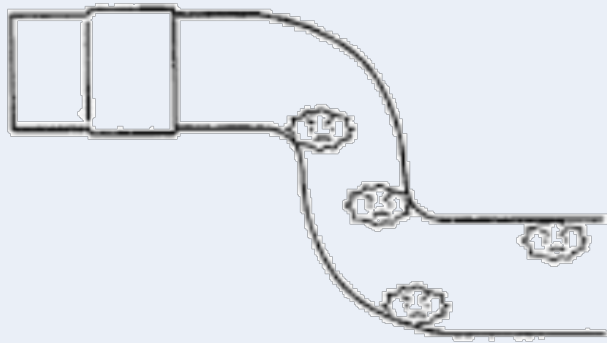
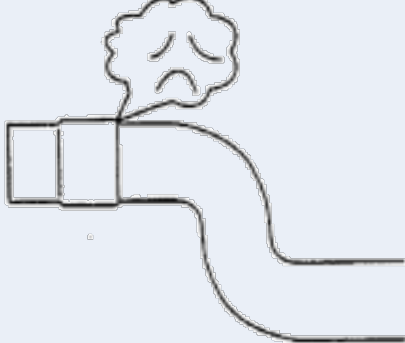
Flaring work



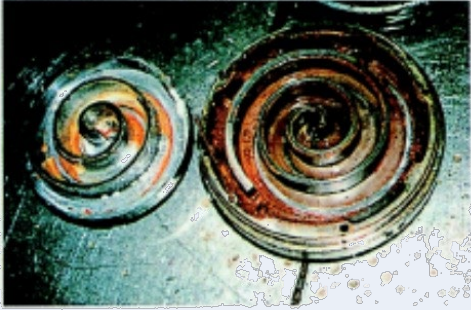

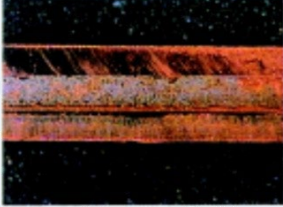


Pipe work

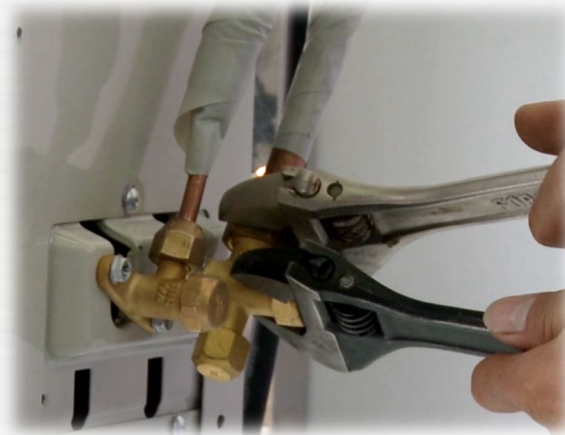
Following the Three Basic Rules of Refrigerant Piping.

	(1) Drying (no moisture)	(2) Cleaning (free of contamination)	(3) Tightening (air-tightness)
	There shall be no moisture in the pipe.	There shall be no dust in the pipe.	There shall be no refrigerant leak.
Item			
Cause	<ul style="list-style-type: none"> Water entering from outside, such as rain. Moisture due to dew condensation occurring inside the pipe. 	<ul style="list-style-type: none"> Oxidized film generated during brazing. Entering of foreign items such as dust, particles and oil from outside. 	<ul style="list-style-type: none"> Insufficient brazing Inadequate flaring or insufficient tightening torque. Inadequate tightening of flange connection.

Pipe work

	(1) Drying (no moisture)	(2) Cleaning (free of contamination)	(3) Tightening (air-tightness)
Problem	<ul style="list-style-type: none"> Clogging of expansion valve, capillary tube, etc. Insufficient cooling or heating. Degradation of refrigerant oil. Malfunction of compressor. 	<ul style="list-style-type: none"> Clogging of expansion valve, capillary tube, etc. Insufficient cooling or heating. Degradation of refrigerant oil. Malfunction of compressor. 	<ul style="list-style-type: none"> Gas shortage Insufficient cooling or heating. Temperature increasing of discharge gas. Degradation of refrigerant oil. Malfunction of compressor.
	<p>For reference</p>  <p>Compressor is corroded due to moisture.</p>	 <p>Not clogged</p>  <p>Clogged</p> <p>Capillary is clogged with dust.</p>	
Preventive measure	<pre> graph TD A[Pipe preparation] --> B[Flushing] B --> C[Vacuum drying] </pre>	<ul style="list-style-type: none"> Same as the items on the left. previously used with a different type of refrigerant. 	<ul style="list-style-type: none"> Follow the basic brazing procedure Follow the basic flaring procedure. Follow the basic flange connection procedure. Conduct an air-tightness test (gas leak check).

Tightening Connection



Installation of Indoor & Outdoor Unit

Checking and Test Running

Failure Cases

Necessary Tools

IDU Installation

ODU Installation

Pipe Work

Wiring

Air Purging



Wiring



Electric safety

Electric safety regulations for the initial Installation

- ① Power voltage should be in the range of 90%~110% of rated voltage.
- ② The electrical leakage protector and main power switch with a 1.5 times capacity of Max. Current of the unit are recommended to be installed in power circuit.
- ③ Ensure the air conditioner is grounded well.
- ④ According to the attached Wiring Diagram located on the panel of the outdoor unit to connect the wire.
- ⑤ All wiring must comply with local and national electrical codes and be installed by qualified and skilled electricians.



Electric safety


An individual branch circuit and single receptacle used only for this air conditioner must be available. See the following table for suggested wire sizes and fuse specifications:

Model	Power supply	Input Rated Amp(Switch/Fuse)
12K	220-240V~, 50/60Hz	16A
18K		20A
24K		30A
30k		30A

NOTE: The supply voltage must be consistent with the rate voltage of the air conditioner.

Minimum nominal cross-sectional area of conductors:

Rated current of appliance (A)	Nominal cross-sectional area(mm ²)
>3 and <6	0.75
>6 and <10	1.0
>10 and <16	1.5
>16 and <25	2.5

Wire Gauges Size & Wire Ampacity Table	
 3/0 Gauge	200 AMPS Service Entrance - From Utility Pole to Energy Meter
 1/0 Gauge	150 AMPS Service Entrance & Feeder Wire - To Panel Box
 3 Gauge	100 AMPS Service Entrance & Feeder Wire - To Panel Box
 6 Gauge	55 AMPS Feeder & Large Appliance Wire 
 8 Gauge	40 AMPS Feeder & Large Appliance Wire
 10 Gauge	30 AMPS Appliances e.g. Dryer, Air-conditioning, Water Heater
 12 Gauge	20 AMPS Appliances like Laundry, Bathroom & Kitchen Circuits
 14 Gauge	15 AMPS General Lighting, Fans & Outlet / Receptacle Circuits



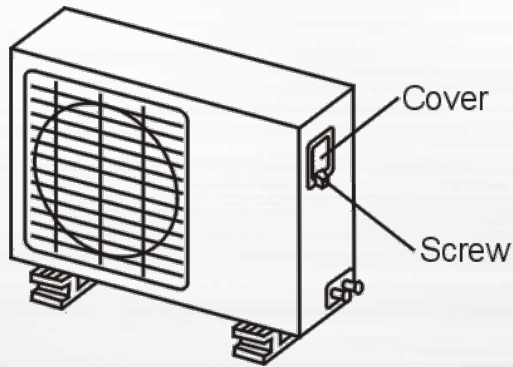
Connect the cable to the outdoor unit

NOTE: Before performing any electrical work, turn off the main power to the system.

- ① Remove the electrical control board cover from the outdoor unit by loosening the screw.
- ② Connect the connective cables to the terminals as identified with their respective matched numbers on the terminal block of indoor and outdoor units.
- ③ Secure the cable onto the control board with the cord clamp.



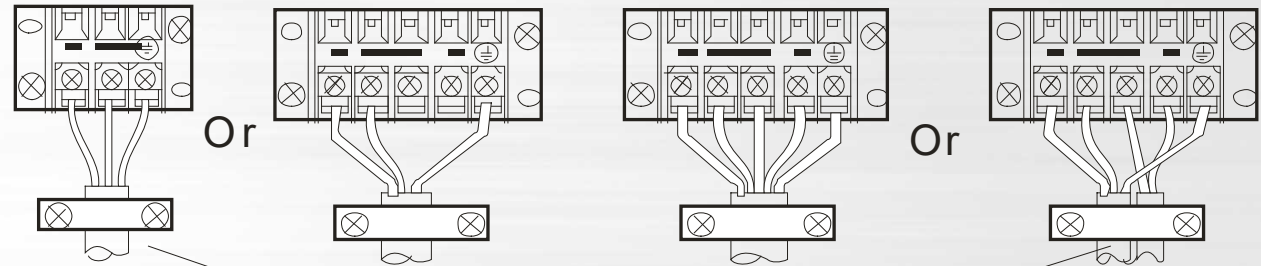
Connect the cable to the outdoor unit



Terminal block of outdoor unit

Cooling only type.

Cooling & heating type.

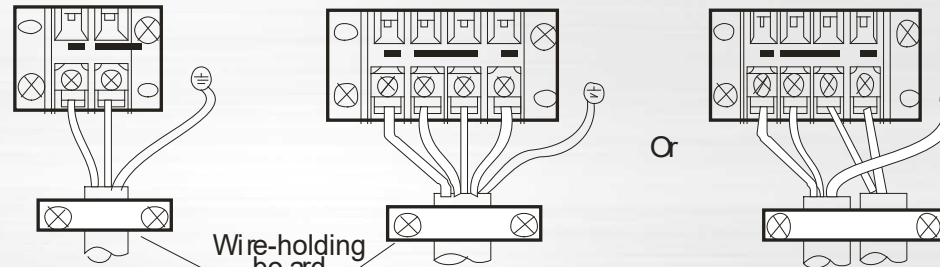


Wire-holding board

(1)

Cooling only type.

Cooling & heating type.



Wire-holding board

(2)



Caution

- The air conditioner should always be wired on a dedicated circuit.
- See to that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power source specifications.
- Always install an earth leakage circuit breaker in a wet or moist areas.

Installation of Indoor & Outdoor Unit

Checking and Test Running

Failure Cases

Necessary Tools

IDU Installation

ODU Installation

Pipe Work

Wiring

Air Purging



Air Purging



Why air purging

Reason: If the compressor runs with air trapped inside for an extended period of time and the discharge pipe is blocked, it may cause an explosion.

- 1) The compressor is overheated and oil is boiled away.
- 2) The temperature and pressure of oil-air mixture rise continuously and reaches the boiling point of the oil.
- 3) The oil-air mixture burns up, the temperature and pressure rise quickly.
- 4) When the pressure is over the limited pressure of compressor body (2277psi ~2843psi).



Why air purging

Water inside will cause,

- Ice crystals may block the capillary tubes or at the filter of the accumulator.
- **Contaminated system oil**

Particles will cause,

- **Blocked or locked compressor**

Therefore, the indoor unit and tubing between the indoor and outdoor unit must be evacuated followed by a leak test to remove any non-condensable air and moisture from the system.



Air purging with vacuum pump

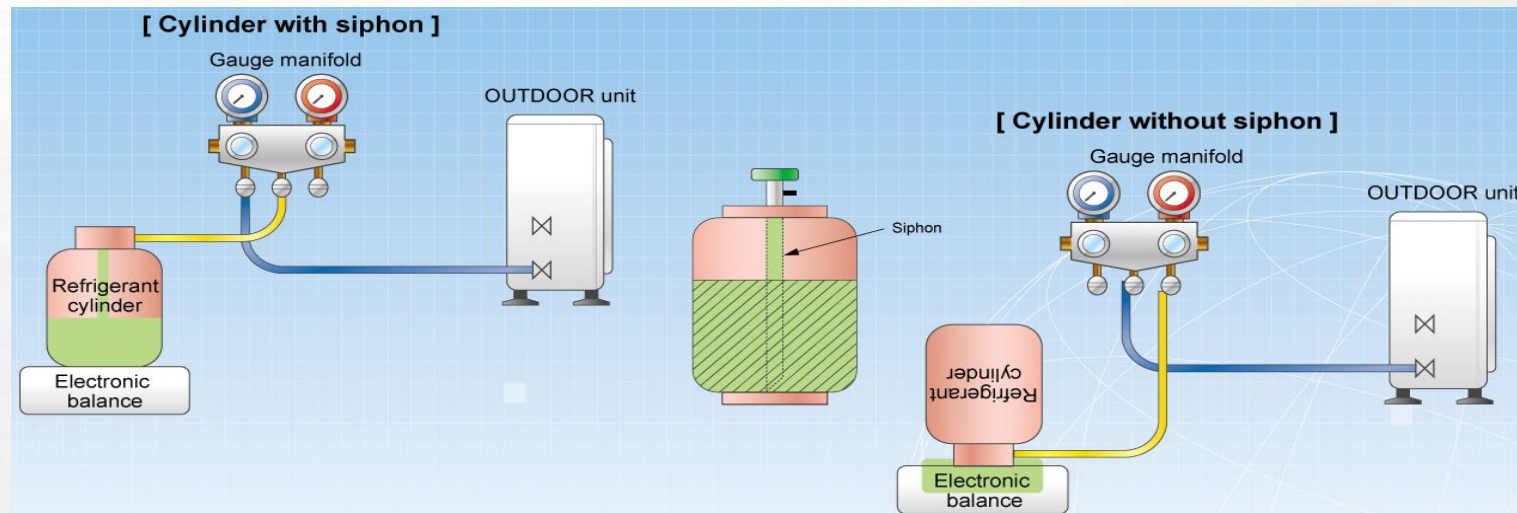
Preparation:

- Check that each tube (both liquid and gas side tubes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed. Remove the service valve caps from both the gas and the liquid side on the outdoor unit.
- Note that both the liquid and the gas side service valves on the outdoor unit are kept closed at this stage.

Connective pipe length	Air purging Method	Time required for evacuation
Less than 5m 16' 4"	Use vacuum pump.	10 min
More than 5m 16' 4"	Use vacuum pump.	15-30 min

Air purging with vacuum pump

- When relocate the unit to another place, do air purging with vacuum pump again.
 - Make sure the refrigerant added into the air conditioner is liquid form in any case. (Especially R410A)
- Ps: R410A is composed of liquid CH_2F_2 (R32 50%) and liquid CHF_2CF_3 (R125 50%). But gas R410A has different ratio than R32 and R125, so gas R410A doesn't have R410A's performance. In order to make sure liquid R410A charging, we should inverse refrigerant cylinder without siphon.



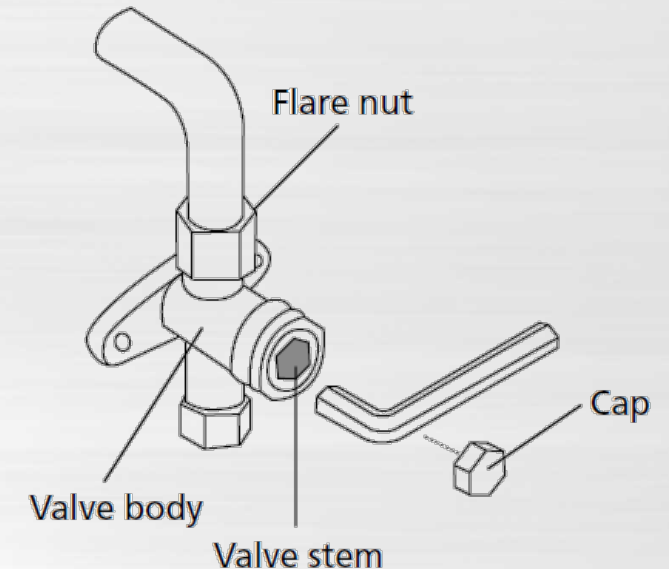
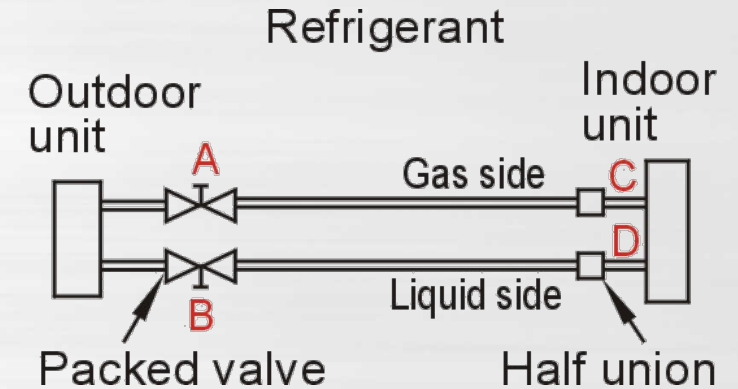
Note: For the R32 refrigerant model, make sure the conditions within the area have been made safe by **controlling of any flammable material** when the refrigerant is added into air conditioning system.



Operation of vacuum pump

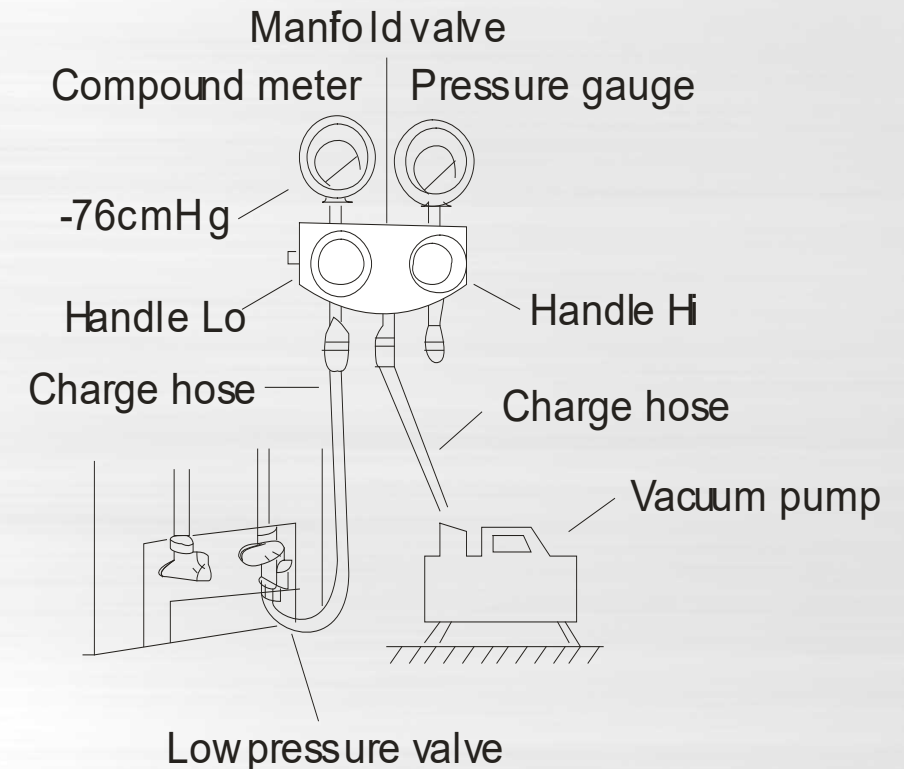
For methods of using a manifold valve, refer to its operation manual.

- ① Completely tighten the flare nuts, A, B, C, D, 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 Low side of the manifold valve.
- ④ Operate the vacuum pump to evacuate. After starting evacuation, slightly loosen the flare nut of the Low side 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 psi instead of a vacuum).



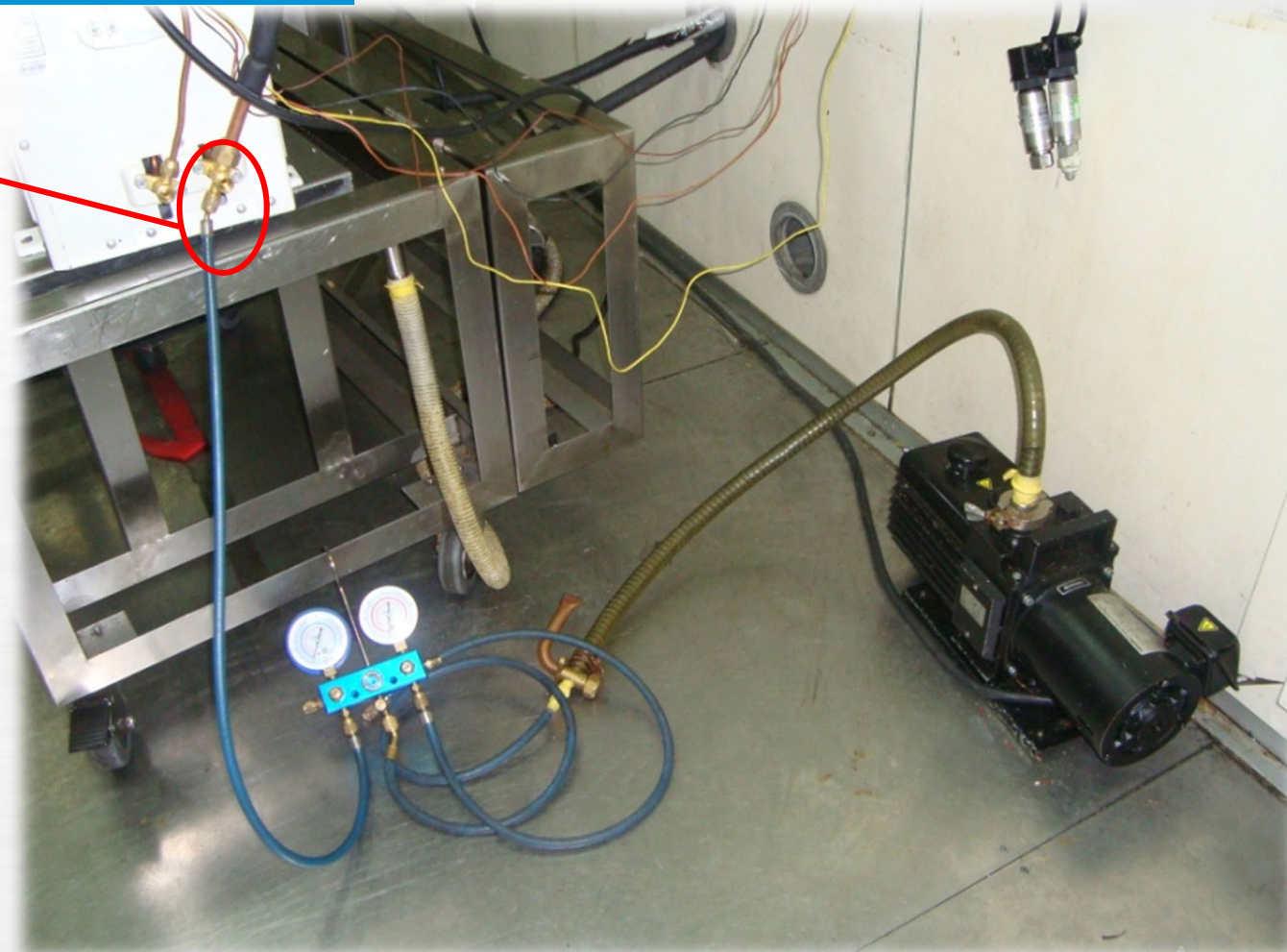
Operation of vacuum pump

- ⑤ Turn the condenser valve stem of the high pressure side about 45° counterclockwise for 6~7 seconds. Gas should be coming out at the connection, then tighten the flare nut. Make sure the pressure display in the pressure indicator is a little higher than the atmospheric pressure.
- ⑥ Remove the charge hose from the Low pressure condenser service valve charge hose.
- ⑦ Fully open the both condenser service valves.
- ⑧ Securely tighten the cap(s) of the condenser service valves.



Operation of vacuum pump

Low pressure side





Gas Leakage Check

Drainage Check

Test Running

Checking and Test Running

Gas leakage check method

1. Soap water

Apply a soap water or a liquid neutral detergent on the indoor unit connection and outdoor unit connections with a soft brush to check for leakage of the connecting points of the piping. If bubbles come out, the connections have leakage.

2. Leak detector

Use the leak detector to check for leakage.

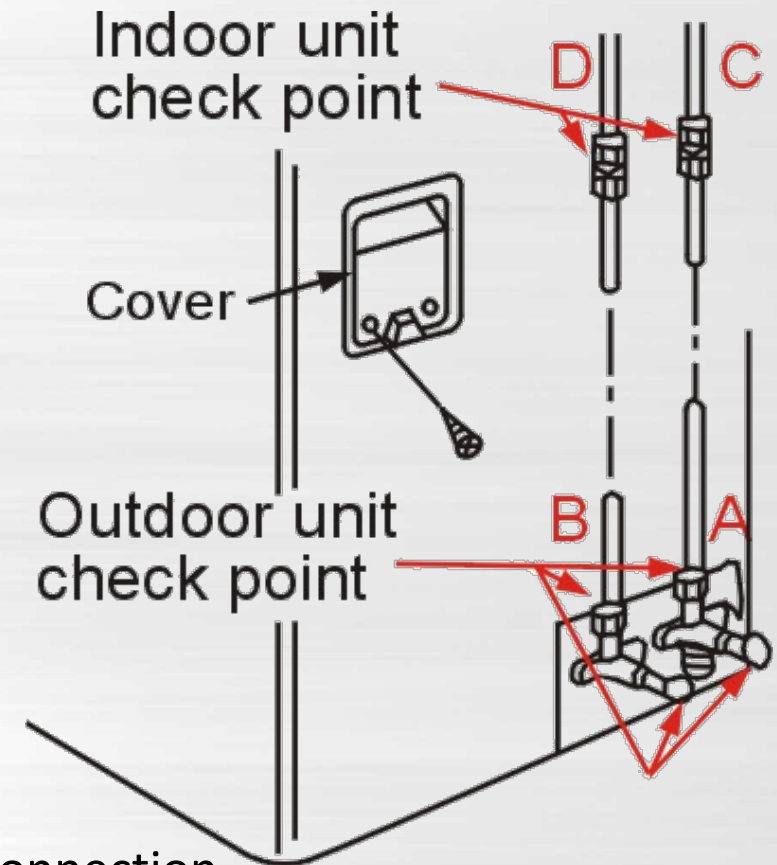


CAUTION:

A: Lo (suction side) service valve

B: Hi (high side) service valve

C and D are ends of indoor unit connection.



Drainage check

- ① Open the front panel from the indoor unit.
- ② To check drainage.
 - Pour a glass of water on the evaporator.
 - Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out of the drain.



Installation of Indoor & Outdoor Unit

Checking and Test Running

Failure Cases



Gas Leakage Check

Drainage Check

Test Running

Test Running



Perform test operation after completing gas leak check at the flare nut connections and electrical safety check.

- Check that all tubing and wiring have been properly connected.
- Check that the gas and liquid side service valves are fully open.

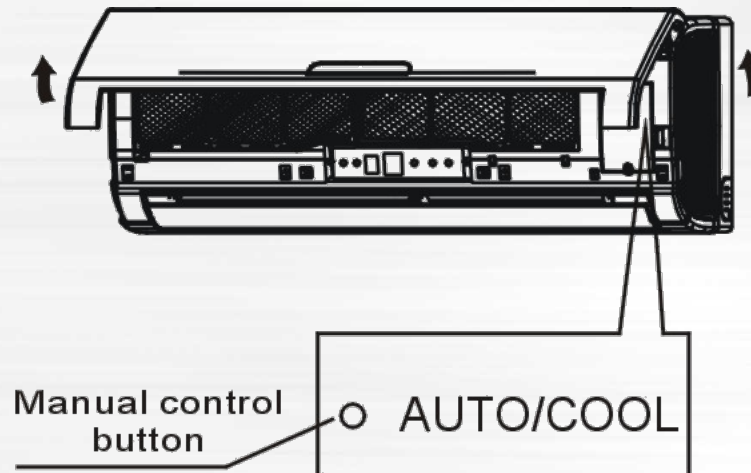
1. Connect the power, press the ON/OFF button on the remote controller to turn the unit on.
2. Use the MODE button to select COOL, HEAT, AUTO and FAN to check if all the functions are operating properly.



3. When the ambient temperature is too low (lower than 63°F), the unit cannot be controlled by the remote control to run in cooling mode, manual operation must be used. Manual operation is used only when the remote controller is disabled or maintenance is necessary.

- Hold the panel sides and lift the panel up to an angle until it remains fixed with a clicking sound.
- Press the Manual control button to select the AUTO or COOL, the unit will operate under Forced AUTO or COOL mode.

4. The test operation should last about 30 minutes.





Failure Cases

Type 1. Installation location



Indoor unit is not level.

Installation Tips:

Install the indoor unit level, which will allow for proper indoor unit condensate drainage.

Type 1. Installation location



Discharge air is blocked, proper clearances need to be followed for proper operation and servicing.

Installation Tips: Basic requirements of location and spaces for outdoor installation: to ensure the outdoor unit Smooth in/out the wind, the left side should $\geq 11.8''$, to the right $\geq 23.6''$, to the up $\geq 11.8''$, above $\geq 11.8''$, in front $\geq 78.7''$

Type 1. Installation location



Improper clearances front and rear preventing proper airflow.

Installation Tips: Basic requirements of location and spaces for outdoor installation: to ensure the outdoor unit Smooth in/out the wind, the left side should $\geq 11.8''$, to the right $\geq 23.6''$, to the up $\geq 11.8''$, above $\geq 11.8''$, in front $\geq 78.7''$

Type 2. Connecting pipe/Wall hole



Line set and wiring are not fastened, bends should be smooth.

Installation Tips: The air-conditioner piping and wiring connections should be correct, solid, and to a reasonable degree of bending

Type 2. Connecting pipe/Wall Penetration



Improper wall penetration

Installation Tips:

All penetrations should be properly sized with the recommended slope away from the interior space and properly sealed.

Type 2. Connecting pipe/Wall hole



Possible leak point

Installation Tips:

Line set and wiring should be sloped downward preventing water from entering building.

Type 2. Connecting pipe/Wall hole



No heat preservation on the piping.

Installation Tips:

The connecting parts of the outdoor units and piping have to be protected with the black insulation foam, then using the wrap belt to wrap together with wire. The exposed parts of piping without black insulation foam can't be more than 10CM, or the cooling/heating performance of the unit may be reduced.

Type 2. Connecting pipe/Wall hole



The flattened or damaged piping will greatly influence the cooling/heating performance.

Installation Tips:

When bending the line set piping, make sure bending radius is no smaller than 4", avoid crushing and kinks.

Type 2. Connecting pipe/Wall hole

**Improper wall plate installation,
Indoor unit should be tight to the
wall.**



Installation Tips:

Secure the wall plate to a wall studs if possible, be sure to use the proper anchors to support bracket.



Type 3. Installation structure and safety



Failure to fasten the condenser may result in system leaks, damage to condenser.

Installation Tips:

Condenser vibration can cause movement if left unfastened.

Type 3. Installation structure and safety



To few wall anchors.

Installation Tips:

When installing the wall bracket (outdoor), at least 6 screws need to be used, and the diameter for each one shall not be less than $\phi 3/8''$.

Type 3. Installation structure and safety



Condenser feet
should be fastened
to wall bracket

Installation Tips:

4 bolts (diameter $\Phi 3/8''$) on the bottom bracket need to be fastened.

Type 4. Electrical Safety



Using nonstandard connection wire

Installation Tips:

The indoor-outdoor connection wire must be neoprene wire, PVC wire can't be used.



Type 4. Electrical Safety



Installation Tips:

All wiring should be properly sized, secured and terminated to code.

Type 4. Electrical Safety



Power cords should not be used, only hard wire to a dedicated circuit.

Installation Tips:

Improper/failure to ground will cause abnormal system operation and a shock hazard.

Type 4. Electrical Safety



Wiring should be properly secured using the wire clamps provided inside equipment wiring compartment.

Installation Tips for indoor/outdoor low-tension signal wire:

Wiring that is not secured can cause a shock hazard, equipment damage, fire hazards

Type 4. Electrical Safety



Avoid splicing

Installation Tips for wiring connections:

All wiring should be to National/Local Electrical Codes.



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