

AIR CONDITIONER OUTDOOR UNIT

INSTALLATION MANUAL

For authorized service personnel only.



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Installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.

1. SAFETY PRECAUTIONS

1.1. IMPORTANT! Please read before starting

This air conditioning system meets strict safety and operating standards. As the installer or service person, it is an important part of your job to install or service the system so it operates safely and efficiently.

For safe installation and trouble-free operation, you must:

- Carefully read this instruction booklet before beginning.
- Follow each installation or repair step exactly as shown.
- Observe all local, state, and national electrical codes.
- Pay close attention to all warning and caution notices given in this manual.

WARNING: This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.

CAUTION: This symbol refers to a hazard or unsafe practice which can result in personal injury and the potential for product or property damage.

- Hazard alerting symbols



Electrical



Safety/alert

If Necessary, Get Help

These instructions are all you need for most installation sites and maintenance conditions. If you require help for a special problem, contact our sales/service outlet or your certified dealer for additional instructions.

In Case of Improper Installation

The manufacturer shall in no way be responsible for improper installation or maintenance service, including failure to follow the instructions in this document.

1.2. Special precautions

When Wiring

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH. ONLY A QUALIFIED, EXPERIENCED ELECTRICIAN SHOULD ATTEMPT TO WIRE THIS SYSTEM.

- Do not supply power to the unit until all wiring and tubing are completed or reconnected and checked.
- Highly dangerous electrical voltages are used in this system. Carefully refer to the wiring diagram and these instructions when wiring. Improper connections and inadequate earthing (grounding) can cause accidental injury or death.
- Earth (Ground) the unit following local electrical codes.
- Connect all wiring tightly. Loose wiring may cause overheating at connection points and a possible fire hazard.

When Transporting

Be careful when picking up and moving the indoor and outdoor units. Get a partner to help, and bend your knees when lifting to reduce strain on your back. Sharp edges or thin aluminum fins on the air conditioner can cut your fingers.

When Installing...

...In a Ceiling or Wall

Make sure the ceiling/wall is strong enough to hold the unit's weight. It may be necessary to construct a strong wood or metal frame to provide added support.

...In a Room

Properly insulate any tubing run inside a room to prevent "sweating" that can cause dripping and water damage to walls and floors.

...In Moist or Uneven Locations

Use a raised concrete pad or concrete blocks to provide a solid, level foundation for the outdoor unit. This prevents water damage and abnormal vibration.

...In an Area with High Winds

Securely anchor the outdoor unit down with bolts and a metal frame. Provide a suitable air baffle.

...In a Snowy Area (for Heat Pump-type Systems)

Install the outdoor unit on a raised platform that is higher than drifting snow.

When Connecting Refrigerant Tubing


- Keep all tubing runs as short as possible.
- Use the flare method for connecting tubing.
- Apply refrigerant lubricant to the matching surfaces of the flare and union tubes before connecting them, then tighten the nut with a torque wrench for a leak-free connection.
- Check carefully for leaks before opening the refrigerant valves.

NOTE:

Depending on the system type, liquid and gas lines may be either narrow or wide. Therefore, to avoid confusion the refrigerant tubing for your particular model is specified as either "small" or "large" rather than as "liquid" or "gas".

When Servicing

- Turn the power OFF at the main circuit breaker panel before opening the unit to check or repair electrical parts and wiring.
- Keep your fingers and clothing away from any moving parts.
- Clean up the site after you finish, remembering to check that no metal scraps or bits of wiring have been left inside the unit being serviced.
- After installation, explain correct operation to the customer, using the operating manual.

 WARNING
To avoid getting an electric shock, never touch the electrical components soon after the power supply has been turned off. After turning off the power, always wait 10 minutes or more before you touch the electrical components.
Installation of this product must be done by experienced service technicians or professional installers only in accordance with this manual. Installation by non-professional or improper installation of the product might cause serious accidents such as injury, water leakage, electric shock, or fire. If the product is installed in disregard of the instructions in this manual, it will void the manufacturer's warranty.
Do not turn on the power until all work has been completed. Turning on the power before the work is completed can cause serious accidents such as an electric shock or a fire.
If refrigerant leaks when you are working, ventilate the area. If the leaking refrigerant is exposed to a direct flame, it may produce a toxic gas.
Installation must be performed in accordance with regulations, codes, or standards for electrical wiring and equipment in each country, region, or the installation place.
Do not use this equipment with air or any other unspecified refrigerant in the refrigerant lines. Excess pressure can cause a rupture.
During installation, make sure that the refrigerant pipe is attached firmly before you run the compressor. Do not operate the compressor under the condition of refrigerant piping not attached properly with 2-way or 3-way valve open. This may cause abnormal pressure in the refrigeration cycle that leads to rupture and even injury.
When installing or relocating the air conditioner, do not mix gases other than the specified refrigerant (R410A) to enter the refrigerant cycle. If air or other gas enters the refrigerant cycle, the pressure inside the cycle will rise to an abnormally high value and cause rupture, injury, etc.
For appropriate working of the air conditioner, install it as written in this manual.
To connect indoor unit and outdoor unit, or indoor unit and branch box, use air conditioner piping and cables available through your local distributor. This manual describes proper connections using such installation set.
Do not modify power cable, use extension cable or branch wiring. Improper use may cause electric shock or fire by poor connection, insufficient insulation or over current.
Do not purge the air with refrigerants but use a vacuum pump to vacuum the installation.
There is no extra refrigerant in the outdoor unit for air purging.
Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
Do not pierce or burn.
Be aware that refrigerants may not contain an outdoor.
Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.
Use a clean gauge manifold, vacuum pump and charging hose for R410A exclusively.

English

Français

Español

WARNING

Do not modify this unit, such as opening a hole in the cabinet.

During the pump-down operation, make sure that the compressor is turned off before you remove the refrigerant piping.
Do not remove the connection pipe while the compressor is in operation with 2 way or 3 way valve open. This may cause abnormal pressure in the refrigeration cycle that leads to rupture and even injury.

CAUTION

This unit must be installed by qualified personnel with a capacity certification of handling refrigerant fluids. Refer to regulation and laws in use on installation place.

Install the unit by following local codes and regulations in force at the place of installation, and the instructions provided by the manufacturer.

This unit is part of a set constituting an air conditioner. The unit must not be installed alone or be installed with non-authorized device by the manufacturer.

When installing pipes shorter than 3 m, sound of the outdoor unit will be transferred to the indoor unit, which will cause large operating sound or some abnormal sound.

To protect the persons, earth(ground) the unit correctly, and use the power cable combined with an Earth Leakage Circuit Breaker (ELCB).

The units are not explosion proof, and therefore should not be installed in explosive atmosphere.

This unit contains no user-serviceable parts. Always consult experienced service technicians for repairing.

When moving or relocating the air conditioner, consult experienced service technicians for disconnection and reinstallation of the unit.

Children should be monitored to ensure they do not play with the device.

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.

Do not touch the aluminum fins of heat exchanger built-in the indoor or outdoor unit to avoid personal injury when you install or maintain the unit.

Do not place any other electrical products or household belongings under indoor unit or outdoor unit. Condensation dripping from the unit might get them wet, and may cause damage or malfunction of your property.

2. ABOUT THIS PRODUCT

- All Fujitsu General products are manufactured to metric units and tolerances. United States customary units are provided for reference only. In cases where exact dimensions and tolerances are required, always refer to metric units.

2.1. Special tools for R410A

Tool name	Change from R22 to R410A
Gauge manifold	Pressure is high and cannot be measured with a conventional (R22) gauge. To prevent erroneous mixing of other refrigerants, the diameter of each port has been changed. It is recommended to use gauge with seals -0.1 to 5.3 MPa (-1 to 53 bar) for high pressure. -0.1 to 3.8 MPa (-1 to 38 bar) for low pressure.
Charge hose	To increase pressure resistance, the hose material and base size were changed.(R410A)
Vacuum pump	A conventional vacuum pump can be used by installing a vacuum pump adapter. (Use of a vacuum pump with a series motor is prohibited.)
Gas leakage detector	Special gas leakage detector for HFC refrigerant R410A.

Copper pipes

It is necessary to use seamless copper pipes and it is desirable that the amount of residual oil is less than 40 mg/10 m. Do not use copper pipes having a collapsed, deformed or discolored portion (especially on the interior surface). Otherwise, the expansion valve or capillary tube may become blocked with contaminants.

As an air conditioner using R410A incurs pressure higher than when using R22, it is necessary to choose adequate materials.

Thicknesses of copper pipes used with R410A are as shown in Table1. Never use copper pipes thinner than 0.8 mm even when it is available on the market.

Thicknesses of Annealed Copper Pipes

Nominal diameter (in.)	Outer diameter (mm)	Thickness [mm(in.)]
1/4	6.35	0.80 (0.032)
3/8	9.52	
1/2	12.7	

WARNING

To install a unit that uses R410A refrigerant, use dedicated tools and piping materials that have been manufactured specifically for R410A use. Because the pressure of R410A refrigerant is approximately 1.6 times higher than R22, failure to use dedicated piping material or improper installation can cause rupture or injury. Furthermore, it can cause serious accidents such as water leakage, electric shock, or fire.

2.2. Power

WARNING

Always use a special branch circuit and install a special receptacle to supply power to the room air conditioner.

Use a circuit breaker and receptacle matched to the capacity of the air conditioner.

Install a leakage circuit breaker in accordance with the related laws and regulations and electric company standards.

The circuit breaker is installed in the permanent wiring. Always use a circuit that can trip all the poles of the wiring and has an isolation distance of at least 3 mm between the contacts of each pole.

CAUTION

The power source capacity must be the sum of the air conditioner current and the current of other electrical appliances. When the current contracted capacity is insufficient, change the contracted capacity.

When the voltage is low and the air conditioner is difficult to start, contact the power company the voltage raised.

2.3. Electric requirement

CAUTION

Be sure to install a breaker of the specified capacity.

Regulation of cables and breaker differs from each locality, refer in accordance with local rules.

Voltage rating	1 ø 208/230 V (60 Hz)
Operating range	188-253 V

Cable	Type	Remarks
Power supply cable	14AWG	2 cable + Earth (Ground), 1 ø 208/230 V
Connection cable	14AWG	3 cable + Earth (Ground), 1 ø 208/230 V

Select the correct cable type and size according to the country or region's regulations. Max. wire length: Set a length so that the voltage drop is less than 2%. Increase the wire diameter when the wire length is long.

CAUTION

Outdoor unit capacity	9,12	15	18	24
MINIMUM CIRCUIT AMPACITY	13.4 A	17.2 A	14.6 A	17.1 A
MAX. CKT. BKR.	15 A	20 A	15 A	20 A

- Before starting work check that power is not being supplied to all poles of the indoor unit and outdoor unit.
- Install all electrical works in accordance to the national standard.
- Install the disconnect device with a contact gap of at least 3 mm in all poles nearby the units. (Both indoor unit and outdoor unit)
- Install the circuit breaker nearby the units.

2.4. Pipe length

Pipe length		Max. height
Max.	Min.	
66ft. (20m)	10ft. (3m)	49ft. (15m)

CAUTION

If the pipe lengths and height differences are not kept as shown in the table, correct operation cannot be guaranteed.

The outdoor unit with the refrigerant removed from the packaging is sealed. (Indoor unit, the refrigerant is not sealed.)

2.5. Additional charge

Refrigerant suitable for a piping length of 49ft (15m) is charged in the outdoor unit at the factory.
When the piping is longer than 49ft (15m), additional charging is necessary.
For the additional amount, see the table below.

Pipe length	49 ft (15 m)	66 ft (20 m)	Rate
Additional refrigerant	None	+3.5 oz (+100 g)	0.2 oz/ft (20 g/m)

CAUTION




When adding refrigerant, add the refrigerant from the charging port at the completion of work.

2.6. Operating range

		Outdoor temperature
Cooling/Dry Mode		About 14 to 115 °F
Heating Mode	model 9,12,15	About -5 to 75 °F
	model 18,24	About 5 to 75 °F

2.7. Accessories

The following installation accessories are supplied.
Use them as required.

Installation manual	1	Drain pipe*1	1	Drain cap	3
					

*1 Included only reverse cycle model.

One set of following parts are necessary installation of this product.

Name			
Connection pipe assembly	Decorative tape	Saddle	Tapping screws
Connection cable	Vinyl tape	Drain hose	Sealant
Wall pipe	Wall cap	M10 bold, nut	

3. SELECTING THE MOUNTING POSITION

- Decide the mounting position with the customer as follows.
- Do not set to a place where there is oily smoke, oil is used in the factory, the unit can contact sea breeze, sulfide gases will be generated in the hot spring area, corrosive gases will be generated, animal may urine on the unit and ammonia will be generated and a dusty place.

3.1. Outdoor unit

- If possible, do not install the unit where it will be exposed to direct sunlight. (If necessary, install a blind that does not interfere with the air flow.)
- Do not install the unit where a strong wind blows or where it is very dusty.
- Do not install in an area that has heat sources, vapors, or the risk of leakage or accumulation of flammable gas.
- Do not install the unit where people pass.
- Take your neighbors into consideration so that they are not disturbed by air blowing into their windows or by noise.
- Provide the space shown in figure so that the airflow is not blocked. Also for efficient operation, leave open three of the four directions front, rear, and both sides.
- Install the unit where keep away more than 3 m from the antenna of TV set and Radio.
- Outdoor unit should be set to a place where both drainage and itself will not be affected when heating.

WARNING

Install at a place that can withstand the weight of the outdoor units and install positively so that the units will not topple or fall.

Install the unit where it will not be tilted by more than 5°.

When installing the outdoor unit where it may be exposed to strong wind, fasten it securely.

CAUTION

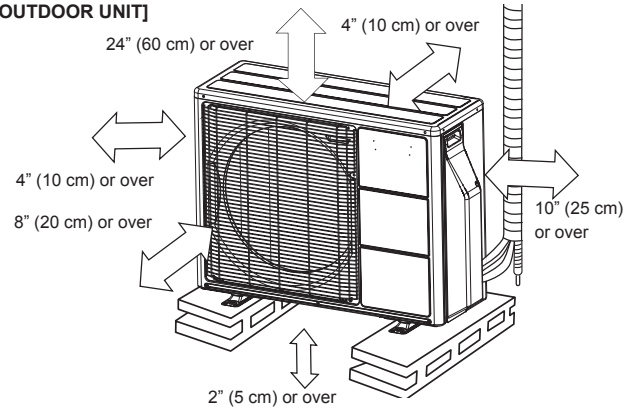
Do not install where there is the danger of combustible gas leakage.

Do not install near heat sources.

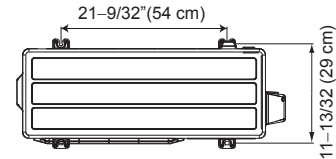
If children may approach the unit, take preventive measures so that they cannot reach the unit.

4. INSTALLATION DIAGRAM

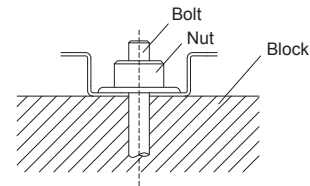
[OUTDOOR UNIT]



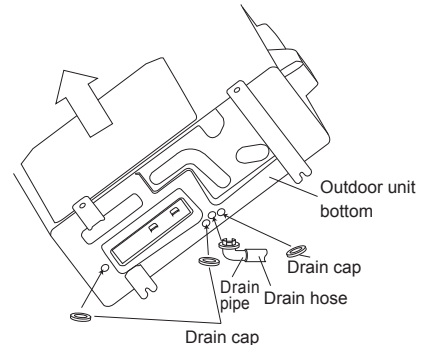
- Outdoor unit to be fasten with bolts at the four places without fail.



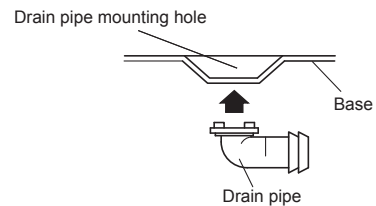
- Fix securely with bolts on a solid block. (Use 4 sets of commercially available M10 bolt, nut and washer.)



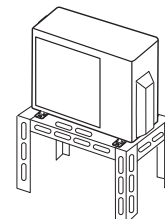
- Since the drain water flows out of the outdoor unit during heating operation, install the drain pipe and connect it to a commercial 16 mm (5/8") hose. (Reverse cycle model only)



- When installing the drain pipe, plug all the holes other than the drain pipe mounting hole in the bottom of the outdoor unit with putty so there is no water leakage. (Reverse cycle model only)



- Set the unit on a strong stand such as thing made of concrete blocks to minimize shock and vibration.
- Do not directly install it on the ground, otherwise it will cause failure.
- To obtain better operation efficiency, when the outdoor unit is installed, be sure to open the front and left side.



CAUTION

When the outdoor temperature is 32°F (0°C) or less, do not use the accessory drain pipe. If the drain pipe are used, the drain water in the pipe may freeze in extreme cold weather. (Reverse cycle model only)

In the area with heavy snowfall, if the intake and outlet of outdoor unit is blocked with snow, it might become difficult to get warm and it is likely to cause of the breakdown. Please construct a canopy and a pedestal or place the unit on a high stand (local configured).

CAUTION

Match the terminal block numbers and connection cable colors with those of the outdoor unit or branch box. Incorrect wiring may cause a fire.

Connect the connection cables firmly to the terminal block. Imperfect installation may cause a fire.

When fixing the connection cable with the cable clamp, always fasten the cable at the plastic jacket portion, but not at the insulator portion. If the insulator is chafed, electric leakage may occur.

Do not use an earth screw for an external connector. Only use for interconnection between two units.

Be careful not to generate a spark as follows for using a flammable refrigerant.

- Do not remove the fuse while power is on.
- Do not disconnect plug from the wall outlet and the wiring while the power is on.
- It is recommended to position the outlet connection in a high position. Place the cords so that they do not get tangled.

5. INSTALLATION

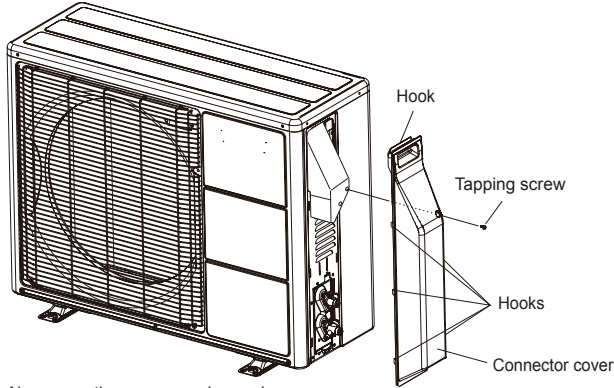
5.1. Connector cover remove

Connector cover removal

- Remove the tapping screw.

Installing the connector cover

- (1) After inserting the five hooks, then push upward.
- (2) Tighten the tapping screw.



Always use the screws as shown above.

5.3. Outdoor unit wiring

CAUTION

When connecting the power supply cable, make sure that the phase of the power supply matches with the phase of the terminal board. If the phases do not match, the compressor will rotate in reverse and will not be able to compress.

- (1) Remove the tapping screw, then remove the control box cover.
- (2) Fasten the Inter-unit wire harness and power supply to the conduit holder using the lock nut.
- (3) Connect inter-unit wire harness and power supply to the terminal.
- (4) Use the tapping screw to install the control box cover.

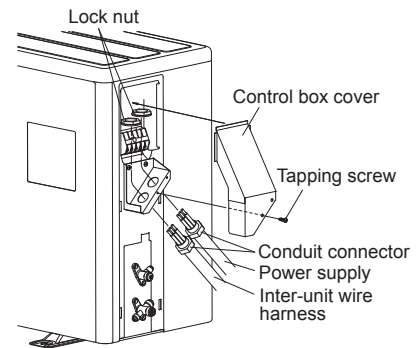
NOTE:

- Connector trade size for this unit is 1/2" (12.7 mm). The connector can be bought at a hard ware store. Refer to "How to connect wiring to the terminals" for instructions on connecting depending on the wire type you are using.
- The fuse located in the outdoor unit provides power supply protection and may blow when power is applied if the system has been in correctly wired.

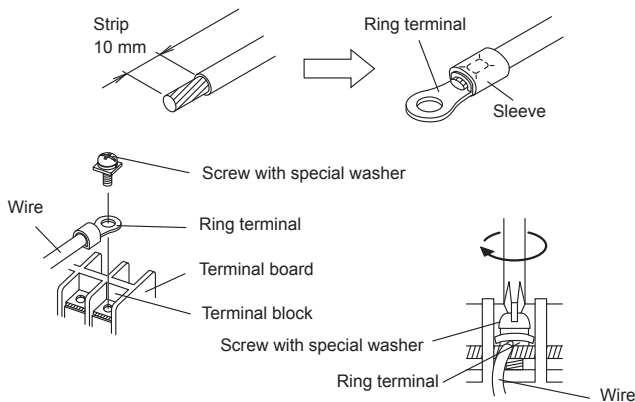
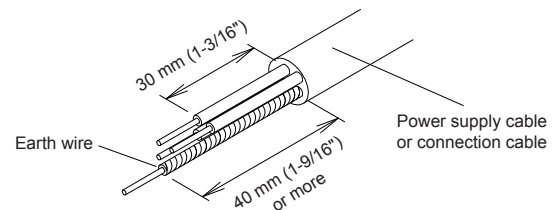
5.2. HOW TO CONNECT THE WIRE TO THE TERMINALS

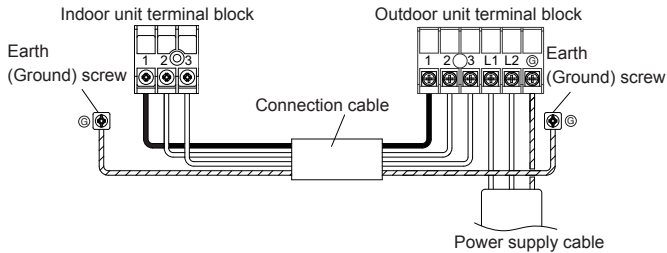
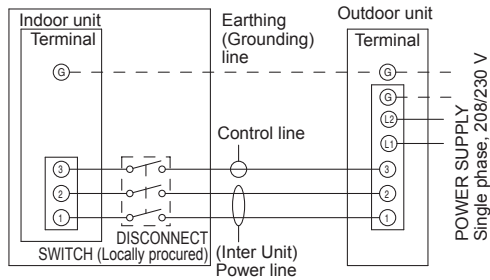
- (1) Use ring terminals with insulating sleeves as shown in the figure below to connect to the wire.
- (2) Securely crimp the ring terminals to the wires using an appropriate tool so that the wires do not come loose.
- (3) Use the specified wires, connect them securely, and fasten them so that there is no stress placed on the terminals.
- (4) Use an appropriate screwdriver to tighten the terminal screws. Do not use a screwdriver that is too small, otherwise, the screw heads may be damaged and prevent the screws from being properly tightened.
- (5) Do not tighten the terminal screws too much, otherwise, the screws may break.
- (6) See the table below for the terminal screw tightening torques.

Tightening torque	
M3.5 screw	0.8 to 1.0 N · m
M4 screw	1.2 to 1.8 N · m
M5 screw	2.0 to 3.0 N · m



Keep the earth wire longer than the other wires.





NOTE:
Factory installed protective inline fuses for indoor units' conductors are installed on the Power Supply PCB.

5.4. Connecting the piping

CONNECTION

- Install the outdoor unit wall cap (supplied with the optional installation set or procured at the site) to the wall pipe.
- Connect the outdoor unit and indoor unit piping.
- After matching the center of the flare surface and tightening the nut hand tight, tighten the nut to the specified tightening torque with a torque wrench. (Table 1)

FLARING

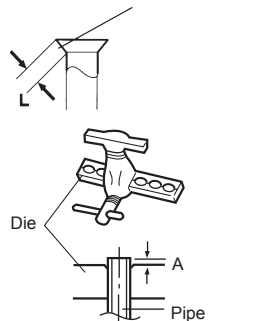
- Cut the connection pipe to the necessary length with a pipe cutter.
- Hold the pipe downward so that cuttings will not enter the pipe and remove the burrs.
- Insert the flare nut onto the pipe and flare the pipe with a flaring tool.

Insert the flare nut (always use the flare nut attached to the indoor and outdoor units respectively) onto the pipe and perform the flare processing with a flare tool.

Use the special R410A flare tool, or the R22 flare tool.

When using the conventional flare tool, always use an allowance adjustment gauge and secure the A dimension shown in table 2.

Check if [L] is flared uniformly and is not cracked or scratched.



BENDING PIPES

- When bending the pipe, be careful not to crush it.
- To prevent breaking of the pipe, avoid sharp bends. Bend the pipe with a radius of curvature of 70 mm or over.
- If the copper pipe is bent the pipe or pulled to often, it will become stiff. Do not bend the pipes more than three times at one place.

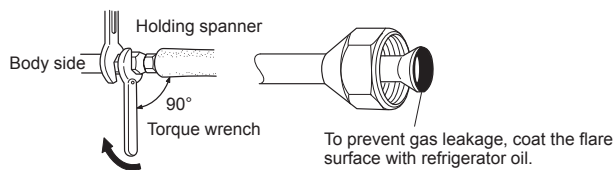


Table 1 Flare nut tightening torque

Flare nut [mm (in.)]	Tightening torque [N · m (lbt · ft)]
6.35 (1/4) dia.	16 to 18 (11.8 to 13.3)
9.52 (3/8) dia.	32 to 42 (23.6 to 31.0)
12.70 (1/2) dia.	49 to 61 (36.1 to 45.0)

Table 2 Pipe outside diameter

Pipe outside diameter [mm (in.)]	A [mm (in.)]
	Flare tool for R410A, clutch type
6.35 (1/4)	0 to 0.5 (0 to 1/32)
9.52 (3/8)	
12.70 (1/2)	

CAUTION

Fasten a flare nut with a torque wrench as instructed in this manual. If fastened too tight, the flare nut may be broken after a long period of time and cause a leakage of refrigerant.

Install heat insulation around both the gas and liquid pipes. Failure to do so may cause water leaks.

Use heat insulation with heat resistance above 248 °F. (Reverse cycle model only)

In addition, if the humidity level at the installation location of the refrigerant piping is expected to exceed 70%, install heat insulation around the refrigerant piping. If the expected humidity level is 70-80%, use heat insulation that is 15 mm or thicker and if the expected humidity exceeds 80%, use heat insulation that is 20 mm or thicker.

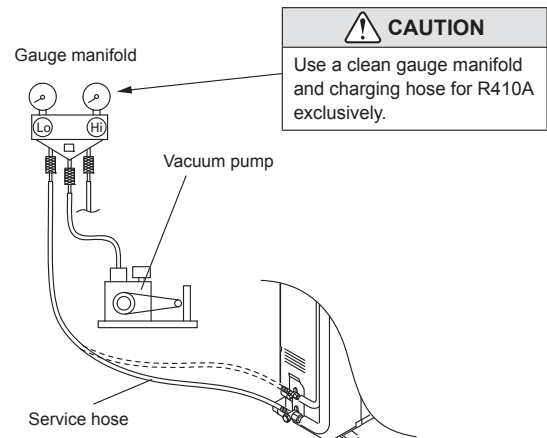
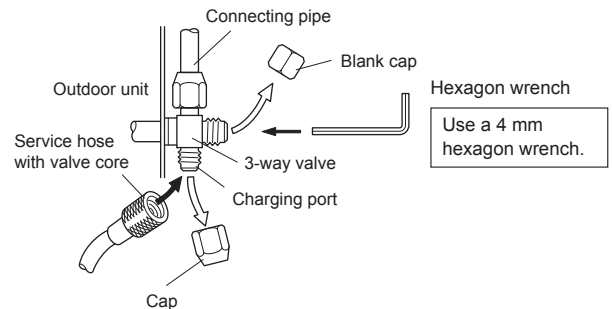
If heat insulation is used that is not as thick as specified, condensation may form on the surface of the insulation.

In addition, use heat insulation with heat conductivity of 0.045 W/(m·K) or less (at 68 °F).

5.5. Vacuum

- Remove the cap, and connect the gauge manifold and the vacuum pump to the charging valve by the service hoses.
- Vacuum the indoor unit and the connecting pipes until the pressure gauge indicates -0.1 MPa (-76 cmHg).
- When -0.1 MPa (-76 cmHg) is reached, operate the vacuum pump for at least 30 minutes.
- Disconnect the service hoses and fit the cap to the charging valve to the specified torque.
- Remove the blank caps, and fully open the spindles of the 2-way and 3-way valves with a hexagon wrench [Torque: 2.9 N·m (30 kgf·cm)].
- Tighten the blank caps of the 2-way valve and 3-way valve to the specified torque.

	Tightening torque [N · m (lbt · ft)]	
Blank cap	6.35 mm (1/4 in.)	20 to 25 (14.8 to 18.4)
	9.52 mm (3/8 in.)	
	12.70 mm (1/2 in.)	
Charging port cap	10 to 12 (7.4 to 8.8)	



CAUTION

Do not purge the air with refrigerants, but use a vacuum pump to vacuum the installation.

There is no extra refrigerant in the outdoor unit for air purging.

Use a vacuum pump and gauge manifold and charging hose for R410A exclusively. Using the same vacuum for different refrigerants may damage the vacuum pump or the unit.

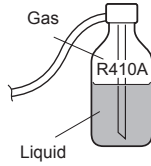
ADDITIONAL CHARGE

⚠ CAUTION

When moving and installing the air conditioner, do not mix gas other than the specified refrigerant R410A inside the refrigerant cycle.

When charging the refrigerant R410A, always use an electronic balance for refrigerant charging (to measure the refrigerant by weight).

When charging the refrigerant, take into account the slight change in the composition of the gas and liquid phases, and always charge from the liquid phase side whose composition is stable.



Add refrigerant from the charging valve after the completion of the work.

If the units are further apart than the maximum pipe length, correct operation cannot be guaranteed.

GAS LEAKAGE INSPECTION

⚠ CAUTION

After connecting the piping, check the all joints for gas leakage with gas leak detector.

5.7. TEST RUN

- Perform test operation and check items below.
- For the test operation method, refer to the operating manual.
- The outdoor unit, may not operate, depending on the room temperature. In this case, keep on pressing the MANUAL AUTO button of the indoor unit for more than 10 seconds. The operation indicator lamp and timer indicator lamp will begin to flash simultaneously during cooling test run. Then, heating test run will begin in about three minutes when HEAT is selected by the remote control operation. (Please follow the operating manual for remote control operation.)
- To end test operation, keep on pressing the MANUAL AUTO button of the indoor unit for more than 3 seconds.
(When the air conditioner is run by pressing the MANUAL AUTO button, the OPERATION indicator lamp and TIMER indicator lamp of the indoor unit will simultaneously flash slowly.)

OUTDOOR UNIT

- (1) Is there any abnormal noise and vibration during operation?
- (2) Will noise, wind, or drain water from the unit disturb the neighbors?
- (3) Is there any gas leakage?

⚠ CAUTION

Always turn on the power 12 hours prior to the start of the operation in order to ensure compressor protection.

6. PUMP DOWN

6.1. Pump down

PUMP DOWN OPERATION (FORCED COOLING OPERATION)

To avoid discharging refrigerant into the atmosphere at the time of relocation or disposal, recover refrigerant by doing the forced cooling operation according to the following procedure.

- (1) Conduct preliminary operation for 5 to 10 minutes using the forced cooling operation.
Start the forced cooling operation. Keep on pressing the MANUAL AUTO button of the indoor unit for more than 10 seconds. The operation indicator lamp and timer indicator lamp will begin to flash simultaneously during test run. (The forced cooling operation cannot start if the MANUAL AUTO button is not kept on pressing for more than 10 seconds.)
- (2) Close the valve stem of 2-way valve completely.
- (3) Continue the forced cooling operation for 2 to 3 minutes, then close all the valve stems on the 3-way valves
- (4) Stop the operation.
 - Press the START/STOP button of the remote controller to stop the operation.
 - Press the MANUAL AUTO button when stopping the operation from the indoor unit side.(It is not necessary to press down for more than 10 seconds.)

⚠ CAUTION

Please check the refrigerant circuit for any leaks before starting the pump down operation.

Do not proceed with the pump down operation if there is no refrigerant left in the circuit due to bent or broken piping

During the pump down operation, be sure to turn off the compressor before removing the refrigerant piping.