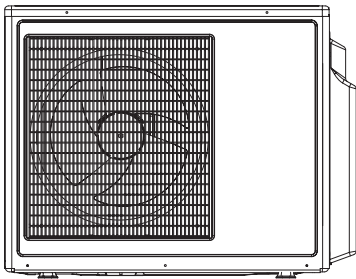
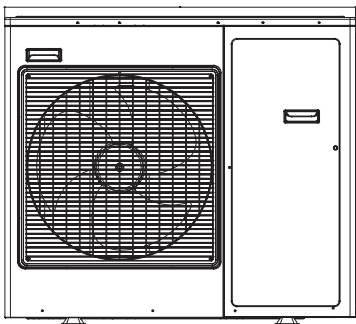


## MULTI-SPLIT AIR CONDITIONER INSTALLATION MANUAL



3U24GS1ERE



4U36HS1ERE

### Contents

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- Please read this manual carefully before installation.  
**Keep this operation manual for future reference.**

# Haier

1356 Broadway, New York, NY 10018

## 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 part 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 reuse, 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. Battery must be removed from the remote controller and disposed of separately in accordance with relevant local and national legislation.

## IMPORTANT INFORMATION REGARDING THE REFRIGERANT USED

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent into the atmosphere.

Refrigerant type: R410A

GWP\* value: 1975

GWP = Global Warming Potential

Please fill in with legible ink

- 1 The factory refrigerant charge of the product
- 2 The additional refrigerant charge of the product
- 1+2 the total refrigerant charge on the refrigerant charge label supplied with the product. The filled out label must be adhered in the proximity of the product charging port (e.g. onto the inside of the stop valve cover).

A contains fluorinated greenhouse gases covered by the Kyoto Protocol

B factory refrigerant charge of the product: see unit name plate

C additional refrigerant amount charged in the field


D total refrigerant charge

E outdoor unit

F refrigerant cylinder and manifold for charging




# Safety Precautions

- Read these Safety Precautions carefully to ensure correct installation.
- This manual classifies the precautions into **WARNING** and **CAUTION**.
- Be sure to follow all the precautions below: they are all important for ensuring safety.

 **WARNING** Failure to follow any of **WARNING** is likely to result in such grave consequences as death or serious injury.

 **CAUTION** Failure to follow any of **CAUTION** may in some cases result in grave consequences.

- The following safety symbols are used throughout this manual:

 Be sure to observe this instruction     Be sure to establish an earth connection     Never attempt


- After completing installation, test the unit to check for installation errors. Give the user adequate instructions concerning the use and cleaning of the unit according to the Operation Manual.

## **WARNING**

- Installation should be left to the dealer or another professional.  
Improper installation may cause water leakage, electrical shock, or fire.
- Install the air conditioner according to the instructions given in this manual.  
Incomplete installation may cause water leakage, electrical shock, or fire.
- Be sure to use the supplied or specified installation parts.  
Use of other parts may cause the unit to come loose, water leakage, electrical shock, or fire.
- Install the air conditioner on a solid base that can support the unit's weight.  
An inadequate base or incomplete installation may cause injury in the event the unit falls off the base.
- Electrical work should be carried out in accordance with the installation manual and the national electrical wiring rules or code of practice.  
Insufficient capacity or incomplete electrical work may cause electrical shock or fire.
- Be sure to use a dedicated power circuit. Never use a power supply shared by another appliance.
- For wiring, use a cable long enough to cover the entire distance with no connection.  
Do not use an extension cord. Do not put other loads on the power supply, use a dedicated power circuit.  
(Failure to do so may cause abnormal heat, electric shock or fire.)
- Use the specified types of wires for electrical connections between the indoor and outdoor units.  
Firmly clamp the interconnecting wires so their terminals receive no external stresses. Incomplete connections or clamping may cause terminal overheating or fire.
- After connecting interconnecting and supply wiring be sure to shape the cables so that they do not put undue force on the electrical covers or panels.  
Install covers over the wires. Incomplete cover installation may cause terminal overheating, electrical shock, or fire.
- If any refrigerant has leaked out during the installation work, ventilate the room.  
(The refrigerant produces a toxic gas if exposed to flames.)
- After all installation is complete, check to make sure that no refrigerant is leaking out.  
(The refrigerant produces a toxic gas if exposed to flames.)
- When installing or relocating the system, be sure to keep the refrigerant circuit free from substances other than the specified refrigerant(R410A), such as air.  
(Any presence of air or other foreign substance in the refrigerant circuit causes an abnormal pressure rise or rupture, resulting in injury.)
- During pump-down, stop the compressor before removing the refrigerant piping.  
If the compressor is still running and the stop valve is open during pump-down, air will be sucked in while the compressor is running, causing abnormal pressure and no condensable added to the system.
- Be sure to establish a ground. Do not ground the unit to a utility pipe, arrester, or telephone earth.  
In complete earth may cause electrical shock, or fire. A high surge current from lightning or other sources may cause damage to the air conditioner.








## **CAUTION**

- Do not install the air conditioner in a place where there is danger of exposure to inflammable gas leakage.  
If the gas leaks and builds up around the unit, it may catch fire. 
- Establish drain piping according to the instructions of this manual.  
Inadequate piping may cause flooding.
- Tighten the flare nut according to the specified method such as with a torque wrench.  
If the flare nut is tightened too hard, the flare nut may crack after a long time and cause refrigerant leakage.
- Make sure to provide for adequate measures in order to prevent that the outdoor unit be used as a shelter by small animals.  
Small animals making contact with electrical parts can cause malfunctions, smoke or fire. Please instruct the customer to keep the area around the unit clean.

# Accessories

Accessories supplied with the outdoor unit:

No.	Drawing	Name of parts	Quantity	Note
1		Drainage elbow	1	3U24GS1ERE
			3	4U36HS1ERE
2		Rubber cushion	4	3U24GS1ERE 4U36HS1ERE
3		Clap	1	3U24GS1ERE
			3	4U36HS1ERE
4		Adaptor(3/8→1/2)	1	3U24GS1ERE 4U36HS1ERE
5		Adaptor(1/2→3/8)	1	4U36HS1ERE

## Procedure for Selecting the Location

- 1) Choose a place solid enough to bear the weight and vibration of the unit, where the operation noise will not be amplified.
- 2) Choose a location where the hot air discharged from the unit or the operation noise, will not cause a nuisance to the neighbors of the user.
- 3) Avoid places near a bedroom and the like, so that the operation noise will cause no trouble.
- 4) There must be sufficient space for carrying the unit into and out of the site.
- 5) There must be sufficient space for air passage and no obstructions around the air inlet and the air outlet.
- 6) The site must be free from the possibility of flammable gas leakage in a nearby place.  
Locate the unit so that the noise and the discharged hot air will not annoy the neighbors.
- 7) Install units, power cords and inter-unit cables at least 10ft away from television and radio sets. This is to prevent interference to images and sounds. (Noises may be heard even if they are more than 10ft away depending on radio wave conditions.)
- 8) In coastal areas or other places with salty atmosphere of sulfate gas, corrosion may shorten the life of the air conditioner.
- 9) Since drain flows out of the outdoor unit, do not place under the unit anything which must be kept away from moisture.

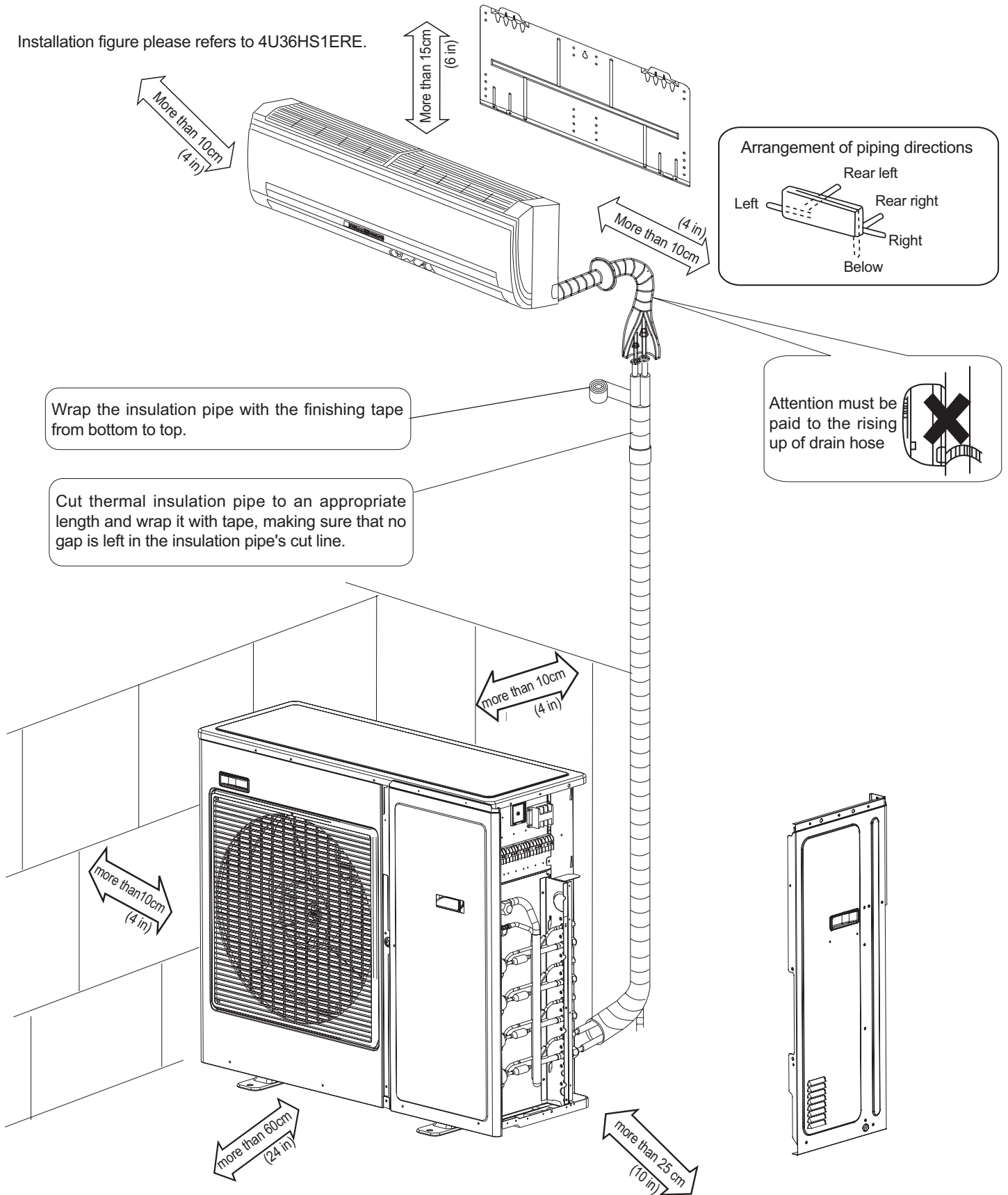
### NOTE:

Cannot be installed hanging from ceiling or stacked.

# Installation drawings of indoor and outdoor units

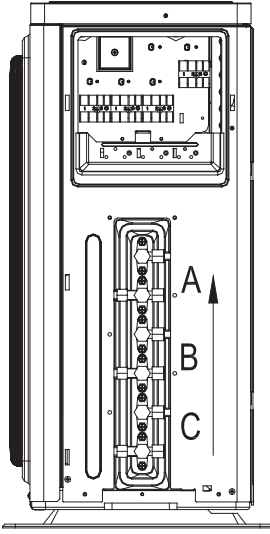
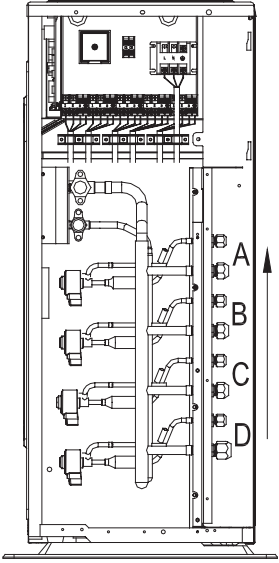
1. Connect indoor and outdoor piping when installing unit. Do not leave piping connected to only one unit
2. You must connect 2 units, minimum

Installation figure please refers to 4U36HS1ERE.



If there is the danger of the unit falling or overturning, fix the unit with foundation bolts, or with wire or other means.  
 If the location does not have good drainage, place the unit on a level mounting base (or a plastic pedestal).  
 Install the outdoor unit in a level position. Failure to do so may result in water leakage or accumulation.

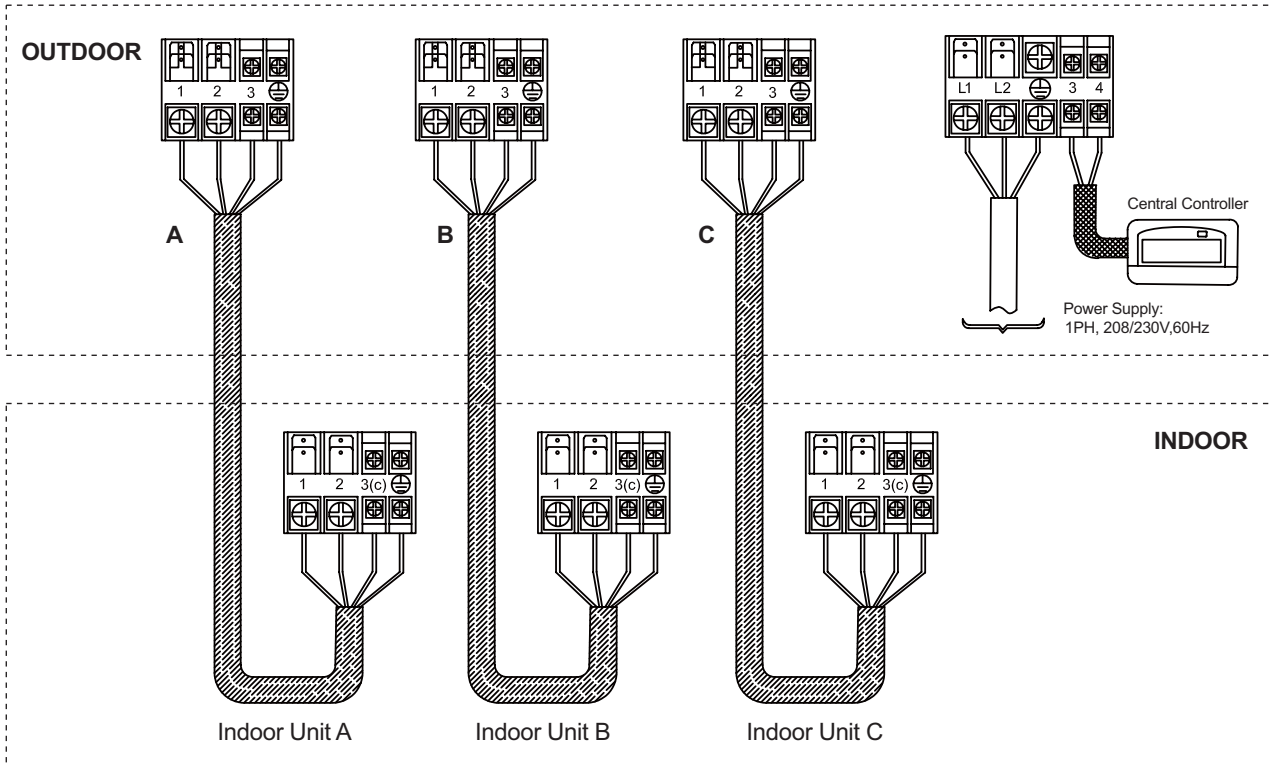
# Installation drawings of indoor and outdoor units

Connection cautions		
model	3U24GS1ERE	4U36HS1ERE
connection priority between indoor and stop valve higher from down to up		
when there is 1 indoor,the prior stop valve is	C	D
when there are 2 indoors,the prior stop valves are	C B	D C
when there are 3 indoors,the prior stop valves are	C B A	D C B
when there are 4 indoors,the prior stop valves are		D C B A
Note: For better oil return and more reliable system, please execute as the above when connecting indoor unit.		

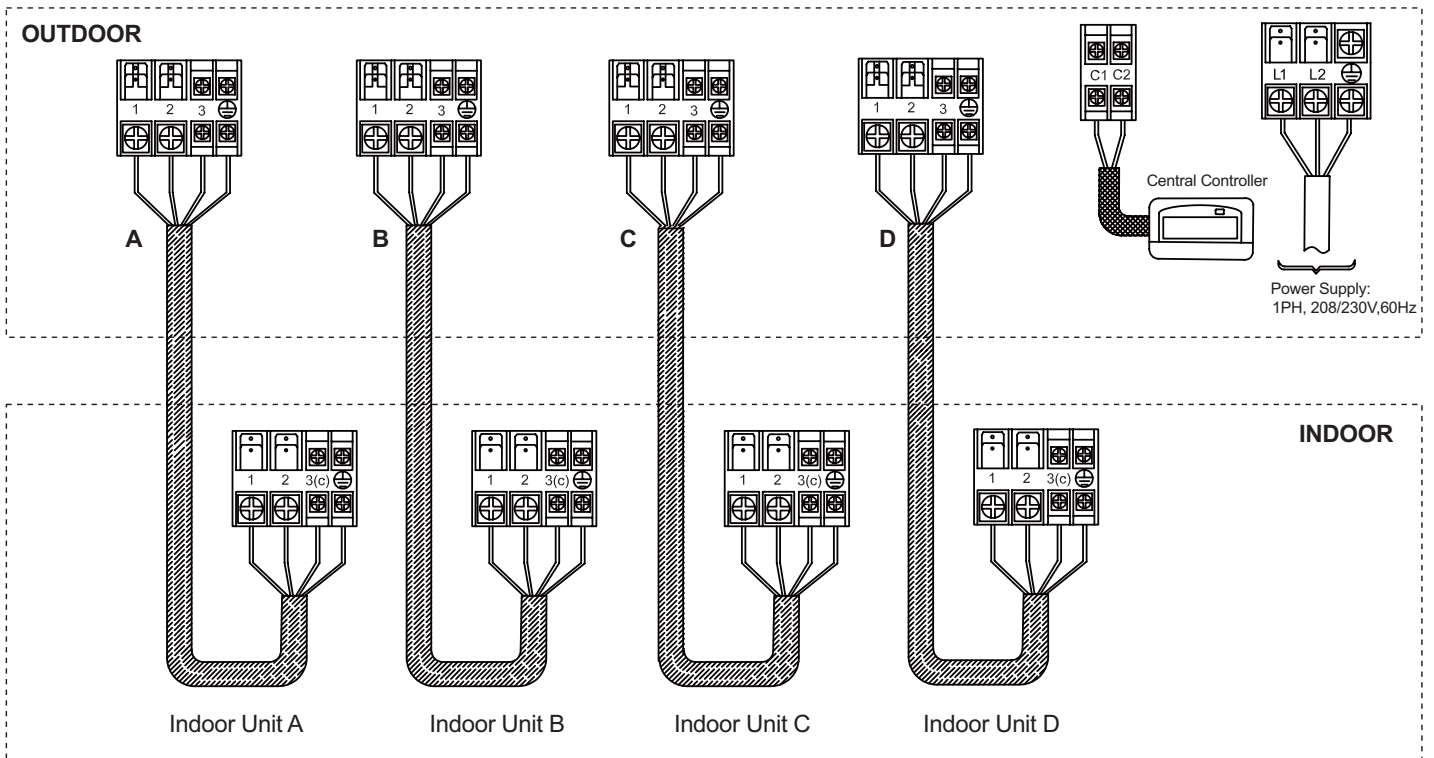
\*MUST CONNECT (2) INDOOR UNITS

# Wiring connection

## 3U24GS1ERE



## 4U36HS1ERE



≡≡≡ Power Supply Cable: 10AWG

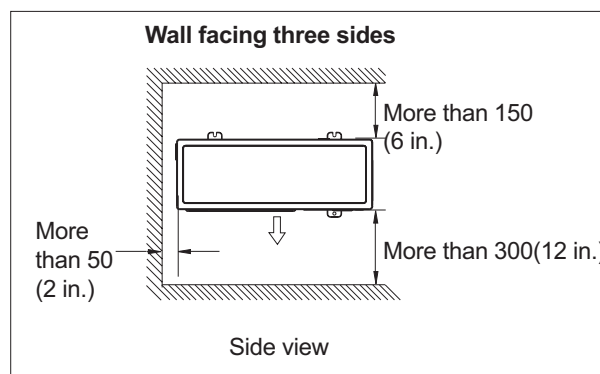
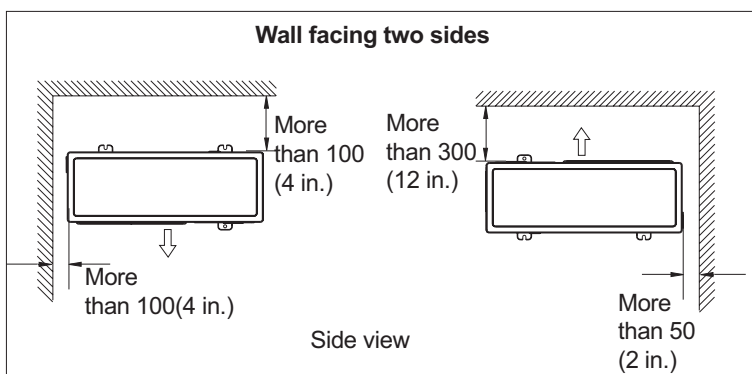
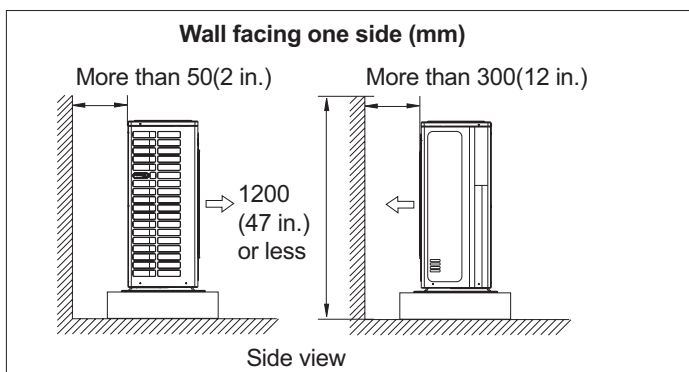
≡≡≡ Connecting Cable: 14AWG

≡≡≡ Connecting Cable: 14AWG

Connect the connecting wires between indoor and outdoor units and ensure the sequence numbers on terminals match with each other.

# Outdoor Unit Installation Guideline

- Where a wall or other obstacle is in the path of outdoor unit's intake or exhaust airflow, follow the installation guidelines below.
- For any of the below installation patterns, the wall height on the exhaust side should be 1200mm(47 in.) or less.



## Limitations on the installation

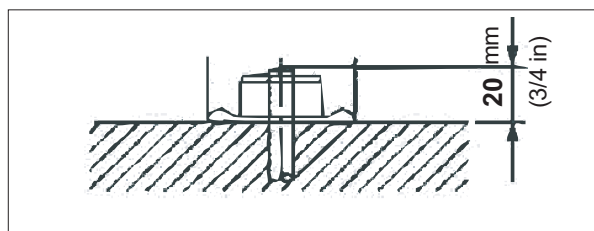
### 1. Precautions on installation

- Check the strength and level of the installation ground so that unit will not cause any operating vibration or noise after installation.
- In accordance with the foundation drawing in fix the unit securely by means of the foundation bolts.
- It is best to screw in the foundation bolts unit their length are 20 mm(3/4 in.) from the foundation surface.

### 2. Selecting a location for installation of the indoor units

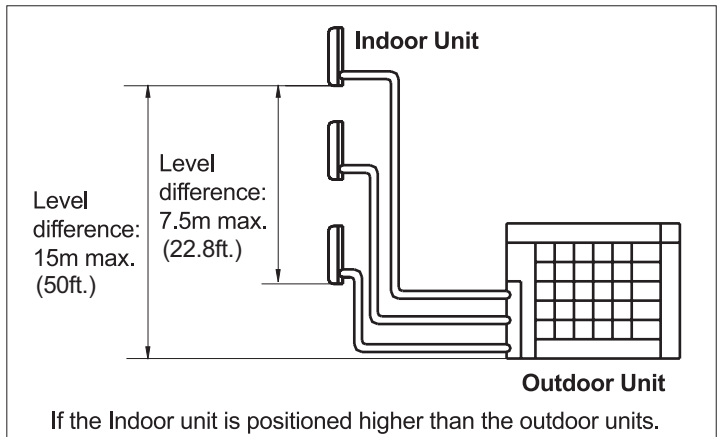
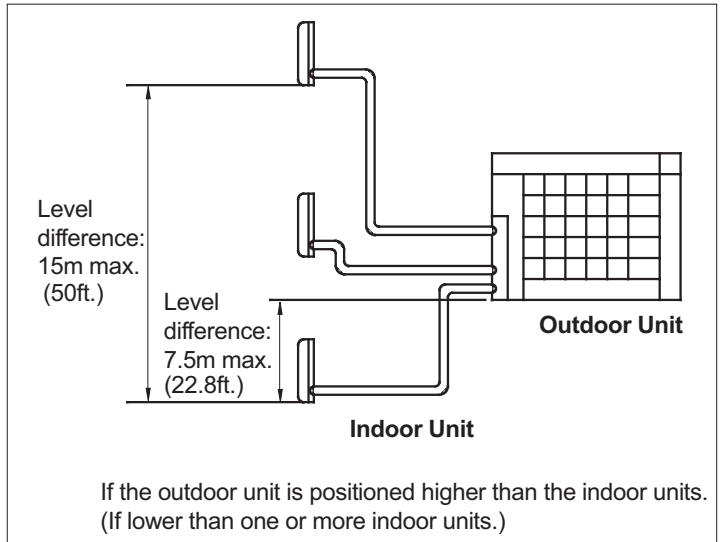
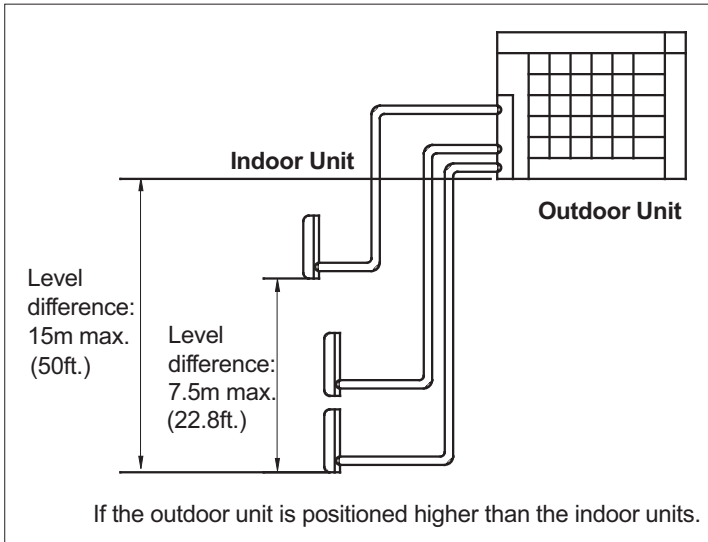
- The maximum allowable length of refrigerant piping, and the maximum allowable height difference between the outdoor and indoor units, are listed below. (The shorter the refrigerant piping, the better the performance. Connect so that the piping is as short as possible. Shortest allowable length per room is 3m (10ft.))

Outdoor unit capacity class	3U24GS1ERE	4U36HS1ERE
Piping to each indoor unit	25m max. (82ft.)	25m max.(82ft.)
Total length of piping between all units	60m max. (197ft.)	70m max. (227ft.)





# Limitations on the installation



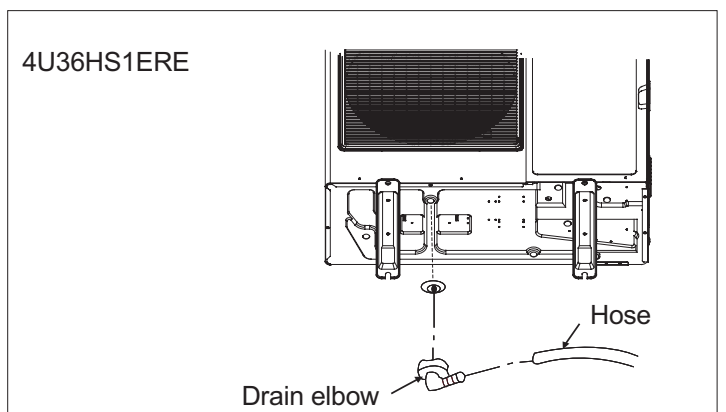
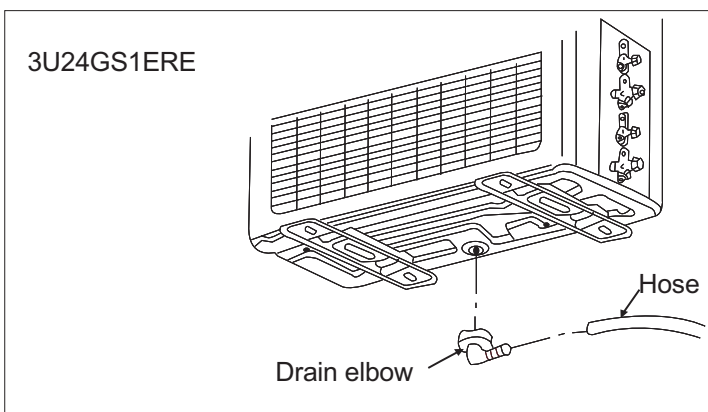
# Refrigerant piping work

## 1. Installing outdoor unit

- 1) When installing the outdoor unit, refer to "Precautions for Selecting the Location" and the "Indoor/Outdoor Unit Installation Drawings".
- 2) If drain work is necessary, follow the procedures below.

## 2. Drain work

- 1) Use drain plug for drainage.
- 2) If the drain port is covered by a mounting base or floor surface, place additional foot bases of at least 30mm(1 1/6in) in height under the outdoor unit's feet.
- 3) In cold areas, do not use a drain hose with the outdoor unit. (Otherwise, drain water may freeze, impairing heating performance.)

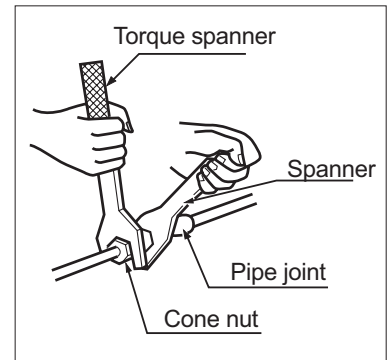
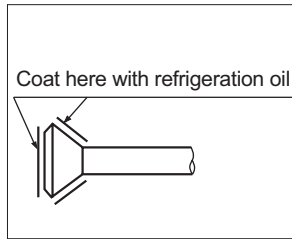


# Refrigerant piping work

## 3. Refrigerant piping work

- Align the centres of both flares and tighten the flare nuts 3 or 4 turns by hand. Then tighten them fully with the tor wrenches. Use torque wrenches when tightening the flare nuts to prevent damage to the flare nuts and escaping gas.

Flare nut tightening torque	
Flare nut for $\varnothing$ 6.35 (1/4")	14.2-17.2N.m(126-152lb.in)
Flare nut for $\varnothing$ 9.52 (3/8")	32.7-39.9N.m(289-353lb.in)
Flare nut for $\varnothing$ 12.7 (1/2")	49.5-60.3N.m(438-534lb.in)
Flare nut for $\varnothing$ 15.88 (5/8")	61.8-75.4N.m(547-667lb.in)



Valve cap tightening torque
Liquid pipe 26.5-32.3N.m(235-286lb.in)
Gas pipe 48.1-59.7N.m(426-528lb.in)

Service port cap tightening torque
10.8-14.7N.m(96-130lb.in)

- To prevent gas leakage, apply refrigeration oil on both inner and outer surfaces of the flare. (Use refrigeration oil for R410A)

## 4. Purging air and checking gas leakage

When piping work is completed, it is necessary to purge the air and check for gas leakage.

### WARNING

- Do not mix any substance other than the specified refrigerant (R410A) into the refrigeration cycle.
- When refrigerant gas leaks occur, ventilate the room as soon and as much as possible.
- R410A, as well as other refrigerants, should always be recovered and never be released directly into the environment.
- Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit. Pull vacuum down to 300 microns.

- Use a hexagonal wrench (3/19") to operate the stop valve rod.
- All refrigerant pipe joints should be tightened with a torque wrench at the specified tightening torque.

Connect projection side of charging hose(Which comes from gauge manifold) to gas stop valve's service port.



Fully open gauge manifold's low-pressure valve(Lo) and completely close its high-pressure valve(Hi). (High-pressure valve subsequently requires no operation.)



Apply vacuum pumping. Check that the compound pressure gauge reads-30 PSI. Evacuation for at least 30 minutes.



Close gauge manifold's low-pressure valve(Lo) and stop vacuum pump. (Leave as is for 4-5 minutes and make sure gauge doesn't move. If it does go up, this indicates the presence of moisture or leaking from connecting parts. After inspecting all the connection and loosening then retightening the nuts, repeat steps 2-4.)



Remove covers from liquid stop valve and gas stop valve.



Turn the liquid stop valve's rod 90 degrees counterclockwise with a hexagonal wrench to open valve. Close it after 5 seconds, and check for gas leakage. Using soapy water, check for gas leakage from indoor unit's flare and outdoor unit's flare and valve rods. After the check is complete, wipe all soapy water off.



Disconnect charging hose from gas stop valve's service port, then fully open liquid and gas stop valves. (Do not attempt to turn valve rodj beyond its stop.)



Tighten valve caps and service port caps for the liquid and gas stop valves with a torque wrench at the specified torques. See "3 Refrigerant piping " on page 6 for details.

# Refrigerant piping work

## 5. Refilling the refrigerant

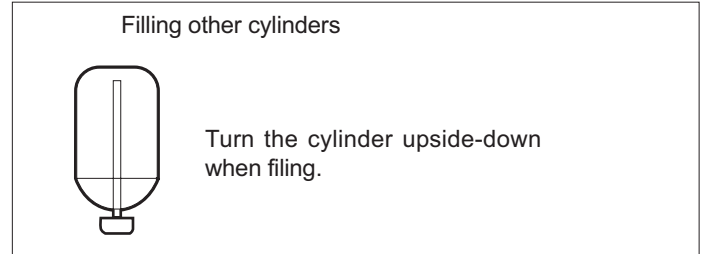
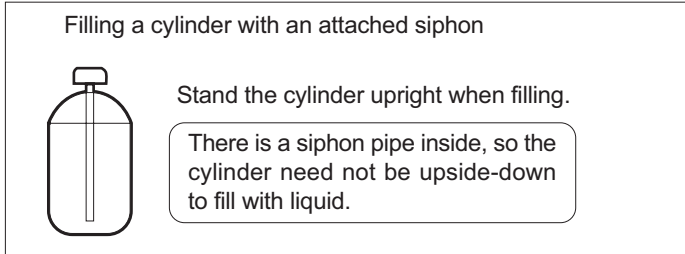
Check the type of refrigerant to be used on the machine nameplate.

### Precautions when adding R410A

#### Fill from the liquid pipe in liquid form.

It is a mixed refrigerant, so adding it in gas form may cause the refrigerant composition to change, preventing normal operation.

1) Before filling, check whether the cylinder has a siphon attached or not. (It should have something like "liquid filling siphon attached" displayed on it.)



2) Be sure to use the R410A tools to ensure pressure and to prevent foreign objects entering.

## 6. Charging with refrigerant

- 1) This system must use refrigerant R410A.
- 2) Add refrigerant 0.21 oz. per foot when the total piping length exceeds the standard value, but make sure that the total liquid piping length should be less than the max. value.

Outdoor Unit	Standard total liquid piping length	Max. total liquid piping length
3U24GS1ERE	30m (98ft.)	60m (197ft.)
4U36HS1ERE	40m (131ft.)	70m (227ft.)

### Notes:

- 1) When using this product, you need not to set the address. But the L/N wires between indoor & outdoor units must be corresponded, or there will be communication failure.
- 2) Quiet Operation Setting. Set the DIP "8" to ON position of SW5, the system will run with lower noise, but the max. capacity will also reduce slightly.
- 3) Do not change the settings of other switches, wrong settings can make the system damage or other malfunctions.

## 7. Precautions for Running Refrigerant Piping

### • Cautions on pipe handling

- 1) Protect the open end of the pipe against dust and moisture.
- 2) All pipe bends should be as gentle as possible. Use a pipe bender for bending. (Bending radius should be 30 to 40mm (1 1/4" to 1 3/4") or larger.)

### • Selection of copper and heat insulation materials

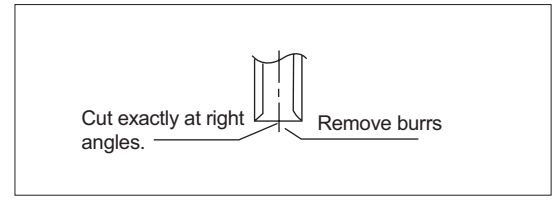
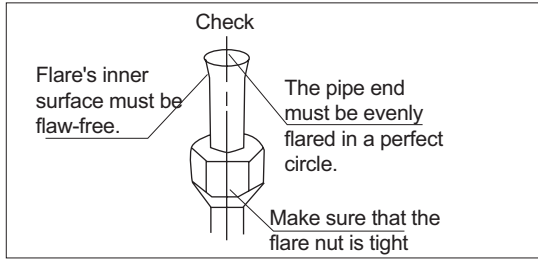
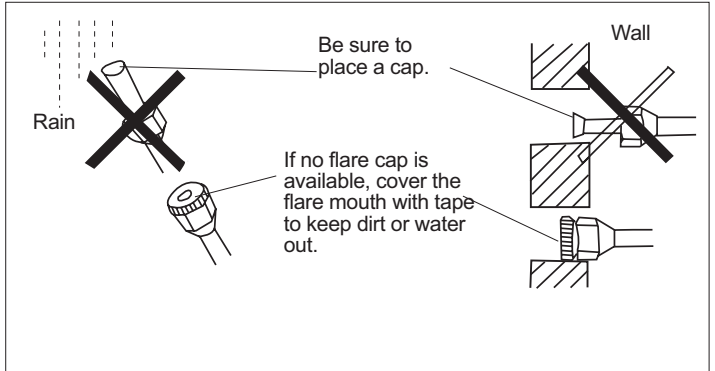
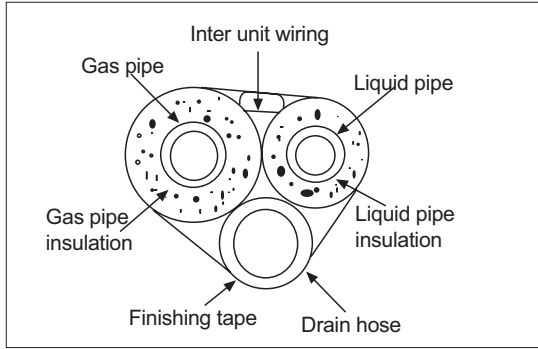
When using commercial copper pipes and fittings, observe the following :

- 1) Insulation material: Polyethylene foam  
Heat transfer rate: 0.041 to 0.052W/mK(0.035to 0.045kcal/mh°C)  
Refrigerant gas pipe's surface temperature reaches 230°F max.  
Choose heat insulation materials that will withstand this temperature.
- 2) Be sure to insulate both the gas and liquid piping and to provide insulation dimensions as below.

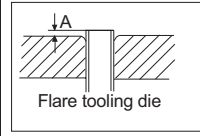
Gas pipe	Gas pipe insulation
O.D.:9.52mm (3/8"),12.7mm(1/2") Thickness:0.8mm(3/95")	I.D.:12-15mm(1/2"-3/5"),12.7mm(1/2") Thickness:13mm (1/2")min.
Liquid pipe	Liquid pipe insulation
O.D.:6.35mm(1/4") Thickness:0.8mm(3/95")	I.D.:8-10mm (6/19"-2/5") Thickness:10mm(2/5") min.

# Refrigerant Piping Work

3) Use separate thermal insulation pipes for gas and liquid refrigerant pipe.



Set exactly at the position shown below.

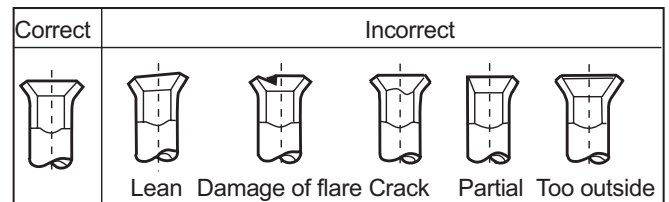


	Flare tool for R410A	Conventional flare tool	
	Clutch-type	Clutch-type(Rigid-type)	Wing-nuttype(Imperial-type)
	0-0.5mm (0-1/51")	1.0-1.5mm(3/16"-1/16")	1.5-2.0mm(1/16"-1/8")

## 8. Cutting and Flaring work of piping

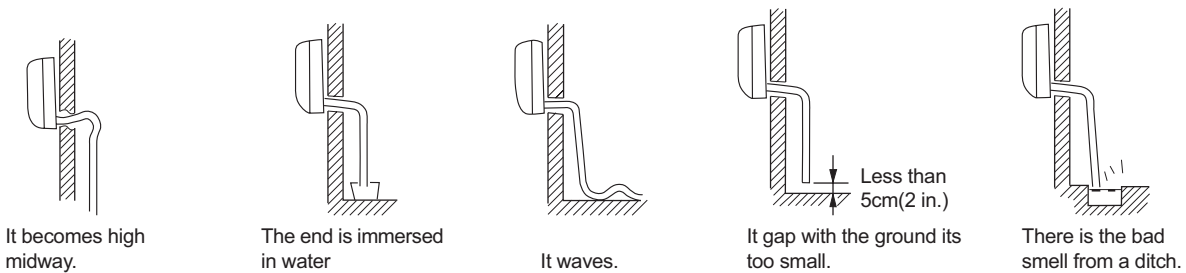
- Pipe cutting is carried out with a pipe cutter and burrs must be removed.
- After inserting the flare nut, flaring work is carried out.

	Pipe	Pipe diameter $\phi$ (mm)	Size A (mm)
Flare tooling die	Liquid side	6.35(1/4")	0.8~1.5(3/16"~11/16")
	Gas side	9.52mm(3/8")	1.0~1.5(3/16"~11/16")
		12.7mm(1/2")	1.0~1.5(3/16"~11/16")



## 9. On drainage

- Please install the drain hose so as to be downward slope without fail. Please don't do the drainage as shown below.



- Please pour water in the drain pan of the indoor unit, and confirm that drainage is carried out serely to outdoor.
- In case that the attached drain hose is in a room, please apply heat insulation to it without fail.

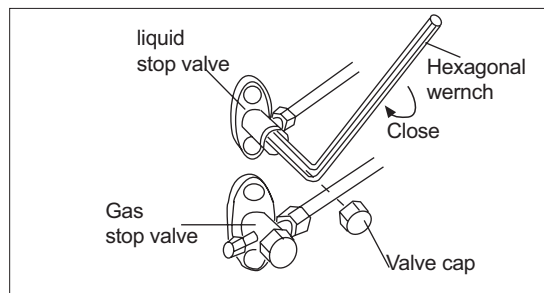
## ⚠ WARNING

- 1) Do not use mineral oil on flared part.
- 2) Prevent mineral oil from getting into the system as this would educe the lifetime of the units.
- 3) Never use piping which has been used for previous installations. Only use parts which are delivered with the unit.
- 4) Do not install a filter dryer.
- 5) The drying material may dissolve and damage the system.
- 6) A bad flare may cause refrigerant gas to leak.

# Pump Down Operation

In order to protect the environment, be sure to pump down when relocating or disposing of the unit.

- 1) Remove the valve caps from liquid stop valve and gas stop valve.
- 2) Carry out forced cooling operation.
- 3) After five to ten minutes, close the liquid stop valve with a hexagonal wrench.
- 4) After two to three minutes, close the gas stop valve and stop forced cooling operation.



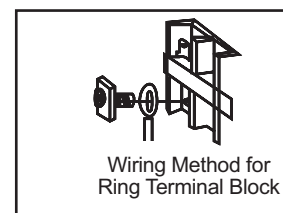
## Wiring work

### 1. Electric wiring

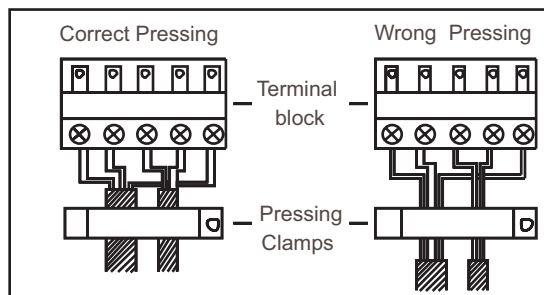
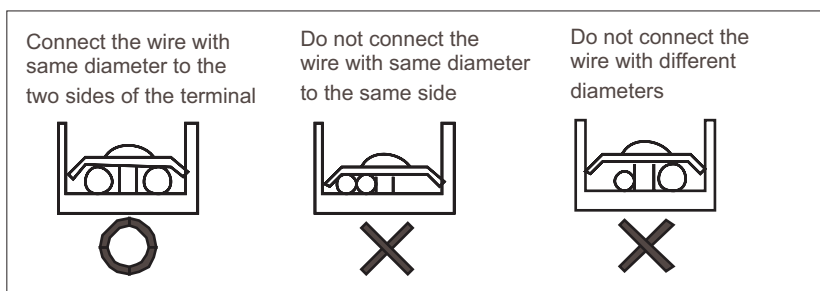
- The air conditioner must use special circuit, and wiring must be performed by the qualified electrician according to the wiring rules specified in local standard.
- The grounding wire and the neutral wire shall be strictly separated. Connect the neutral wire with grounding wire is incorrect.
- The electric leakage breaker must be installed.
- All the electric wire must be copper wire. Power supply: 1PH, 208/230V, 60Hz.
- The wiring method of power line is Y connection. If the power line is damaged, in order to avoid risk of electric shock, it must be replaced by the manufacturer or its repair center or other similar qualified person.  
Fuse: T3.15A 250VAC(Electronic control unit) T25A 250VAC(Power circuit board).
- Please check the circuit diagram about the fuse replaced.

### 2. Wiring method

- Wiring method of orbicular terminals  
For the connection wire with orbicular terminals, its wiring method is as shown in the right figure: remove the connecting screw, put the screw through the ring on the end of the wire, then connect to the terminal block and fasten screw.  
Wiring method of straight terminals.
- For the connection wire without orbicular terminals, its wiring method is: loosen the connection screw, and insert the end of the connection wire completely into the Terminal block, then fasten the screw.  
Slightly pull the wire outwards to confirm it is firmly held.



- Crimp connection method for wires without terminals



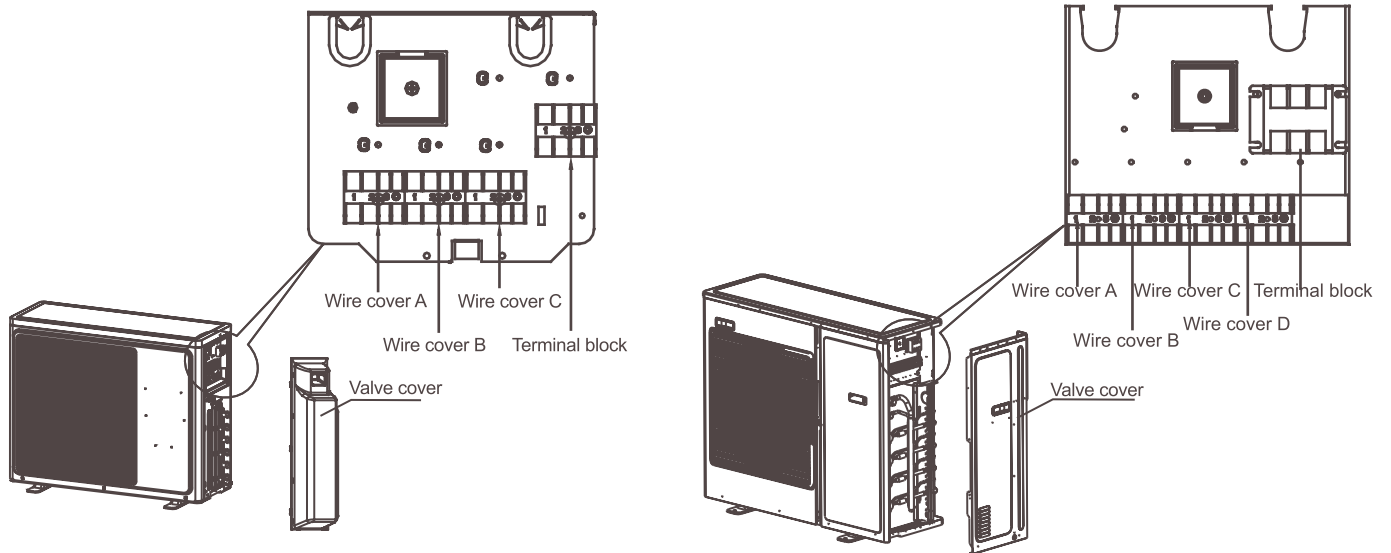
- Crimp connection method for connection wire  
After connection, the wire must be fastened by wire cover. The wire cover shall press on the protection coat of the connection wire, as shown in right top figure.  
Note: When connecting the wiring, confirm the terminal number of indoor and outdoor units carefully. Incorrect wiring will damage the controller of air conditioner or the unit can not operate.

### 3. Wiring method of outdoor unit:

- Power line  
Remove the repair board of the outdoor unit and loosen the wire cover A, then put the live wire, neutral wire and grounding wire through the wire cover, and connect them to terminal block correspondingly. After connection, fasten wire cover to its previous state.  
Communication wire of indoor unit.
- Loosen wire cover, put the communication wire through the wire cover B, and connect them to terminal block correspondingly. After connection, fasten wire cover B to its previous state.

**Note: Power line and communication wire are provided by installers themselves.**

# Wiring work



## 4. Wiring method of indoor unit

Loosen wire cover and connect the power line and communication wire of indoor unit to the terminal correspondingly.

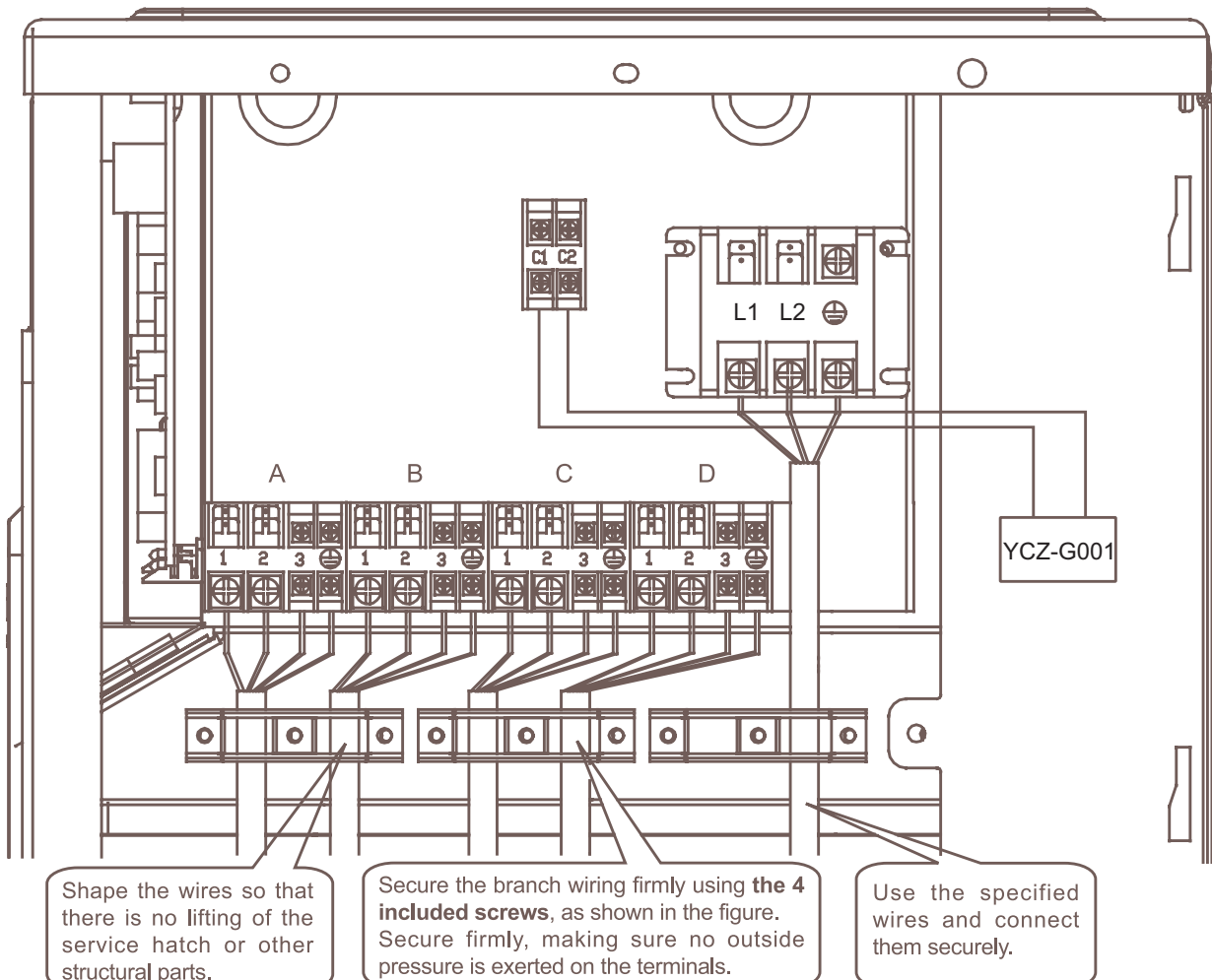
### Note:

**When connecting power line to power supply terminal, please pay attention to the following items:**

- Do not connect the power line with different dimensions to the same connection wire end.  
Improper contact will cause heat generation.
- Do not connect the power line with different dimensions to the same grounding wire end.  
Improper contact will affect protection.
- Do not connect the power line to the connecting end of communication wire.  
Incorrect connection will cause damage to the connected unit.

## 5. Example wiring diagram.

Wiring diagram please refers to 4U36HS1ERE



# Test running

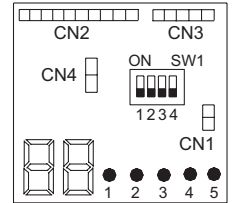
- Before starting the test running, please confirm the following works have been done successfully.
  - 1) Correct piping work;
  - 2) Correct wiring work;
  - 3) Correct match of indoor and outdoor unit;
  - 4) Proper recharge of refrigerant if needed.
- Make sure that all the stop valves are fully open.
- Check the voltage supplied to the outdoor and indoor units, please confirm that is 208/230V.

## • Wiring Error Check

This product is capable of automatic checking of wiring error.

Switch on all the 4 dip-switches on the outdoor unit small service PC-board as shown on the right. Then power off the unit and power on again, the system will enter the operation of "Wiring Error Check". After 3 minutes stand-by, the unit starts for automatic wiring checking.

Approximately 30 ~ 50minutes (depends on how many units installed in the system) after the unit starts, the Errors of the wiring will be shown by the LEDs (1 to 5).



During this operation, the digital-number will alternately show the compressor working frequency (e.g. 50 stands for the current running frequency) and letter "CH"(means checking).

After this operation, if all the wiring is correct, the digital-number will show "0", if there has wrong wiring, the digital-number will show "EC"(error connection) and also it will flashing.

The service monitor LEDs indicate the error of wiring, as shown in the table below. For details about how to read the LED display, refer to the service manual.

If self-checking is not possible, check the indoor unit wiring and piping in the usual manner.

LED	1	2	3	4	5	Message
Status	OFF					Unit not connected
	ALL Flashing					Automatic checking impossible, all units connect wrong
	ALL ON					All units connect correctly
	ON	FLASHING	FLASHING	ON	FLASHING	<b>ON:</b> unit connect correctly <b>FLASHING:</b> unit connect wrong, need to change the wiring manually between 2,3, and 5
	ON	FLASHING	FLASHING	ON	ON	<b>ON:</b> unit connect correctly <b>FLASHING:</b> unit connect wrong, need to change the wiring manually between 2,3
Only one LED flashing						Abnormal

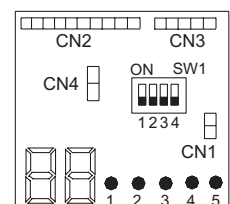
## Test running.

- 1) If the temperature is lower than 60 °F, it is impossible to test cooling with remote controller, and also when the temperature is higher than 80 °F, it is impossible to test heating.
- 2) To test cooling, set the lowest temperature at 60 °F. To test heating, set the highest temperature, at 86 °F.
- 3) Please check both cooling and heating operation of each unit individually and then also check the simultaneous operation of all indoor units.
- 4) After running the unit for about 20 minutes, check the indoor unit outlet temperature.
- 5) After the unit is stopped, or working mode changed, the system will not start again for about 3 minutes.
- 6) During cooling operation, frost may occur on the indoor unit or pipes, this is normal.
- 7) Operate the unit according to the operation manual. Please kindly explain to our customers how to operate through the instruction manual.

## • Seven-segment numeric display

1) When unit is running, this seven-segment numeric will display the frequency of compressor. For example, "40" means compressor running frequency is 40 Hz, "108" means compressor running frequency is 108Hz.

2) When a fault happens, seven-segment numeric will flash and display some numbers, this number is failure code. For example, a flashing "32" means No.32 failure, that is indoor and outdoor communication error.



## • Communication LED

5 green LED means 5 indoor units. If one LED keep lighting that means the corresponding indoor unit has good communication with outdoor unit. If one LED is not lighting, that means there is no communication between indoor and outdoor.

# Trouble shooting

Possible reasons	Outdoor LED display	Wired controller display(Hex)	Cassette and convertible indoor display outdoor error code use the timer and running lamp		Wall mounted indoor display
			Timer lamp flash time	Running lamp	
Faulty of outdoor unit EEPROM	1	15	2	1	F12
IPM overcurrent or short circuit	2	16	2	2	F1
Communication failure between Module and ECU	4	18	2	4	F3
Module operated overload	5	19	2	5	F20
Module low or high voltage	6	1A	2	6	F19
Discharging temperature overheating.Lack of refrigerant, ambient temperature too high or PMVs blocked.	8	1C	2	8	F4
Malfunction of the DC fan motor	9	1D	2	9	F8
Malfunction of defrosting temp. sensor	10	1E	3	0	F21
Malfunction of compressor suction temp. sensor	11	1F	3	1	F7
Malfunction of ambient temp. sensor	12	20	3	2	F6
Malfunction of compressor discharge temp. sensor	13	21	3	3	F25
Communication failure between indoor&outdoor unit	15	23	3	5	E7
Lack of refrigerant or discharging	16	24	3	6	F13
4-way valve switching failure	17	25	3	7	F14
Loss of synchronism detection	18	26	3	8	F11
Indoor thermal overload	20	28	4	0	E9
Indoor frosted	21	29	4	1	E5
Module thermal overload	23	2B	4	3	F5
Compressor start failure	24	2C	4	4	F2
Module input overcurrent	25	2D	4	5	F23
MCU reset	26	2E	4	6	F9
Module current detect circuit malfunction	27	2F	4	7	F24
Malfunction of liquid pipe temp. sensor for indoor unit A	28	30	4	8	F10
Malfunction of liquid pipe temp. sensor for indoor unit B	29	31	4	9	F16
Malfunction of liquid pipe temp. sensor for indoor unit C	30	32	5	0	F17
Malfunction of liquid pipe temp. sensor for indoor unit D	31	33	5	1	F18
Malfunction of gas pipe temp. sensor for indoor unit A	32	34	5	2	F29
Malfunction of gas pipe temp. sensor for indoor unit B	33	35	5	3	F30
Malfunction of gas pipe temp. sensor for indoor unit C	34	36	5	4	F31
Malfunction of gas pipe temp. sensor for indoor unit D	35	37	5	5	F32
Malfunction of gas pipe temp. sensor for indoor unit E	36	38	5	6	F26
Malfunction of module temp.sensor Momentary power failure detection	38	3A	5	8	F35
Malfunction of condensing temp. sensor	39	3B	5	9	F36
Malfunction of liquid pipe temp. sensor for indoor unit E	40	3C	6	0	F33
Malfunction of 'Toci'temp. sensor	41	3D	6	1	F38
System high pressure switch off	42	3E	6	2	F39
System low pressure switch off	43	3F	6	3	F40
System high pressure protection.Refrigerant overabundance, High condensing temp. or malfunction of fan motor.	44	40	6	4	F41
System low pressure protection.Refrigerant shortage, Low defrosting temp., or malfunction of fan motor.	45	41	6	5	F42











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